UNIVERSITY OF MICHIGAN

2018 ANNUAL REPORT

#1

U.S. Public Research University

National Science Foundation

63,177

Students Enrolled in Fall 2017

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Third Century Initiative

The Third Century Initiative's innovative efforts to reimagine teaching and learning at the University of Michigan have dramatically changed the culture around engaged learning on campus. One of its projects, "Into the Wind," explored the prospect of harnessing wind energy in the Great Lakes region through an outdoor showcase of dance, music and poetry that took place in Muskegon, Michigan. It included faculty, staff, alumni and students from several U-M departments, Grand Valley State University and the Muskegon community. Learn more about the Third Century Initiative on page 16.

PRESIDENT'S MESSAGE

As the University of Michigan continues to extend the reach of our excellence throughout Michigan and beyond, we enjoyed a record-setting year that illustrates our financial strength and positions us for even greater societal impact.

| MARK S. SCHLISSEL |

Our research volume totaled $1.55 billion in the most recent fiscal year, which is the largest amount in U-M history. Our donors have also made U-M the first public university ever to raise $5 billion in a fundraising campaign. Victors for Michigan is the most successful campaign in our history and in the history of public higher education.

Both of these records contribute to our success as a public university.

U-M's top ranking in research expenditures reflects the outstanding productivity, ambition and intellectual power of our faculty. This year marked our eighth consecutive year as the No. 1 U.S. public university in research volume, and we exceeded last year's total by 4.4 percent.

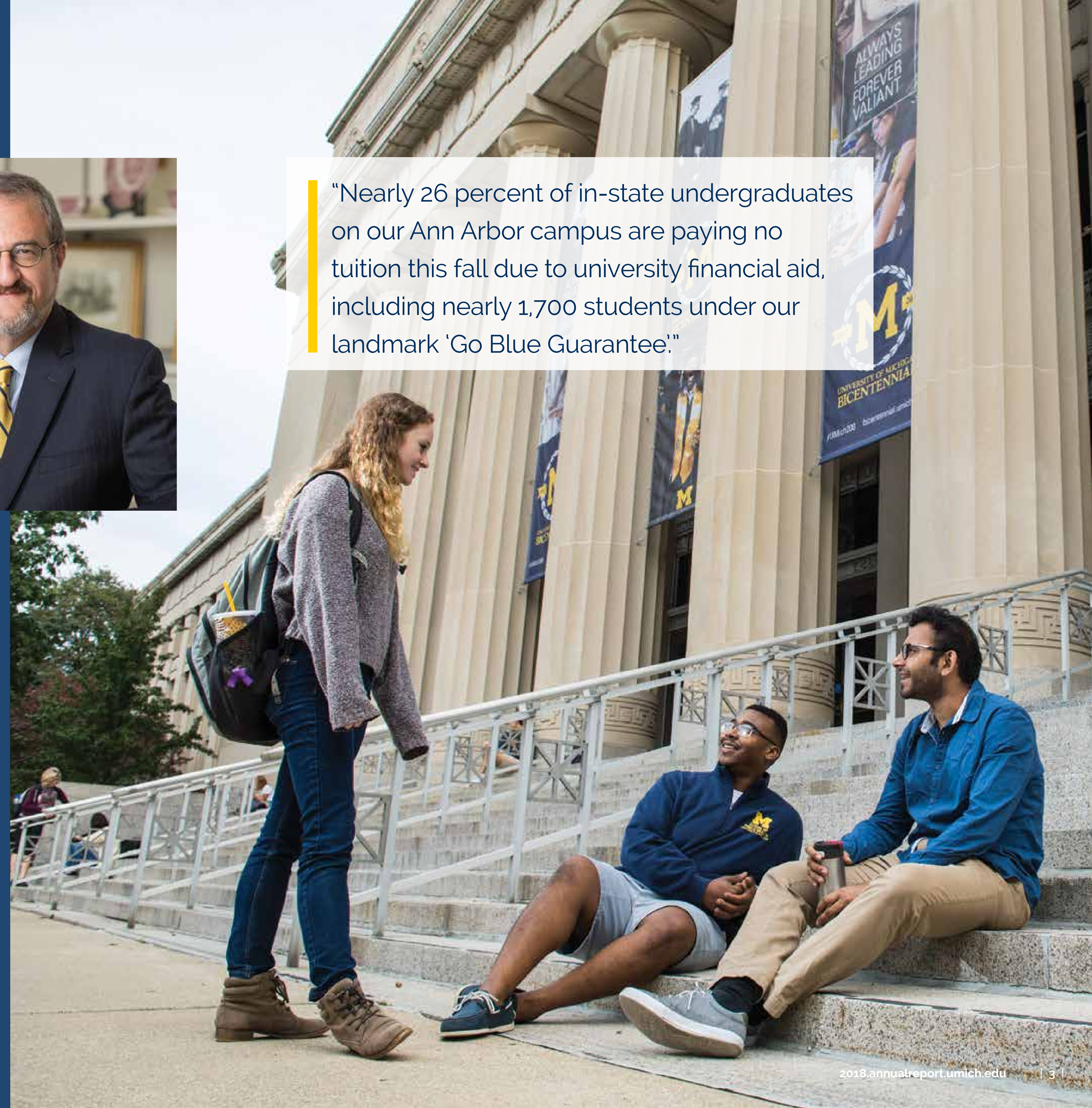
The continued growth of our research enterprise demonstrates that U-M faculty are creating new knowledge and producing innovations that can address some of the world's most pressing questions and challenges. Our research spans all three of our campuses and Michigan Medicine, and includes unprecedented treatments for diseases, technologies to make our vehicles and roadways safer and insights that are enhancing how students learn in our K-12 schools — just to name a few.

Support from our partners in private industry also increased last year, by 9 percent, bringing that total to a record high of $109 million.

In addition, we have achieved significant milestones in the translation of our research to the market. Our researchers reported a record 484 new inventions during the last fiscal year and we nearly doubled the numbers of startup companies from our technology. With 21 startups, we launched on average a new company every 17 days!

The generosity of the U-M family continues to support our mission and enhance our work in education, research and patient care. Donors dedicated $1.1 billion to our Victors for Michigan campaign's top priority of student support. The Vice President for Development's report includes additional details and highlights.

Private support helps us to ensure that more students with financial need can study with us and take full advantage of the opportunities we offer.



> "Nearly 26 percent of in-state undergraduates on our Ann Arbor campus are paying no tuition this fall due to university financial aid, including nearly 1,700 students under our landmark 'Go Blue Guarantee.'"

INCREASING OUR COMMITMENT TO FINANCIAL AID

Nearly 26 percent of in-state undergraduates on our Ann Arbor campus are paying no tuition this fall due to university financial aid, including nearly 1,700 students under our landmark "Go Blue Guarantee."

The guarantee, which went into effect in January 2018, includes a promise of free tuition for in-state students whose families earn less than $65,000 and have assets totaling up to $50,000.

In this year's budget for Ann Arbor, we increased undergraduate financial aid by 16.3 percent, bringing our total for need-based undergraduate financial aid to $205.6 million. U-M's undergraduate financial aid budget has increased 12 percent per year, on average, over the past decade, far outpacing the average annual growth rate of 3.3 percent for in-state undergraduate tuition.

Through the "Go Blue Guarantee" and commitment to financial aid, we are sending a message to the people of our state and beyond that we seek to welcome students from all communities and backgrounds who have the talent and desire to be Michigan Wolverines.

EXTENDING THE REACH OF MICHIGAN EXCELLENCE

Key University of Michigan initiatives and programs are ensuring that communities throughout society benefit from our activities.

Millions of people around the world are learning about complex issues and enhancing their professional development because of our Office of Academic Innovation, which offers more than 130 learning experiences through Michigan Online.

Investments targeted by our Biosciences Initiative will establish a new center for the study of concussions, an institute for global change biology and expand a program that seeks to discover new medicines from natural specimens gathered from areas ranging from tropical coral reefs to Himalayan mountaintops.

Michigan Medicine has opened new care facilities and formed new partnerships in key regions of our state to help us deliver care to patients closer to where they live. Last year, Michigan Medicine counted more than 2.3 million patient visits.

Our Poverty Solutions Initiative's Detroit Partnership on Economic Mobility is contributing to the resurgence of one of nation's great cities. Projects are pairing dozens of U-M experts with city departments and community organizations to address challenges around health, workforce development, housing and revitalization and public safety.

This fall, we made an unprecedented commitment that will enhance the quality of teachers we produce and the communities they will serve. Led by our School of Education, we were proud to help launch an innovative new school in Detroit on the former campus of Marygrove College.

The partnership with the Detroit Public Schools Community District, the Kresge Foundation and others, is creating a teaching school that is modeled after the concept of a teaching hospital.

Students from our School of Education will hone their skills while learning the theories and pedagogical techniques that are essential to the effective practice of teaching, working alongside Detroit Public School teachers and being mentored by U-M faculty.

U-M'S FINANCIAL STRENGTH DRIVES OUR MISSION FORWARD

As the Chief Financial Officer's Report discusses, our university's financial strength allows us to uphold the greatest ideals of our mission as a premier public university.

Fiscal discipline remains a primary focus of our budgeting, including controlling costs, seeking greater operational efficiencies and reallocating savings to academic priorities. Restraining growth in tuition while enhancing academic impact and societal value is our highest institutional priority.

U-M's commitment to pursuing impact for the public good relies on investments in research and education, cost control, increasing financial aid, tuition restraint and philanthropy — along with what we hope will be a continuing reinvestment by the state in public higher education.

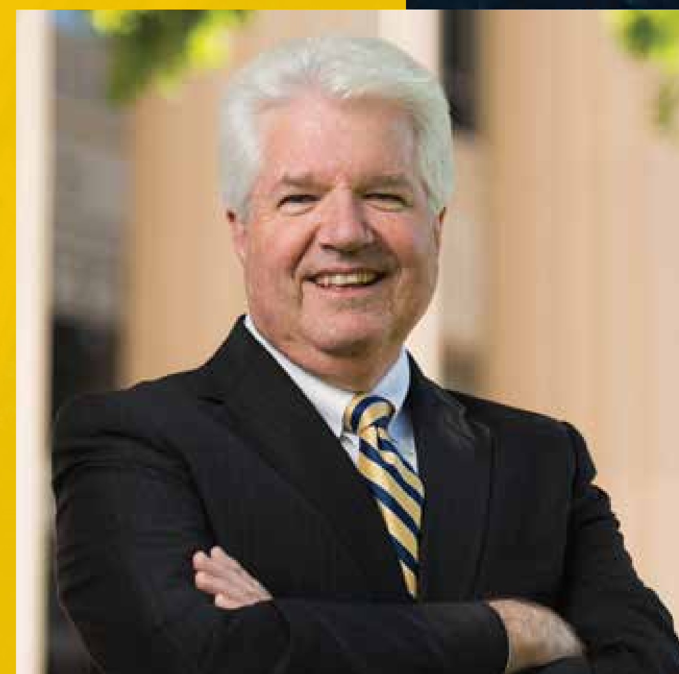
I am continuously energized by our many amazing partnerships, within the Michigan family and beyond — as we aspire to higher levels of excellence and impact during our third century.

Sincerely,

Mark S. Schlissel
President

REPORT FROM THE CHIEF FINANCIAL OFFICER

As the University of Michigan enters its third century, it is widely recognized as a global leader in higher education. A significant factor in this remarkable success is U-M's exceptionally strong financial position, which enables the university to provide students from around the world with an outstanding education, perform leading-edge research that benefits society and deliver excellent health care services.



| KEVIN P. HEGARTY |

The university's incredible work, contributions and highly regarded reputation are largely due to the unyielding dedication that our nearly 50,000 employees demonstrate every day in enabling U-M to focus on its core missions of education, research and patient care. In doing so, our employees go to great lengths to be responsible stewards of the university's resources — financial and otherwise.

MAINTAINING A STRONG FINANCIAL POSITION

The university's financial position continues to be strong. Net position increased $920 million in FY 2018 to $14.3 billion. Key drivers of this growth were generous gifts for endowment of $169 million and returns from our endowment investments net of spending rate distributions, which added $784 million. Endowment funds, which are invested principally in the university's Long Term Portfolio, totaled $11.9 billion at June 30, 2018. Distributions from more than 11,000 individual endowments provide ongoing support for specific academic, health-related and other needs across the university's many disciplines, including student scholarships, educational programs, professorships, clinical operations and research.

"The university's incredible work, contributions and highly regarded reputation are largely due to the unyielding dedication that our nearly 50,000 employees demonstrate every day in enabling U-M to focus on its core missions of education, research and patient care."

INVESTMENT PERFORMANCE	RETURN FOR THE 12-MONTH PERIOD ENDED JUNE 30, 2018	ANNUALIZED 5-YEAR RETURN	ANNUALIZED 10-YEAR RETURN
LONG TERM PORTFOLIO	10.7%	8.8%	6.0%
U-M'S BENCHMARK	9.6%	8.0%	6.2%
BLENDED PASSIVE INDEX	8.1%	7.5%	5.7%

The table above summarizes the investment performance of the university's Long Term Portfolio in relation to comparative benchmark portfolio returns.

With a 10-year annualized return of 6.0 percent, the investment performance of the university's Long Term Portfolio ranks in the top quartile of performance relative to those of other college and university endowment portfolios. The university's 10-year annualized return is slightly under its custom U-M Benchmark and above the Blended Passive Index, while its five-year and 12-month annualized returns exceeded those of the custom U-M Benchmark and Blended Passive Index.

We expect net investment income to be volatile from year to year. However, our endowment distribution policy and long-term investment strategy combine to insulate the university from this volatility and provide dependable annual support for operations. The university's endowment distribution policy smooths the impact of volatile capital markets by providing for annual distributions of 4.5 percent of the seven-year moving average fair value of the endowment. This distribution policy, along with the growth of the endowment, allowed for distributions of $339 million to support university operations in FY 2018, for a total of $1.5 billion over the past five years.

