

# University of Rochester & Affiliates

## 2017 NYS Economic Impact

June, 2018

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University of Rochester

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# Summary

The University of Rochester (UR) engaged CGR to assess the economic and fiscal impact of the University and its affiliates on the State of New York during 2017. This report is the fourth in a series of reports exploring the impact of the University over the past decade. As with previous reports, CGR analyzed the broad diversity of specialized academic schools and affiliated organizations to develop a profile of the University's wide ranging economic and fiscal impact.

Education and healthcare are a major part of New York's economy. The Bureau of Economic Analysis estimates that 20% of all jobs and 15% of all income in New York State are attributable to the education and healthcare sectors. The importance of these two sectors is especially notable in Upstate New York. With nearly 31,000 employees (roughly 27,000 FTE) the University of Rochester (and its affiliates) is the largest private employer in Upstate New York and ranked 5<sup>th</sup> across the Empire State in terms of full-time equivalent employment. These employment figures are growing. UR directly employs about 2,300 more FTEs from two years ago (a 9% increase) and 9,000 more people than a decade ago.

**Table 1 – University of Rochester and Affiliates Employment in 2017\***

	Headcount	FTE
University of Rochester**	23,877	21,182
University of Rochester Affiliates	6,938	5,723
Highland Hospital	2,819	2,314
FF Thompson	1,615	1,489
UR Medicine HomeCare/VNS	728	622
The Highlands***	704	485
Noyes Health	561	438
Jones Memorial Hospital	498	362
NextCorps****	13	13
<b>Total</b>	<b>30,815</b>	<b>26,905</b>

\*Excludes St. James Hospital as they were not a UR affiliate in 2017

\*\*See the introduction of the full report for a complete list of who is included

\*\*\*Includes Highlands at Brighton, Highlands at Pittsford, and Highlands Living Center

\*\*\*\*Formerly High Tech Rochester, Includes Excell Partners, Inc.

Additional jobs come as a result as UR purchases goods and services from their vendors, and their employees spend their paychecks. UR directly paid about \$2.13 billion to its workforce in 2017. Major capital investments made by UR support construction and related jobs in the economy. Over the last five years, UR has averaged about \$290 million annually in capital investment spending. UR students also contribute as they annually spend an estimated \$99 million in the economy.

Outside visitors to UR commencement, conferences, cultural, sports and other events support additional jobs in the economy.

All told, UR is responsible for sustaining a total of about 59,700 jobs in the NYS economy, up by 5,000 jobs since 2015. The “traded sector,” the subset of jobs resulting from spending from outside the region, also posted a 7% increase from 2015, totaling about 36,600 jobs in 2017.

**Table 2 - University of Rochester’s Employment Impacts (thousands of jobs)**

Area of Business Activity	Traded Sector			Local & Traded Sectors		
	Direct	Spillover	Total	Direct	Spillover	Total
Employment Impact	16.6	16.8	33.4	26.9	25.9	52.8
Purchases Impact	1.0	0.5	1.5	1.6	0.9	2.6
Capital Investments Impact	2.3	1.2	3.5	2.3	1.2	3.5
Student Spending Impact	0.5	0.2	0.7	0.5	0.2	0.7
Visitor Activity Impact	0.1	0.0	0.1	0.1	0.0	0.1
<b>Total</b>	<b>20.4</b>	<b>18.8</b>	<b>39.2</b>	<b>31.4</b>	<b>28.3</b>	<b>59.7</b>

*Totals may not sum due to rounding*

If UR’s research enterprise was viewed as a separate company, it would employ about 2,800 FTEs, with 1,400 additional jobs being created in the economy as a result of spending spillover effects. The research performed by UR’s research enterprise attracts outside funding. Facilities like UR’s Clinical & Translational Science Institute (CTSI) and the Goergen Institute for Data Science draw in significant amounts of outside funding to the region. Over the last five years, external funding totals more than \$1.7 billion. UR attracted a total of \$342 million in external funding (federal and non-federal) in 2017.

The intellectual property created by UR resulted in 73 patents and 106 invention disclosures in 2017. Thirty-three start-ups were formed from FY 2007 to 2017. Seventy-six percent of them remain open for business, significantly higher than the 47% national average.

UR has made considerable capital investments in the last decade. As previously noted, this supports jobs in the construction and related fields. Sometimes these investments are highly visible with cranes rising above the campus. At other times they are less noticeable, such as renovating a patient care unit in the hospital with new equipment. Over the last decade UR’s capital investments total over \$2.7 billion. Investments in developments like Brooks Landing and College Town have revitalized sections of Rochester. Others like the NextCorps headquarters relocation, help launch the creation of the City’s Innovation Zone.

UR Medicine continues to grow its footprint. St. James Hospital in Hornell, NY became a UR affiliate in early 2018. This hospital, along with Noyes Health and Jones Memorial, extends UR's reach outside of the Rochester metro and into the Southern Tier. UR Medicine's economic impact totals around 34,800 jobs and \$2.1 billion in payroll.

## Acknowledgements

This report is a team effort between CGR and many University of Rochester employees. CGR wishes to thank everyone who helped to provide the data necessary to perform the analysis, including Caroline Ballou, Cheryl H. Bennett, Kevin A. Berg, Laura Brophy, Lukira S. Carroll, Christine Colaluca, Donna L. Colline, Laurel Contomanolis, Theresa Danylak, Daryl Drader, Vincenzo Falciano, Debbie Flotteron, Tom Ford, Diane Frank, Christine Garland, Patricia Giampa, James Helms, Lori A. Hume, Nisha Johar, Jessica Kaufman, Rebekah S. Lewin, Marina Marchioli, Judy Marshall, Brian Martin, Theresa B. Mazzullo, Suzanne A. O'Connor, Dennis O'Donnell, Sarah Peyre, Amy E. Pollard, Christine Rovet, Michael Sauter, Cam Schauf, John M. Schoen, Mary J. Shierloh, John M. Soures, Roberta Spezzano, Kathleen Strojny, Carl Tietjen, Lloyd Theiss, Anne M. Tucker and Karen Van Order. In particular, we thank Josh Farrelman and Mark Michaud for their work/efforts in coordinating data requests, answering questions and providing feedback on the report.

## Staff Team

Mike Silva, Data Analyst, organized and analyzed data, helped define consistent methodology, and drafted the report.

Amelia Rickard, Research Assistant, assisted with data collection.

Yiwei Wang, Data Analyst, along with Khalid Akram, fellow, and Sarah Comerford, intern, assisted with the largest employers list.

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# Introduction

The University of Rochester (UR) engaged CGR to assess the economic and fiscal impact of the University and its affiliates on the State of New York during 2017. This report is the fourth in a series of reports exploring the impact of the University over the past decade. As with previous reports, CGR analyzed the broad diversity of specialized academic schools and affiliated organizations to develop a profile of the University's wide ranging economic and fiscal impact.

For the purposes of this report, the University of Rochester includes all adjunct faculty, full-time faculty, post-doctoral fellows, research and teaching fellows, medical residents, and University staff. In addition, CGR includes all employees of Strong Memorial Hospital, FF Thompson Health Care, Jones Memorial Hospital, Noyes Hospital, UR Medicine HomeCare (formerly VNS), Highland Hospital, NextCorps (formerly High Tech Rochester), Excell Partners, Inc., the Highlands Living Center, UR Medicine Urgent Care and Labs, and both the Highlands at Pittsford and the Highlands at Brighton. St. James Hospital is not included in these totals as its affiliation with UR became official in March of 2018. In expressing the economic impact, CGR refers to this entire body as University of Rochester.

## Our Approach

CGR's technical approach to analyzing economic impact is consistent with the standard practice of economic impact analysis. CGR has made every attempt to replicate the previous study's methodology, thus providing a consistency of results. While collecting data for the 2017 report, certain revised data were provided for 2015. In order to maintain consistency of results, CGR revised the 2015 numbers so that comparisons between the 2015 study and the 2017 study now reflect the adjusted 2015 estimates.

## What is Measured?

CGR's economic impact studies principally estimate the wages and jobs that an institution stimulates as a result of its economic activity. We attempt to answer the question, "How is the economy larger because of this institution's activity in the community?" We analyze five primary areas of economic activity conducted by UR in order to quantify the economic impact. This measures the impact of the *use* of funds regardless of the *source* of funds. The source of funds does determine the allocation of impact between "traded sector" and the total impact.

