



Colby

The Economic Impact of Colby College

Objective and Report Structure

The purpose of this analysis is to describe and, when possible, to quantify the many economic, social, fiscal and demographic impacts that Colby College has on the Waterville region and Maine. It is a compilation and analysis of a wide range of data provided by the College and gathered by the authors. In essence, this report is an answer to the question,

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“What difference have Colby’s operations (both ongoing and the new initiatives of the past few years) made to the wellbeing of the residents, employers, and governmental units of Waterville and its broader economic region?”

This report begins with the economic context within which Colby operates. It then presents the results of a comprehensive analysis of the many layers of Colby’s economic impact, organized by type of impact.

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Summary of Findings

Colby College is a vital economic engine

for the Greater Waterville region and for Maine as a whole. Colby operations, capital investments, and visitor and student spending supported nearly \$1.5 billion in total economic output state-wide between the five-year period FY2014 and FY2018, of which \$1.1 billion was in the Greater Waterville region. In FY18 alone, Colby's presence supported total output (sales) for regional businesses of \$305 million, supporting more than 2,500 jobs, \$111 million in wages, and generating \$8.7 million in income, sales and property tax revenue for state and local governments.

Colby is the second largest private employer

in the Kennebec/Somerset region, employing roughly 900 people in FY18, and with operating and capital expenditures totaling more than \$210 million. Direct spending in FY18 on operations and capital investments flowed through a supply-chain of nearly 1,000 Maine vendors, which indirectly supported and induced another \$110 million in regional spending and another 1,600 jobs.

Colby draws tens of thousands of visitors to Waterville

and the surrounding region each year that resulted in total spending of almost \$24 million at local businesses between FY14 and FY18. Students at Colby spent an estimated \$9 million at local businesses during this time period, and, as the college becomes more integrated with the downtown, students will likely continue to take advantage of diverse food and retail options and spend more.

Colby's impact is increasing.

Over the five-year period from 2014 to 2018, employment at Colby increased by 19%, wages by 24%, total operational spending by 34%, and nearly \$176 million was invested in Colby's on-campus facilities and in downtown Waterville. This far exceeded the rates of growth for both the Somerset/Kennebec region (1% employment growth and 12% wage growth) and the state as a whole (4% employment growth and 17% wage growth). Over this same period, Colby supported almost \$560 million in gross domestic product (in 2019 dollars).



Colby's investments,

and the additional private sector investments they stimulate, are critical to Waterville's fiscal condition. Unlike other regions and Maine as a whole, Waterville's tax base has not fully recovered from the recession. However, Waterville experienced a sharp uptick in state-adjusted valuation in 2019, which is based on the 2017 tax year. This is the year that Colby invested over \$25 million in renovations to downtown buildings. Further, there is considerable anecdotal evidence of rising interest from private-sector developers investing in downtown Waterville property in the wake of Colby's major investments there.

Colby is directly addressing

the region's (and Maine's) most critical problem—the attraction to the area of talented young workers. Over 3,000 Colby alumni are working in Maine, including more than 1,600 who first moved to Maine to attend college at Colby. In addition, Colby hired 122 new employees in 2018, 61 of whom came to the Greater Waterville region from outside Maine, and 33 from outside of the Kennebec/Somerset County region. The median age of these new hires is 35, significantly younger than Maine's median age of 44, and their average annual pay of \$63,080 is 44% higher than the average Maine salary.

1. Economic Context

Every economic impact analysis must begin with two questions: “Impact of what?” and “Impact on what?”

In this case, the answer to the first question is complicated but clear – it is the impact of all the economic activities flowing from the existence of Colby College. The answer to the second question is threefold – on the City of Waterville; on the city’s broader economic region (here taken to be Kennebec and Somerset counties); and, finally, on the State of Maine. The first step in answering these questions is to set them within the underlying demographic, economic, and fiscal conditions and trends into which Colby’s impact is flowing.

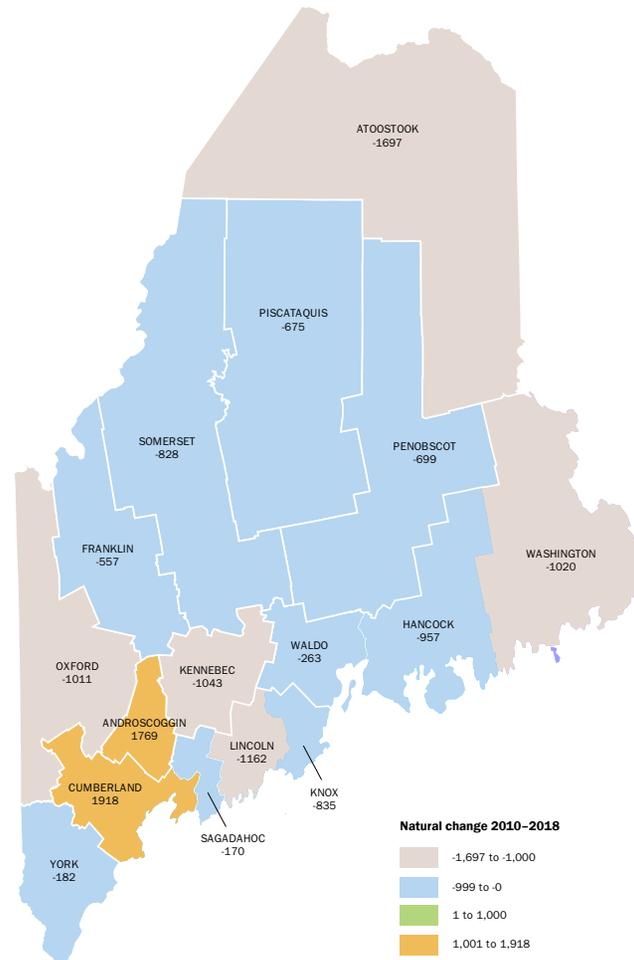


1. Economic Context

Demographics and Labor Force

To understand Colby's impact, it is important to first understand the economic landscape of the Waterville region and state. Maine's most serious economic challenge is attracting young workers, both from other states and internationally. At 44 years, Maine has the oldest median age in the nation. Its rate of natural increase (births minus deaths) has been falling since the early 1990's, and, since 2010, the number of deaths has outnumbered the number of births statewide and in all but two of Maine's counties. This has led to the 45th slowest population growth in the country and a labor force that is essentially the same size today as it was a decade ago.

Natural Population Change 2010–18 (Births minus Deaths)



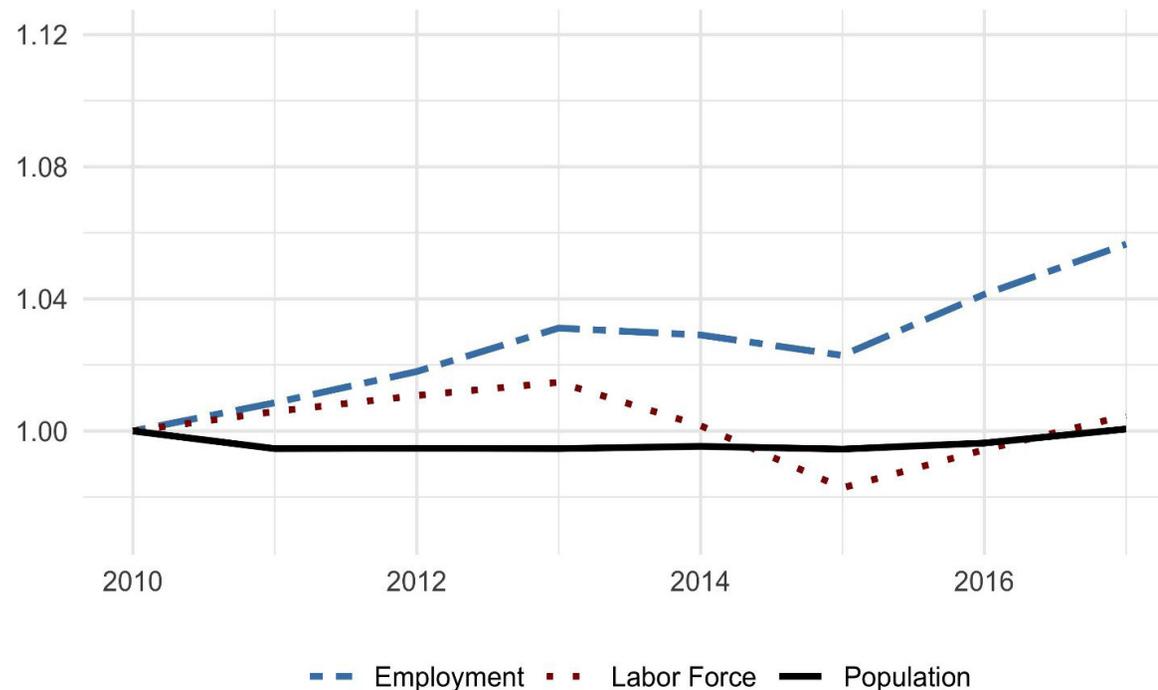
Data source: US Census, Population Estimates Program

1. Economic Context

Demographics and Labor Force

While Maine's population (solid line in the chart) and labor force (dotted line) growth have remained virtually stagnant since the end of the Great Recession, employment (hatched line) has jumped by 6%, an increase of more than 36,000 jobs. This increase was possible primarily through a reduction in the number of unemployed – it dropped by nearly 33,000 over the period – and the unemployment rate has been at all-time lows for nearly a decade. But a trend where employment grows faster than the labor force is clearly unsustainable; and indeed, today, virtually all Maine employers face challenges in filling job openings, particularly jobs requiring post-secondary degrees.