DIVERSIFICATION IN REVENUE STREAMS

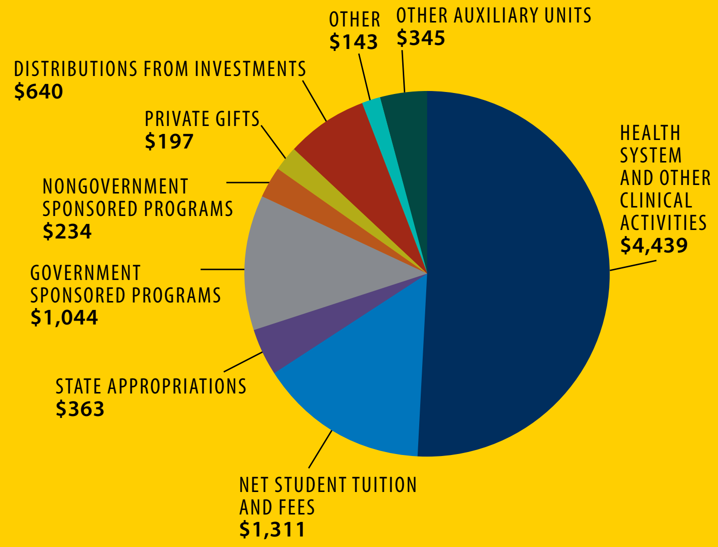
The university has employed a revenue diversification strategy for many years. This approach has been a significant factor in helping U-M remain financially stable through various economic cycles and avoid unnecessary dependence on student tuition and fee increases. The components of the university's sources of revenue are depicted in the charts at the top of the next page.

Funding for the university from the state of Michigan continues to be a key source of financial support. State educational appropriations grew by 2.0 percent in FY 2018, to $363 million. The university is extremely appreciative that the people of our state remain committed in their support of higher education and the University of Michigan. The academic operating budget continues to balance academic excellence and investment in the future with student affordability and economic efficiency. Tuition rate increases for FY 2018 were 2.9 percent for resident undergraduate students, 4.5 percent for nonresident undergraduate students and 4.1 percent for most graduate students on the Ann Arbor campus, with 3.7 and 4.1 percent tuition rate increases for most resident undergraduate students on the Dearborn and Flint campuses, respectively. The FY 2018 budget also included a 9.5 percent increase in financial aid for undergraduates on the Ann Arbor campus, with 9.4 and 12.7 percent increases in institutionally awarded financial aid on the Dearborn and Flint campuses, respectively. U-M continues to experience strong growth in non-tuition revenue and maintains its commitment to controlling costs, improving efficiencies and maximizing its resources. These efforts combine to help limit increases in tuition as well as enable the university to maintain its focus on prioritizing affordability for its students.

The demand for a University of Michigan education remains at an all-time high. In FY 2018, the university again received a record number of undergraduate applications — which totaled more than 70,000 for its three campuses. This is the 11th consecutive year that applications have increased. The university's stellar national and international reputation, along with its great value, makes it a top destination for outstanding students from Michigan and all over the world.

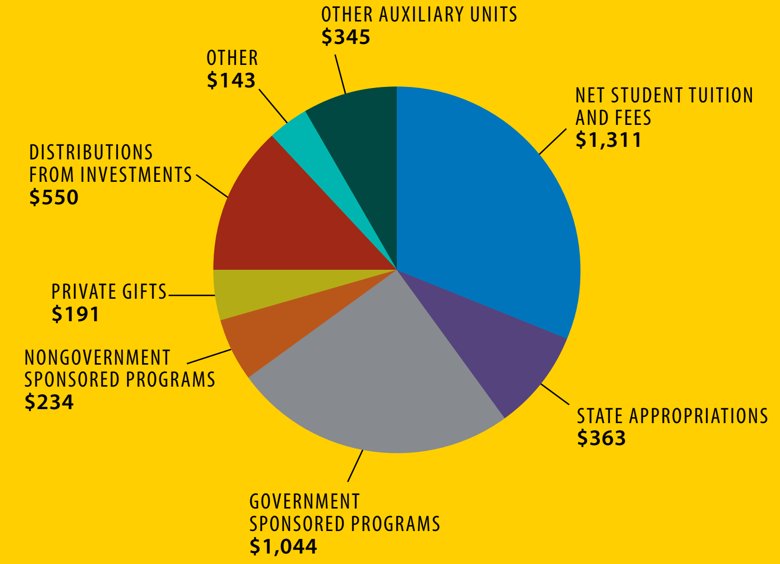
OPERATING ACTIVITIES

Total revenue $8,716 million



OPERATING ACTIVITIES EXCLUDING HEALTH SYSTEM AND OTHER CLINICAL ACTIVITIES

Total revenue $4,181 million



A ROBUST RESEARCH ENTERPRISE

U-M has conducted the largest volume of research of any public university in the nation for the last eight years. During FY 2018, the university's research expenditures totaled $1.55 billion, a record high and 4 percent more than FY 2017.

The university's growth in research expenditures is due in part to continued investment from the federal government, which provides public funds to support research aimed at improving our nation's safety, security, health, economic vitality and quality of life. In FY 2018, the university received support from a number of federal agencies, highlighted by $538 million from the National Institutes of Health. Additionally, as the university continues to expand its partnerships, industry has increased its investment in U-M research, totaling a record $109 million in FY 2018.

External funding sources combined with university resources for research are key to our ability to generate new ideas and insights, as well as prepare our students to be leaders and innovators in a wide range of disciplines as they engage in research throughout their academic experience. In addition to the large volume of research conducted within its schools and colleges, the university has more than a dozen large-scale research institutes. These institutes collaborate with our schools and colleges to conduct full-time specialized research for a broad range of societal needs.

Drawing on the university's interdisciplinary culture and its partnerships with government and industry, new efforts include a focus on precision health, which brings together biomedical and genomic expertise with big data and social science to create personalized approaches to the health challenges of individuals.

U-M research also continues to generate new ideas with commercial potential. The Office of Technology Transfer and U-M researchers set new records this year, as they launched 21 startup companies, signed 218 licenses with industry and reported 484 new inventions. The number of startups launched experienced significant growth, nearly doubling in FY 2018, with a broad array of discoveries ranging from autonomous shuttles to a post-surgery warning system that alerts doctors to patient distress well ahead of traditional methods. The majority of this year's startups have headquarters in Southeast Michigan, where they are creating jobs and helping to diversify the economy.

A COMPREHENSIVE ACADEMIC MEDICAL CENTER

Michigan Medicine — which includes the University of Michigan Hospitals, University of Michigan Medical School, Michigan Health Corporation and UM Health — continues to be a nationally recognized leader in advanced patient care, innovative research to improve human health and comprehensive education of physicians and medical scientists.

The University of Michigan Hospitals had positive results in FY 2018, with an operating margin of $143 million, or 4.2 percent, on operating revenues of $3.4 billion. These results reflect the ongoing commitment of dedicated faculty and staff to providing excellent health care, improving the patient experience and elevating the quality and efficiency of service.

Several FY 2018 initiatives were designed to improve patient access and alleviate capacity issues. Michigan Medicine and St. Joseph Mercy Health System announced a joint venture for the 133-bed St. Joseph Mercy Chelsea Hospital. This joint venture will expand the surgical procedures that Michigan Medicine provides at St. Joseph Mercy Chelsea Hospital as well as increase access to Michigan Medicine physicians for patients in Chelsea and across western Washtenaw County. Trinity Health owns and operates St. Joseph Mercy Chelsea Hospital as part of St. Joseph Mercy Health System.

Relocating many of Michigan Medicine's clinical pathology laboratories into newly refurbished space at the university's North Campus Research Complex helped improve efficiency and collaboration as well as open up space in patient care locations such as University Hospital. Michigan Medicine also opened a new West Ann Arbor Health Center, which houses 27 adult and pediatric primary and specialty care services. As FY 2018 concluded, Michigan Medicine was preparing to open the Brighton Center for Specialty Care, which will house more than 40 specialty services for pediatric and adult health care.

A STRONG FOUNDATION FOR THE FUTURE

To ensure the university remains financially healthy in the coming years, we continue to maintain a keen emphasis on institutionwide fiscal discipline and efficiency by continuously focusing our resources on U-M's core missions. Against that backdrop, the university has achieved $380 million in recurrent general fund savings since 2004.

Through ongoing strategic cost containment efforts, U-M has avoided reductions in critical programs and ensured tuition increases have been modest throughout difficult economic periods. The university was proud to launch the "Go Blue Guarantee" in FY 2018, which provides free tuition for resident undergraduate students from families at—or below—the state median income. In FY 2019, U-M will enroll its first new freshmen who applied to the Ann Arbor campus under this program.

A wide range of university facilities is necessary to maintain excellence in education, research and patient care as well as provide opportunities for collaboration among multiple disciplines. With that in mind, FY 2018 was yet another significant year of construction and capital renewal. A summary of capital projects completed, in progress and in planning during FY 2018 appears in the Major Projects section. We continue to balance investments in new facilities with those to renew existing facilities, thereby avoiding an excessive accumulation of deferred facility maintenance.

In FY 2018, the university's long-term debt again earned the highest possible credit ratings from S&P Global (AAA) and Moody's (Aaa). The University of Michigan continues to be one of only seven public universities in the country to earn these outstanding ratings. It is noteworthy that we have received these top ratings for many years — a clear indication of the university's strong financial health and positive outlook for the future.

I encourage you to review Management's Discussion and Analysis in conjunction with the audited financial statements. This illuminating section of the annual report includes additional details about the University of Michigan's financial strength, prudent financial policies and commitment to excellence. These critical elements — combined with our committed and dedicated employees — provide a strong foundation that enables the university to continue enriching the global community as U-M moves into its third century.

Sincerely,

Kevin P. Hegarty
Executive Vice President and Chief Financial Officer

REPORT FROM THE VICE PRESIDENT FOR DEVELOPMENT

| JERRY A. MAY |

At the end of another memorable year, and nearing the end of the Victors for Michigan Campaign, I am pleased to share an update on the tremendous support of our donors across the university.

RAISING THE BAR

In 2013, we set out to raise $4 billion — the most ambitious fundraising campaign in the history of public higher education. On October 1, 2018, we surpassed $5 billion — the first public university to achieve that goal in a campaign. It is truly an honor to work with such incredible people who give to their passions and fuel the future of this great university.

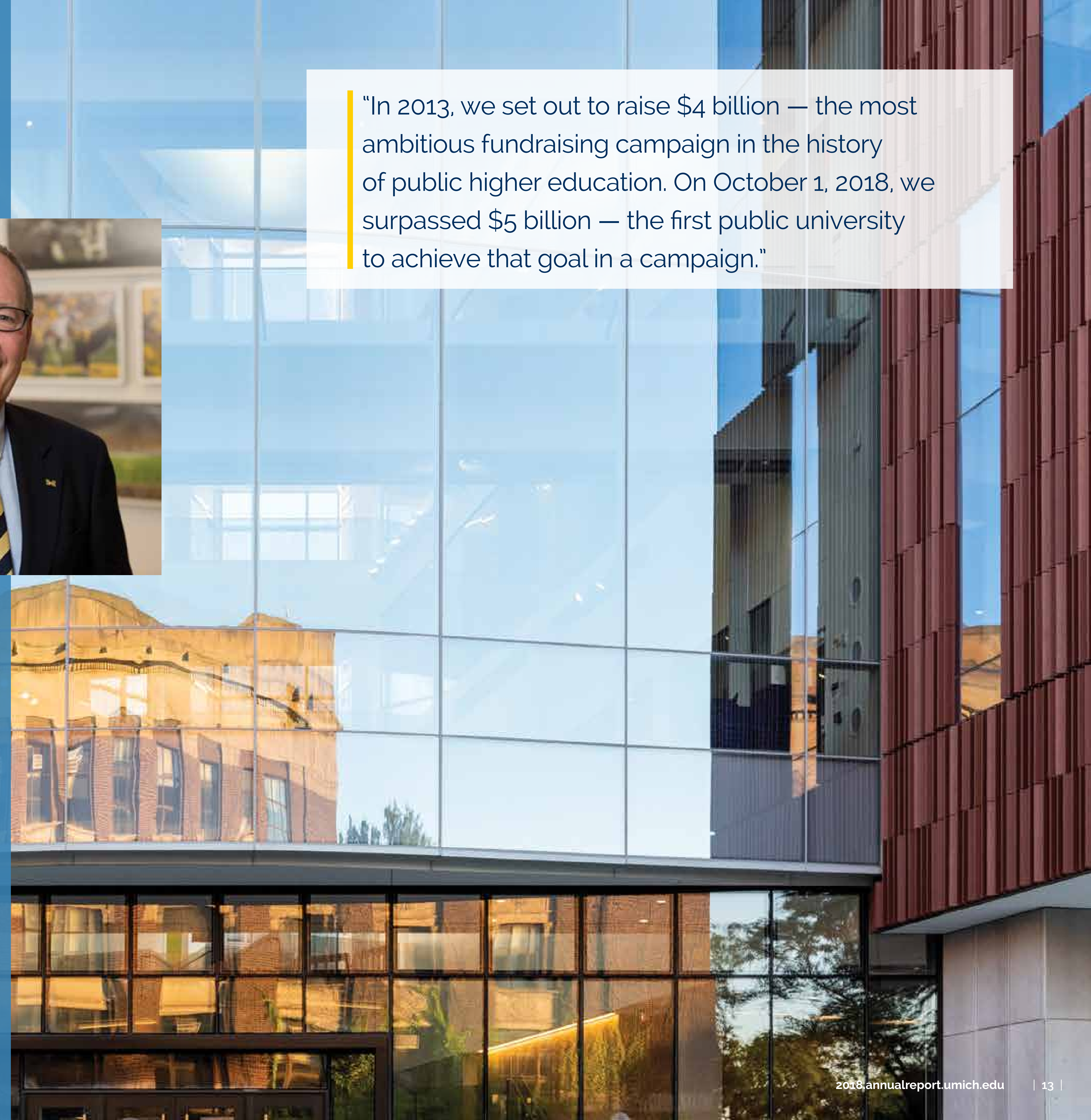
Historically, fundraising campaigns drift into a quiet period in their final year. But thanks to Michigan's loyal donors, support has continued to reverberate throughout the university, allowing for our second most productive year and the highest cash giving total in U-M history — $485 million. The year's productivity also tipped the scale for many of our schools, colleges and units so that 28 of them have now reached their campaign goals.

Supporting our students remains the central priority of this campaign. I am especially proud that giving this year shattered the $1 billion goal for student support, with $406 million going specifically to students with financial need. Factoring in financial aid, the average cost of attendance is less today than it was 10 years ago for most in-state students. Two out of three undergraduate students receive financial aid support because of this kind of giving. Few universities can match that support.

LEADING HIGHER EDUCATION FUNDRAISING

As many U-M donors can attest, fundraising has played an integral part in U-M's history. In fact, we were the first public university to have a comprehensive fundraising campaign, which launched in the early 1960s. Few other major public institutions have completed more than two major comprehensive campaigns — and we are nearing completion of our fifth.

In some respects, U-M has been ahead of the curve in philanthropy out of necessity. Public funding for higher education in Michigan has been in decline for a number of years. In 1960, 78 percent of our general fund revenue came from state funding, but in the 2019 budget only 15 percent does. Raising support is a key way the university adds value to our high-quality programs.