The five areas are:

- Employment;



- Purchasing;
- Capital Investments;
- Student Spending; and
- Visitor Activity.

## Geographic Scope

This study focuses on UR's impact within New York State. This is consistent with the 2015 study.<sup>1</sup>

## Time Period

The focus of this study is calendar year 2017, although some data were only available for the fiscal<sup>2</sup> or the academic years. Also given the uneven nature of capital project expenditures, CGR uses a five year rolling average to estimate the economic impact of capital investments.

## Traded vs. Local Sector Impacts

The goal of any economic impact analysis is to assess how the economy in question is larger as a consequence of the activity being studied. In layman's terms, the question posed is this: How would the economy be smaller if the activity were to disappear?

Economists distinguish between economic activities that bring dollars into a region (i.e. dollars earned from trading with other regions) and those that simply reallocate dollars already "earned" from other trading. This might be illustrated as activities that "grow the pie" versus those that change the way the "pie is sliced." A new grocery store, for example, will not attract spending from shoppers living outside the region; instead, the new store only reallocates spending on groceries that would have occurred anyway.

Although this is an important distinction, the dividing line between a "traded" activity and a purely local one is not easily drawn for an institution as complex as the University of Rochester. In theory, the traded sector is defined as those aspects of UR that would not be provided by another entity if UR did not exist. If UR were to disappear, the millions of dollars flowing into Rochester to support UR Medicine's

**ECONOMISTS DISTINGUISH BETWEEN ECONOMIC ACTIVITIES THAT BRING DOLLARS INTO A REGION AND THOSE THAT REALLOCATE DOLLARS ALREADY "EARNED" FROM OTHER TRADING.**

<sup>1</sup> Prior to 2015, CGR analyses of the UR economic impact employed the Rochester Metropolitan Statistical Area as the unit of analysis. The expansion to statewide impact reflects the expanding footprint of the institution, principally UR Medicine.

<sup>2</sup> The fiscal year runs from July 1<sup>st</sup> to June 30<sup>th</sup>

research enterprise would likely not be replaced. By contrast, normal childbirth or appendectomies would be unlikely to move to Cleveland or Tampa if Strong Memorial Hospital or Highland Hospital were to close.

It is impossible to allocate every dollar of revenue flowing to an institution like the University of Rochester according to source, however. Although CGR treats the educational function of the University as part of the “traded sector,” some UR students may have chosen to attend another college or university in the region had they not been accepted at the University of Rochester. We do not attempt to draw such distinctions in this study.

**STRONG HOSPITAL'S  
HIGHLY REGARDED  
LIVER TRANSPLANT  
PROGRAM ATTRACTS  
PATIENTS FROM  
OUTSIDE THE REGION.**

CGR does, however, distinguish between clinical service revenue to Strong Memorial Hospital or Highland Hospital that would likely be earned in the local economy anyway if these hospitals were to close. Although routine surgery would be performed in the area regardless, Strong Hospital's highly regarded (and quite large) liver transplant program is unusual and attracts patients from outside the region. Local residents who receive liver transplants would otherwise travel to another city if Strong did not provide this service. Analysis of UR Medicine data suggests that approximately 37% of clinical revenue flowing to Strong Memorial Hospital is highly specialized. It is this component of the clinical service revenue that CGR includes as part of UR's unique contribution to the Rochester economy, and which qualifies as traded sector activity.

The remaining 63% represents routine medical procedures that could be satisfied by other health care providers were these services not available from UR Medicine. Employees and direct spending related to these types of procedures are considered “local” and are not counted in the economic impact analysis of the traded sector.

## Types of Economic Impacts

### Direct Effects

Direct economic effects come from the actual expenditures of the University of Rochester in the community—i.e., the institution is directly involved with the transaction. Added to the direct expenditures is the local spending of students and visitors to campus and/or the hospitals. Examples of direct expenditures include:

- UR and its affiliates' payroll expenditures for faculty, physicians, staff, residents, and students;
- UR and its affiliates' purchases of goods and services from a variety of suppliers; and

- UR's payment to a construction firm for a capital improvement project (e.g. a new building).

## Spillover Effects

Spillover effects result from the subsequent spending of the recipients of the direct expenditures. In some studies this is subdivided for analysis into "indirect" and "induced" impact. For example, a vendor company that supplies a product or service to the University of Rochester uses the proceeds of that sale to make expenditures of its own, typically for both materials and labor (an "indirect" impact). Similarly, employees of the University of Rochester spend their wages, which become income for other businesses in the region (an "induced" impact). These types of expenditures are categorized as spillover. Examples of spillover impacts include:

- The firm hired to construct a new building buys materials from local businesses. The local businesses will, in turn, have income to hire workers. Those workers will then spend money in the community. The spending of the businesses affected by the construction, and also the spending of the employees of those businesses, is considered spillover.
- A resident or lab tech purchases dinner in a restaurant, and the restaurant then uses the money to pay suppliers or staff.

## Data Sources and Modeling

All data for the study were provided by UR. The data were gathered by CGR from the various academic schools and affiliated organizations and compiled for analysis by CGR. Where necessary, CGR consulted with external sources to obtain benchmarks for analysis (e.g. the average hotel room rate was obtained by sampling local hotels). We also consulted data from U.S. government bureaus of the Census, Economic Analysis (BEA), and Labor Statistics (BLS); the New York State Department of Tax and Finance; and a number of other sources.

CGR used IMPLAN, a regional input-output modeling system, to estimate the spillover economic impacts. The IMPLAN database, created by MIG, Inc., is a widely accepted model of economic activity. It consists of two major parts: 1) a national-level technology matrix and 2) estimates of sectoral activity for final demand, final payments, industry output and employment for each county in the U.S. along with state and national totals. Data are updated annually. IMPLAN estimates the direct, indirect and induced impacts of economic change through the use of multipliers, and estimates the impact of an increase in demand in a particular sector on 536 different industries/sectors in the economy.

# Our Findings

## Economic Impact

CGR explores both the traded sector economic impact and also reports a broader look at the role UR plays in the economy. The University of Rochester and its affiliates continue to expand their economic impact within New York State.

In 2017, both the local and traded sectors were responsible for sustaining over 59,000 jobs in the NYS economy. This is up from an estimated 54,000 jobs in 2015.

**Table 3 – Economic Impact of the University of Rochester and Affiliates, 2017**  
(thousands of FTE jobs)

Area of Business Activity	Traded Sector			Local & Traded Sectors		
	Direct	Spillover	Total	Direct	Spillover	Total
Employment Impact	16.6	16.8	33.4	26.9	25.9	52.8
Purchases Impact	1.0	0.5	1.5	1.6	0.9	2.6
Capital Investments Impact	2.3	1.2	3.5	2.3	1.2	3.5
Student Spending Impact	0.5	0.2	0.7	0.5	0.2	0.7
Visitor Activity Impact	0.1	0.0	0.1	0.1	0.0	0.1
<b>Total</b>	<b>20.4</b>	<b>18.8</b>	<b>39.2</b>	<b>31.4</b>	<b>28.3</b>	<b>59.7</b>

*Totals may not sum due to rounding*

When assessing impact using labor income as the measure, UR and its affiliates are responsible for \$3.5 billion in income in New York State. The total impact of the traded sector in NYS is \$2.3 billion in 2017.

**Table 4 – Labor Income Impact of the University of Rochester and Affiliates, 2017**  
(millions of dollars)

Area of Business Activity	Traded Sector			Local & Traded Sectors		
	Direct	Spillover	Total	Direct	Spillover	Total
Employment Impact	\$1,225.7	\$820.5	\$2,046.2	\$1,896.2	\$1,265.5	\$3,161.7
Purchases Impact	\$55.8	\$23.5	\$79.3	\$91.0	\$41.2	\$132.2
Capital Investments Impact	\$126.4	\$57.5	\$183.9	\$126.4	\$57.5	\$183.9
Student Spending Impact	\$19.5	\$11.3	\$30.8	\$19.5	\$11.3	\$30.8
Visitor Activity Impact	\$1.4	\$0.9	\$2.2	\$1.4	\$0.9	\$2.2
<b>Total</b>	<b>\$1,428.8</b>	<b>\$913.7</b>	<b>\$2,342.5</b>	<b>\$2,134.5</b>	<b>\$1,376.4</b>	<b>\$3,510.9</b>

*Totals may not sum due to rounding*

## Employment Impact

The largest impact is generated by the direct employment of workers at a wide range of skill levels at UR and UR Medicine Affiliates. The table below provides the employee count as of December 31, 2017. This includes full-time, part-time and time as reported (TAR) individuals and is not a full-time equivalent number. The table does not include graduate or undergraduate students as their impact is featured in a latter section.