Indices of Labor Market, Maine



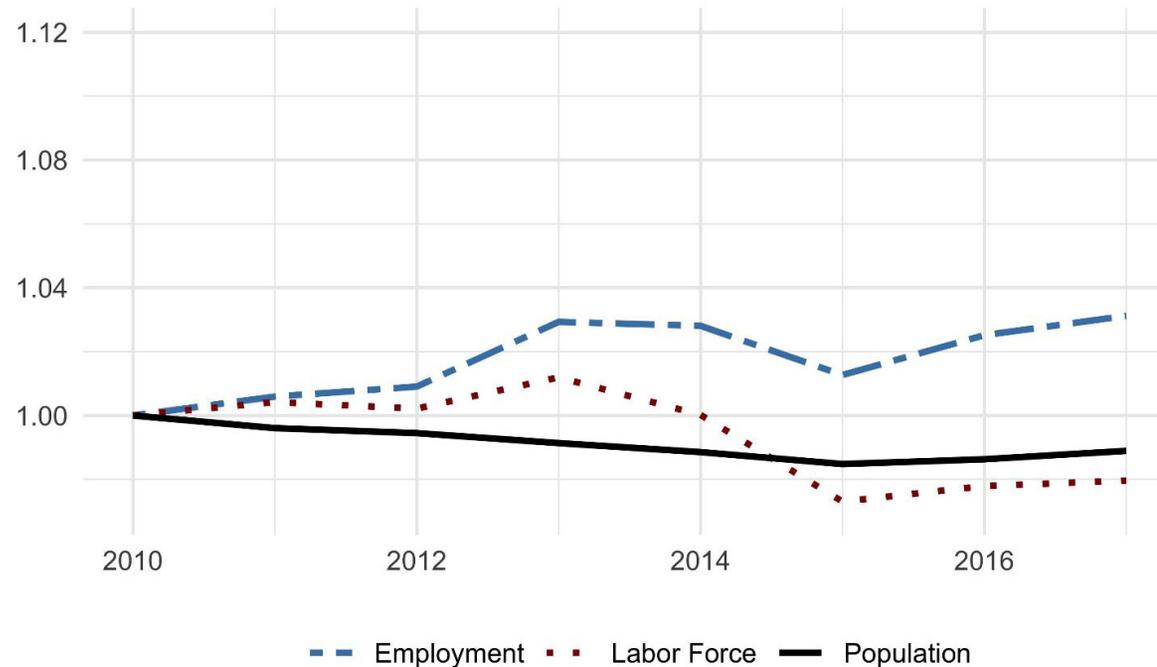
Data source: Maine Department of Labor, Center for Workforce Research and Information (CWRI); Local Area Unemployment Series (LAUS)

1. Economic Context

Demographics and Labor Force

This same demographic challenge faces the Kennebec/Somerset County region, but in an even more severe fashion. Between 2010 and 2017, both the population and labor force declined by 2% while employment has grown approximately 3% - clearly an unsustainable trend. The region and State's economic future depends on its ability to attract people and skilled workers from other states and regions. A fundamental component in luring people to the region lies in cultivating great places to live and work with attractive cultural, natural, and social amenities proximate to quality employment opportunities. Investing in communities and downtown social nexus is foundational to these goals.

Indices of Labor Market, Kennebec/Somerset



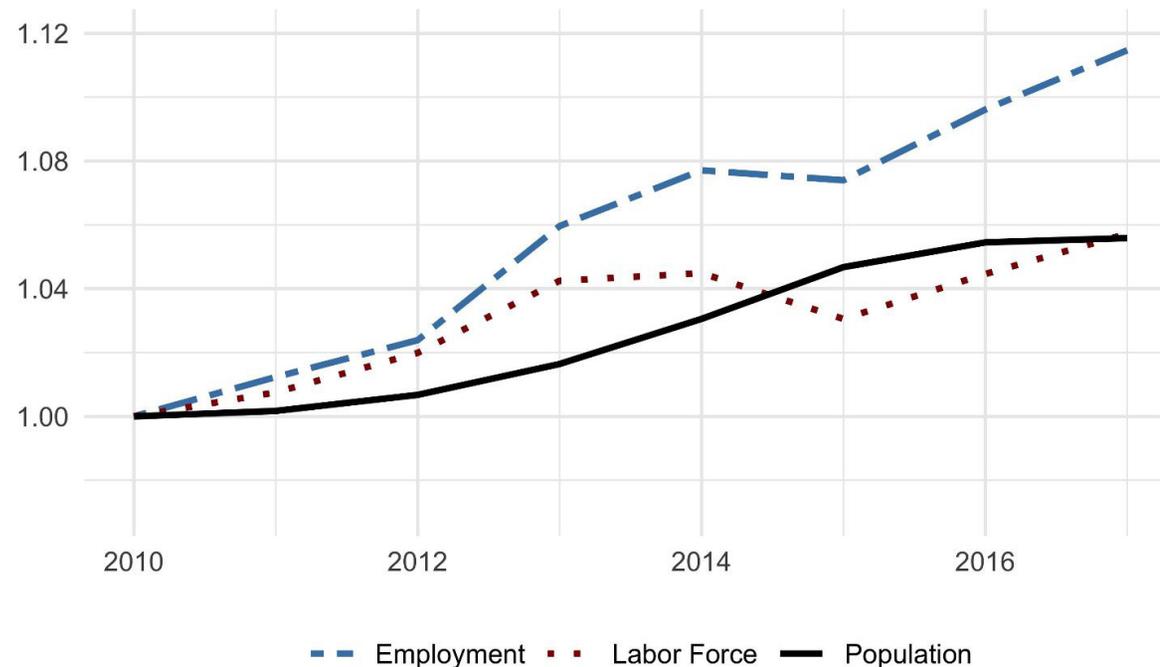
Data source: Maine Department of Labor, Center for Workforce Research and Information (CWRI); Local Area Unemployment Series (LAUS)

1. Economic Context

Demographics and Labor Force

As one of the state's top 50 largest employers and one of Kennebec County's top six largest employers, Colby will play an outsized role in countering these trends. In fact, Waterville's experience since 2010 has been markedly different than that of the state and regions described above. From 2010 to 2017, Waterville experienced population and labor force growth of almost 6%, and employment increased more than 11%, outpacing the state and region. However, the demographic headwinds take time to manifest and they will take time and sustained commitment to correct. The longer term impact of Colby and other catalytic investments in Waterville have yet to be fully realized and are key to the City's demographic and economic future.

Indices of Labor Market, Waterville



Data source: Maine Department of Labor, Center for Workforce Research and Information (CWRI); Local Area Unemployment Series (LAUS)

1. Economic Context Demographics and Labor Force

Insights

- 1. Colby's direct and indirect operations and investments are helping Waterville buck the anemic demographic and labor force growth of the rest of the region and state.**
- 2. Colby's continued economic contribution, investments, and growth will be critical to prevent the economic malaise related to an anemic or declining labor pool.**

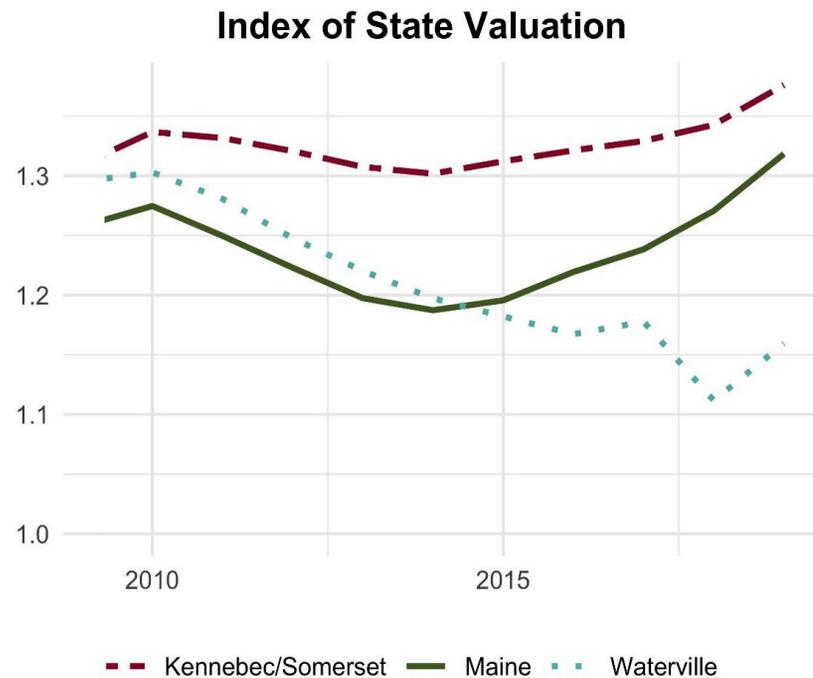


1. Economic Context

Fiscal Health of Waterville

The other important context within which Colby operates is the fiscal health of Waterville, of which the property tax base is the most important determinant. Waterville's 2019 state valuation (light blue dotted line), which reflects 2017 property tax values, is 11% lower compared to 2010. This stands in contrast to the two-county region (hatched line) and state (solid line) which have both experienced small increases in state valuation as the housing market recovered from the recession. This indicates that Waterville's relatively higher rates of growth in population and employment have not yet been translated into investment in taxable property sufficient to restore the City's tax base. However, as seen in the chart to the right, there has been a marked uptick in valuation in 2019 (2017 tax year) compared to the year prior, likely reflecting increased investment in downtown.

Index of State Valuation



Data source: Maine Revenue Services Municipal Valuation Reports

1. Economic Context Fiscal Conditions of Waterville



Insights

- 1. Colby's recent investments in taxable property in downtown Waterville have likely contributed to the increase in state valuation in 2019 (2017 property values) and the improvement in the City's fiscal condition; and, perhaps more importantly**
- 2. Colby's continued direct downtown investments and the additional private investments that Colby stimulates will be critical if Waterville's fiscal condition is to continue to improve.**

2. Impact from Colby Operations

As an institution, Colby College is fundamentally engaged in providing educational services to students and community members.

The underlying operations in providing these services entails employing faculty, staff, and students, while making purchases of equipment, materials, supplies, and services from other businesses and organizations both within and outside Maine. On an annual basis, operational spending of Colby, like other large employers, adds up quickly and leaves a significant footprint on local, regional, and statewide communities. This section quantifies the economic impacts that stem from Colby's operational spending.



2. Impact from Colby Operations

Employees

To understand Colby's impact, it is important to first understand the economic landscape of the Waterville region and state. Maine's most serious economic challenge is attracting young workers, both from other states and internationally. At 44 years, Maine has the oldest median age in the nation. Its rate of natural increase (births minus

deaths) has been falling since the early 1990's, and, since 2010, the number of deaths has outnumbered the number of births statewide and in all but two of Maine's counties. This has led to the 45th slowest population growth in the country and a labor force that is essentially the same size today as it was a decade ago.