> "In 2013, we set out to raise $4 billion — the most ambitious fundraising campaign in the history of public higher education. On October 1, 2018, we surpassed $5 billion — the first public university to achieve that goal in a campaign."

MAKING AN IMPACT

Each and every gift plays a part in shaping the future of U-M. I would like to share a few ways donors are catalyzing the university's impact.

| Rich and Susan Rogel |

This year, **Rich and Susan Rogel** made a record-breaking commitment of $150 million to the Rogel Cancer Center, named in their honor. This historic gift was the biggest in Michigan Medicine history, making the Rogels the second-largest individual donors to the University of Michigan. The gift will open doors for world-class researchers to work at the center, including a new suite of professorships in cancer research. It will also provide grants for major research projects and give scholarship support to advance the education and training of future medical leaders.

Mike and Sue Jandernoa, Grand Rapids business and community leaders, focused their attention on the current state of education across Michigan. By contributing a total of $4.3 million, the Jandernoas established a need-based scholarship at the Stephen M. Ross School of Business, enhanced Gerald R. Ford fellowship opportunities at the Gerald R. Ford School of Public Policy and expanded and enriched a TeachingWorks partnership in Grand Rapids, Michigan.

As part of U-M's School of Education, TeachingWorks focuses on elevating the quality of entry-level educators in the classroom. It also affords the potential to increase test scores for elementary students, a critical need that Mike and Sue want to meet in the West Michigan community.

This year also marked an important step for Michigan Medicine's pediatric research. Through the support of thousands, including a lead gift by U-M Regent Ron Weiser and Eileen Weiser along with vision and support from The ChadTough Foundation, $30 million was raised to establish the **Chad Carr Pediatric Brain Tumor Center** in memory of young Chad Carr, who lost his life to an incurable brain tumor in 2015.

| Mike and Sue Jandernoa |

| The Carr family |

The center will work to help advance the care, treatment and cure of pediatric brain tumors — a field where many of the standard methodologies have not changed in more than 40 years. With this funding, the Chad Carr Center will be able to better leverage the breadth and depth of expertise across the university, and, by 2021, establish its roots as a national center of excellence for pediatric brain cancer. These efforts are a testament to how collaboration allows the university to accomplish so much more than it could alone.

INTO THE THIRD CENTURY

The Victors for Michigan campaign set out to support the university's mission to prepare tomorrow's leaders and address the complex problems facing our world. With only a short time remaining, it is a joy to see the incredible impact of this giving at work, on our three campuses and around the world.

As I approach my final months serving as Vice President for Development, I am continually reminded of the incredible network of support from U-M's many donors and volunteers. Through bold philanthropy, we can continue to challenge the present and enrich the future.

U-M's third century is waiting. Let's be forever valiant in our support of Michigan.

Go Blue and With Gratitude,

Jerry A. May
Vice President for Development

HIGHLIGHTS

More at: **2018.annualreport.umich.edu/highlights**

Third Century Initiative advances teaching and learning

An assessment of the Third Century Initiative revealed that it has dramatically changed the culture around engaged learning on campus. Announced in 2011, the Third Century Initiative was a $50 million university project dedicated in two parts to transforming a U-M education and tackling global issues.

Its Transforming Learning for the Third Century program funded 128 engaged learning projects, representing 352 faculty and staff members from all 19 schools and colleges. The projects reached more than 10,000 students, and 27 percent of those served experienced more than one of the funded opportunities.

At graduation, 96 percent of 4,300 graduating undergraduate students reported at least one engaged learning experience; 82 percent had more than one.

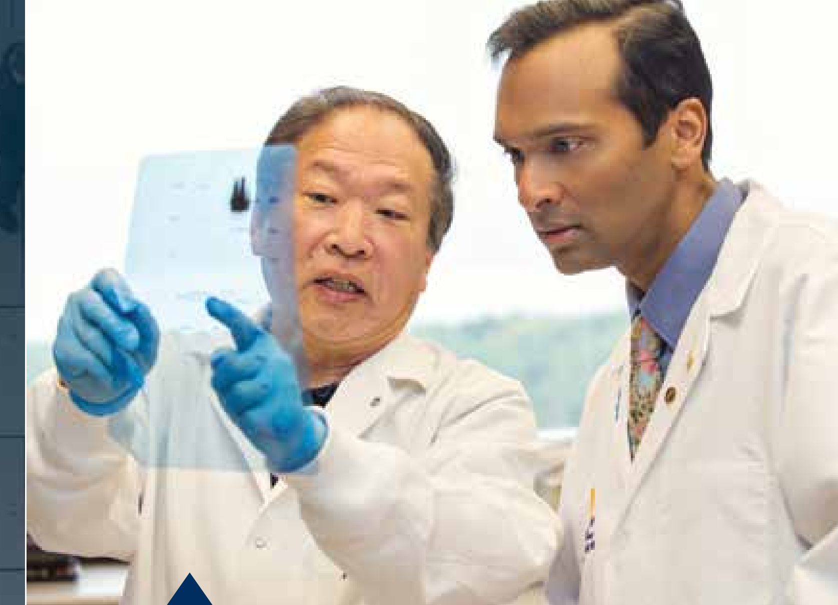
$150M gift to transform cancer research and care

In March 2018, Richard and Susan Rogel committed $150 million to the University of Michigan Comprehensive Cancer Center to boost cancer research and develop the next generation of cancer pioneers . It is the largest gift ever to Michigan Medicine and one of the largest in the university's history. The center was renamed the Rogel Cancer Center in honor of the Rogels' many years of giving and service.

"I call Michigan 'Collaboration U' because so many different units work together to solve problems," Richard Rogel said. "Putting all this brainpower and excitement together is going to help us find a cure for cancer. It will make people's lives better, and that's the most important thing."

Michigan home football games aim for zero waste

Michigan Athletics partnered with the University of Michigan Office of Campus Sustainability and Sodexo, a food service management company, to strive toward its goal for zero waste game days at Michigan Stadium. Zero waste is the aspirational goal of diverting 90 percent of waste generated inside Michigan Stadium from the landfill through recycling and composting. Each Sunday after a home game, the stadium is cleaned and waste separated into compost, recycling and landfill bins to be taken to their respective locations for sorting and disposal. New bins with signage showing examples of compostable and recyclable products were added around the stadium.



U-M launches Precision Health

The University of Michigan has launched Precision Health, a new initiative to harness campuswide research aimed at finding personalized solutions to improve the health and wellness of individuals and communities.

Precision Health brings together genomics with other big data. It involves taking millions of data points to understand what factors influence an individual's health and wellness. Researchers then apply that knowledge to make specific, personalized recommendations for prevention, diagnosis and treatment.

Precision-related research is already occurring throughout the university, including expertise in precision health for cancer, mental health and metabolic disease, among other areas. The initiative plans to focus its efforts on three areas: discovery, treatment and implementation.

First student-built, green structure created on campus

During spring 2018, U-M students from art, engineering and sustainability backgrounds created the first student-built, green structure on the Ann Arbor campus.

The goal of the Green Building course, housed in the College of Literature, Science, and the Arts' Program in the Environment, was to create a sustainable, straw bale building. The solar panels on the building's metal roof make it the first off-the-grid building on the main campus. It is located among fields of vegetables and hoop houses on the U-M Campus Farm at Matthaei Botanical Gardens.

New academic offerings

- The School for Environment and Sustainability celebrated its launch in fall 2017. The newly formed school, which builds on the strengths of the former School of Natural Resources and Environment, provides leadership and works collaboratively with other U-M schools, institutes and programs to develop solutions to society's most challenging global sustainability issues.

- Nearly 100 students began working toward majors in public health as part of the University of Michigan School of Public Health's first undergraduate cohort. Students can choose from two majors — a BS in public health sciences or a BA in community and global public health.

- Online learners now have three new U-M master's degree options through a partnership with Coursera: a Master of Applied Data Science, a Master of Public Health and a new Construction Engineering and Management Master Track Certificate.

New storytelling effort captures U-M's impact on state

The University of Michigan Office of the Vice President for Communications started a new storytelling effort in 2018 called "This is Michigan — Stories of Our State". The series shares how U-M students, faculty, alumni, donors, research and programs are helping to improve the quality of life across the state of Michigan. It includes videos, social media posts and news stories. Examples of this inspiring work can be viewed at thisismichigan.umich.edu.

Michigan's banner year

The University of Michigan men's and women's varsity athletic teams combined to win 12 conference regular-season or tournament championships over the 2017–2018 school year. That equaled a school record set in 2004-05, and those two dozens are believed to be the most in one school year by any Big Ten school.

The conference championship teams included: men's basketball, men's cross country, women's cross country, field hockey, women's gymnastics, men's soccer, softball, women's swimming and diving, women's tennis and women's water polo.

Domenico Grasso named chancellor of UM-Dearborn

Domenico Grasso, PhD, was named chancellor of the University of Michigan-Dearborn effective August 1, 2018. Grasso is the sixth leader of the Dearborn campus, replacing Daniel E. Little, who held the position for 18 years.

Grasso has led significant efforts in the areas of engineering education, enrollment management and diversity and community engagement, most recently as provost and chief academic officer at the University of Delaware. He earned a BS degree in civil engineering from Worcester Polytechnic Institute, an MSc degree in civil engineering from Purdue University and a PhD in environmental engineering from the University of Michigan.

Mcity continues to transform mobility

Eleven companies are investing a total of $11 million in the second phase of industry funding for Mcity, the University of Michigan-led, public-private, research-and-development (R&D) initiative leading the transformation to connected and automated mobility. The companies span such sectors as auto manufacturing, suppliers, information technology, insurance, telecommunications and data management.

Mcity is the only advanced mobility R&D center that combines early-stage research; testing in the state-of-the-art, real-world environment of the Mcity Test Facility; and on-road vehicle deployments to further prove new technologies. To date, about $20 million has been invested in 40 research projects. The total investment in connected and automated vehicle research, development and deployment activities is expected to exceed $100 million by 2020, with funding from U-M, government agencies and industry.

U-M bicentennial celebration finale

The University of Michigan's bicentennial year came to a close during fall 2017 through a series of events including the third and final President's Bicentennial Colloquium — "Campus of the Future" and the UMich200 Fall Festival. Other highlights included: HAILstorm!, a nighttime display of 3-D projection mapping on the iconic Rackham Building and a time capsule being sent into space.

UM-Flint receives Governor's Service Award

In June 2018, University Outreach at the University of Michigan-Flint received the 2018 Governor's Service Award for Education Service Leader as part of its annual ceremony acknowledging the contributions made by Michigan volunteers. Nominated by the United Way, UM-Flint received the award for its commitment to service work by partnering with nonprofit organizations and sustaining multiple recurring volunteer projects.

U-M faculty partner with communities

During 2018, several new partnerships formed bringing University of Michigan faculty and expertise to communities throughout the state. U-M and the city of Detroit entered a four-year agreement to join forces to boost economic mobility and break the cycle of poverty in Detroit. The university will provide up to $500,000 in resources each year to support action-based partnerships that pair U-M experts with city leaders.

Another partnership, a $2 million U-M-funded initiative called the Urban Collaboratory, brought together faculty experts in smart city technologies and urban design to collaborate with city leaders and residents to address emerging challenges involving public transit, flooding and water quality. The Collaboratory's initial projects began in Benton Harbor and are continuing on in Detroit, Grand Rapids, Ypsilanti and Ann Arbor.

U-M and SJTU renew partnership

The University of Michigan and Shanghai Jiao Tong University (SJTU), U-M's largest global partnership, have dedicated a new building and signed another 10-year agreement to continue support of their joint institute in China. The agreement between the two universities will foster new collaborations in international education and faculty development.

Housed at Shanghai Jiao Tong University, the new UM-SJTU Joint Institute Long Bin Building was created to enhance student learning and faculty intellectual engagement. The building is named after U-M benefactor and alumnus John Wu's parents, who are longtime faculty members at SJTU. In 2015, Wu donated $10 million to support professorships, faculty awards, scholarships, student entrepreneurship funds and other programs at the UM-SJTU Joint Institute.

MAJOR PROJECTS

More at: **2018.annualreport.umich.edu/major-projects**

| Art and Architecture Building A. Alfred Taubman Wing Project | During the grand opening festivities, projects from architecture and urban planning faculty were on display in the plaza and the entryway of the new wing.

PROJECTS IN PLANNING

Central Power Plant 13,200 Volt Switchgear Upgrade

Central Power Plant Expansion

Central Power Plant Fire Protection System for Steam Turbines

New Dance Building

Detroit Observatory Classroom and Accessibility Addition

W.K. Kellogg Institute and Dental Building Expansion and Renovation

East Hall Renovations for the Department of Psychology

Edward Henry Kraus Building Renovation and Addition

Dearborn Mardigian Library Galleries Center

Flint William R. Murchie Science Building Expansion

Alexander G. Ruthven Museums Building Renovation and Addition

University of Michigan Hospitals Projects

- Clinical Inpatient Tower
- University Hospital Interventional Radiology Equipment Replacement

Wall Street West Parking Structure

PROJECTS IN PROGRESS

Art and Architecture Building Work Commons Renovation | Work started March 2018 with an estimated completion date of December 2018. Financing is from the Penny W. Stamps School of Art and Design gifts and the Office of the Provost.

Camp Davis Rocky Mountain Field Station Student Cabin and Support Facilities Replacement | Work started May 2018 with an estimated completion date of September 2019. Financing is from the College of LSA and gifts.

Central Campus Storm Water Infiltration System | Work started March 2018 with an estimated completion date of December 2018. Financing is from utilities reserves and investment proceeds.

Central Power Plant Basement Drain Line Replacement | Work started July 2017 with an estimated completion date of March 2019. Financing is from utilities reserves.

Central Power Plant Chimney Stack Refurbishment | Work started July 2017 with an estimated completion date of December 2018. Financing is from utilities reserves.

Dearborn Engineering Lab Building Replacement | Work started May 2018 with an estimated completion date of September 2020. Financing is from state capital appropriation and UM-Dearborn.

Ford Motor Company Robotics Building | Work started March 2018 with an estimated completion date of March 2020. Financing is from the College of Engineering and gifts.

Forest Avenue Switching Station Upgrades | Work started September 2017 with an estimated completion date of September 2018. Financing is from utilities reserves.

Literature, Science, and the Arts Building First Floor Renovation and Addition | Work started November 2017 with an estimated completion date of September 2019. Financing is from the College of LSA.

Michigan Union Renovation | Work started May 2018 with an estimated completion date of March 2020. Financing is from Student Life and investment proceeds.