**Table 5 – UR and Affiliates Employee Counts**

	2015	2017	Change
University of Rochester	21,936	23,877	9%
Highland Hospital	2,686	2,819	5%
FF Thompson	1,513	1,615	7%
UR Medicine HomeCare/VNS	742	728	-2%
The Highlands*	699	704	1%
Noyes Health**	N/A	561	N/A
Jones Memorial Hospital**	N/A	498	N/A
NextCorps***	14	13	-7%
<b>Total</b>	<b>27,590</b>	<b>30,815</b>	<b>12%</b>

\*Includes Highlands at Brighton, Highlands at Pittsford, and Highlands Living Center

\*\*Noyes Health and Jones Memorial Hospital were not UR Affiliates in 2015.

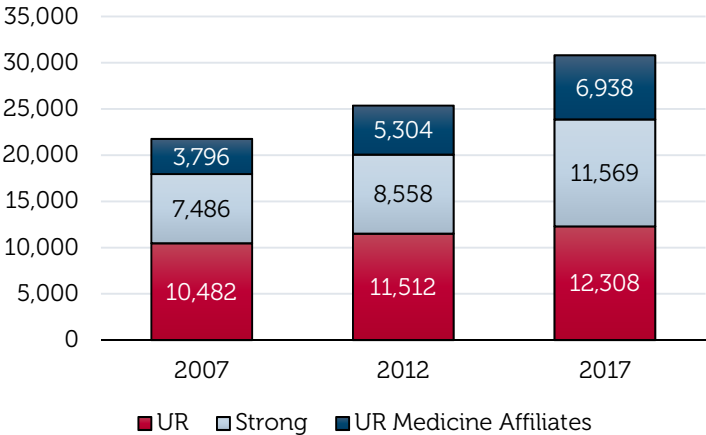
\*\*\*Formerly High Tech Rochester. Includes Excell Partners, Inc.



**UR EMPLOYS 9,000 MORE PEOPLE THAN A DECADE AGO.**

UR and its affiliates expanded their overall headcount by about 3,200 workers, or 12% from 2015 levels. The University of Rochester has consistently increased its employment footprint. Collectively, UR and UR Medicine employ 9,000 more people than a decade ago.

**UR Employment (Headcount) by Year**



This growth is due to both organic expansion and acquisition through adding UR Medicine affiliates. The University of Rochester's River Campus employs 1,800 more people than a decade ago, a 2% average annual increase. Strong Memorial Hospital increased its employment by 5% annually over the same period, adding over 4,000 jobs. UR Medicine Affiliates posted an 8% increase annually, expanding their employment by 3,100 jobs since 2007.

Growth from 2015 was also significant. All told, UR employs about 27,000 full-time equivalents directly. UR and all the affiliates increased by 3,000 from 2015 levels, a 13% change. This rapid growth rate is due in part to the addition of Noyes Health and Jones Memorial Hospital as UR Affiliates.

**Table 6 – UR and Affiliates FTE Counts**

	2015	2017	Change
University of Rochester	19,351	21,182	9%
Highland Hospital	2,174	2,314	6%
FF Thompson	1,208	1,489	23%
UR Medicine HomeCare/VNS	617	622	1%
The Highlands*	470	485	3%
Noyes Health**	N/A	438	N/A
Jones Memorial Hospital**	N/A	362	N/A
NextCorps***	12	13	8%
<b>Total</b>	<b>23,832</b>	<b>26,905</b>	<b>13%</b>

\*Includes Highlands at Brighton, Highlands at Pittsford, and Highlands Living Center

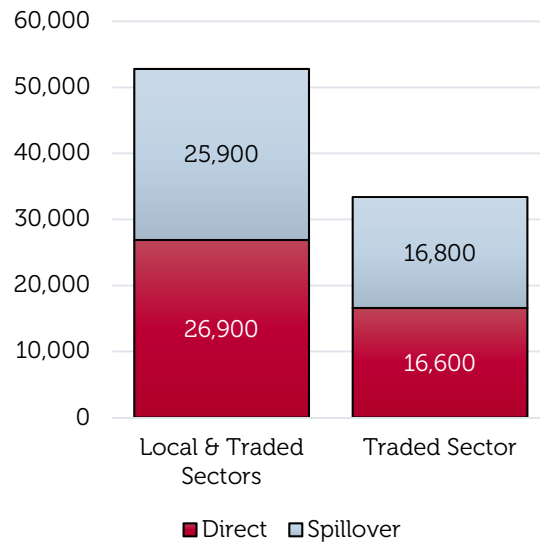
\*\*Noyes Health and Jones Memorial Hospital were not UR Affiliates in 2015

\*\*\*Formerly High Tech Rochester. Includes Excell Partners, Inc.

In estimating the economic impact of UR, CGR only includes the wages of those employees with zip codes in New York State. However, it is clear that an employee with a permanent address outside NYS may rent an apartment as well as buy groceries and gas in NYS from time to time. Due to the case-by-case nature of these situations, CGR chose to only include those wages of employees with a zip code in New York State.

CGR divided employment figures into the traded and local sectors. As explained in our approach, we measured the impact of each and report the traded sector and the combined local and traded impacts for a total.

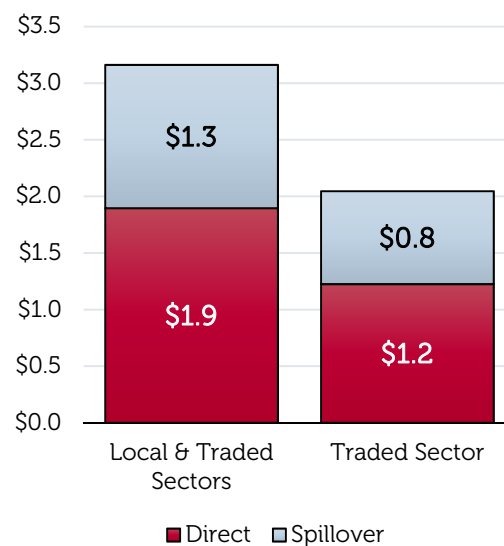
### UR and Affiliates Employment Impact, Jobs



Adding the spillover impact brings the total economic impact to about 33,400 jobs in New York State for the traded sector. If both the local and traded sector combined are considered, more than 52,200 jobs (direct and spillover) in New York State are due to UR and its affiliates.

Individuals, either directly employed by the University or indirectly impacted through the spending of the University or its employees, earn an estimated \$3.2 billion dollars. These payroll dollars are the lifeblood of the local economy.

### UR and Affiliates Employment Impact, Labor Income (billions of dollars)



### UR PAID ABOUT \$1.9 BILLION IN WAGES TO EMPLOYEES IN 2017.

During 2017, UR paid wages of about \$1.9 billion to employees living in New York State. The largest component of UR's economic impact in the NYS economy is based on the wages it pays to its employees and the subsequent buying power that generates for them. Not only does UR directly employ about 27,000 full-time equivalent workers, but the spending by these employees spurs an additional 26,000 jobs in NYS. When adjusted to account only for traded sector impact, the direct employment figure is still significant (17,000) and the spending of those employees spurs on an additional 17,000 jobs in the NYS economy.

**Table 7 – Employment Impact of UR and Affiliates, 2017**

	Direct	Spillover	Total
<b>Local &amp; Traded Sectors Combined</b>			
Employment (thousands of jobs)	26.9	25.9	52.8
Labor Income (billions of dollars)	\$1.9	\$1.3	\$3.2
<b>Traded Sector Only</b>			
Employment (thousands of jobs)	16.6	16.8	33.4
Labor Income (billions of dollars)	\$1.2	\$0.8	\$2.0

### UR Remains One of the Top Employers in NYS

With nearly 31,000 employees (27,000 FTE), UR is the largest private employer in Upstate New York. CGR has updated its list of New York State's top private employers for this study to put UR's employment in a statewide context. Since private employment figures are not public information, CGR has used various business journals, market research reports, and self-reported numbers to provide the most accurate data. With each new publication of this list, we have grown more confident that we are capturing the right firms and institutions. However, we remain cautiously aware that with no publicly available statewide source to independently verify our findings, there is a possibility that the list is incomplete.