	Employees			Average Salary		
Description	FY14	FY18	Change	FY14	FY18	Change
All	756	899	18.9%	\$59,221	\$63,080	6.5%

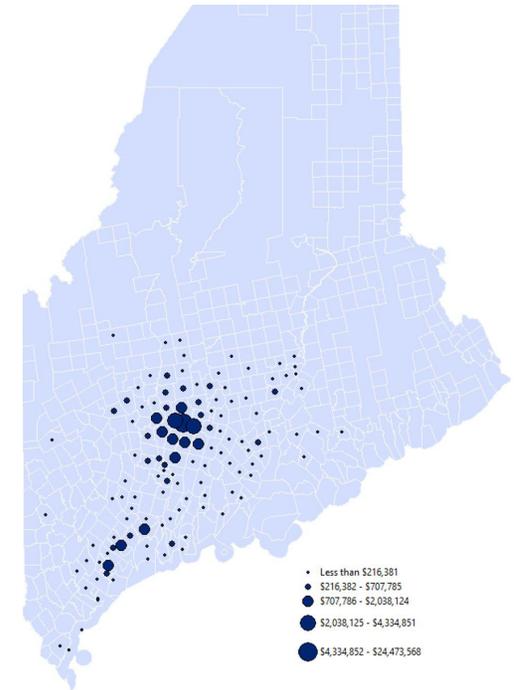
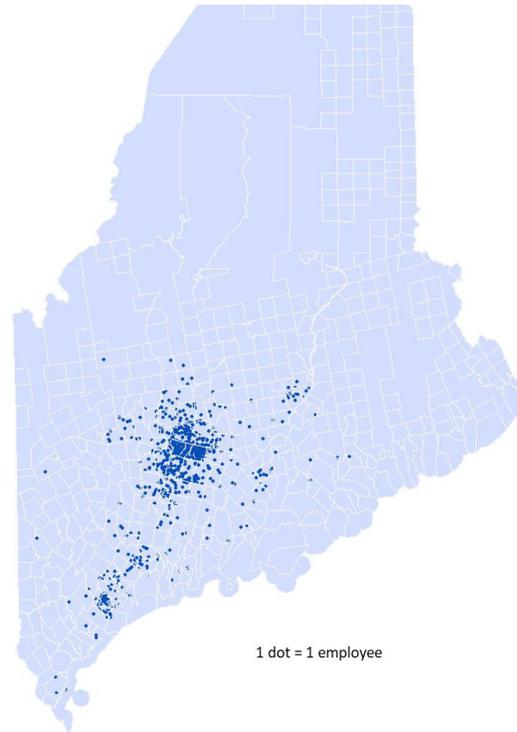
2. Impact from Colby Operations

Employees

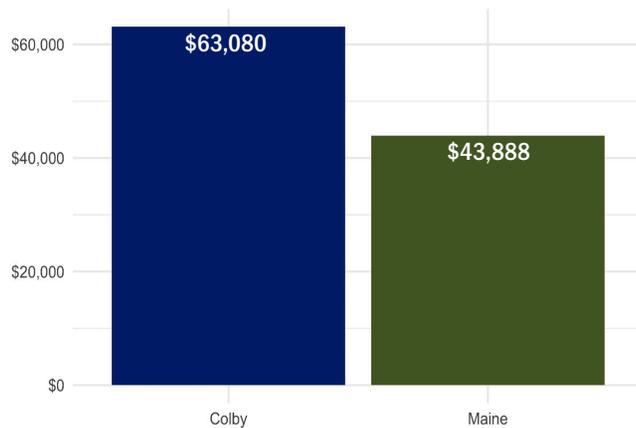
In fiscal year 2018, the average salary for Colby employees was more than \$63,000, a premium of 44% compared to the average Maine salary. In fiscal year 2018, Colby employees lived in over 90 communities around the state, with the largest share centered in and around Waterville (left map). Employees of Colby will typically spend paychecks close to home which means Colby's footprint on the state extends well beyond Waterville's borders (right map).

899 Employees

\$60.8m in Wages



Average Salary

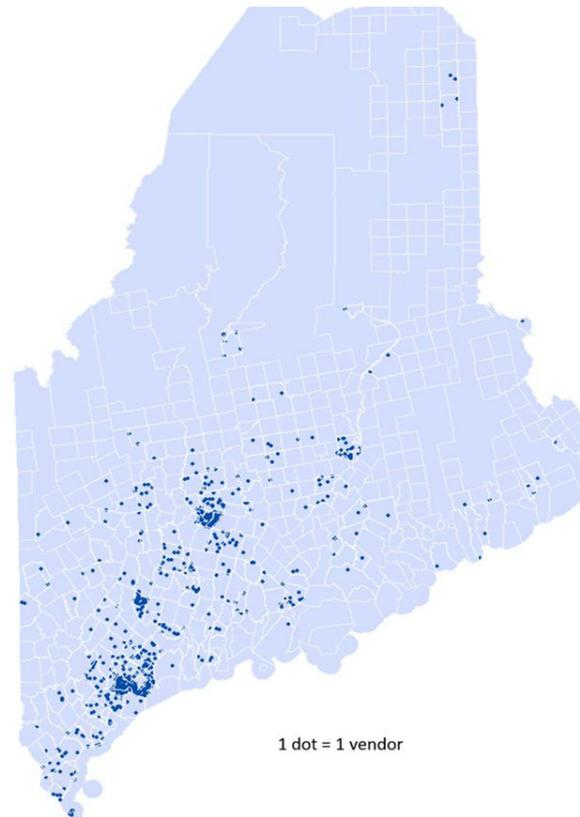


2. Impact from Colby Operations

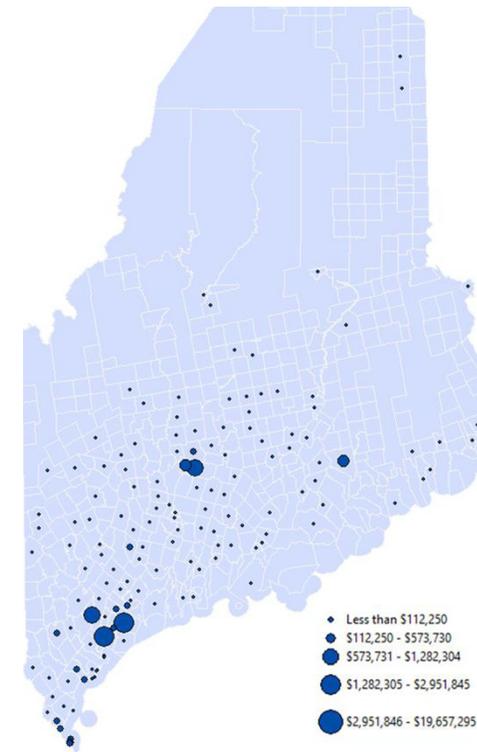
Vendors

In fiscal year 2018, Colby made over \$127 million in purchases from 4,000 vendors. Over 1,000 vendors, headquartered in Maine and representing every Maine county, received over \$58 million. These payments include both operating and capital expenses, included in the economic impact to follow. Vendors serving Colby are even more disbursed throughout the state than Colby's employment base.

1000+ Vendors



\$58m in Payments



2. Impact from Colby Operations

Operating Expenses

In FY18, the operational expenditures of Colby's on-campus services totaled \$142 million. An additional \$700 thousand was spent related to the operation of Colby's off-campus buildings in downtown Waterville. Colby paid wages of almost \$61 million, representing 43% of total operating

expenses. An additional \$21.7 million was spent on benefits (not shown in table). Colby employed a total of 899 people on campus during the fiscal year.

Note: Monetary values in millions of current (nominal) dollars. Employment includes full-time and part-time jobs. 5-year total is based on actual levels of economic activity reported by Colby College, not shown in table.

Description	FY14	FY18	% Change	5-Year Total
Employees	756	899	18.9%	
Operating Expenditures – on campus	\$105.7	\$141.9	34.2%	\$621.7
Operating Expenditures – off campus	--	\$0.7	--	\$1.5
Wages	\$49.2	\$60.8	23.6%	\$271.3

2. Impact from Colby Operations

Payments to the City of Waterville

Included in Colby's operating expenses in the previous slide are over \$525 thousand in payments Colby made to the City of Waterville in 2018 in the form of annual designations, property taxes, and towards the Waterville master planning process. Over the five year period 2014 to 2018, Colby has

made approximately \$1.7 million in total. Annual payments increased substantially in 2016-2018 as a result of payments in support of city-led planning initiatives. Annual designations have also increased beginning in 2016 over previous years.

Note: Monetary values in millions of current (nominal) dollars. Employment includes full-time and part-time jobs. 5-year total is based on actual levels of economic activity reported by Colby College, not shown in table.

Category	FY14	FY18	% Change	5-Year Total
Annual designations	\$151.4	\$217.2	44%	\$875.3
Property taxes assessed	\$17.9	\$91.6	411%	\$169.6
City-led Planning Initiatives	\$0.0	\$216.7	-	\$650.0
Total	\$169.3	\$525.5	210%	\$1,694.9

2. Impact from Colby Operations

Economic Impact of Operational Spending

Including the multiplicative effects of Colby’s operational spending, Colby supported 1,600 jobs in FY18, up from 1,224 total jobs in FY14. This includes an estimated 701 jobs in FY18 resulting from spending at regional vendors and from employee wages, also referred to as indirect and induced impacts. Over the five-year period, Colby’s operational spending supported over \$450 million in regional GDP and over \$860 million

in total output. Statewide, Colby’s operations contributed over \$1 billion dollars in output to the Maine economy over the five-year period (see appendix A.2).

Note: Employment includes full-time and part-time jobs. Jobs reported in ‘job years’ are not additive. Monetary values reported in millions of fixed 2019 dollars. Five-year total is based on actual levels of economic activity, not shown in table.

Category	FY14	FY18	% Change	5-Year Total
<i>Direct Jobs at Colby</i>	756	899	20%	
<i>Indirect + Induced Jobs</i>	468	701	48%	
Total Jobs (Colby + Indirect + Induced)	1,224	1,600	31%	7,270
Total Wages and Salaries	\$58.9	\$87.9	49%	\$374.3
Total Gross Domestic Product (GDP)	\$67.2	\$108.9	62%	\$454.9
Total Output	\$126.9	\$206.4	63%	\$863.5

2. Impact from Colby Operations

Local Spending by Colby Employees

Collectively, Colby’s operational spending on employee compensation has multiplicative impacts, as it goes through recurrent rounds of spending in the regional economy helping to support jobs and economic activity, referred to as induced impacts or local consumption impacts. Colby operational spending on vendors also results in similar induced impacts from vendor employee spending. The chart below illustrates the general industry sectors where employees spend their paychecks. The majority of induced impacts are felt locally, in retail, health care, accommodations and food services, and other personal service businesses, such as hair salons.

Industries	5-year Total	% of Total
Retail Trade	429	38%
Health Care and social assistance	266	24%
Accommodation and food services	141	12%
Other services (except public admin)	128	11%
Manufacturing, transportation, warehousing, wholesale trade	53	5%
Finance and insurance	33	3%
Real estate and rental and leasing	23	2%
Professional, scientific, information, and technical services	20	2%
Arts, entertainment, and recreation	12	1%
All other	25	2%
Total induced employment	1131	100%

Note: Employment includes full-time and part-time jobs. Jobs reported in ‘job years’ are not additive. Includes induced demand from Colby and vendor employees.