North Campus Recreation Building Renovation | Work started June 2017 with an estimated completion date of December 2018. Financing is from Student Life.

North Campus Research Complex Buildings 20 and 25 Laboratory Renovation | Work started June 2018 with an estimated completion date of December 2019. Financing is from the Medical School.

Stephen M. Ross School of Business Exterior Completion | Work started May 2018 with an estimated completion date of June 2019. Financing is from gifts.

Glenn E. Schembechler Hall Football Performance Center | Work started April 2018 with an estimated completion date of March 2019. Financing is from the Athletic Department and gifts.

William Monroe Trotter Multicultural Center | Work started July 2017 with an estimated completion date of March 2019. Financing is from investment proceeds.

University of Michigan Hospitals Projects | Financing is from University of Michigan Hospitals.

- **East Ann Arbor Health and Geriatrics Center Infrastructure Upgrades |** Work started March 2018 with an estimated completion date of March 2019.
- **Samuel and Jean Frankel Cardiovascular Center Electrophysiology Laboratory Replacement |** Work started March 2018 with an estimated completion date of September 2018.
- **C.S. Mott Children's and Von Voigtlander Women's Hospitals Central Sterile Processing Department Renovations |** Work started February 2018 with an estimated completion date of September 2018.
- **C.S. Mott Children's and Von Voigtlander Women's Hospitals Domestic Hot Water Heaters and Booster Systems Replacement |** Work started October 2017 with an estimated completion date of August 2018.
- **North Campus Research Complex Buildings 30, 35, 36 and 60, University Hospital and University Hospital South Clinical Pathology Laboratories Relocation and Renovation |** Work started September 2016 with an estimated completion date of September 2019.
- **University Hospital Fire Detection and Alarm System Update |** Work started November 2017 with an estimated completion date of September 2018.

PROJECTS COMPLETED

Art and Architecture Building A. Alfred Taubman Wing Project | Completed July 2017. Financed by gifts, investment proceeds and the Office of the Provost.

Biological Sciences Building | Completed June 2018. Financed by the College of LSA and the Office of the Provost.

George Granger Brown Memorial Laboratories First and Third Floor Laboratory Renovations | Completed January 2018. Financed by the College of Engineering.

George Granger Brown Memorial Laboratories Laboratory Renovation | Completed August 2017. Financed by the College of Engineering.

Joseph Aldrich and Marguerite Knowlton Bursley Hall Window Replacement | Completed July 2017. Financed by University Housing.

Central Power Plant Boilers 3 and 4 Efficiency and Reliability Improvements | Completed December 2017. Financed by utilities reserves.

Central Power Plant Chimney Stack Refurbishment | Completed July 2017. Financed by utilities reserves.

Chemistry Building and Willard H. Dow Laboratory Renovations for the Department of Chemistry | Completed August 2017. Financed by the College of LSA.

East Hall Exterior Repairs | Completed December 2017. Financed by the general fund.

Institute for Social Research Wing Two Elevators Replacement | Completed March 2018. Financed by the general fund.

Law Quad Infrastructure Improvements | Completed December 2017. Financed by utilities reserves and investment proceeds.

Walter E. Lay Automotive Engineering Laboratory Dynamometer Installation | Completed January 2018. Financed by the College of Engineering.

Medical Center North Entrance Parking Structure Lighting and Emergency Power Upgrades | Completed May 2018. Financed by Logistics, Transportation & Parking.

Medical Science Unit II Clinical Simulation Suite and Classrooms | Completed January 2018. Financed by the Medical School.

North Campus Research Complex Buildings 40 and 50 Demolition | Completed August 2017. Financed by the Medical School.

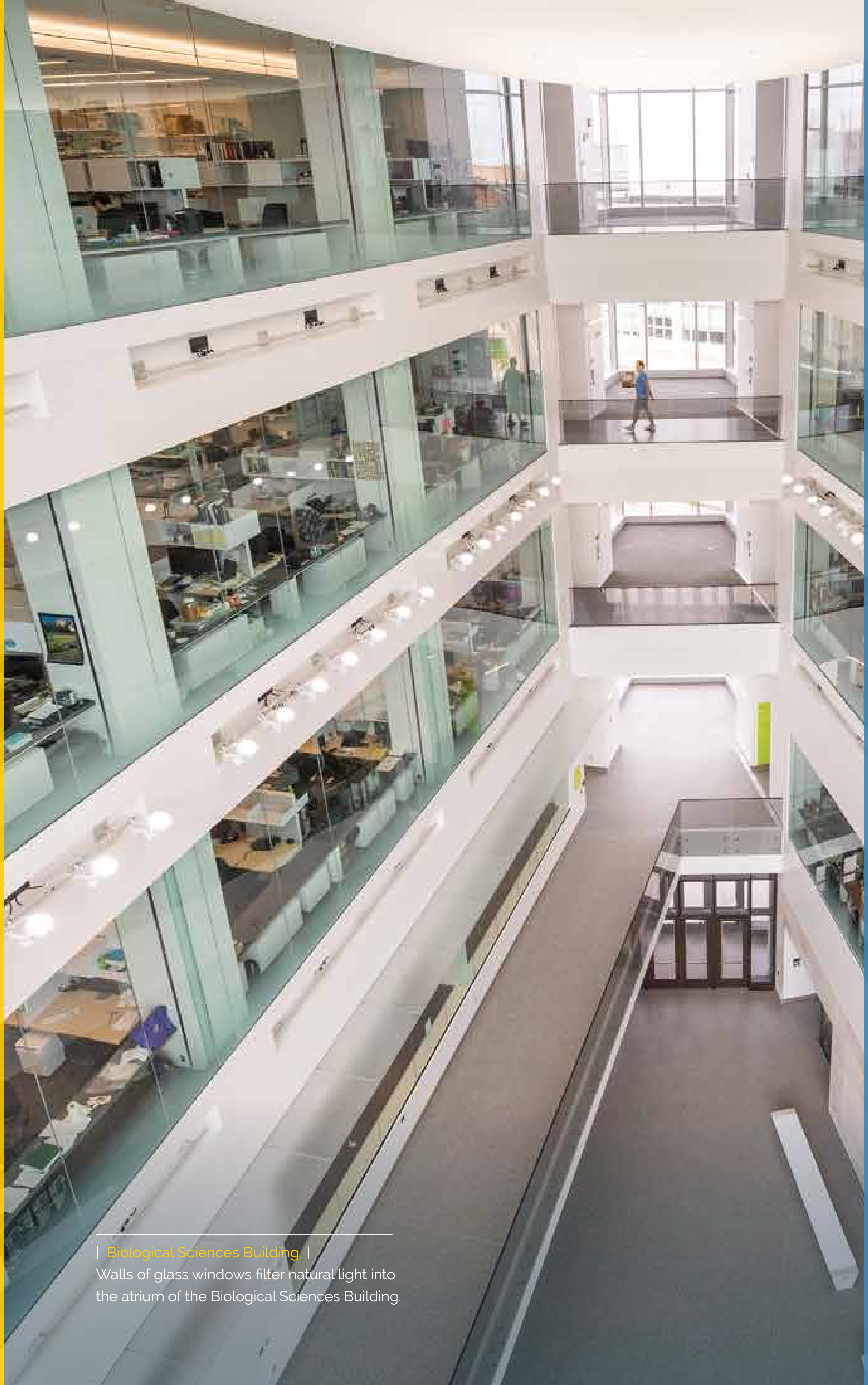
North Campus Research Complex Building 80 North Cooling Tower Replacement | Completed July 2017. Financed by the Medical School.

North Campus Research Complex Building 550 University Collections Relocation Renovations | Completed December 2017. Financed by the Office of the Provost.

Bennie Oosterbaan Field House Football Performance Center and Infrastructure Improvements | Completed January 2018. Financed by the Athletic Department and gifts.

Parking Lot NC92 Reconstruction and Ring Road Modifications | Completed November 2017. Financed by Logistics, Transportation & Parking and the Medical School.

William D. Revelli Band Rehearsal Hall Facility Improvements | Completed September 2017. Financed by investment proceeds.



| Biological Sciences Building |
Walls of glass windows filter natural light into the atrium of the Biological Sciences Building.

Stephen M. Ross Athletic Campus Athletics South Competition and Performance Project | Completed October 2017. Financed by the Athletic Department and gifts.

School of Social Work Building East Wing Renovations | Completed May 2018. Financed by the School of Social Work.

Thomas Henry Simpson Memorial Institute for Medical Research Infrastructure Improvements | Completed November 2017. Financed by the Medical School.

Space Research Laboratory Building Lobby Improvements | Completed May 2018. Financed by the College of Engineering.

University of Michigan Hospitals Projects | Financed by University of Michigan Hospitals.

- **300 North Ingalls Building Roof Replacement |** Completed November 2017. Financed by University of Michigan Hospitals and the general fund.
- **Arbor Lakes Building 2 Office Renovation |** Completed August 2017.
- **Brighton Health Center South |** Completed May 2018.
- **East Mechanical Building Cooling Tower Replacement |** Completed April 2018.
- **Samuel and Jean Frankel Cardiovascular Center Electrophysiology Laboratory Replacement |** Completed July 2017.
- **Samuel and Jean Frankel Cardiovascular Center Operating Room Interventional Imaging System |** Completed April 2018.
- **M29 Parking Lot Slope and Stair Improvements |** Completed April 2018.
- **C.S. Mott Children's and Von Voigtlander Women's Hospitals Fetal Diagnostic Center Expansion |** Completed January 2018.
- **C.S. Mott Children's and Von Voightlander Women's Hospitals Medical Vacuum and Medical Air Front End System |** Completed July 2017.
- **Multiple Buildings Pneumatic Tube System Communication Network Upgrade |** Completed July 2017.
- **University Hospital Central Sterile Processing Lift Replacement |** Completed April 2018.
- **University Hospital Fire Detection and Alarm System Update |** Completed July 2017.
- **University Hospital Magnetic Resonance Imaging Equipment Replacement |** Completed February 2018.
- **University Hospital Operating Room Air Handling Unit Upgrades |** Completed May 2018.
- **University Hospital Radiation Oncology Linear Accelerator Replacement |** Completed July 2017.
- **University Hospital South Central Sterile Processing Department Scope Reprocessing Center |** Completed January 2018.
- **University Hospital South Faculty Office Renovations |** Completed August 2017.
- **West Ann Arbor Health Center |** Completed October 2017.

Utility Tunnel Reinforcement Dental Building Area | Completed December 2017. Financed by utilities reserves.

Weiser Hall Renovation | Completed July 2017. Financed by the College of LSA and investment proceeds.

West Hall Renovations for the Department of Naval Architecture and Marine Engineering | Completed March 2018. Financed by the College of Engineering and gifts.

Sam Wyly Hall Renovations for Executive Education and the William Davidson Institute | Completed July 2017. Financed by the Stephen M. Ross School of Business and the William Davidson Institute.

MANAGEMENT'S RESPONSIBILITY FOR THE FINANCIAL STATEMENTS

OFFICE OF
BUSINESS & FINANCE
UNIVERSITY OF MICHIGAN

October 18, 2018

The management of the University of Michigan (the "University") is responsible for the preparation, integrity and fair presentation of the consolidated financial statements. The consolidated financial statements, presented on pages 46 to 85, have been prepared in conformity with accounting principles generally accepted in the United States of America and, as such, include amounts based on judgments and estimates made by management.

The consolidated financial statements have been audited by the independent accounting firm PricewaterhouseCoopers LLP, which was given unrestricted access to all financial records and related data, including minutes of all meetings of the Board of Regents. The University believes that all representations made to the independent auditors during their audit were valid and appropriate. PricewaterhouseCoopers' audit opinion is presented on pages 25-26.

The University maintains a system of internal controls over financial reporting designed to provide reasonable assurance to the University's management and Board of Regents regarding the preparation of reliable financial statements. These controls are maintained by the establishment and communication of accounting and financial policies and procedures, by the selection and training of qualified personnel and by an internal audit program designed to identify internal control weaknesses, in order to permit management to take appropriate corrective action on a timely basis. There are, however, inherent limitations in the effectiveness of any system of internal controls, including the possibility of human error and the circumvention of controls.

The Board of Regents, through its Finance, Audit and Investment Committee, is responsible for engaging the independent auditors and meeting regularly with management, internal auditors and the independent auditors to ensure that each is carrying out their responsibilities, and to discuss auditing, internal control and financial reporting matters. Both the internal auditors and independent auditors have full and free access to the Finance, Audit and Investment Committee.

Based on the above, I certify that the information contained in the accompanying consolidated financial statements fairly presents, in all material respects, the financial position, changes in financial position and cash flows of the University.

Kevin P. Hegarty
Executive Vice President and Chief Financial Officer

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REPORT OF INDEPENDENT AUDITORS

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To the Regents of the University of Michigan:

We have audited the accompanying consolidated financial statements of the University of Michigan and its subsidiaries (the "University"), which comprise the consolidated statement of net position as of June 30, 2018 and 2017, and the related consolidated statements of revenues, expenses and changes in net position and of cash flows for the years then ended.

MANAGEMENT'S RESPONSIBILITY FOR THE CONSOLIDATED FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

AUDITORS' RESPONSIBILITY

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the University's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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REPORT OF INDEPENDENT AUDITORS

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OPINION

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the University of Michigan and its subsidiaries as of June 30, 2018 and 2017, and the changes in their financial position and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

EMPHASIS OF MATTER

As discussed in Note 1 to the consolidated financial statements, the University changed the manner in which it accounts for irrevocable split-interest agreements in which the University is a beneficiary in 2018 and the manner in which it accounts for postemployment benefits other than pensions in 2017. Our opinion is not modified with respect to this matter.

OTHER MATTER

The accompanying management's discussion and analysis on pages 27 through 45 and the supplementary information for pension and postemployment benefits on pages 84 and 85 are required by accounting principles generally accepted in the United States of America to supplement the basic consolidated financial statements. Such information, although not a part of the basic consolidated financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic consolidated financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic consolidated financial statements, and other knowledge we obtained during our audits of the basic consolidated financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

PricewaterhouseCoopers LLP

October 18, 2018

PricewaterhouseCoopers LLP, 500 Woodward Avenue, Detroit, Michigan 48226
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MANAGEMENT'S DISCUSSION AND ANALYSIS

(UNAUDITED)

INTRODUCTION

The following discussion and analysis provides an overview of the financial position of the University of Michigan (the "University") at June 30, 2018 and 2017 and its activities for the three fiscal years ended June 30, 2018. This discussion has been prepared by management and should be read in conjunction with the financial statements and the notes thereto, which follow this section.