The following are what CGR believes to be the largest private sector employers in New York State based on their full-time equivalent employment for the year ended 2017. We have used full-time equivalents to provide a better comparison of employment impact.



**Table 8 – Top 20 Private Employers in NYS in 2017  
(Full-time equivalent employees)**

<b>Rank</b>	<b>Company Name</b>	<b>NYS Employment</b>
1	Northwell Health	54,000
2	Montefiore Health System	32,000
3	Mount Sinai Health System*	29,000
4	Walmart*	28,000
5	NYU/NYU Langone Medical Center	27,000
<b>5</b>	<b>UR &amp; Affiliates</b>	<b>27,000</b>
5	Verizon NY Inc.**	27,000
8	JP Morgan Chase**	25,000
8	Citigroup Inc.**	25,000
10	New York Presbyterian	20,000
11	McDonalds**	18,000
12	Wegmans Food Markets*	17,000
12	Macy's*	17,000
12	Cornell University/Weill Medical College	17,000
15	Rochester Regional Health System*	16,000
16	Consolidated Edison	15,000
17	Bank of America**	14,000
17	Home Depot**	14,000
19	Memorial Sloan-Kettering Cancer Center*	13,000
19	Morgan Stanley**	13,000

\*Headcount reported; adjusted by CGR for likely part-time workers.

\*\*Not published; estimate only.

With about 27,000 FTE employees, the University of Rochester is in a three way tie for the fifth largest private employer in New York State. Across the board, healthcare and higher education remain the dominant players in New York State's economy. The majority of the largest employers are headquartered downstate, in New York City and on Long Island, though a few are located Upstate.

## Purchasing Impact

UR and its affiliates purchased goods and services totaling nearly \$1 billion in 2017. Of this total, \$182 million or 18% was spent in New York State<sup>3</sup>. These purchasing "leakages" occur across all parts of UR but is especially noticeable within the hospitals. This leak outside the NYS economy is due to the dearth of medical equipment and pharmaceutical manufacturers located within the state. CGR excluded \$26.1 million of employee reimbursements. Undoubtedly some of it was spent at NYS vendors but what amount is unknown.

UR has used its substantial purchasing power to influence supplier decisions which benefits the local economy. For example, Medline is a direct supplier to hospitals,

<sup>3</sup> Location of spending based on zip code of the vendor. May understate total impact to NYS as spending may flow to headquarters out of state but distribution center may be located in New York State.

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nursing homes, medical practice groups and retailers of surgical masks and gowns, scrubs, laboratory equipment, wound dressings, wheelchairs and other durable medical equipment and other medical supplies. A five-year, \$250 million contract to become URMC's prime vendor spurred the relocation of a 260,000-square-foot distribution center from Pennsylvania to Brockport, NY.

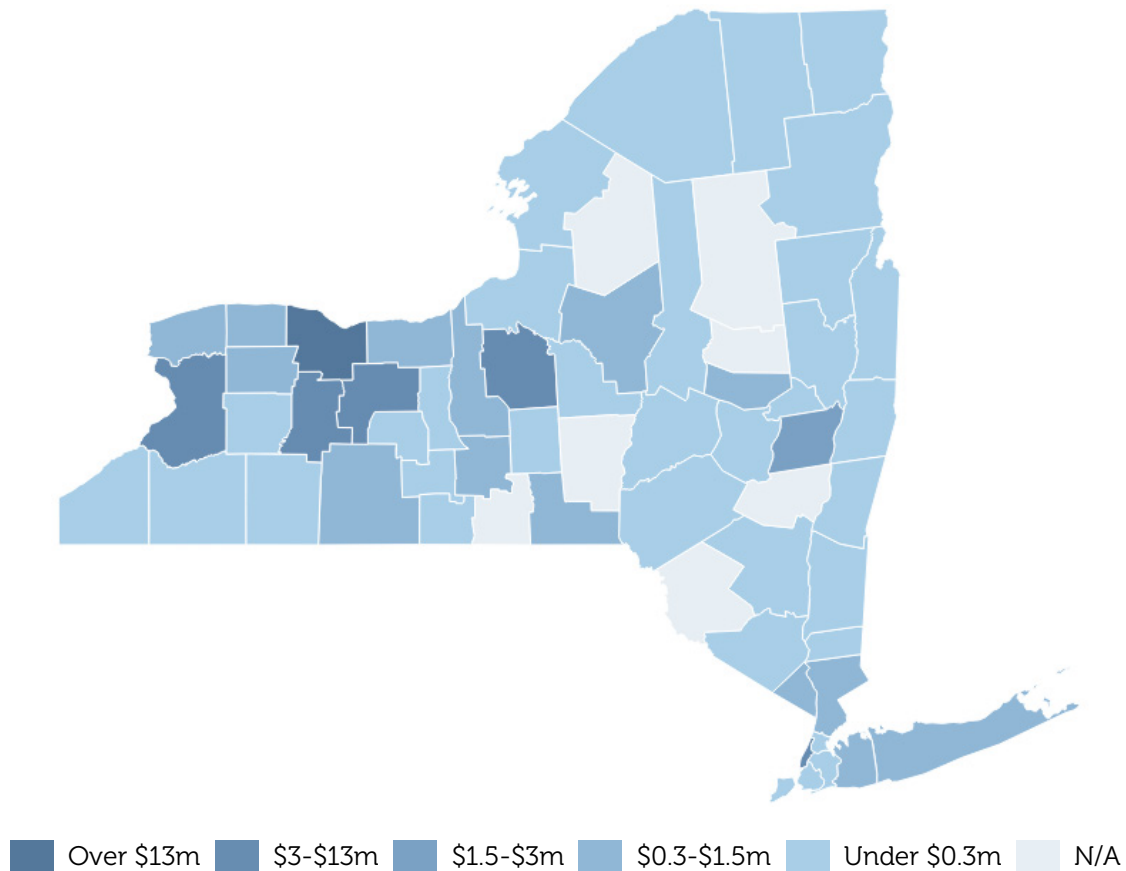
UR also leverages its research strength and purchasing power for public benefit. UR, through its Center for Energy and Environment, has applied for a \$1 million grant from the New York State Energy Research and Development Authority (NYSERDA) to install a solar array and energy storage system on a new 34,000 sq. ft. building, which would establish a net-zero building on the UR campus.

This first of its kind project in New York State will serve as a test case for a solar panel-battery coupled system that integrates grid scale energy storage, allowing the UR to see whether a system like this can perform in a northeastern U.S. climate setting. With Governor Cuomo's target to supply 50% of the state's electricity from renewable sources by 2030, contributing to the goal to reduce greenhouse emissions 40% below 1990 levels by 2030, the results of this test case could be transformative, leading to the wide-scale adoption of carbon-free solar energy in New York State while maintaining grid stability.

Moreover, this project is aligned with the Rochester-Monroe Anti-Poverty Initiative and the City of Rochester. ENERO is the first startup launched by the Market Driven Community Corporation (MDCC), an independent non-profit focused on the development of worker-owned businesses within the City of Rochester. If awarded the grant, ENERO will be partnering with SunCommon for the installation.

The map below illustrates UR's purchasing footprint within New York State. Those counties shown with darker shading sourced more goods and services to UR and its affiliates than lighter shaded ones. UR purchased goods and services from all but seven of the counties in NYS. CGR estimates that the UR's purchases sustains approximately 2,600 jobs in the state.