2. Impact from Colby Operations Economic Impact of Operational Spending

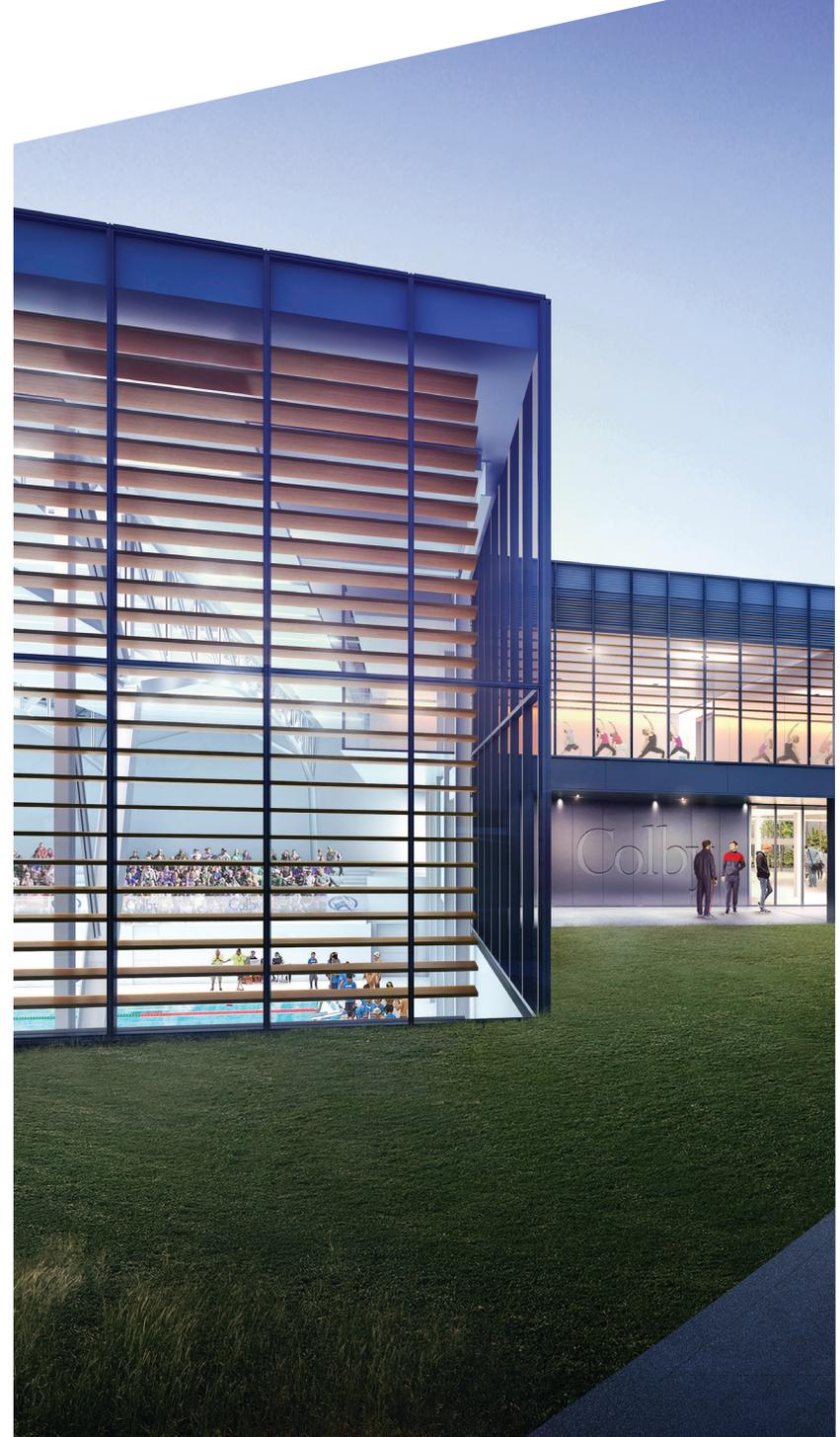
Insights

- 1. In FY18, Colby's operational spending supported 1,600 jobs, \$88 million in wages, \$109 million in GDP, and \$206 million in economic output for the two-county region.**
- 2. Colby's economic impact from its operations has been growing, led by a 63% increase in total output since FY14.**
- 3. Over the last five years, Colby's operational spending supported over \$450 million in regional GDP and over \$860 million in total output.**
- 4. Colby has contributed \$1.7 million directly to, or for the benefit of, the City of Waterville between FY14-18.**

3. Physical Capital Impacts

Also critical to understanding Colby's overall impact are their investments in physical capital assets, such as facilities and equipment...

(which are not included in operational spending). Colby has made substantial investments both to its on-campus facilities, but also to several facilities in downtown Waterville. While the longer term impacts of these investments will be realized in the years ahead, the immediate infusion of spending on development and construction of capital assets has immediate economic and employment impacts on the regional and state economies.



3. Physical Capital Impacts

Investments On- and Off-Campus

Colby invested over \$143 million in capital improvements for their on-campus operations over the last five years. In addition, Colby invested \$1.9 million for the acquisition and \$31.1 million on the improvement of off-campus buildings in downtown Waterville, resulting in a total investment of \$176 million since FY14 and an average annual investment of more than \$35 million. These investments help Colby deliver top tier educational services and position Waterville as a destination for visitors and new residents.

Category	FY14	FY18	5-Year Total
On-campus			\$143.0
Facilities Construction	\$21.6	\$37.2	\$116.9
IT upgrades	\$.60	\$1.1	\$6.2
Other capital	\$.63	\$5.2	\$19.9
Off-campus			\$33.0
Facilities Construction	-	\$27.1	\$31.1
Acquisition Costs	-	-	\$1.9
Total Capital Expenditures	\$22.8	\$70.5	\$175.9

Note: Monetary values in millions of current (nominal) dollars. Totals may differ slightly due to rounding.

3. Physical Capital Impacts

Economic Impact of Capital Investments

Since FY14, Colby’s capital investments both on- and off- campus have supported \$146 million in total regional GDP, almost \$300 million in output, and an annual average of 460 jobs between FY14 and FY18. The number of supported jobs peaked in the most recent FY18 with Colby’s investments directly and indirectly employing 892 people.

Category	FY14	FY18	5-Year Total
Total Jobs	359	892	
Total Wages and Salaries	\$11.7	\$33.0	\$81.8
Total Gross Domestic Product (GDP)	\$21.9	\$57.6	\$146.4
Total Output	\$43.2	\$119.1	\$294.6

Note: Employment includes full-time and part-time. Jobs reported in ‘job years’ are not additive. Monetary values reported in millions of fixed 2019 dollars. Off-campus property acquisition costs of \$1.9 million are excluded from the modelling and results. 5-year total is based on actual levels of economic activity reported by Colby College, not shown in table.

3. Physical Capital Impacts Economic Impact of Capital Investments



Insights

- 1. Colby has invested nearly \$176 million in their on-campus facilities and in downtown Waterville since FY14.**
- 2. Colby's capital expenditures supported an average of 460 jobs for each of the five years between FY14 and FY18 (2,299 "job years") and added \$146 million in GDP and almost \$300 million in economic output over the 5 year period.**

4. Impact of Visitors and Students

Colby College attracts overnight and day visitors to the region through several channels.

Prospective students visit the college when deciding to attend, while alumni visit for reunions, homecoming, and other events. Parents, family, friends, and guardians visit overnight or for the day on several instances throughout the academic year including drop-offs and pick-ups, graduation, holidays, and to simply to visit Colby students. Visitors also come to Colby to attend athletic events, to attend conferences, workshops, trainings, and camps, as well as for entertainment and recreation, such as visiting the Colby Museum of Art, Atlantic Music Festival performances, or private events.



4. Impact of Visitors and Students

Visitors

When visitors come to Colby, they spend money on lodging, food service, recreation, and other miscellaneous purchases at local businesses in the Waterville region. In fiscal year 2018 an estimated 34,500 overnight visits came to the Waterville area from outside the region directly because of Colby. (This estimate is derived from multiple sources of Colby visitation data and is conservative as it excludes tens of thousands of other visitors who we could not determine were from outside the region and/or stayed overnight.) As Colby has grown over the last several years, so have the number of visitors attracted to the region and their subsequent spending at local businesses.

Category	FY18 Overnight Visitors
Athletic events	11,000
Museum visits	3,100
Family & alumni	10,300
Admissions	5,500
Summer programs	4,600
Total visitors	34,500

Data Source: Colby and authors' calculations. See appendix for methodology.

4. Impact of Visitors and Students

Visitor Spending

Based on estimates of overnight visitor spending patterns, visitors to Colby spent an estimated \$5.1 million in the Waterville area in FY18. A total of \$23.6 million in visitor spending is estimated to have accrued between FY14 and FY18. This spending is assumed to be spent on a mix of lodging, food services, entertainment and recreation, transportation, and other miscellaneous items at local businesses in Waterville and the surrounding region.

Category	FY14	FY18	5-Year Total
Athletic events	\$1.3	\$1.3	\$6.4
Museum visits	\$0.5	\$0.6	\$2.3
Family & alumni	\$1.1	\$1.2	\$5.9
Admissions visits	\$0.6	\$0.7	\$3.1
Summer programs	\$1.2	\$1.2	\$5.9
Total spending	\$4.6	\$5.1	\$23.6

Note: Monetary values reported in millions of current (nominal) dollars. In general, overnight visitors are assumed to spend \$121/day (2018 \$). Values are adjusted using CPI for years prior to 2018. Spending by day visitors from outside the Waterville region is included only for museum day visitors (17,000). Other day visitors are excluded. See appendix for methodology.

4. Impact of Visitors and Students

Student Local Spending

While students spend the bulk of their time on-campus, a Colby survey of students found that on average students spent \$110 per month locally (i.e., off-campus) on miscellaneous items, such as entertainment, personal items, and supplemental food (in 2019 dollars). Student spending ranged from \$60 to \$220 per month. This data suggests a total academic year spending (9 months) of \$990 per student. Students that remain in the region during the summer likely spend significantly more money, but we do not attempt to estimate that here. As such, our total student spending estimates are likely conservative.

Category	FY14	FY18	5-Year Total
Number of students	1,830	1,918	9,322
Average academic year spending	\$938	\$990	-
Total student local area spending	\$1.8	\$1.9	\$8.9

Note: Monetary values in millions of current (nominal) dollars.

4. Impact of Visitors and Students

Economic Impact of Visitor and Student Spending

Spending by overnight visitors and students as a direct result of Colby College supported a total of 34 jobs in FY18 and \$1 million in wages and salaries. In total, an estimated \$9.7 million in regional GDP and \$19.2 million in output was supported by visitor and student spending since FY14. In many

ways, this is a conservative estimate and it is likely that there are other pockets of spending that result from Colby College that are not captured here. Similarly, it is likely that as the milieu of Waterville transforms, the inflow of visitors will continue to rise as will spending at local businesses.