The University is a comprehensive public institution of higher learning with over 63,000 students and approximately 8,200 faculty members on three campuses in southeast Michigan. The University offers a diverse range of degree programs from baccalaureate to post-doctoral levels through 19 schools and colleges, and contributes to the state and nation through related research and public service programs. The University also has a nationally renowned health system which includes the University of Michigan Hospitals, the University's Medical School, Michigan Health Corporation (a wholly-owned corporation created for joint venture and managed care initiatives) and UM Health (a wholly-owned corporation created to hold and develop the University's statewide network of hospitals, hospital joint ventures and other hospital affiliations). The University's health system currently includes four hospitals as well as numerous health centers and outpatient clinics.

The University consistently ranks among the nation's top universities by various measures of quality, both in general academic terms, and in terms of strength of offerings in specific academic disciplines and professional subjects. Research is central to the University's mission and a key aspect of its strong reputation among educational institutions. The University is widely recognized for the breadth and excellence of its research enterprise as well as for the exceptional level of cooperation across disciplines, which allows faculty and students to address the full complexity of real-world challenges. The University's health system also has a tradition of excellence in teaching, advancement of medical science and patient care, consistently ranking among the best health care systems in the nation.

On December 15, 2016, the University completed an affiliation with Metropolitan Health Corporation ("Metro Health"), a community health care provider in west Michigan, pursuant to which UM Health became the sole corporate member of Metro Health. In addition to its hospital, Metro Health has neighborhood outpatient clinics and offices throughout west Michigan to serve the greater Grand Rapids area. In accordance with Governmental Accounting Standards Board ("GASB") Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, this combination is included in the financial statements as if it occurred at the beginning of the earliest period presented.

FINANCIAL HIGHLIGHTS

The University's financial position remains strong, with total assets and deferred outflows of $22.1 billion and total liabilities and deferred inflows of $7.8 billion at June 30, 2018, compared to total assets and deferred outflows of $20.9 billion and total liabilities and deferred inflows of $7.5 billion at June 30, 2017. Net position, which represents the residual interest in the University's total assets and deferred outflows after total liabilities and deferred inflows are deducted, totaled $14.3 billion and $13.4 billion at June 30, 2018 and 2017, respectively. Changes in net position represent the University's results of operations and are summarized for the years ended June 30 as follows:

(in millions)	2018	2017
Operating revenues and educational appropriations	$ 7,879	$ 7,480
Private gifts for operating activities	197	159
Operating and net interest expenses	(8,625)	(7,976)
	(549)	(337)
Net investment income	1,261	1,401
Endowment, capital gifts and grants, and other	208	198
Increase in net position	$ 920	$ 1,262

MANAGEMENT'S DISCUSSION AND ANALYSIS
(UNAUDITED)

During 2018, net position was restated at July 1, 2016 to reflect the adoption of GASB Statement No. 81, *Irrevocable Split-Interest Agreements* ("GASB 81"), resulting in a decrease of $52 million as compared to amounts previously reported.

During 2017, net position was restated at July 1, 2016 for the affiliation with Metro Health and the adoption of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"), resulting in a net decrease of $850 million.

For purposes of management's discussion and analysis, comparative data for the statement of net position has been provided by combining Metro Health with the University and reflecting the adoption of GASB 75 and GASB 81 at June 30, 2016.

The results of operations reflect the University's emphasis on maintaining its national standards academically, in research and in health care within a competitive recruitment environment for faculty and health care professionals and a period of continued pressure on federal funding for research. At the same time, the University is addressing constrained state appropriations and rising health care, regulatory and facility costs with aggressive cost cutting and productivity gains to help preserve access to affordable higher education for Michigan families. In 2018, the results of operations also reflect period costs associated with capacity expansion for the University's health system. To achieve aggressive and sustainable long-term goals for cost cutting and productivity gains, the University is also strategically utilizing resources to support enterprise-wide information technology projects and other initiatives.

The University's long-term investment strategy combined with its endowment spending policy serves to insulate operations from expected volatility in the capital markets and provides for a stable and predictable level of spending distributions from the endowment. Endowment spending rate distributions to University units totaled $339 million and $318 million in 2018 and 2017, respectively. The success of the University's long-term investment strategy is evidenced by strong returns over sustained periods of time and the ability to limit losses in the face of challenging markets.

The University invests its financial assets in pools with distinct risk and liquidity characteristics based on its needs, with most of its financial assets invested in two such pools. The University's working capital is primarily invested in relatively short duration, liquid assets, through its Daily and Monthly Portfolios, while the endowment is primarily invested, along with the noncurrent portion of the insurance and benefit reserves, in an equity oriented long-term strategy through its Long Term Portfolio.

USING THE FINANCIAL STATEMENTS

The University's financial report includes three financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows. These financial statements are prepared in accordance with GASB principles, which establish standards for external financial reporting for public colleges and universities.

STATEMENT OF NET POSITION

The statement of net position presents the financial position of the University at the end of the fiscal year and includes all assets, deferred outflows, liabilities and deferred inflows of the University. The difference between total assets and deferred outflows as compared to total liabilities and deferred inflows – net position – is one indicator of the current financial condition of the University, while the change in net position is an indication of whether the overall financial condition has improved or worsened during the year. The University's assets, deferred outflows, liabilities, deferred inflows and net position at June 30 are summarized as follows:

(in millions)	**2018**	**2017**	**2016**
Current assets	$ 2,743	$ 2,696	$ 2,545
Noncurrent assets:			
Endowment, life income and other investments	12,305	11,323	10,109
Capital assets, net	6,121	6,045	5,948
Other	510	439	346
Total assets	21,679	20,503	18,948
Deferred outflows	384	349	30
Total assets and deferred outflows	22,063	20,852	18,978
Current liabilities	1,775	1,802	1,881
Noncurrent liabilities	5,814	5,606	4,946
Total liabilities	7,589	7,408	6,827
Deferred inflows	193	83	52
Net position	$ 14,281	$ 13,361	$ 12,099

The University continues to maintain and protect its strong financial foundation. This financial health, as reflected in the University's net position, results from the prudent utilization of financial resources including careful cost controls, preservation of endowment funds, conservative utilization of debt and adherence to a long-range capital plan for the maintenance and replacement of the physical plant.

Current assets consist primarily of cash and cash equivalents, operating and capital investments and accounts receivable and totaled $2.7 billion at June 30, 2018 and 2017. Cash, cash equivalents and investments for operating activities totaled $1.3 billion at June 30, 2018, which represents approximately two months of total expenses excluding depreciation.

Deferred outflows represent the consumption of net assets attributable to a future period and are primarily associated with the University's obligations for postemployment benefits, debt and derivative activity, and Metro Health's defined benefit pension plan. Deferred outflows totaled $384 million and $349 million at June 30, 2018 and 2017, respectively.

Current liabilities consist primarily of accounts payable, accrued compensation, unearned revenue, commercial paper, the current portion of bonds payable and net long-term bonds payable subject to remarketing. Current liabilities totaled $1.8 billion at June 30, 2018 and 2017.

Deferred inflows represent the acquisition of net assets attributable to a future period and are associated with the University's postemployment benefits obligations, Metro Health's defined benefit pension plan and irrevocable split-interest agreements. Deferred inflows totaled $193 million and $83 million at June 30, 2018 and 2017, respectively.

ENDOWMENT, LIFE INCOME AND OTHER INVESTMENTS

The composition of the University's endowment, life income and other investments at June 30 is summarized as follows:

(in millions)	2018	2017	2016
Endowment investments	$ 11,902	$ 10,936	$ 9,743
Life income investments	144	132	111
Noncurrent portion of insurance and benefits obligations investments	208	205	192
Other	51	50	63
	$ 12,305	$ 11,323	$ 10,109

The University's endowment funds consist of both permanent endowments and funds functioning as endowment. Permanent endowments are those funds received from donors with the stipulation that the principal remain intact and be invested in perpetuity to produce income that is to be expended for the purposes specified by the donors. Funds functioning as endowment consist of amounts (restricted gifts or unrestricted funds) that have been allocated by the University for long-term investment purposes, but are not limited by donor stipulations requiring the University to preserve principal in perpetuity. Programs supported by endowment funds include scholarships, fellowships, professorships, research efforts and other important programs and activities.

The University uses its endowment funds to support operations in a way that strikes a balance between generating a predictable stream of annual support for current needs and preserving the purchasing power of the endowment funds for future periods. The major portion of the endowment is maintained in the University Endowment Fund, a unitized pool which represents a collection of approximately 11,200 separate (individual) funds, the majority of which are restricted for specific purposes. The University Endowment Fund is invested in the University's Long Term Portfolio, a single diversified investment pool.

The endowment spending rule provides for distributions from the University Endowment Fund to the entities that benefit from the endowment fund. The annual distribution rate is 4.5 percent of the one-quarter lagged seven year moving average fair value of University Endowment Fund shares. This spending rule is one element of an ongoing financial management strategy that has allowed the University to effectively weather challenging economic environments while avoiding measures such as faculty hiring freezes, furloughs, program cuts or halting construction.

To protect endowment principal in the event of a prolonged market downturn, distributions are limited to 5.3 percent of the current fair value of fund shares. Capital gains or income generated above the endowment spending rate are reinvested so that in lean times funds will be available for distribution. In addition, departments may also use withdrawals from funds functioning as endowment to support capital expenditures and operations.

Endowment spending rate distributions totaled $346 million and $325 million and withdrawals from funds functioning as endowment totaled $33 million and $7 million in 2018 and 2017, respectively. Total spending rate distributions combined with withdrawals from funds functioning as endowment averaged 4.4 percent and 4.2 percent of the current year average fair value of the University Endowment Fund for 2018 and 2017, respectively. Over the past ten years, total spending rate distributions combined with withdrawals from funds functioning as endowment averaged 5.0 percent.

The University participates in certain split-interest agreements and currently holds life income funds for beneficiaries of the pooled income fund, charitable remainder trusts and the gift annuity program. These funds generally pay lifetime income to beneficiaries, after which the principal is made available to the University in accordance with donor intentions. During 2018, the University adopted GASB 81, which establishes recognition and measurement guidance for situations in which a government is a beneficiary of a split-interest agreement. Adoption of this statement resulted in an increase in deferred inflows and a decrease in restricted expendable net position of $52 million, as reflected in the comparative balances presented at June 30, 2016.

CAPITAL AND DEBT ACTIVITIES

One of the critical factors in continuing the quality of the University's academic, research and clinical programs is the development and renewal of capital assets. The University continues to implement its long-range plan to maintain and modernize its existing infrastructure and strategically invest in new construction.

Capital asset additions totaled $650 million in 2018, as compared to $636 million in 2017. Capital asset additions primarily represent renovation and new construction of academic, research, clinical and athletic facilities, as well as significant investments in equipment, including information technology. Current year capital asset additions were primarily funded with net position and gifts designated for capital purposes of $482 million, as well as debt proceeds of $163 million and state capital appropriations of $5 million.

Projects completed in 2018 include significant new construction and renovation of academic and research buildings for natural sciences and international studies, as well as new facilities for ambulatory care, clinical pathology and athletics.

The Biological Sciences Building was constructed to provide teaching, research and museum facilities for the biological sciences and exhibit museums. Bringing these programs together creates exciting opportunities for interdisciplinary teaching, research and collaboration, and offers a richer experience for museum visitors. The new building houses 300,000 square feet of classrooms, research laboratories, associated support functions, offices and vivarium services, as well as the anthropology, natural history, paleontology and zoology museums formerly housed at the Alexander G. Ruthven Museums Building. The structure also includes a connection to the adjacent Life Sciences Institute Building to increase the utilization of its loading dock and vivarium functions.

An extensive renovation of Weiser Hall, formerly the Dennison Building which was originally constructed in 1963, was completed. Renovation of 106,000 square feet, vacated by the relocation of the Department of Astronomy to West Hall and the repurposing of classrooms, created space that facilitates faculty collaboration and enhances opportunities for graduate and undergraduate students. This project enabled relocation of the International Institute and its associated centers for international studies from the School of Social Work Building to Weiser Hall, along with other College of Literature, Science, and the Arts centers, institutes and units that have a primary focus on international engagement.

Construction of a new West Ann Arbor Health Center improves patient access to ambulatory care services. The new center, which includes 75,000 square feet, houses 27 adult and pediatric primary and specialty care services and replaces a prior center of 6,000 square feet that was previously located in leased space.

Many of the Health System's clinical pathology laboratories relocated into newly refurbished space at the University's North Campus Research Complex, freeing up space in University hospitals and other patient care locations. Previously, pathology laboratories were dispersed throughout various buildings on the University's medical campus and leased space. This project included the renovation of 186,000 square feet to enhance the clinical laboratory functions necessary to meet the growing demand for advanced clinical and anatomic pathology testing, improve operational efficiency and reduce the expense of maintaining laboratories in multiple locations. The new laboratories have also been designed to provide flexibility to meet future education, research and technology requirements.

The Athletics South Competition and Performance Project added 280,000 square feet of space for men's and women's track and field, cross country, lacrosse, soccer and women's rowing. This facility includes an indoor and outdoor track competition venue, a lacrosse stadium and an indoor rowing tank. The complex also includes a performance and team center with specialized spaces for each team and shared resources for all teams, with strength and conditioning, athletic medicine, meeting space and locker rooms. This new center enables consolidation of various team facilities formerly dispersed across the athletic campus. The facilities are also available to student-athletes who already practice and compete in that area, as well as students who participate in the University's recreational sports programs.

Construction in progress, which totaled $301 million and $476 million at June 30, 2018 and 2017, respectively, includes important projects for patient care, instruction, research and student life.

The University is nearing completion of the Brighton Center for Specialty Care, which is designed to meet growing ambulatory care demands. This new facility, with 300,000 square feet, will house more than 40 specialty services for pediatric and adult health care, including a comprehensive musculoskeletal center, sleep lab, ambulatory diagnostic and treatment center, medical procedure unit, radiation oncology, infusion, pharmacy, radiology, operating rooms and lab services. This new building is located near the existing Brighton Health Center, which will continue to be utilized. This project is scheduled to be completed in fall 2018.

Construction has commenced on a new research and teaching facility for the College of Engineering's Robotics program. This state-of-the-art facility will include 140,000 square feet to house research and testing laboratories, associated support functions, offices and classroom space. The building will also accommodate space for its corporate partner, Ford Motor Company, which will establish collaborative research activities within the facility. The open plan design of the building will allow for greater collaboration, increased flexibility and better space utilization. The facility will include labs for robot walking, flight testing, rehabilitation robotics and electronics and software development. This project is scheduled to be completed in winter 2020.