## UR and Affiliates Purchasing Footprint, 2017



**Table 9 – Purchasing Impact of UR and Affiliates, 2017**

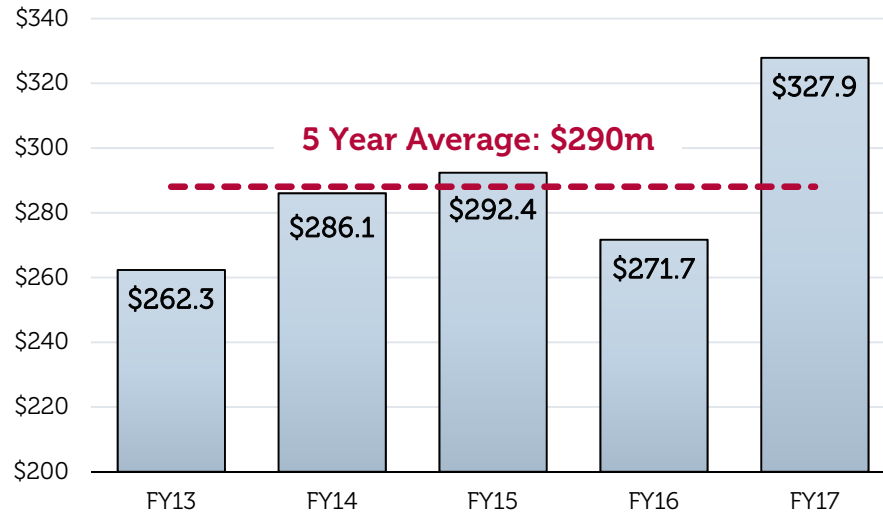
	Direct	Spillover	Total
<b>Local &amp; Traded Sectors Combined</b>			
Employment (thousands of jobs)	1.6	0.9	2.6
Labor Income (millions of dollars)	\$91.0	\$41.2	\$132.2
<b>Traded Sector Only</b>			
Employment (thousands of jobs)	1.0	0.5	1.5
Labor Income (millions of dollars)	\$55.8	\$23.5	\$79.3

## Capital Construction Impact

UR has made considerable capital investments in the last decade, totaling over 2.7 billion dollars, adjusted for inflation. There is considerable variation in the year over year capital investment numbers. Given this variable nature of capital expenditures, CGR uses an annual average over five years to estimate the economic impact of capital investments. During the past five fiscal years (FY2013 – FY2017), UR and its

affiliates made over \$1.4 billion dollars in capital project expenditures. This averages to about \$290 million in capital investments per year.

### UR and Affiliates Capital Investments (millions of 2017 dollars)



Using the 5 year average, CGR estimates UR's capital investments support around 3,500 jobs and add over \$180 million of labor income to the New York State economy.

**Table 10 – Capital Investments Impact of UR and Affiliates, 2017**

	Direct	Spillover	Total
Employment (thousands of jobs)	2.3	1.2	3.5
Labor Income (millions of dollars)	\$126.4	\$57.5	\$183.9

## Capital Project Retrospective

UR has carried out a number of significant capital projects in recent history. These investments indicate UR's commitment to the City of Rochester and the overall region. The following section highlights some of the capital projects completed recently that resulted directly or indirectly as a result of UR. They are listed in chronological order.

### Saunders Research Building

The Saunders Research Building was completed in 2011 with \$50 million in support from New York State. It was named in recognition of E. Philip Saunders, who made a \$10 million gift to UR's Clinical & Translational Science Institute (CTSI).

As a result of building the Saunders Research Building, UR attracts funds from the National Institutes of Health's (NIH) Clinical and Translational Science Awards (CTSA). The CTSA was established by the NIH in 2006 to reduce the time it takes for drugs, medical devices, or therapeutic interventions to get to patients and populations in need. The program acts in a supporting role for biomedical researchers, by providing infrastructure, training, and resources that make it easier for biomedical scientists to move their research forward.

Since its inception in 2006, the CTSI has been continually funded by the CTSA program, which is now administered by the National Center for Advancing Translational Sciences. UR's CTSI has received nearly \$105 million in NIH funding and has, in turn, supported 98 trainees and funded 198 projects for a total of nearly \$15 million at the University. Researchers and trainees supported by the CTSI have gone on to secure \$102 million in external funding.

UR's CTSI today coordinates a network of over 50 institutions across the country. The network aims to help researchers turn scientific discoveries into health benefits faster.

## Brooks Landing

Development at Brooks Landing is fundamentally changing the face of Rochester's southwest side. UR, the City of Rochester, neighborhood groups and private developers all partnered in the development of Brooks Landing – a waterfront development between Brooks Avenue and Genesee Street. Ground was broken in 2013 on the latest addition to the Brooks Landing Revitalization Project, The Flats at Brooks Crossing.

Brooks Crossing, an \$18.7 million project, houses 170 UR upperclassmen, a boathouse and soon a restaurant. Brooks Crossing was projected to bring \$9.9 million to the Brooks Landing community as new residents patronize local services and restaurants. The City of Rochester also contributed to the project in the form of \$6 million in area public improvements.

## College Town

UR partnered with the City of Rochester, Fairmont Properties, Gilbane Development and Mt. Hope neighborhood leaders to develop a comprehensive plan for a College Town on 14 acres of university-owned property along Mt. Hope Avenue. Like Brooks Crossing the University is the anchor tenant and committed to leasing 50,000 square feet in office space and relocating the University's Bookstore. The project created a vibrant community hub, which serves and serve not only the Mt. Hope and university communities, but the entire city.

College Town is a \$100 million development project in part financed with local, state and federal grants and loans. The project includes street-level retail shops, office

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space, parking, rental residential space and a hotel. The City of Rochester invested \$17 million in improvements to the main intersection flanking the College Town development.

### **I-390 Improvements**

A multi-phase plan to improve access to UR and the surrounding area via the I-390 interchange began in 2012-13 and wrapped up in 2015. This \$90 million project supported an estimated 850 construction jobs (indirect and direct) and \$42 million in labor income. In total, the project supports and accommodates increased traffic from new developments within 2 square miles of the project site. The project is expected to ease traffic, increase safety and provide future economic development opportunities in the community.

### **Golisano Children's Hospital Phase I**

In the summer of 2015, after more than three years of planning and 30 months of construction, the \$145 million Phase I of new Golisano Children's Hospital was completed. This was the largest capital investment in UR history. The new Golisano Children's Hospital tower provides infants, children and families with more space and access to improved care, including 52 private patient rooms and 68 beds in the Neonatal Intensive Care Unit. Currently, Golisano Children's Hospital performs over 21,000 surgeries a year—for patients in the 17-county Finger Lakes region and beyond.

### **Wegmans Hall/Goergen Institute for Data Science**

Data science is hailed as the next tech frontier and was the centerpiece of the University of Rochester's 2013-2018 strategic plan. The University committed \$100 million towards the field of data science. Since then, the Goergen Institute for Data Science (GIDS) has been attracting more researchers and funding.

Completed in 2017, Wegmans Hall is a new state-of-the-art 58,000-square-foot facility that is home to GIDS and the New York State Center of Excellence in Data Science. The Wegmans Family Charitable Foundation has donated \$20 million for the construction of a building. Governor Cuomo and New York State have committed \$22.5M to support the data science at the University, which includes \$15 million towards the construction of Wegmans Hall and \$7.5 million for the creation of the Rochester Data Science Consortium, a partnership between the UR and Harris Corporation—two of the largest employers in the Finger Lakes region. Projects are underway with Harris Corporation and, in 2018, the Consortium will be adding Wegmans and other corporate partners as members. Additionally, the University is hiring for several open positions at the Consortium and is creating a new paid internship program for 10 Data Science students who will work on projects for the Consortium throughout the year. The Consortium will create up to 184 new direct jobs and is expected to leverage more than \$285 million in federal research funds and private investment.

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## UR Medicine's Imaging & Autism Care Center

A 90,000-square-foot, three-story imaging sciences building on East River Road was completed in 2017. The new site provides the region's first outpatient interventional radiology clinic and the region's first stand-alone clinic to integrate care of autism with pediatric neuromedicine and child and adolescent psychiatry services.

The first two floors hold the new Imaging Center, which combines private patient spaces with advanced technology for diagnostics and treatment. The third floor houses the new William and Mildred Levine Autism Clinic, supported by a \$1 million gift from the William and Mildred Levine Foundation. The autism clinic co-locates specialists in autism, child and adolescent psychiatry and neuromedicine services to offer multidisciplinary care to children and teens. This project totaled \$28 million, and the building was completed in early 2017.

## NextCorps

NextCorps, formerly High Tech Rochester (HTR), is a UR affiliate and the region's only state- and federally-designated business incubator. It is a place where entrepreneurs, university researchers and inventors get together and seed new business ideas.

In late 2014, HTR announced that it was leaving its current home in West Henrietta and moving to the 6th floor of the Sibley Building. It is the cornerstone of the City of Rochester's newly designated Downtown Innovation Zone. The 68,000-square foot 6th floor was to be transformed into co-working space, private offices and state-of-the-art labs (including wet labs for biotech innovation), conference rooms and an auditorium for programs, workshops and community events. Since announcing plans to move from West Henrietta to downtown Rochester, more than 15 companies approached them about moving into the incubator space.