Note: Employment includes full-time and part-time jobs. Monetary values reported in millions of fixed 2019 dollars. Consumer spending of this type is typically viewed as induced spending and therefore we do not report as traditional direct, indirect, and induced breakouts. REMI adjusts for the retail mark-up portion of retail sales, which in part explains the differences in Output compared to total spending (modeling inputs) which are greater. See the Technical Appendices (A1) for more details.

Category	FY14	FY18	5-Year Total
Total Jobs	33	34	165
Wages and Salaries	\$0.8	\$1.0	\$4.6
Gross Domestic Product (GDP)	\$1.8	\$2.1	\$9.7
Output	\$3.6	\$4.1	\$19.2

4. Impact of Visitors and Students

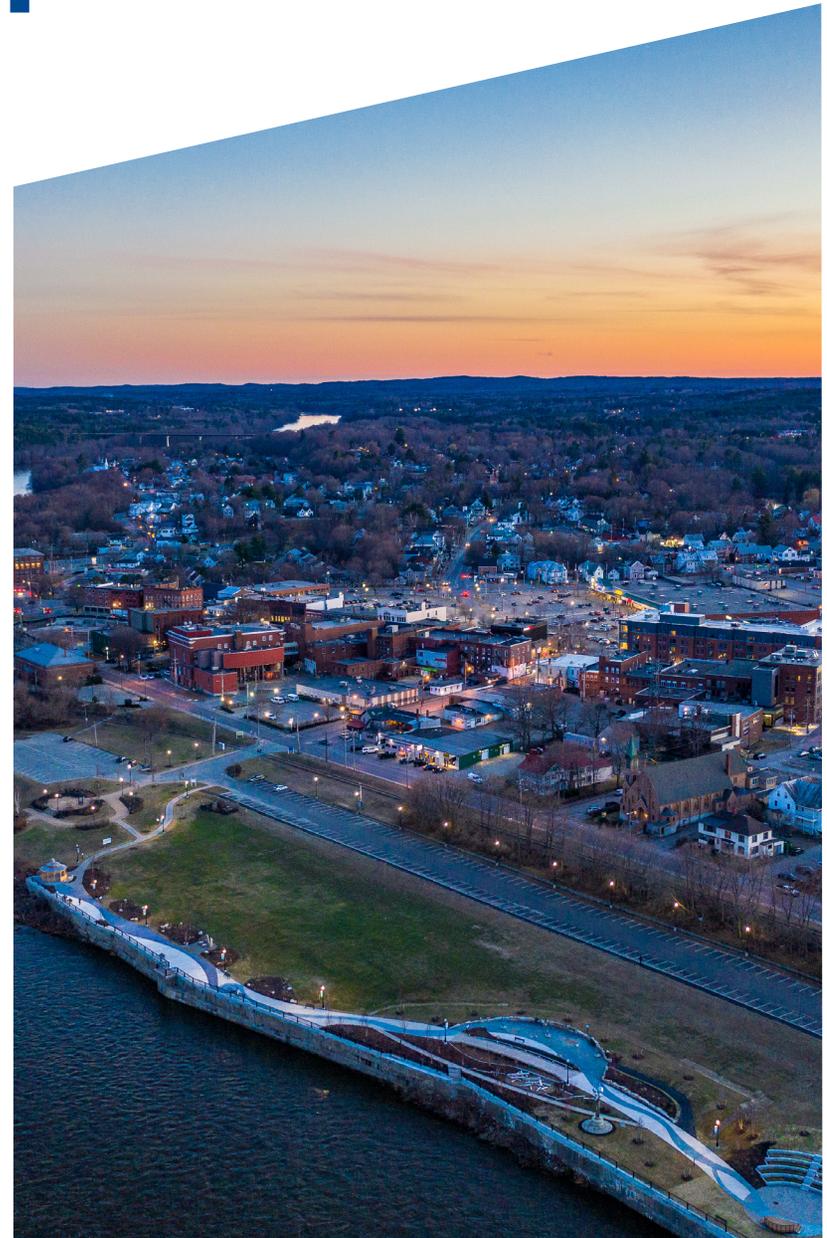
Economic Impact of Visitor and Student Spending

Insights

- 1. Colby draws thousands of visitors to Waterville and the surrounding region each year that resulted in estimated total spending of nearly \$24 million at local businesses between FY14 and FY18.**
- 2. Students at Colby spent an estimated \$9 million at local businesses between FY14 and FY18; as the college becomes more integrated with the downtown, students will likely take advantage of diverse food and retail options and spend more.**

5. Total Economic and Fiscal Impact

Viewed as a whole, the components of Colby's economic reach add up to substantial economic implications for Waterville, the region, and the state of Maine.



5. Total Economic and Fiscal Impact

Total Economic Impact

Colby College supported over 2,500 jobs in the region and \$111 million in wages in FY18, which is inclusive of all operational and capital expenditures, as well as student and visitor spending in the region. Colby supported \$153 million in GDP in FY18, which accounts for approximately 2.6 percent of the total Kennebec County GDP, and more than \$300 million in economic output. Colby’s footprint on the economy has grown significantly since FY14 with total supported jobs increasing by 56 percent and total output growing by 75 percent. Over the five-year period, Colby supported over \$1.1 billion in economic output.

Category	FY14	FY18	% Change	5-Year Total
Total Jobs	1,617	2,527	56.3%	
Wages and Salaries	\$70.2	\$111.4	58.6%	\$430.5
Gross Domestic Product (GDP)	\$89.1	\$153.0	71.7%	\$564.7
Output	\$173.8	\$304.9	75.4%	\$1,109.2

Note: Employment includes full-time and part-time jobs. Monetary values reported in millions of fixed 2019 dollars. Kennebec County GDP for 2018 (\$5,849.4 million) sourced from EMSI, Inc 2019.2 data series.

5. Total Economic and Fiscal Impact

Total Regional Tax Impact

Based on the total wages related to Colby's economic footprint, its fiscal impact was almost \$9 million in FY18. This is roughly 60% higher compared to FY14, largely because of increased investment and new hires. The fiscal impact is estimated by using Maine Revenue Service's effective tax incidence rates by tax type.

Tax Category	FY14	FY18	% Change	5-Year Total
Income	\$2.11	\$3.34	58.6%	\$12.91
Sales	\$1.64	\$2.61	58.6%	\$10.07
Property	\$1.73	\$2.75	58.6%	\$10.63
Total	\$5.48	\$8.70	58.6%	\$33.62

Note: Monetary values in millions of current (nominal) dollars.

5. Total Economic and Fiscal Impact

Economic and Fiscal Impact

Insights

- 1. The economic significance of Colby College is demonstrated by the \$1.1 billion in total output for the two-county region over the 5-year period FY14 and FY18.**
- 2. In FY18 alone, Colby's presence in the Waterville region supported over 2,500 jobs and \$111 million in wages.**
- 3. Colby has supported the generation of almost \$34 million in local and state tax revenues (income, sales, and property tax) between FY14 and FY18.**

6. Human Capital Impacts

In addition to the impacts outlined above, Colby makes significant contributions to the state's and region's human capital by attracting talented, educated people who otherwise would not be in Maine.

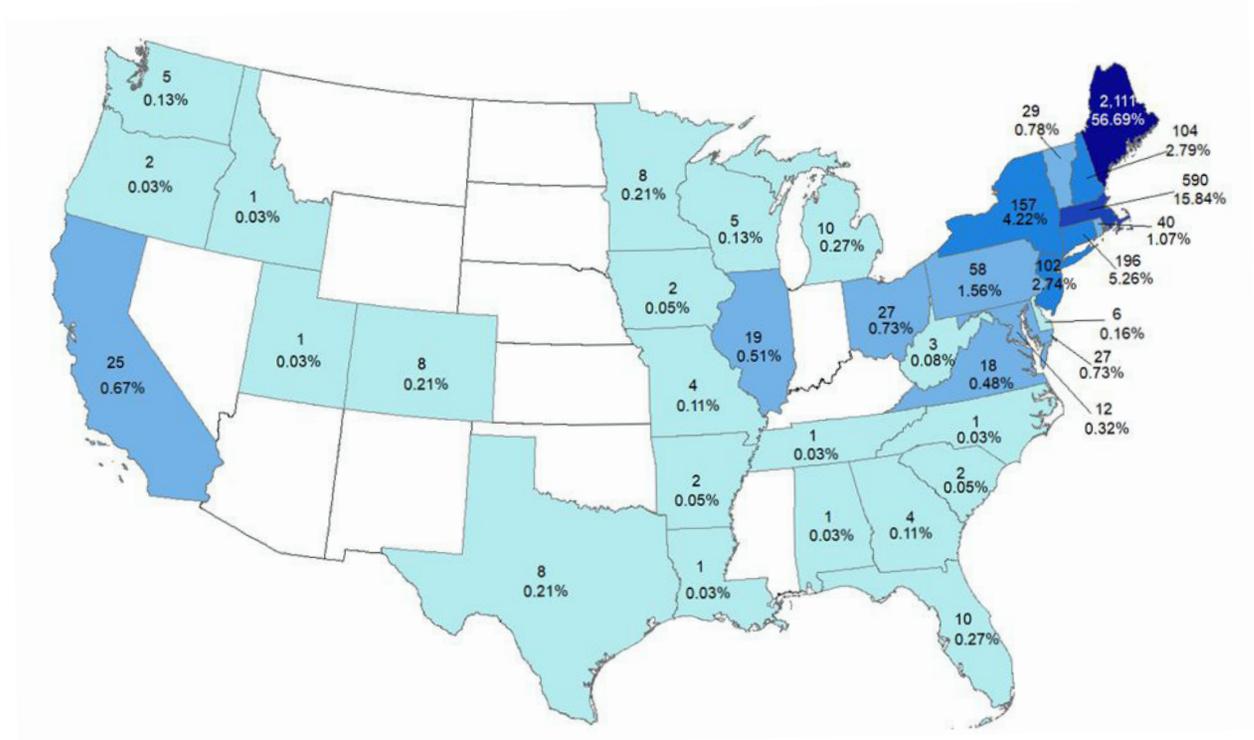


6. Human Capital Impacts

Alumni

Colby College alumni living in Maine today hail from over 35 US states. In many cases, students will choose to reside in Maine upon graduation or return to the state at a later point in time. Alumni data, although not a complete picture, provides a snapshot of how Colby draws young people to the state from other parts of the US. Of the 3,724 Colby alumni currently living in Maine, 1,613 moved here from another state.