Renovation and expansion of the Engineering Lab Building on the University's Dearborn campus is underway. The renovated building, which was originally constructed in 1959, will include teaching labs designed to facilitate entrepreneurial problem solving, encourage multidisciplinary cooperation in the context of 21st-century engineering instruction, and provide students with new collaboration and project spaces. The new facility is also designed to allow for research partnerships with industry as well as expanded K-12 and community outreach efforts, with a focus on women and minorities. When finished, the new facility will include 123,000 square feet of space to be used for classrooms, research and teaching laboratories, faculty offices and student support spaces. Regional boiler and electrical distribution equipment replacement are also included in this project, which is scheduled to be completed in spring 2020.

The Michigan Union, which originally opened in 1919 with building additions in the 1930s and 1950s, is undergoing an extensive renovation. This project will improve accessibility throughout the building, create state-of-the-art student organization and student involvement space, improve space for counseling and student support services, and enhance meeting, lounge and study spaces. Deferred maintenance will also be addressed, including life safety, electrical, mechanical, and plumbing system improvements, replacement of the roof, windows and elevators, and upgrades to interior finish and restrooms. This project is scheduled to be completed in fall 2019.

Construction is also underway on a new William Monroe Trotter Multicultural Center dedicated to celebrating and fostering the University's diversity in a way that is inclusive and more visible. Located on central campus, the new center will accommodate lounge, kitchen and conference room spaces from the current center, and add a multipurpose room with capacity for 300 people for conferences and events, as well as an active-learning, classroom-style configuration that will accommodate 100 students. This project is scheduled to be completed in winter 2019.

The University is aware of its financial stewardship responsibility and works diligently to manage its financial resources effectively, including the prudent use of debt to finance capital projects. A strong debt rating is an important indicator of the University's success in this area. In 2018, S&P Global affirmed its highest credit rating (AAA) for bonds backed by a broad revenue pledge based on the University's robust enrollment and demand, exceptional student quality, retention and graduation rates, strong reputation of the University's health care system, excellent balance sheet, exceptional research presence and manageable debt burden. Moody's also affirmed its highest credit rating (Aaa) based on the University's ability to translate its international brand into solid revenue growth, strong philanthropic support and substantial financial reserves.

Long-term debt activity for the years ended June 30 is summarized as follows:

2018

(in millions)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	$ 161	$ 6	$ 9	$ 158
Bonds	2,155	157	76	2,236
Other	2		2	-
	$ 2,318	$ 163	$ 87	$ 2,394

2017

(in millions)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	$ 160	$ 23	$ 22	$ 161
Bonds	2,025	550	420	2,155
Other	4		2	2
	$ 2,189	$ 573	$ 444	$ 2,318

The University utilizes commercial paper, backed by a general revenue pledge, to provide interim financing for its capital improvement program. Outstanding commercial paper is converted to long-term debt financing as appropriate, within the normal course of business. Outstanding bonds are also supported by the University's general revenue pledge.

During 2018, the University issued $138 million of fixed rate, tax-exempt, general revenue bonds with a net original issue premium of $19 million. Total bond proceeds of $157 million, were utilized for capital projects and debt issuance costs.

During 2017, the University issued $465 million of fixed rate, tax-exempt, general revenue bonds with a net original issue premium of $85 million. Total bond proceeds of $550 million, together with amounts held by trustees under bond indenture of $12 million, were utilized to convert $12 million of commercial paper to long-term debt, refund existing bonds of $238 million, establish an escrow to advance refund existing bonds of $112 million and provide $200 million for capital projects and debt issuance costs.

The composition of the University's debt at June 30 is summarized as follows:

(in millions)	2018	2017	2016
Variable rate:			
Commercial paper	$ 158	$ 161	$ 160
Bonds	580	602	676
Fixed rate bonds	1,656	1,553	1,349
Other		2	4
	$ 2,394	$ 2,318	$ 2,189

A significant portion of the University's variable rate bonds are subject to remarketing and, in accordance with GASB Interpretation No. 1, such debt is classified as current unless supported by liquidity arrangements such as lines of credit or standby bond purchase agreements, which could refinance the debt on a long-term basis. In the event that variable rate bonds are put back to the University by the debt holder, management believes that the University's strong credit rating will ensure that the bonds will be remarketed within a reasonable period of time. In addition, the University utilizes remarketing agents to achieve a wide distribution of its variable rate bonds.

While fixed rate bonds typically have a higher effective rate of interest at the date of issuance as compared to variable rate bonds, they reduce the volatility of required debt service payments and do not require liquidity support, such as lines of credit, standby bond purchase agreements or internal liquidity.

Effective interest rates averaged 2.9 percent in 2018 and 2.7 percent in 2017, including the federal subsidies for interest on taxable Build America Bonds. Interest expense net of federal subsidies received for interest on taxable Build America Bonds and interest capitalized during construction totaled $66 million in 2018 and 2017.

OBLIGATIONS FOR POSTEMPLOYMENT BENEFITS

During 2017, the University adopted GASB 75, which establishes new actuarial methods and discount rate standards for the measurement and recognition of the cost of postemployment benefits during the periods when employees render their services, superseding the requirements of GASB Statement No. 45. Adoption of this statement resulted in an increase in the reported liability for postemployment benefits obligations and a decrease in unrestricted net position of $930 million, as reflected in the comparative balances presented at June 30, 2016.

Using current actuarial assumptions, and presuming a continuation of the current level of benefits, the University's obligations for postemployment benefits totaled $3.3 billion at June 30, 2018, as compared to $3.2 billion and $2.8 billion at June 30, 2017 and 2016, respectively. The increase in the reported liability at June 30, 2018 was driven primarily by the recognition of additional service cost and interest expense, offset somewhat by an increase in the discount rate used in developing the valuation. The increase in the reported liability at June 30, 2017, was driven primarily by a decline in the discount rate. Since a portion of retiree medical services will be provided by the University's health system, this liability is net of the related margin and fixed costs of providing those services which totaled $611 million, $674 million and $616 million at June 30, 2018, 2017 and 2016, respectively.

By implementing a series of health benefit initiatives over the past several years, the University has favorably impacted its total liability for postemployment benefits by $1.4 billion at June 30, 2018. These initiatives have included cost sharing changes, elimination of Medicare Part B reimbursements for certain retirees and the adjustment of retirement eligibility criteria.

NET POSITION

Net position represents the residual interest in the University's assets and deferred outflows after liabilities and deferred inflows are deducted. The composition of the University's net position at June 30 is summarized as follows:

(in millions)	2018	2017	2016
Net investment in capital assets	$ 3,722	$ 3,735	$ 3,715
Restricted:			
Nonexpendable:			
Permanent endowment corpus	2,146	1,967	1,816
Expendable:			
Net appreciation of permanent endowments	2,068	1,829	1,519
Funds functioning as endowment	2,308	2,126	1,942
Restricted for operations and other	632	633	617
Unrestricted	3,405	3,071	2,490
	$ 14,281	$ 13,361	$ 12,099

Net investment in capital assets represents the University's capital assets net of accumulated depreciation, outstanding principal balances of debt and capital lease liabilities, unexpended bond proceeds and deferred outflows associated with the acquisition, construction or improvement of those assets.

Restricted nonexpendable net position represents the historical value (corpus) of gifts to the University's permanent endowment funds. Restricted expendable net position is subject to externally imposed stipulations governing their use and includes net appreciation of permanent endowments, funds functioning as endowment and net position restricted for operations, facilities and student loan programs. Restricted expendable net position increased 9 percent, or $420 million, to $5.0 billion at June 30, 2018, as compared to an increase of 13 percent, or $510 million, to $4.6 billion at June 30, 2017. The increase experienced during both 2018 and 2017 was driven primarily by investment income and new gift activity.

Although unrestricted net position is not subject to externally imposed stipulations, substantially all of the University's unrestricted net position has been designated for various academic programs, research initiatives and capital projects. Unrestricted net position at June 30, 2018 totaled $3.4 billion and included funds functioning as endowment of $5.2 billion offset by unfunded obligations for postemployment benefits of $3.1 billion. Unrestricted net position at June 30, 2017 totaled $3.1 billion and included funds functioning as endowment of $4.9 billion offset by unfunded obligations for postemployment benefits of $2.9 billion. Unrestricted net position also includes other net resources which totaled $1.3 billion and $1.1 billion at June 30, 2018 and 2017, respectively.

MANAGEMENT'S DISCUSSION AND ANALYSIS

(UNAUDITED)

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

The statement of revenues, expenses and changes in net position presents the University's results of operations. In accordance with GASB reporting principles, revenues and expenses are classified as either operating or nonoperating. The University's revenues, expenses and changes in net position for the years ended June 30 are summarized as follows:

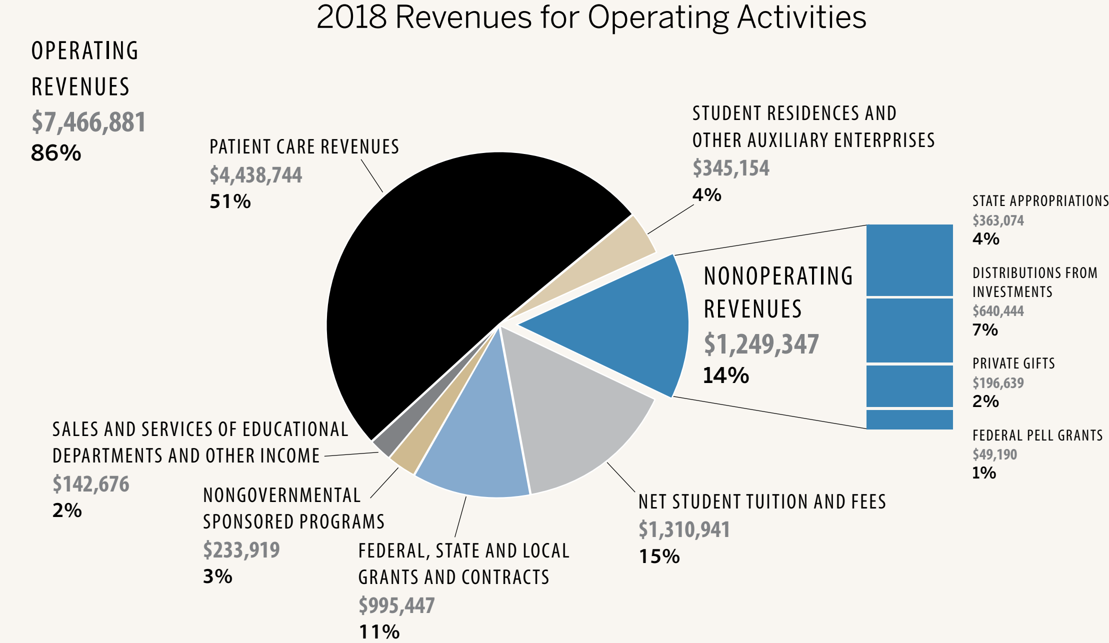
(in millions)	2018	2017	2016
Operating revenues:			
Net student tuition and fees	$ 1,310.9	$ 1,240.6	$ 1,161.7
Sponsored programs	1,229.4	1,180.2	1,107.1
Patient care revenues, net	4,438.7	4,200.1	3,587.3
Other	487.9	458.8	421.9
	7,466.9	7,079.7	6,278.0
Operating expenses	8,559.4	7,910.0	7,152.8
Operating loss	(1,092.5)	(830.3)	(874.8)
Nonoperating and other revenues (expenses):			
State educational appropriations	363.1	356.0	345.8
Federal Pell grants	49.2	43.8	43.3
Private gifts for operating activities	196.6	159.1	167.2
Net investment income (loss)	1,261.4	1,400.6	(129.7)
Interest expense, net	(72.9)	(73.1)	(55.6)
Federal subsidies for interest on Build America Bonds	7.4	7.5	7.6
State capital appropriations	5.0	18.0	47.6
Endowment and capital gifts and grants	209.2	187.0	163.0
Other	(6.1)	(6.9)	(9.0)
Nonoperating and other revenues, net	2,012.9	2,092.0	580.2
Increase (decrease) in net position	920.4	1,261.7	(294.6)
Net position, beginning of year	13,360.6	13,001.2	13,295.8
Affiliation with Metro Health and adoption of GASB 75 and GASB 81		(902.3)	
Net position, beginning of year, as restated	13,360.6	12,098.9	13,295.8
Net position, end of year	$ 14,281.0	$ 13,360.6	$ 13,001.2

The impact of the Metro Health affiliation and the adoption of GASB 75 and GASB 81 has been reflected as of the beginning of the earliest period presented in the financial statements, or July 1, 2016. Therefore, the statement of revenues, expenses and changes in net position presented above for the year ended June 30, 2016 does not reflect these items. During 2016, Metro Health reported total operating revenues of $374 million and total operating expenses of $357 million.

One of the University's greatest strengths is the diverse streams of revenue that supplement its student tuition and fees, including private support from individuals, foundations and corporations, along with government and other sponsored programs, state appropriations and investment income. The University continues to aggressively seek funding from all possible sources consistent with its mission in order to supplement student tuition and prudently manage the financial resources realized from these efforts to fund its operating activities, which include instruction, patient care and research.