This \$24 million project was supported with \$10 million from the State of New York, \$2.5 million from the federal Economic Development Administration, \$3 million in private philanthropic donations and is a priority project of the Finger Lakes Regional Economic Development Council (FLREDC). The opening of the facility marks the completion of the \$16 million phase 1 of the project.

In fall of 2014, CGR assessed the economic impact of the business accelerator. If these expectations are correct, employment in business accelerator startups plus "spillover" employment will total around 2,000 FTEs by year five. Roughly half of these are directly employed by the startups; the other half is the result of spillover effects. Labor income would grow from just under \$7 million in the first year to nearly \$90 million in year five. Construction on the sixth floor of historic Sibley Square was completed in early 2018.

Since opening their doors, UR/NextCorps was awarded \$10M through the Finger Lakes' Upstate Revitalization Initiative award to host Luminare NY, the world's largest optics,



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photonics and imaging technologies business/startup competition. The competition received interest from more than 100 applicants from around the world during this first round, including teams from Canada, Switzerland, Ireland, Germany, Scotland, India, China, Russia, Qatar, Lebanon, Israel and the United States. 10 finalists were selected and each will receive an initial investment of \$100,000 when they begin the accelerator program.

On June 28th, 2018, the inaugural cohort of Luminate will participate in a Demo Day event in the Big Tent of the Xerox Rochester International Jazz Festival. All 10 finalist companies will be pitching their optics, photonics, and imaging startups, and one team will be awarded \$1 million in follow-on funding from the Empire State Development's Finger Lakes Forward initiative. An additional \$1 million is also available to be awarded to other finalist companies.

## Golisano Children's Hospital Phase II

Phase II construction of the new Golisano Children's Hospital building commenced shortly after the building's dedication in May 2015. This phase will total an additional \$45 million capital investment. The new areas, which will be located on the fourth and sixth floors, include:

- Six new operating rooms in the William and Mildred Levine Pediatric Surgical Suite, including the pediatric cardiac operating room;
- The Clay E. and Rita M. Buzzard Pediatric Cardiac Cath Lab Suite, which will allow physicians to insert cardiac catheters in an environment designed specifically for the procedure;
- 23 new private pre-op and post-op recovery rooms;
- A gastroenterology surgical procedure suite; and
- Relocation of the current 12 ICU and 10 general care pediatric beds to the new tower, and an addition of six new pediatric ICU beds to accommodate rising demand.

Construction on this phase of the Golisano Children's Hospital is ongoing at the time of this report.

## Future Capital Investments

Undoubtedly UR will continue to make additional capital investments. Sites like the CTSI in the Saunders Research Building and the LLE are at capacity and would need to expand to provide additional space to researchers.

Other future projects include the new Sloan Theatre, Hutchison Hall's annex, the development of 1.5 acres of land across from the Eastman School of Music, currently



being used as a parking lot. UR purchased this land with the intent to build a mixed use development. UR Medicine HomeCare (formerly VNS) is exploring relocating its headquarters to downtown Rochester, which will require capital investments.

Future investment will also occur at UR Medicine facilities. UR is planning on expanding the Emergency Department at Strong Memorial Hospital along with other improvements. These capital investments will support construction and related jobs locally and improve the quality of services provided in the region.

## Student Spending Impact

Students generally do not have significant buying power during their on-campus experiences. However, due to the sheer volume of students they do contribute to the economic activity of New York State in a variety of ways. During the 2017 spring semester, UR:

- Enrolled 9,307 full-time undergraduate and graduate students; and
- Provided housing to 5,181 undergraduate and graduate students.

Many students continue classes during the summer. During the summer of 2017, UR:

- Enrolled 1,049 full-time undergraduate and graduate students; and
- Provided housing to 1,392 undergraduate and graduate students.

During the 2017 fall semester, UR:

- Enrolled 9,766 full-time undergraduate and graduate students;
- Provided housing to 5,448 undergraduate and graduate students.

During 2017, UR provided over 2.9 million meals.

Based on these numbers, it is reasonable to assume that during the 2017 calendar year students either:

- Ate off-campus on a semi-regular basis—spending their money locally to eat in restaurants or shopping at grocery stores; and/or
- Lived off-campus, investing their living expenses in the Rochester economy.

Using BLS Consumer Expenditure Survey data, CGR estimates that a student living on campus spends almost \$900 per year. Students living off campus spend about \$1,900. The following table summarizes the estimates by category.

**Table 11 – Student Spending Estimates**

Category	On Campus	Off Campus
Housing	\$0	\$489
Utilities	\$0	\$100
Groceries (food at home)	\$0	\$227
Dining Out	\$0	\$214
Entertainment	\$129	\$129
Transportation	\$508	\$508
Clothing	\$117	\$117
Alcohol	\$22	\$22
Reading	\$4	\$4
Phone / Cable	\$72	\$72
Personal Care Products	\$35	\$35
<b>Total Student Spending</b>	<b>\$888</b>	<b>\$1,918</b>

CGR estimates that spending by students totaled over \$99 million in 2017. This spending supports in total roughly 750 jobs in the New York State economy as summarized in the table below.

**Table 12 – Student Spending Impact**

	Direct	Spillover	Total
Employment (hundreds of jobs)	5.0	2.5	7.5
Labor Income (millions of dollars)	\$19.5	\$11.3	\$30.8

The total amount of UR student spending (\$99 million) increased by \$4.5 million from 2015. The number of jobs resulting from this spending has likewise increased by 6%. The estimated labor income increased by 4% from the previous study. This was due to increased enrollment.

**Table 13 – Student Spending Impact Comparison**

	2015	2017	Change
Employment (hundreds of jobs)	7.1	7.5	6%
Labor Income (millions of dollars)	\$29.5	\$30.8	4%

## Visitor Activity Impact

Another way UR is an economic engine involves the attraction of visitors who spend money. The University of Rochester hosts visitors throughout the year for events such as Meliora weekend, commencement, concerts, recitals, athletic events, and

admissions visits. Visitors to these events are a vital source of economic impact because they bring new dollars to the New York State economy. These visitors include alumni; prospective students and their families; family and friends of current students; visiting faculty that attend conferences or use research equipment; family and friends of Strong Memorial Hospital patients; musicians; athletic opponents and their fans; and UR fans and families of student athletes.

About 430,000 people attended a UR event in 2017. An estimated 40,000 people were out of town visitors. They lodged more than 35,000 nights in local hotels (down by 10% from the 2015 study).

**DURING 2017, CGR ESTIMATES VISITORS TO UR SPENT ABOUT \$8 MILLION ON FOOD, LODGING AND GASOLINE.**

During 2017, CGR estimates visitors to UR spent about \$8 million on food, lodging and gasoline. CGR estimates that the influx of spending generated by visitors resulted in approximately 70 jobs and roughly \$2.2 million of labor income to the NYS economy. This

is slightly lower than the 100 jobs and \$3.1 million in labor income estimated in 2015 study due largely to a decrease in the number of visitors and a change in the price of gasoline.

**Table 14 – Visitor Activity Impacts**

	Direct	Spillover	Total
Employment	50	20	70
Labor Income (millions of dollars)	\$1.4	\$0.9	\$2.2

## Economic Impact Summary

UR is a major contributor to the Upstate economy. It directly employs about 27,000 FTEs and through spillover spending effects supports about 60,000 jobs.