Note: The map represents the number and percent of all Colby alumni currently living in Maine from each state. For example, there are 8 Colby graduates living in Maine today who are originally from Texas (.21% of all Colby alumni living in Maine).



6. Human Capital Impacts

New Hires

In addition to attracting students, for the 2017-18 school-year Colby hired 37 faculty, all of whom lived outside the two-county region and 34 of whom lived outside of Maine before becoming employees. During the same academic year, Colby hired 85 non-faculty staff, 57 of which came from outside the region, including 27 from outside of Maine. Together, 94 people now live within the Waterville region that otherwise wouldn't without Colby, including 61 who would not be living in Maine.

New Hires	Faculty	Non-Faculty
% outside Region	100%	67%
% outside Maine	92%	32%
Average Age	36	35
Average Salary	\$ 71,508	\$60,437

6. Human Capital Impacts Alumni and New Hires

Insights

- 1. Over 1,600 professionals are working in Maine today after first coming to Maine to attend college at Colby as students.**
- 2. In the last year alone, 94 professionals have moved to the Waterville area from outside the Waterville region to work at Colby, including 61 who moved from another state.**
- 3. Colby's new hires are considerably younger and better paid than Maine's average, which helps counter Maine's economic and demographic challenges.**

Summary of Findings

Colby College is a vital economic engine

for the Greater Waterville region and for Maine as a whole. Colby operations, capital investments, and visitor and student spending supported nearly \$1.5 billion in total economic output state-wide between the five-year period FY2014 and FY2018, of which \$1.1 billion was in the Greater Waterville region. In FY18 alone, Colby's presence supported total output (sales) for regional businesses of \$305 million, supporting more than 2,500 jobs, \$111 million in wages, and generating \$8.7 million in income, sales and property tax revenue for state and local governments.

Colby is the second largest private employer

in the Kennebec/Somerset region, employing roughly 900 people in FY18, and with operating and capital expenditures totaling more than \$210 million. Direct spending in FY18 on operations and capital investments flowed through a supply-chain of nearly 1,000 Maine vendors, which indirectly supported and induced another \$110 million in regional spending and another 1,600 jobs.



Summary of Findings, Continued

Colby draws tens of thousands of visitors to Waterville

and the surrounding region each year that resulted in total spending of almost \$24 million at local businesses between FY14 and FY18. Students at Colby spent an estimated \$9 million at local businesses during this time period, and, as the college becomes more integrated with the downtown, students will likely continue to take advantage of diverse food and retail options and spend more.

Colby's impact is increasing.

Over the five-year period from 2014 to 2018, employment at Colby increased by 19%, wages by 24%, total operational spending by 34%, and nearly \$176 million was invested in Colby's on-campus facilities and in downtown Waterville. This far exceeded the rates of growth for both the Somerset/Kennebec region (1% employment growth and 12% wage growth) and the state as a whole (4% employment growth and 17% wage growth). Over this same period, Colby supported almost \$560 million in gross domestic product (in 2019 dollars).

Colby's investments,

and the additional private sector investments they stimulate, are critical to Waterville's fiscal condition. Unlike other regions and Maine as a whole, Waterville's tax base has not fully recovered from the recession. However, Waterville experienced a sharp uptick in state-adjusted valuation in 2019, which is based on the 2017 tax year. This is the year that Colby invested over \$25 million in renovations to downtown buildings. Further, there is considerable anecdotal evidence of rising interest from private-sector developers investing in downtown Waterville property in the wake of Colby's major investments there.

Colby is directly addressing

the region's (and Maine's) most critical problem—the attraction to the area of talented young workers. Over 3,000 Colby alumni are working in Maine, including more than 1,600 who first moved to Maine to attend college at Colby. In addition, Colby hired 122 new employees in 2018, 61 of whom came to the Greater Waterville region from outside Maine, and 33 from outside of the Kennebec/Somerset County region. The median age of these new hires is 35, significantly younger than Maine's median age of 44, and their average annual pay of \$63,800 is roughly 50% higher than the average pay in the two-county region.

7. Technical Appendices

A1. Research Methods

**A2. Economic Impacts
in Maine**

**A3. Industry and Occupation
Employment Detail**

**A4. Interim Years –
Regional Model**



A1. Research Methods



This section provides an overview of the estimation method and a summary of the modelling assumptions, data, and inputs used in the analysis. It also provides definitions of model output terms.

A1. Research Methods

Definitions of Modelling Outputs

Employment

Employment comprises estimates of the number of jobs, full-time plus part-time, by place of work for all industries. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

(Source: REMI)

Direct employment

Direct employment includes the impacts that result from initial rounds of spending on operations and capital expenditures by Colby College.

Indirect employment

Indirect employment captures the jobs supported at vendors or supplier businesses, including service providing, that are as a result of initial spending by Colby College during the course of operations and capital expenditures, such as from the purchase of construction materials or services. These impacts are also referred to as supply chain or intermediate demand impacts.

Induced employment

Induced employment captures the jobs resulting from spending in the local economy as employees of Colby College and their suppliers spend a portion of their paychecks on food, rent, cell phones, and other goods and services. These impacts are also referred to as local consumption demand.

Wages and salaries

The monetary remuneration of employees, including the compensation of corporate officers; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind that represent income. (Source: REMI)

Gross Domestic Product (GDP)

Gross domestic product is a standard macroeconomic measure used as an indicator of the size of an economy or in this case contribution to the economy. GDP measures the market value of all final goods and services produced by labor and property in the economy and is reported in fixed 2019 dollars.

Output

The amount of production, including all intermediate goods purchased as well as value added (compensation and profit). Output can also be thought of as sales or supply. The components of Output are Self Supply and who are originally from Texas (.21% of all Colby alumni living in Maine).

A1. Research Methods

Overview of Estimation Method

The economic impacts of Colby College are estimated using economic models of the Waterville regional economy and for the state of Maine economy developed by Regional Economic Models Inc. (REMI) and maintained by the Maine Center for Business and Economic Research (MCBER) at the University of Southern Maine (USM). The Waterville region in the REMI model includes Kennebec and Somerset counties and we use this definition for our analysis.

The REMI model provides a comprehensive representation of regional economies and is considered among the most sophisticated economic models available. This analysis uses REMI PI+ (Policy Insight) Version 2.2. 70 sector Maine model that includes 7 regions which are based on aggregates of the state's 16 counties. The number of sectors refers to the level of industry

detail included in the model. Model inputs are referred to as "Policy Variables" (PVs). For more information on the REMI PI+ models visit: <http://www.remi.com/products/pi>.

The REMI model provides a number of advantages over other types of methods that are based primarily on input-output models, such as IMPLAN or the US BEA RIMS II. Most input-output models are static, in that impacts are based on a point in time. However, economies are complex and driven by constantly changing factors. The REMI model allows simulations of these interconnected factors in a dynamic fashion by incorporating aspects of four modeling approaches that include General Equilibrium, Econometric, Economic Geography and Input-Output. Simulations of economic events or policy changes are compared against a control

forecast to determine the differences, which we interpret as the "impacts." MCBER has maintained and employed the REMI model across a wide range of economic studies for over 20 years.

Economic impacts are simulated for 3 components: 1. Operational spending, 2. Capital spending, and 3. Visitor and student related spending. Modelling assumptions, data sources, and model inputs are summarized in the following pages.

A1. Research Methods

Operational Impacts: Assumptions, data, and inputs

Operational impacts include on-campus operations, as well operations in downtown Waterville under Colby's development arm Elm Street LLC. Payments for student financial aid and spending on overseas programming are not included.

Colby College human resources provided the number and compensation of payroll employees reported for the fiscal years FY14 and FY18. We extrapolate the inter-fiscal years as a linear increase and model as such.

It is assumed that payroll employment includes on-campus full-time faculty and staff, as well as part-time employees. Student employees were not included. The REMI model counts FT and PT employees the same as is common in economic impact models.

Total payroll employment for FY14-FY18 is modeled as Industry Employment (Exogenous Production) in the Educational services; private industry PV (policy variable - model inputs).

Compensation paid by Colby is higher than the regional average employee compensation in the Educational services; private industry. We account for this by adding the annual difference in compensation (price adjusted) between compensation reported by Colby College and average compensation associated with the level of payroll employment represented in the REMI model. We add the compensation difference as the policy variable Wage Bill in the Educational services; private industry.

Colby provided off-campus operational spending associated with its off Elm Street LLC operations. Off-campus operations are modelled as Detailed Industry Sales (Exogenous Production) in the Facilities support services industry PV. We assume off-campus employment is not represented in the on-campus payroll data.

Local government purchases and payments to the City of Waterville are modelled as Government Demand in the Educational services; private PV.

All PVs are entered in the Kennebec-Somerset region as nominal dollars.

A1. Research Methods

Capital Spending: Assumptions, data, and inputs

Capital expenditure impacts include on-campus capital investments, as well as off-campus investments primarily pertaining to downtown Waterville under Colby's development arm Elm Street LLC.

Colby College provided on- and off-campus capital expenditures for the fiscal years FY14 through FY18.

On-campus capital investments are categorized and modelled as:

- Construction oriented investments - Detailed Industry Sales (Exogenous Production) in Other nonresidential structures
- IT related investments - Detailed Industry Sales (Exogenous Production) in Computer systems design and services
- Motor vehicles and related - Detailed Industry Sales (Exogenous Production) in Motor vehicle and parts dealers

Specialized equipment purchases (scientific machines, etc) are assumed not purchased or manufactured in Maine, but are modelled as Investment spending in Equipment PV.

Purchases on artwork are assumed purchased outside of Maine and excluded from the analysis.

Off-campus capital expenditures are modelled as Detailed Industry Sales (Exogenous Production) in the Educational and Vocational Construction PV.

Real estate acquisition costs are excluded from the analysis because they are primarily representative of asset transfers rather than economically productive activity.

All PVs are entered in the Kennebec-Somerset region as nominal dollars.



A1. Research Methods

Visitor: Assumptions, data, and inputs

Colby College attracts thousands of visitors each year and while it is impossible to capture every slice of Colby's impact, this analysis attempts to include local spending by overnight visitors, and some day visitors, from the most significant sources that otherwise would not have occurred if not for the presence of Colby College. These include visitors to the Colby College Museum of Art, Athletic event attendees and participants, student admissions visitations, visits from family and alumni throughout the school year, and visitors during summer programs offered by Colby College.

Unless otherwise noted, overnight per person spending rates of \$121 are applied to overnight visitor totals by respective category. Spending rates are derived from visitor spending estimates from a report by Americans for the Arts titled Arts & Economic Prosperity 5 in the City of Waterville, ME. Based on that

research and the average cost of a hotel room and meal from the U.S. General Services Administration per diem lodging rates (\$94) and meal costs (\$8) for Maine, we estimate a per person spending rate of \$121. Day visitor spending rates of \$13.40 are used for FY18. Both overnight and day spending rates are price adjusted (deflated) for previous years using the US Bureau of Labor Statistics Consumer Price Index. Visitation and spending estimates for specific categories are as follows.