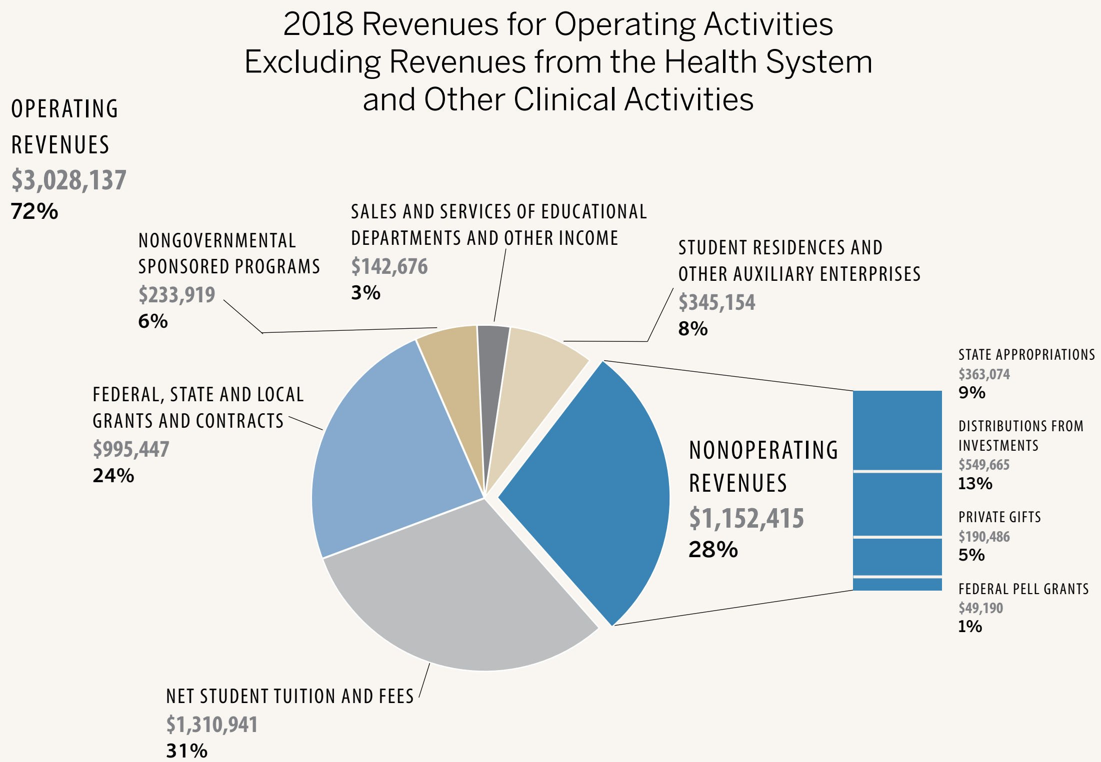
The following is a graphic illustration of revenues by source, both operating and nonoperating, which are used to fund the University's operating activities for the year ended June 30, 2018 (amounts are presented in thousands of dollars). Certain recurring sources of the University's revenues are considered nonoperating, as defined by GASB, such as state appropriations, distributions from investments, private gifts and federal Pell grants.

2018 Revenues for Operating Activities



MANAGEMENT'S DISCUSSION AND ANALYSIS
(UNAUDITED)

The University measures its performance both for the University as a whole and for the University without its health system and other clinical activities. The exclusion of these activities allows a clearer view of the operations of the schools and colleges, as well as central administration. The following is a graphic illustration of University revenues by source, both operating and nonoperating, which are used to fund operating activities other than the health system and other clinical activities, for the year ended June 30, 2018 (amounts are presented in thousands of dollars).



Tuition and state appropriations are the primary sources of funding for the University's academic programs. There is a relationship between the growth or reduction in state support and the University's ability to restrain tuition fee increases. Together, net student tuition and fees and state appropriations increased 5 percent, or $77 million, to $1.7 billion in 2018.

The University's long-term plan includes an ongoing commitment to cost containment and reallocating resources to the highest priorities to provide support for innovative new initiatives to maintain academic excellence and help students keep pace with the evolving needs of society. In 2018, the University's state educational appropriations increased 2 percent, or $7 million, to $363 million.

For the years ended June 30, net student tuition and fees revenue consisted of the following components:

(in millions)	2018	2017
Student tuition and fees	$ 1,726.0	$ 1,616.6
Less scholarship allowances	415.1	376.0
	$ 1,310.9	$ 1,240.6

In 2018, net student tuition and fees revenue increased 6 percent, or $70 million, to $1.3 billion, which reflects an increase of 7 percent, or $109 million, in gross student tuition and fees revenue offset by an increase of 10 percent, or $39 million, in scholarship allowances. Tuition rate increases in 2018 were 2.9 percent for resident undergraduate students, 4.5 percent for nonresident undergraduate students and 4.1 percent for most graduate students on the Ann Arbor campus, with a 3.7 and 4.1 percent tuition rate increase for most resident undergraduate students on the Dearborn and Flint campuses, respectively. During 2018, the University experienced moderate growth in the number of students, as well as a shift in mix from resident to non-resident students.

Tuition rate increases in 2017 were 3.9 percent for resident undergraduate students, 4.4 percent for nonresident undergraduate students and 3.9 percent for most graduate students on the Ann Arbor campus, with a 4.1 percent tuition rate increase for most undergraduate students on both the Dearborn and Flint campuses.

The University's tuition rate increases have consistently been among the lowest in the state, even in years of significant reductions in state appropriations, which reflects a commitment to affordable higher education for Michigan families. In addition, the University has increased scholarship and fellowship expenses and related allowances to benefit students in financial need.

While tuition and state appropriations fund a large percentage of University costs, private support is also essential to the University's academic distinction. Private gifts for other than capital and endowment purposes totaled $197 million in 2018, as compared to $159 million in 2017.

The University receives revenues for sponsored programs from various government agencies and private sources, which normally provide for both direct and indirect costs to perform these sponsored activities, with a significant portion related to federal research. Revenues for sponsored programs increased 4 percent, or $49 million, to $1.2 billion in 2018 driven primarily by an increase in federally sponsored activity.

Patient care revenues are principally generated within the University's hospitals and ambulatory care facilities. Patient care revenues increased 6 percent, or $239 million, to $4.4 billion in 2018 and reflect growth in patient volume, as well as an increase in revenue per patient case.

For the years ended June 30, patient care revenues by source is summarized as follows:

(in millions)	2018	2017
University of Michigan Hospitals	$ 3,404.9	$ 3,206.5
University of Michigan Medical Group	485.1	488.2
UM Health	433.9	376.4
Michigan Health Corporation	17.9	18.4
Other	96.9	110.6
	$ 4,438.7	$ 4,200.1

MANAGEMENT'S DISCUSSION AND ANALYSIS
(UNAUDITED)

The largest component of patient care revenues is generated by the University of Michigan Hospitals ("UMH"), a national leader in advanced patient care and comprehensive education of physicians and medical scientists. UMH, which serves as the principal teaching facility for the University's Medical School, operates three hospitals with 1,043 licensed beds for acute care and psychiatric needs, as well as numerous ambulatory care centers, outpatient clinics and various other health care programs across the state. Substantially all physician services to UMH patients are provided by the University of Michigan Medical Group, which is comprised of the University's Medical School faculty. UMH also provides educational and clinical opportunities to students of the University's Schools of Nursing, Dentistry, Pharmacy, Social Work and Public Health.

UM Health is a growing component of patient care activity and its revenues currently represent Metro Health, a community health care provider in west Michigan, which operates a hospital with 208 licensed beds for acute care, as well as neighborhood outpatient clinics and a growing network of specialty services. The University's affiliation with Metro Health positions UM Health to expand research capabilities, primary care, specialty services and the use of complex medical technologies.

Michigan Health Corporation generates revenue through its various joint venture and managed care initiatives, which provide services to patients including dialysis and other health services.

Other patient care revenues include amounts received from governmental and commercial payers associated with initiatives designed to improve accessibility and quality of care for patients, services provided by physicians working at facilities outside of the University and ambulatory care services provided by University Health Service, the School of Dentistry and the School of Nursing.

Contractual arrangements with governmental payers (Medicare and Medicaid) and private insurers impact patient care revenues. In 2018, the University realized payment rate increases from the majority of private insurers and governmental payers as compared to 2017. The distribution of net patient care service revenue by primary payer source for the years ended June 30 is summarized as follows:

	2018	2017
Medicare	26%	26%
Medicaid	12%	11%
Blue Cross	38%	34%
Other	24%	29%

Net investment income totaled $1.3 billion in 2018 as compared to $1.4 billion in 2017. The investment environment in 2018 continued its positive momentum from 2017. The US public equity markets were very strong in the first half of the year and climbed to all-time highs in January 2018. While these markets lost momentum in February, they spent the remainder of the fiscal year climbing back to near all-time highs. The alternative asset class performance was particularly strong in 2018, returning 17 percent. Leaders in this asset class included private equity and venture capital, which both returned 20 percent. Public equity performance while returning 6 percent this year, was down from last year when it returned 25 percent. In 2017, returns were strong in all asset classes including equity securities, as well as the alternative asset class where private equity and natural resources had the highest returns at 17 percent.

State capital appropriations are also helping the University improve its academic buildings. Recent capital outlays have supported renovations of the George Granger Brown Memorial Laboratories on the Ann Arbor campus, the Science Building and Computer Information Science Building on the Dearborn campus and the William R. Murchie Science Building on the Flint campus. Revenue is recognized as qualified capital expenditures are incurred and totaled $5 million and $18 million in 2018 and 2017, respectively.

Gifts and grants for endowment and capital purposes continue to be a significant part of sustaining the University's excellence. Private gifts for permanent endowment purposes totaled $169 million in 2018, as compared to $143 million in 2017. Capital gifts and grants totaled $40 million in 2018, as compared to $44 million in 2017. In recent years, major gifts have been received in support of the University's wide-ranging capital initiatives which include the health system, Ross School of Business, College of Engineering and Intercollegiate Athletics.

In addition to revenue diversification, the University continues to make cost containment an ongoing priority. This is necessary as the University faces significant financial pressures, particularly in the areas of compensation and benefits, which represent 63 percent of total expenses, as well as in the areas of energy, technology and ongoing maintenance of facilities and infrastructure.

The University's expenses for the years ended June 30 are summarized as follows (amounts in millions):

	2018		2017	
Operating:				
Compensation and benefits	$ 5,431.4	63%	$ 5,064.4	63%
Supplies and services	2,402.6	27	2,164.0	27
Depreciation	568.7	7	537.7	7
Scholarships and fellowships	156.7	2	143.9	2
	8,559.4	99	7,910.0	99
Nonoperating:				
Interest, net	65.5	1	65.6	1
	$ 8,624.9	100%	$ 7,975.6	100%

The University is committed to recruiting and retaining outstanding faculty and staff and the compensation package is one way to successfully compete with peer institutions and nonacademic employers. Compensation and benefits increased 7 percent, or $367 million, to $5.4 billion in 2018. Of the 2018 increase, compensation increased 6 percent, or $244 million, to $4.1 billion, driven primarily by increases in staffing levels resulting from patient activity and capacity expansion within the University's health system, and employee benefits increased 10 percent, or $123 million, to $1.3 billion, resulting from an increase in prescription drug costs as well as activity associated with the University's postemployment benefits obligations.

The University faces external and industry realities that put significant pressure on its ability to reduce compensation costs while remaining competitive. To help address this risk, the University continues to review components of its existing benefits program to find opportunities for potential savings without compromising the ability to offer competitive benefits to all faculty and staff.

Health care benefits are one of the most significant employee benefits. Over the past several years, the University has implemented initiatives to better control its rate of cost increase, encourage employees to choose the lowest cost health care plan that meets their needs and share a larger portion of health care cost increases with employees. These initiatives reflect the reality of the national landscape, while remaining true to the commitment we make to our employees for a robust benefits package. Careful stewardship of our health benefit plans, including the use of wellness initiatives, helps maintain our competitive position while preserving funding for the University's core mission.

During 2013, the University began to implement changes to eligibility requirements and the University contribution to retiree health benefits that were announced in 2011. These changes were recommended by a committee that evaluated ways to maintain competitive retiree health benefits while helping address the acceleration of future costs, and are being phased in over eight years in order to assist current employees with the transition. These adjustments will keep the University's retiree benefits competitive with peer institutions while producing an estimated $9 million reduction in annual cash outlay by 2020 and an estimated $165 million reduction in annual cash outlay by 2040.

Compared to most employers, the University is in a unique position to utilize internal experts to advise and guide its health care and drug plans. For example, the Pharmacy Benefits Advisory Committee, which consists of internal experts including health system physicians, School of Pharmacy faculty and on-staff pharmacists, monitors the safety and effectiveness of covered medications and guides appropriate prescribing, dispensing and cost effective use of prescription drugs. In addition, the University utilizes its nationally recognized health policy experts to guide future health plan strategies.

Supplies and services expenses increased 11 percent, or $239 million, to $2.4 billion in 2018 and reflects the growth in patient care related expenses including higher costs of prescription drugs and infusion treatments, as well as costs associated with significant capital projects.

Depreciation expense increased 6 percent, or $31 million, to $569 million in 2018 and reflects the completion of current year capital projects, the impact of a full year of depreciation for the capital projects completed during the prior year, and a $25 million impairment charge associated with certain components of Metro Health's hospital facilities. Capital assets placed in service during 2018 include the Biological Sciences Buildings, Weiser Hall renovation, West Ann Arbor Health Center, Clinical Pathology renovation and relocation, and Athletics South Competition and Performance Project.

In addition to their natural (object) classification, it is also informative to review operating expenses by function. The University's expenses by functional classification for the years ended June 30 are summarized as follows (amounts in millions):

	2018		2017	
Operating:				
Instruction	$ 1,153.2	13%	$ 1,099.8	14%
Research	823.6	10	803.5	10
Public service	211.5	2	187.8	2
Institutional and academic support	681.0	8	646.7	8
Auxiliary enterprises:				
Patient care	4,349.2	50	3,976.1	50
Other	264.6	3	198.1	2
Operations and maintenance of plant	350.9	4	316.4	4
Depreciation	568.7	7	537.7	7
Scholarships and fellowships	156.7	2	143.9	2
	8,559.4	99	7,910.0	99
Nonoperating:				
Interest, net	65.5	1	65.6	1
	$ 8,624.9	100%	$ 7,975.6	100%

Instruction expenses increased 5 percent, or $53 million, in 2018 and reflect the level of growth in the related revenue sources offset by cost containment efforts.

Research expenses increased 3 percent, or $20 million, in 2018 driven by the strength of the University's research enterprise, in spite of continued pressure on federal funding and intense competition for research dollars. To measure its total volume of research expenditures, the University considers research expenses included in the above table, as well as research related facilities and administrative expenses, research initiative and start-up expenses and research equipment purchases. These amounts totaled $1.55 billion and $1.48 billion in 2018 and 2017, respectively.

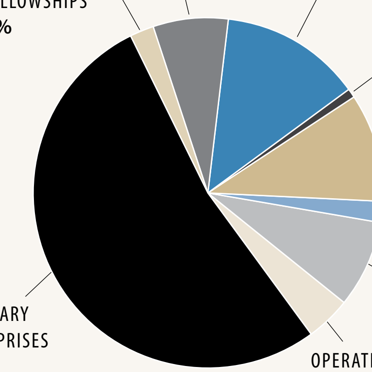
Patient care expenses increased 9 percent, or $373 million, in 2018 and reflect the impact of additional patient activity and capacity expansion. Increased compensation expense related to patient care includes both growth in staff levels and wage increases. Increased medical supplies expense results from higher patient activity levels, particularly in operating rooms and infusion treatments, new information technology initiatives and the rising cost of pharmaceuticals.