**Table 15 – Economic Impact of the University of Rochester and Affiliates, 2017 (thousands of FTE jobs)**

Area of Business Activity	Traded Sector			Local & Traded Sectors		
	Direct	Spillover	Total	Direct	Spillover	Total
Employment Impact	16.6	16.8	33.4	26.9	25.9	52.8
Purchases Impact	1.0	0.5	1.5	1.6	0.9	2.6
Capital Investments Impact	2.3	1.2	3.5	2.3	1.2	3.5
Student Spending Impact	0.5	0.2	0.7	0.5	0.2	0.7
Visitor Activity Impact	0.1	0.0	0.1	0.1	0.0	0.1
<b>Total</b>	<b>20.4</b>	<b>18.8</b>	<b>39.2</b>	<b>31.4</b>	<b>28.3</b>	<b>59.7</b>

*Totals may not sum due to rounding*

## Fiscal Impact

In addition to being a job engine, the University of Rochester and its affiliates are a significant source of revenue to state and local governments. CGR estimates this fiscal impact of the UR's traded sector to be just under \$140 million. This includes all sales tax, personal income tax and property taxes to state and local governments. When this is expanded to include both the local and traded sector, the total increases to \$207 million. The total impact includes the property taxes paid on leased locations. The following tables break out these totals by the type of tax revenue:

**Table 16 – UR Traded Sector Fiscal Impact  
(Millions of dollars)**

	Direct	Spillover	Total
NYS and Local Sales Tax	\$37.3	\$23.8	\$61.1
NYS Personal Income Tax	\$56.8	\$19.9	\$76.8
Local Property Tax paid by UR	\$1.1	N/A	\$1.1
<b>Total</b>	<b>\$95.1</b>	<b>\$43.8</b>	<b>\$138.9</b>

**Table 17 – UR Local and Traded Sector Fiscal Impact  
(Millions of dollars)**

	Direct	Spillover	Total
NYS and Local Sales Tax	\$55.7	\$35.9	\$91.6
NYS Personal Income Tax	\$79.9	\$30.1	\$109.9
Local Property Tax paid by UR	\$5.6	N/A	\$5.6
<b>Total</b>	<b>\$141.1</b>	<b>\$66.0</b>	<b>\$207.1</b>

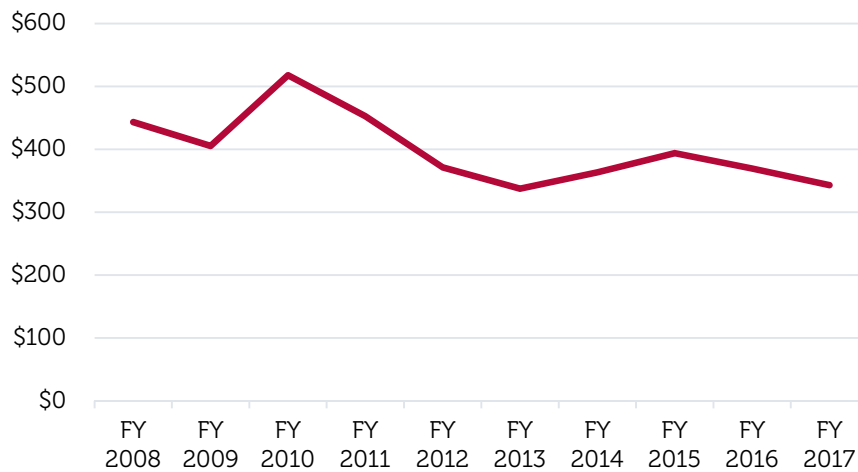
## UR Research Enterprise

Not only does the University of Rochester provide employment and paychecks for 27,000 workers, but it also contributes to the economy by attracting dollars into the region through research.

### External Research Funding

UR attracted over \$342 million in external funding (federal and non-federal) in 2017. Over the last five years, external funding has totaled more than \$1.7 billion. Awards to the University of Rochester averaged \$361 million per year from FY2013 to FY2017, adjusted for inflation.

### External Research Funding (Millions of dollars)



Source: UR Office of Research and Project Administration

Using the \$342 million in external research funding and industry averages, CGR estimates about 2,800 full time equivalents are engaged in sponsored research projects. This number does not include UR employees who – while not directly engaged in research projects – play an important role in supporting the institution’s scientific enterprise (e.g. grants administration, human research subjects protection, IT and administrative support, etc.). Their activity generates an additional 1,400 jobs in the economy. Total payroll for all of these jobs total an estimated \$275 million and generate an estimated \$18 million in income and sales tax revenue.

**Table 18 – UR Research Enterprise Impact Summary**

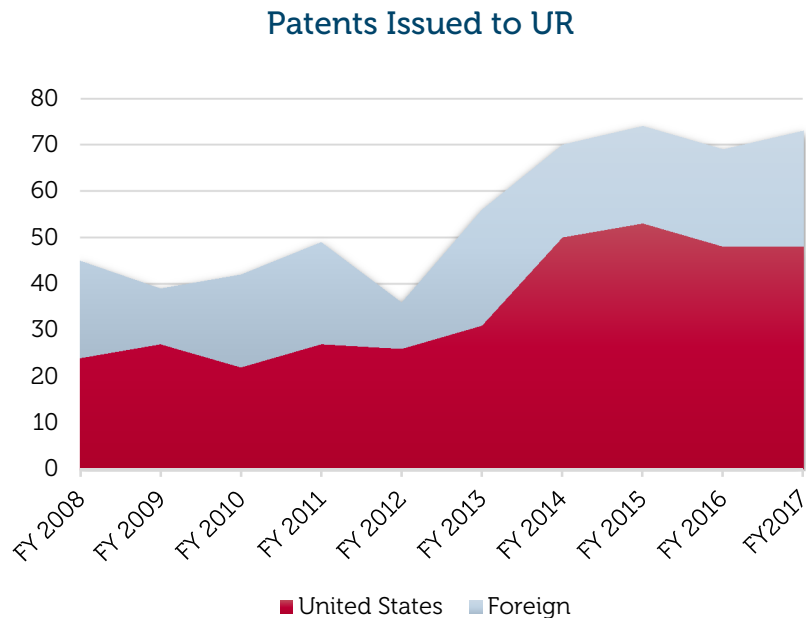
	Direct	Spillover	Total
Employment	2,800	1,400	4,200
Labor Income (millions)	\$196.2	\$78.7	\$274.9
NYS Personal Income Tax (millions)	\$7.9	\$2.9	\$10.8
Sales Tax (millions)	\$5.1	\$2.1	\$7.2

## Patents, Invention Disclosures and Start-ups

UR research has generated patented intellectual property and in some cases commercialization through start-ups.

## Patents Issued

UR had 73 patents issued in 2017. This is on par with the previous study which was the high water mark. UR has generally been increasing the number of patents issued per year since 2009.



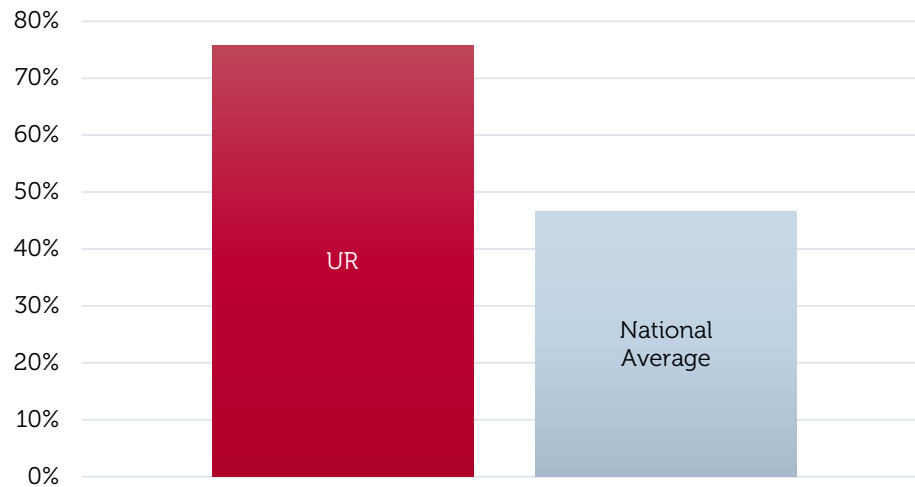
## Invention Disclosures

Over the past decade, UR has averaged 137 disclosures per year. In 2017, UR had 106 invention disclosures. This is down slightly from the last study (150).

## Start-up Companies

From FY 2007 to FY 2017, UR has been responsible for starting up 33 local companies. Twenty-five of them are still in operation, which is a 76% survival rate. This is well above the national average survival rate of 47%, according to the latest U.S. Census data of similarly aged companies.

### Start-up Company Survival Rates



## UR Laboratory for Laser Energetics (LLE)

Another unique research asset in the region is UR's Laboratory for Laser Energetics (LLE). The Laboratory was established in 1970 as a center for the investigation of the interaction of intense radiation with matter. One of the ultimate objectives of the LLE is to demonstrate the feasibility of Inertial Confinement Fusion as an inexhaustible energy source.

The LLE is home to the OMEGA and OMEGA EP lasers, which are the largest and most capable lasers at any academic institution in the U.S. or worldwide. Consequently the LLE attracts outside researchers and visitors. In total about 450 people from outside of the region visited the LLE to do research or participate in a conference in 2017. Over 2,100 "shots" occur per year, with a majority for outside scientists.