Athletic visitors

Colby provided estimates of the number of overnight athletic visitors during only FY18. To estimate previous year visitor spending, we assume FY18 visitor levels are reflective of previous year visitor levels for athletic events and therefore assume similar visitor levels for FY14 through FY17. We apply the average overnight spending rate of \$121 for FY18, price adjusted for previous years, to calculate total overnight athletic visitor spending. We have no means of confidently identifying how many day visitors are from outside the region and therefore exclude any accounting of athletic day visitor spending.

Museum visitors

Museum annual visitation numbers are provided by Colby for all years FY14 through FY18, including Colby estimates of overnight and day visitors believed to be sourced from outside the Waterville region in which the museum was a primary reason for visiting Waterville. The average overnight spending rate of \$121 in FY18 is applied to overnight visitors, price adjusted for previous years. It is assumed overnight visitors stay 1 night. Spending from day visitors from outside the region are calculated using the day visitor spending rate of \$13.40.

Student admissions visitors

Colby provided data on the number of students visiting during the admissions process for FY18. Visits in prior years FY14-FY17 are assumed proportionate to student enrollment in each year. We assume 1.5 visitors for each student and 75% of student admissions visits come from outside Maine/region. This is conservative given that ninety percent of current student enrollment reside outside of Maine. It is assumed each party spends an average of 1 night. The average overnight spending rates of \$121 in FY18 are applied, price adjusted for previous years, to calculate total overnight student admission visitor spending.

A1. Research Methods

Visitor: Assumptions, data, and inputs

Family and alumni visitors

Colby provided visitor and overnight estimates for FY18 for several important events, including student move in and move out, homecoming, admitted student day, commencement, homecoming, trustee weekend (October and April), and reunions. Student related events are adjusted proportionate to respective year enrollment, while alumni and trustee related events are assumed constant in prior FY14-FY17. Average overnight spending rates of \$121 in FY18 are applied, price adjusted for previous years, to calculate total overnight family and alumni visitor spending. We do not attempt to account for any day visitation that may occur sourced from outside the region.

Summer program visitors

Colby has a diverse offering of summer programs. Colby provided estimates of summer visitors by program,

description, and estimated number of days. To determine the number of overnight visitors, we make a number of assumptions for each of the individual 40+ programs based on whether the program participants are likely to have local area, off-campus impacts and the extent of those spending impacts. For example, most child camp participants are excluded, though we account for parent visitation for several camp sessions. A base average overnight spending of \$121 in FY18 is assumed and then adjusted depending on likelihood and extent of local area, off-campus impacts. Spending rates are price adjusted for previous years.

All visitor spending is modeled as

Tourism Spending by Resident households PV. REMI allocates spending based on tourism spending patterns from the US BEA Tourism and Travel Satellite Industry Accounts –

industries include lodging, restaurants, transportation, recreation and entertainment, and retail trade among others. The model automatically discounts the portion of spending allocated to retail trade to account for the mark-up factor associated with this sector (receipts minus cost of goods sold). See REMI documentation for more technical details: (<http://www.remi.com/products/pi>).

It is assumed day visitors likely spend some amount of money. However, we are not able to confidently estimate day visitor spending for most categories. With the exception of museum day visitors spending, we do not account for day visitor spending in other visitor categories. From this perspective, estimates of the impact of total visitor spending may be conservative.

A1. Research Methods

Student Spending: Assumptions, data, and inputs

Student residents

Annual enrollment numbers are used to estimate total local area, off-campus spending. Based on Colby informal survey of the student population, we conservatively assume that each Colby students spends \$110 per month on average for the 9 month academic calendar. It is assumed that some students summer in Waterville. A portion of this is captured in summer program visitors that captures students that live on campus during summer months. However, we have no way of approximating the number of students or their spending that live off-campus during the summer months.

Student spending is modelled as Firm

(competes locally): Retail trade and Food Services and drinking places PV.

Student spending from off-campus

meal rebates are assumed included in Colby's overall operational spending and are not counted here.

Model results for student spending

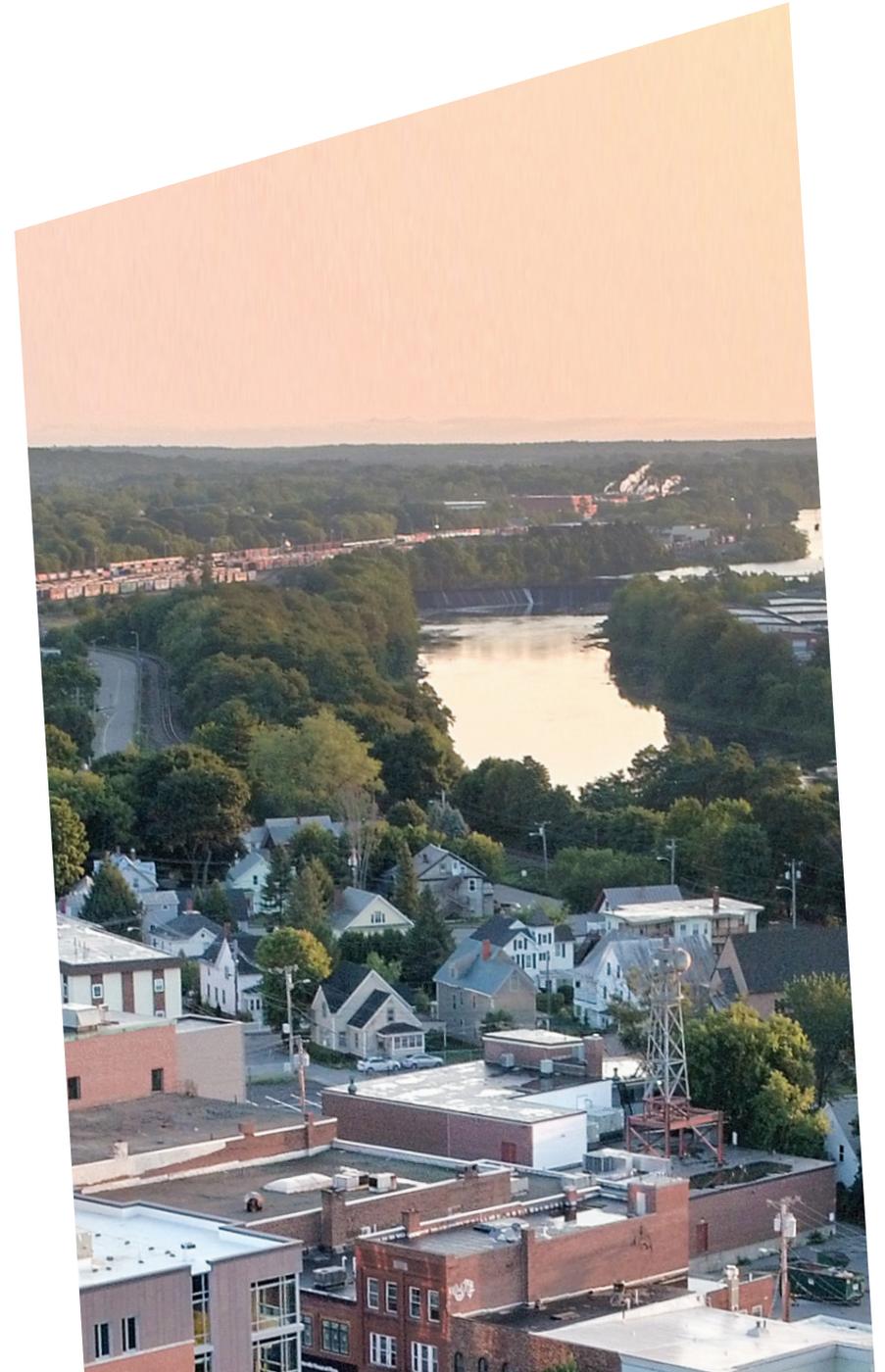
are included in visitor and student spending tables.



A2. Economic Impacts in Maine

Although the focus of this analysis is on the impacts of Colby College on the Waterville region, there are spillover economic benefits accruing in other regions in Maine.

This section provides the analogous summary output tables of the cumulative economic impacts of Colby statewide. The impacts reported here are inclusive of the impacts reported earlier and should not be viewed as 'in addition to'. The residual difference between the Waterville region and Maine reported impacts can be considered the spillover economic impacts that are estimated to occur in the rest of Maine.



A2. Economic Impacts in Maine

Economic Impact of Operational Spending

Category	FY14	FY18	% Change	5-Year Total
Total Jobs (Colby + Indirect + Induced)	1,494	1,998	34%	9,091
Total Wages and Salaries	\$67.4	\$104.3	55%	\$440.9
Total Gross Domestic Product (GDP)	\$87.0	\$146.8	69%	\$611.2
Total Output	\$159.4	\$269.8	69%	\$1,124.7

Note: Employment includes full-time and part-time jobs. Jobs reported in 'job years' and are not additive. Monetary values reported in millions of fixed 2019 dollars.

A2. Economic Impacts in Maine

Economic Impact of Capital Investments

Category	FY14	FY15	FY16	FY17	FY18	5-Year Total
Total Jobs	425	411	361	511	1,072	2,778
Total Wages and Salaries	\$13.7	\$13.6	\$12.6	\$18.3	\$39.2	\$97.4
Total Gross Domestic Product (GDP)	\$26.6	\$26.5	\$23.9	\$33.8	\$71.4	\$182.2
Total Output	\$52.7	\$52.3	\$47.1	\$67.8	\$147.3	\$367.2

Note: Employment includes full-time and part-time. Jobs reported in 'job years' and are not additive. Monetary values reported in millions of fixed 2019 dollars. Off-campus property acquisition costs of \$1.9 million are excluded from the modeling and results.

A2. Economic Impacts in Maine

Economic Impact of Visitor and Student Spending

Category	FY14	FY18	5-Year Total
Total Jobs	42	44	217
Wages and Salaries	\$1.1	\$1.3	\$6.0
Gross Domestic Product (GDP)	\$2.4	\$2.8	\$13.0
Output	\$4.8	\$5.6	\$26.1

Note: Employment includes full-time and part-time jobs. Monetary values reported in millions of fixed 2019 dollars. Consumer spending of this type is typically viewed as induced spending and therefore we do not report as traditional direct, indirect, and induced breakouts.