As a result of federal and state support, the Laboratory for Laser Energetics (LLE) has attracted more than \$2.3 billion to the state to support cutting-edge research and the region's optics, photonics and imaging industry cumulatively after adjusting for inflation.

The Laboratory's funding recently was brought into question. Along with it came the questions of what does the UR Laboratory for Laser Energetics mean to the economy? What would it mean if it closed?

The LLE directly employs about 350 full-time equivalent workers. These workers earn roughly \$34 million and generate almost \$2.5 million in revenue to state and local governments in the form of income and sales tax.

**EARNING FROM LLE EMPLOYEES  
GENERATE ALMOST \$2.5M IN  
TAXES TO STATE AND LOCAL  
GOVERNMENTS.**

The LLE purchases over \$13 million of goods and services from vendors in 2017, including \$5 million from vendors in New York State. Since 2015 alone, the LLE has made more than \$15.6 million in local purchases from over 50 companies across New York State, including Optimax, Sydor Optics, Sydor Technologies, Connors-Haas, East Side Machine Inc., QED Optics, Nesco Resources, Advanced Glass Industries, UltraTool Inc., Khiram Prototypes Works Inc., Boulter, Postler & Jaeckle and Harris Corp.

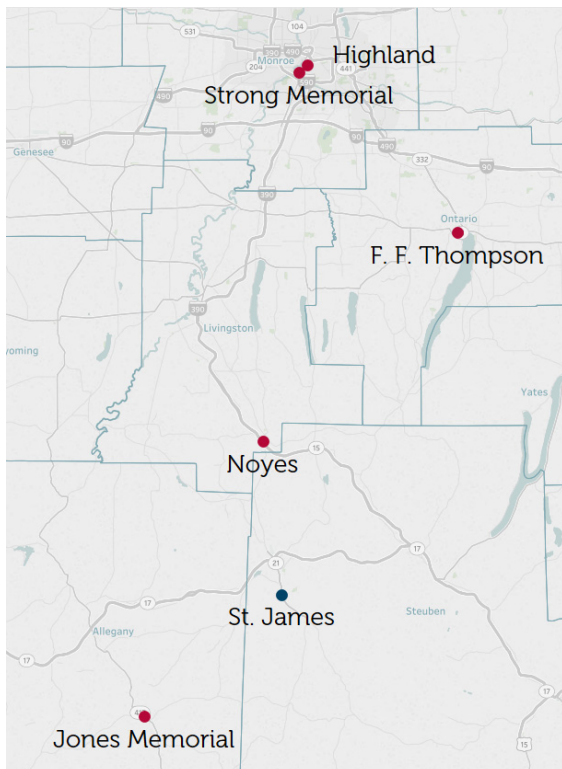
The spending of the LLE and its employees contributes to an additional 500 jobs for a total impact of about 850 jobs. Thus, if the LLE were to close, approximately 850 jobs in NYS would be impacted. Over \$56 million of income to workers and \$3.7 million in revenue to governments would likewise disappear.

**Table 19 – UR Laboratory for Laser Energetics Impact Summary**

	<b>Direct</b>	<b>Spillover</b>	<b>Total</b>
Employment	350	500	850
Labor Income (millions)	\$34.3	\$22.3	\$56.6
NYS Personal Income Tax (millions)	\$1.5	\$0.7	\$2.2
Sales Tax (millions)	\$0.9	\$0.6	\$1.5

## UR Medicine

### UR Medicine Hospitals



UR Medicine continues to expand its economic footprint across the state. St. James Hospital, located in Hornell New York, is the sixth to join UR Medicine's network of inpatient hospitals, including Strong Memorial and Highland in Rochester, Jones Memorial in Wellsville, Noyes Memorial in Dansville, and F. F. Thompson in Canandaigua.

St. James hospital is not included in this economic impact assessment as it became an affiliate in 2018. However it does employ about 300 people.

UR Medicine employed about 21,200 FTEs with a payroll of roughly \$1.5 billion in 2017. When looking at UR Medicine's traded sector, it directly employs 8,400 FTEs with a payroll of \$0.8 billion. Factoring in the



impact of employee spending and purchasing activities, the economic impact of UR Medicine totals 34,800 jobs and \$2.1 billion in payroll. Its traded sector impact totals 15,500 jobs and \$1.2 billion in payroll.

UR Medicine's impact will continue to grow as Mary Imogene Bassett Hospital in Cooperstown, NY and Auburn Community Hospital in Auburn, NY further their relationships with UR Medicine.

## Highland Hospital

On April 10, 1889, Hahnemann Homeopathic Hospital opened its doors. It consisted of a house with 6 beds and a barn. The hospital expanded through the generosity of Sibley, Eastman and other donors. In 1921, its name was changed to Highland Hospital.

Highland is a regional leader in specialties such as bariatric surgery, total joint replacement, geriatric care, gynecologic oncology, prostate cancer treatment, women's health and maternity services.

In 2017 Highland Hospital directly employed 2,300 FTEs. Factoring in the impact of employee spending, the total number of jobs as a result of employment at Highland Hospital increases to 3,800 jobs.

Highland Hospital has undergone upgrades to ensure it provides the highest quality of care. Over the last few years Highland has averaged about \$20 million in capital improvements annually. This investment spending translates into a total impact of 200 jobs.

The hospital purchases over \$6 million in goods and services from NYS suppliers, which translates into 100 additional jobs for a total jobs impact of 4,100. The following tables summarize these job impacts:

**Table 20 – Highland Hospital's Total Economic Impact**

	<b>FTE Jobs</b>	<b>Labor Income (millions)</b>
Employment Impact	3,800	\$177.2
Capital Investments Impact	200	\$12.8
Purchases Impact	100	\$4.5
<b>Total</b>	<b>4,100</b>	<b>\$194.5</b>

Highland Hospital's economic activity brings about \$194.5 million of labor income into New York State. This results in an estimated \$7.2 million in personal income tax and \$5.1 million in sales tax.

**Table 21 – Highland Hospital Economic Impact Summary**

	<b>Direct</b>	<b>Spillover</b>	<b>Total</b>
Employment	2,500	1,600	4,100
Labor Income (millions)	\$118.2	\$76.3	\$194.5
NYS Personal Income Tax (millions)	\$4.7	\$2.5	\$7.2
Sales Tax (millions)	\$3.1	\$2.0	\$5.1

## Conclusion

With nearly 31,000 employees (roughly 27,000 FTE) the University of Rochester (and its affiliates) is the largest private employer in Upstate New York and ranked 5<sup>th</sup> across the Empire State in terms of full-time equivalent employment. These employment figures are growing. UR directly employs 9,000 more people than a decade ago.

Additional jobs come as a result of UR purchases of goods and services from their vendors, and their employees spending their paychecks. UR purchased \$182 million of goods and services from New York State based vendors. UR directly paid about \$2.13 billion to its workforce in 2017. Major capital investments made by UR support construction and related jobs in the economy. Over the last five years, UR has averaged about \$290 million annually in capital investment spending. UR students also contribute as they annually spend an estimated \$99 million in the economy. Outside visitors to UR commencement, conferences, cultural, sports and other events spent an estimated \$8 million, supporting additional jobs in the economy.

All told, UR is responsible for sustaining a total of about 59,700 jobs in the NYS economy, up by 5,000 jobs since 2015. The “traded sector,” the subset of jobs resulting from spending from outside the region, also posted a 7% increase from 2015, totaling about 36,600 jobs in 2017.

**Table 22 - University of Rochester’s Employment Impacts (thousands of jobs)**

<b>Area of Business Activity</b>	<b>Traded Sector</b>			<b>Local &amp; Traded Sectors</b>		
	<b>Direct</b>	<b>Spillover</b>	<b>Total</b>	<b>Direct</b>	<b>Spillover</b>	<b>Total</b>
Employment Impact	16.6	16.8	33.4	26.9	25.9	52.8
Purchases Impact	1.0	0.5	1.5	1.6	0.9	2.6
Capital Investments Impact	2.3	1.2	3.5	2.3	1.2	3.5
Student Spending Impact	0.5	0.2	0.7	0.5	0.2	0.7
Visitor Activity Impact	0.1	0.0	0.1	0.1	0.0	0.1
<b>Total</b>	<b>20.4</b>	<b>18.8</b>	<b>39.2</b>	<b>31.4</b>	<b>28.3</b>	<b>59.7</b>

*Totals may not sum due to rounding*