A2. Economic Impacts in Maine

Total Economic Impact

Category	FY14	FY18	% Change	5-Year Total
Total Jobs	1,961	3,117	58.9%	12,094
Wages and Salaries	\$80.6	\$131.2	62.7%	\$504.8
Gross Domestic Product (GDP)	\$113.5	\$198.3	74.7%	\$738.0
Output	\$222.9	\$396.3	77.7%	\$1,459.0

Note: Employment includes full-time and part-time jobs. Monetary values reported in millions of fixed 2019 dollars. Years other than FY18 do not necessarily include estimates of visitor spending.

A2. Economic Impacts in Maine

Total Maine Tax Impact

Tax Category	FY14	FY18	% Change	5-Year Total
Income	\$2.42	\$3.93	62.7%	\$15.14
Sales	\$1.89	\$3.07	62.7%	\$11.81
Property	\$1.99	\$3.24	62.7%	\$12.47
Total	\$6.30	\$10.24	62.7%	\$39.42

Note: Monetary values in millions of current (nominal) dollars.

A3. Industry and Occupation Employment Detail



This section provides detailed breakdown by major industry sector and occupational category of the employment impacts of Colby College that are inclusive of direct, indirect, and induced effects.

A3. Employment Impacts Detail

Summary

Following the flow of Colby's operations, capital expenditures, and visitor spending, employment impacts are concentrated in a few sectors, though indirect and induced impacts are felt across virtually all industries and occupational categories. The largest private sector employment impacts are in educational services, construction, and retail trade in both the two-county region and the state as a whole. Colby's impacts also support a significant number of jobs in accommodation and food services and health care and social assistance.

In terms of the types of jobs supported, the largest employment numbers are in education and office and administration, followed by construction and related occupations, management, business, and financial operations, and building and grounds maintenance and personal care services. Occupational employment patterns are similar for the two-county region and statewide.

“...employment impacts are concentrated in a few sectors, though indirect and induced impacts are felt across virtually all industries and occupational categories.”

A3. Employment Impacts Detail

Employment Impacts by Industry Sector in Kennebec-Somerset

Industries	FY14	FY15	FY16	FY17	FY18	Average
Forestry, fishing, and hunting	1	1	1	0	1	1
Mining	1	1	1	1	1	1
Utilities	2	3	3	3	3	3
Construction	387	409	399	507	832	507
Manufacturing	12	11	10	11	18	12
Wholesale trade	11	11	11	13	17	13
Retail trade	114	119	125	140	174	135
Transportation and warehousing	10	9	9	10	12	10
Information	4	4	5	5	6	5
Finance and insurance	13	13	13	14	17	14
Real estate and rental and leasing	15	16	17	19	23	18
Professional, scientific, and technical services	28	43	45	37	49	40
Management of companies and enterprises	6	6	6	7	8	7
Administrative, support, waste management, and remediation services	22	24	26	28	35	27
Educational services; private	756	788	833	879	890	829
Health care and social assistance	62	62	64	71	91	70
Arts, entertainment, and recreation	5	4	4	4	5	5
Accommodation and food services	47	50	54	60	72	56
Other services (except public administration)	40	38	37	40	50	41
State and Local Government	83	129	157	183	223	155
All Industries	1,617	1,743	1,821	2,031	2,527	1,948

Note: Employment includes full-time and part-time jobs. Jobs reported in 'job years' and are not additive. Industries based on REMI major sectors which closely align with major NAICS industry sectors.

A3. Employment Impacts Detail

Employment Impacts by Industry Sector in Maine

Industries	FY14	FY15	FY16	FY17	FY18	Average
Forestry, fishing, and hunting	2	2	1	1	1	1
Mining	1	2	2	2	2	2
Utilities	3	3	4	4	4	4
Construction	474	537	541	653	988	639
Manufacturing	24	26	25	27	38	28
Wholesale trade	19	20	21	23	30	23
Retail trade	161	177	187	207	254	197
Transportation and warehousing	18	19	19	20	25	20
Information	7	7	7	8	10	8
Finance and insurance	23	24	25	26	32	26
Real estate and rental and leasing	28	32	35	39	45	36
Professional, scientific, and technical services	43	62	66	60	76	61
Management of companies and enterprises	9	10	10	11	14	11
Administrative, support, waste management, and remediation services	38	43	47	51	62	48
Educational services; private	759	791	836	882	894	832
Health care and social assistance	103	108	112	123	154	120
Arts, entertainment, and recreation	16	17	17	18	21	18
Accommodation and food services	73	81	88	98	118	92
Other services (except public administration)	65	65	65	69	85	70
State and Local Government	97	153	188	219	265	185
All Industries	1,961	2,180	2,296	2,539	3,117	2,419

Note: Employment includes full-time and part-time jobs. Jobs reported in 'job years' and are not additive. Industries based on REMI major sectors which closely align with major NAICS industry sectors.

A3. Employment Impacts Detail

Employment Impacts by Occupational Category in Kennebec-Somerset

Occupations	FY14	FY15	FY16	FY17	FY18	Average
Arts, design, entertainment, sports, and media occupations	40	42	45	47	50	45
Building and grounds cleaning and maintenance, personal care and service occupations	77	82	87	95	110	90
Community and social service occupations	30	33	35	38	42	36
Computer, mathematical, architecture, and engineering occupations	42	49	52	54	65	53
Construction and extraction occupations	248	264	259	327	532	326
Education, training, and library occupations	409	442	475	508	530	473
Farming, fishing, and forestry occupations	1	1	1	1	2	1
Food preparation and serving related occupations	54	59	64	71	84	67
Healthcare occupations	54	58	62	68	82	65
Installation, maintenance, and repair occupations	64	68	69	82	118	80
Legal occupations	4	6	6	6	8	6
Life, physical, and social science occupations	17	19	20	21	23	20
Management, business, and financial occupations	176	190	198	217	265	209
Production occupations	23	24	24	27	39	27
Protective service occupations	22	27	31	34	40	31
Sales and related, office and administrative support occupations	310	329	342	376	460	364
Transportation and material moving occupations	46	49	50	57	78	56
All Occupations	1,617	1,743	1,821	2,031	2,527	1,948

Note: Employment includes full-time and part-time jobs. Jobs reported in 'job years' and are not additive. Reported in REMI categories which closely align with Standard Occupational Classification (SOC) codes major occupational categories.

A3. Employment Impacts Detail

Employment Impacts by Occupational Category in Maine

Occupations	FY14	FY15	FY16	FY17	FY18	Average
Arts, design, entertainment, sports, and media occupations	46	49	52	55	59	52
Building and grounds cleaning and maintenance, personal care and service occupations	106	116	123	134	156	127
Community and social service occupations	34	37	40	44	49	41
Computer, mathematical, architecture, and engineering occupations	52	62	65	68	83	66
Construction and extraction occupations	304	346	350	421	633	411
Education, training, and library occupations	418	454	490	525	550	488
Farming, fishing, and forestry occupations	2	2	2	2	2	2
Food preparation and serving related occupations	78	88	96	106	127	99
Healthcare occupations	77	85	91	99	120	95
Installation, maintenance, and repair occupations	83	93	96	111	151	107
Legal occupations	6	8	9	9	11	8
Life, physical, and social science occupations	18	20	22	23	25	22
Management, business, and financial occupations	210	233	245	267	322	255
Production occupations	36	40	40	45	60	44
Protective service occupations	26	33	37	42	49	37
Sales and related, office and administrative support occupations	399	439	460	502	608	482
Transportation and material moving occupations	67	74	77	86	112	83
All Occupations	1,961	2,180	2,296	2,539	3,117	2,419

Note: Employment includes full-time and part-time jobs. Jobs reported in 'job years' and are not additive. Reported in REMI categories which closely align with Standard Occupational Classification (SOC) codes major occupational categories.

A4. Interim Years – Regional Model

This section reports the input data and output from the economic model for the interim years of 2015, 16, and 17.



A4. Interim Years – Regional Impact

Operating Expenses

Description	FY14	FY15	FY16	FY17	FY18	% Change	5-Year Total
Employees	756	792	839	887	899	18.9%	4,173
Operating Expenditures – on campus	\$105.7	\$116.0	\$125.1	\$133.0	\$141.9	34.2%	\$621.7
Operating Expenditures – off campus	--	\$.04	\$0.3	\$0.4	\$0.7	--	\$1.5
Wages	\$49.2	\$55.1	\$53.3	\$57.0	\$60.8	23.6%	\$271.3

Note: Monetary values in millions of current (nominal) dollars. Employment includes full-time and part-time jobs.

A4. Interim Years – Regional Impact

Payments to the City of Waterville

Category	FY14	FY15	FY16	FY17	FY18	% Change	5-Year Total
Annual designations	\$151.4	\$129.7	\$204.5	\$172.6	\$217.2	44%	\$875.3
Property taxes assessed	\$17.9	\$17.9	\$20.9	\$21.2	\$91.6	411%	\$169.6
City-led Planning Initiatives	\$0.0	\$0.0	\$216.7	\$216.7	\$216.7	-	\$650.0
Total	\$169.3	\$147.6	\$442.0	\$410.5	\$525.5	210%	\$1,694.9

Note: Monetary values in thousands of current (nominal) dollars.

A4. Interim Years – Regional Impact

Investments On- and Off-Campus

Category	FY14	FY15	FY16	FY17	FY18	5-Year Total
On-campus						\$143.0
Facilities Construction	\$21.6	\$18.6	\$16.1	\$23.4	\$37.2	\$116.9
IT upgrades	\$.60	\$1.9	\$1.9	\$.66	\$1.1	\$6.2
Other capital	\$.63	\$1.5	\$3.5	\$9.1	\$5.2	\$19.9
Off-campus						\$33.0
Facilities Construction	-	-	-	\$4.0	\$27.1	\$31.1
Acquisition Costs	-	-	\$1.9	-	-	\$1.9
Total	\$22.8	\$22.0	\$23.4	\$37.2	\$70.5	\$175.9

Note: Monetary values in millions of current (nominal) dollars. Totals may differ slightly due to rounding.

A4. Interim Years – Regional Impact

Economic Impact of Capital Investments

Category	FY14	FY15	FY16	FY17	FY18	5-Year Total
Total Jobs	359	336	291	420	892	2,299
Total Wages and Salaries	\$11.7	\$11.4	\$10.4	\$15.3	\$33.0	\$81.8
Total Gross Domestic Product (GDP)	\$21.9	\$21.2	\$18.8	\$27.0	\$57.6	\$146.4
Total Output	\$43.2	\$41.5	\$36.8	\$54.0	\$119.1	\$294.6

Note: Employment includes full-time and part-time. Jobs reported in 'job years' are not additive. Monetary values reported in millions of fixed 2019 dollars. Off-campus property acquisition costs of \$1.9 million are excluded from the modeling and results. Totals may differ slightly due to rounding.

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