Scholarships and fellowships provided to students totaled $596 million in 2018, as compared to $543 million in 2017, an increase of 10 percent. Tuition, housing and fees revenues are reported net of aid applied to students' accounts, while amounts paid directly to students are reported as scholarship and fellowship expenses. Scholarships and fellowships for the years ended June 30 are summarized as follows:

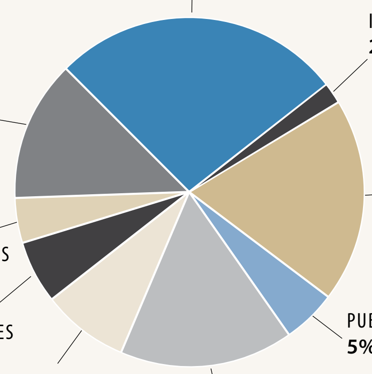
(in millions)	2018	2017
Paid directly to students	$ 156.7	$ 143.9
Applied to tuition and fees	415.1	376.0
Applied to University Housing	23.8	22.7
	$ 595.6	$ 542.6

The following graphic illustrations present total expenses by function, with and without the University's health system and other patient care activities:

2018 Expenses by Function



2018 Expenses by Function
Excluding Expenses from the University's Health System and Other Patient Care Activities



MANAGEMENT'S DISCUSSION AND ANALYSIS
(UNAUDITED)

STATEMENT OF CASH FLOWS

The statement of cash flows provides additional information about the University's financial results by reporting the major sources and uses of cash. The University's cash flows for the years ended June 30 are summarized as follows:

(in millions)	2018	2017	2016
Cash received from operations	$ 7,505.7	$ 7,103.6	$ 6,330.7
Cash expended for operations	(7,916.8)	(7,277.3)	(6,496.5)
Net cash used in operating activities	(411.1)	(173.7)	(165.8)
Net cash provided by noncapital financing activities	732.7	715.5	679.0
Net cash used in capital and related financing activities	(592.6)	(497.9)	(449.3)
Net cash provided by (used in) investing activities	299.3	(278.4)	116.4
Net increase (decrease) in cash and cash equivalents	28.3	(234.5)	180.3
Cash and cash equivalents, beginning of year	105.1	285.8	105.5
Affiliation with Metro Health		53.8	
Cash and cash equivalents, beginning of year, as restated	105.1	339.6	105.5
Cash and cash equivalents, end of year	$ 133.4	$ 105.1	$ 285.8

The impact of the Metro Health affiliation is reflected as of the beginning of the earliest period presented in the financial statements, or July 1, 2016. Therefore, the statement of cash flows presented above for the year ended June 30, 2016 does not reflect the impact of this affiliation.

Cash received from operations primarily consists of student tuition, sponsored program grants and contracts, and patient care revenues. Significant sources of cash provided by noncapital financing activities, as defined by GASB, include state appropriations, federal Pell grants and private gifts used to fund operating activities.

ECONOMIC FACTORS THAT MAY AFFECT THE FUTURE

The University maintains the highest credit ratings of S&P Global (AAA) and Moody's (Aaa). Achieving and maintaining the highest credit ratings provides the University with significant flexibility in securing capital funds on the most competitive terms. This flexibility, along with ongoing efforts toward revenue diversification and cost containment, will enable the University to provide the necessary resources to support a consistent level of excellence in service to students, patients, the research community, the state and the nation.

A crucial element to the University's future continues to be a strong relationship with the state of Michigan. Historically, there has been a connection between the growth, or reduction, of state support and the University's ability to control tuition increases. Over the past several years, the University has successfully addressed the realities of the state's challenging economy and, pursuant to a long-range plan, continues to work relentlessly to cut and mitigate operational costs in order to remain affordable and preserve access, while protecting the academic enterprise.

The University's budget for 2019 anticipates a 2.0 percent increase in state educational appropriations, a 2.9 percent tuition rate increase for Ann Arbor campus resident undergraduates and a 16.3 percent increase in centrally awarded financial aid. Nonresident undergraduate tuition rates will increase 3.9 percent, while most graduate and professional rates will increase 3.3 percent. Resident undergraduate tuition rates on the Dearborn and Flint campuses will increase 3.7 percent and 4.3 percent, respectively.

While tuition and state appropriations fund a large percentage of academic costs, private support is also essential to the University's academic distinction. In November 2013, the University launched the public phase of a major fundraising campaign with the announcement of an ambitious goal of $4 billion. The campaign, titled "Victors for Michigan", is focused on raising funds for three priority areas of student support, engaged learning and bold ideas, in order to better prepare tomorrow's leaders and address the complex problems facing the world. The campaign is expected to continue through December 2018.

The University continues to execute its long-range plan to maintain, modernize and expand its complement of older facilities while adding key new facilities for instruction, research, patient care, athletics and residential life. This strategy addresses the University's growth and the continuing effects of technology on teaching, research and clinical activities. Authorized costs to complete construction and other projects totaled $971 million at June 30, 2018. Funding for these projects is anticipated to include $799 million from internal sources, gifts, grants and future borrowings, $89 million from the State Building Authority and $83 million from the utilization of unexpended bond proceeds.

The University's health system continues its strategy to expand access to patients, locally and on a statewide basis. In addition to strategic capital and technological investments, the University's health system is also focusing on clinical affiliation arrangements and population management programs designed to expand community access and improve patient, family and provider experiences across the continuum of care. The affiliation arrangements are also expected to enhance clinical research, physician recruitment and support services.

While the University's health system is well positioned to maintain a strong financial position in the near term, ongoing constraints on revenue are expected due to fiscal pressures from employers and federal and state governments. Lawmakers continue to discuss Medicare and Medicaid changes which may target graduate medical education-related payments and could result in a significant impact on teaching hospitals. In addition, private insurance and managed care contracts historically provide for annual increases in reimbursement rates that met or exceeded the rate of inflation; however, there can be no assurance that such trends will continue. Management believes that much of the payment pressure can be offset by growth in patient volume and continued efforts to contain certain costs.

The University will continue to employ its long-term investment strategy to maximize total returns, at an appropriate level of risk, while utilizing a spending rate policy to preserve endowment capital and insulate the University's operations from temporary market volatility.

As a labor-intensive organization, the University faces competitive pressures related to attracting and retaining faculty and staff. Moreover, consistent with the national landscape, the University also faces rising costs of health benefits for its employees and retirees. The University has successfully taken and will continue to take proactive steps to respond to these challenges while protecting the quality of the overall benefits package.

A portion of the University's labor force is unionized, with negotiated labor agreements defining terms and conditions of employment. Changes in relations with unions and represented employees, including the negotiation of new agreements, could have a material effect on the University.

While it is not possible to predict the ultimate results, management believes that the University's financial position will remain strong.

FINANCIAL STATEMENTS
CONSOLIDATED STATEMENT OF NET POSITION

(in thousands)	June 30, 2018	2017
Asset and Deferred Outflows		
Current Assets:		
Cash and cash equivalents	$ 133,365	$ 105,127
Investments for operating activities	1,117,063	1,265,208
Investments for capital activities	533,855	378,931
Investments for student loan activities	57,135	58,836
Accounts receivable, net	666,811	639,384
Current portion of notes and pledges receivable, net	79,765	76,148
Current portion of prepaid expenses and other assets	125,159	127,799
Cash collateral held by agent	29,727	44,130
Total Current Assets	2,742,880	2,695,563
Noncurrent Assets:		
Unexpended bond proceeds	82,797	98,455
Endowment, life income and other investments	12,305,228	11,322,610
Notes and pledges receivable, net	336,870	312,478
Prepaid expenses and other assets	90,618	28,740
Capital assets, net	6,120,997	6,045,442
Total Noncurrent Assets	18,936,510	17,807,725
Total Assets	21,679,390	20,503,288
Deferred Outflows	383,589	348,691
Total Assets and Deferred Outflows	**$ 22,062,979**	**$ 20,851,979**

Liabilities, Deferred Inflows and Net Position		
Current Liabilities:		
Accounts payable	$ 290,563	$ 328,672
Accrued compensation and other	451,458	442,749
Unearned revenue	306,803	283,551
Current portion of insurance and benefits reserves	98,159	97,799
Current portion of obligations for postemployment benefits	87,638	77,374
Commercial paper and current portion of bonds payable	237,371	237,243
Long-term bonds payable subject to remarketing, net	195,552	202,718
Collateral held for securities lending	29,727	44,130
Deposits of affiliates and others	77,422	87,811
Total Current Liabilities	1,774,693	1,802,047
Noncurrent Liabilities:		
Accrued compensation	40,682	43,904
Insurance and benefits reserves	137,003	116,236
Obligations for defined benefit pension plan, net	(3,823)	3,436
Obligations for postemployment benefits	3,216,102	3,120,953
Obligations under life income agreements	74,180	65,897
Government loan advances	81,510	88,401
Bonds payable	1,961,085	1,877,554
Deposits of affiliates and other	307,210	289,213
Total Noncurrent Liabilities	5,813,949	5,605,594
Total Liabilities	7,588,642	7,407,641
Deferred Inflows	193,292	83,683
Net Position:		
Net investment in capital assets	3,722,086	3,735,130
Restricted:		
Nonexpendable	2,146,358	1,966,541
Expendable	5,007,324	4,587,581
Unrestricted	3,405,277	3,071,403
Total Net Position	14,281,045	13,360,655
Total Liabilities, Deferred Inflows and Net Position	**$ 22,062,979**	**$ 20,851,979**

The accompanying notes are an integral part of the consolidated financial statements.

FINANCIAL STATEMENTS
CONSOLIDATED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

(in thousands)	Year Ended June 30, 2018	2017
Operating Revenues		
Student tuition and fees	$ 1,726,033	$ 1,616,575
Less scholarship allowances	415,092	375,991
Net student tuition and fees	1,310,941	1,240,584
Federal grants and contracts	982,143	942,287
State and local grants and contracts	13,304	11,405
Nongovernmental sponsored programs	233,919	226,556
Sales and services of educational departments	140,139	135,212
Auxiliary enterprises:		
Patient care revenues (net of provision for bad debts of $101,109 in 2018 and $95,214 in 2017)	4,438,744	4,200,081
Student residence fees (net of scholarship allowances of $23,814 in 2018 and $22,678 in 2017)	117,866	112,478
Other revenues	227,288	208,628
Student loan interest income and fees	2,537	2,448
Total Operating Revenues	**7,466,881**	**7,079,679**
Operating Expenses		
Compensation and benefits	5,431,392	5,064,422
Supplies and services	2,402,592	2,164,018
Depreciation	568,707	537,670
Scholarships and fellowships	156,738	143,932
Total Operating Expenses	**8,559,429**	**7,910,042**
Operating loss	(1,092,548)	(830,363)
Nonoperating Revenues (Expenses)		
State educational appropriations	363,074	355,992
Federal Pell grants	49,190	43,819
Private gifts for other than capital and endowment purposes	196,639	159,148
Net investment income	1,261,443	1,400,671
Interest expense, net	(72,905)	(73,150)
Federal subsidies for interest on Build America Bonds	7,451	7,506
Total Nonoperating Revenues, Net	**1,804,892**	**1,893,986**
Income before other revenues (expenses)	712,344	1,063,623
Other Revenues (Expenses)		
State capital appropriations	4,978	17,965
Capital gifts and grants	39,835	43,828
Private gifts for permanent endowment purposes	169,337	143,174
Other	(6,104)	(6,855)
Total Other Revenues, Net	**208,046**	**198,112**
Increase in net position	920,390	1,261,735
Net Position, Beginning of Year	13,360,655	13,001,255
Affiliation with Metro Health and Adoption of GASB 75 and GASB 81		(902,335)
Net Position, Beginning of Year, as Restated	13,360,655	12,098,920
Net Position, End of Year	**$ 14,281,045**	**$ 13,360,655**

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

(in thousands)	Year Ended June 30, 2018	2017
Cash Flows From Operating Activities		
Student tuition and fees	$ 1,314,268	$ 1,242,227
Federal, state and local grants and contracts	973,815	945,781
Nongovernmental sponsored programs	250,617	240,657
Sales and services of educational departments and other	394,892	338,496
Patient care revenues	4,431,064	4,200,681
Student residence fees	118,192	112,623
Payments to employees	(4,108,246)	(3,881,649)
Payments for benefits	(1,157,316)	(1,060,665)
Payments to suppliers	(2,478,042)	(2,171,333)
Payments for scholarships and fellowships	(156,738)	(143,932)
Student loans issued	(16,453)	(19,675)
Student loans collected	20,328	20,730
Student loan interest and fees collected	2,537	2,448
Net Cash Used in Operating Activities	**(411,082)**	**(173,611)**
Cash Flows From Noncapital Financing Activities		
State educational appropriations	361,787	354,143
Federal Pell grants	49,190	43,819
Private gifts and other receipts	317,215	299,984
Student direct lending receipts	298,011	297,406
Student direct lending disbursements	(301,194)	(291,964)
Amounts received for annuity and life income funds	16,878	21,243
Amounts paid to annuitants and life beneficiaries and related expenses	(9,186)	(9,142)
Net Cash Provided by Noncapital Financing Activities	**732,701**	**715,489**
Cash Flows From Capital and Related Financing Activities		
State capital appropriations	4,968	40,676
Private gifts and other receipts	47,655	45,674
Proceeds from issuance of capital debt	163,328	573,439
Principal payments on capital debt	(75,918)	(428,828)
Interest payments on capital debt	(82,096)	(88,383)
Federal subsidies for Build America Bonds interest	7,413	7,462
Payments for bond refunding and related costs	(526)	(1,447)
Purchases of capital assets	(658,839)	(648,245)
Proceeds from sales of capital assets	1,329	1,692
Net Cash Used in Capital and Related Financing Activities	**(592,686)**	**(497,960)**

FINANCIAL STATEMENTS
CONSOLIDATED STATEMENT OF CASH FLOWS, CONTINUED

Cash Flows From Investing Activities		
Interest and dividends on investments, net	51,985	48,375
Proceeds from sales and maturities of investments	5,477,448	5,389,209
Purchases of investments	(5,119,195)	(5,718,627)
Net decrease (increase) in unexpended capital debt proceeds	15,658	(98,455)
Net (increase) decrease in cash equivalents from noncurrent investments	(126,745)	60,398
Net increase in deposits of affiliates and other	154	40,714
Net Cash Provided by (Used in) Investing Activities	**299,305**	**(278,386)**
Net increase (decrease) in cash and cash equivalents	28,238	(234,468)
Cash and Cash Equivalents, Beginning of Year	105,127	285,838
Affiliation with Metro Health		53,757
Cash and Cash Equivalents, Beginning of Year, as Restated	105,127	339,595
Cash and Cash Equivalents, End of Year	**$ 133,365**	**$ 105,127**
Reconciliation of operating loss to net cash used in operating activities:		
Operating loss	$ (1,092,548)	$ (830,363)
Adjustments to reconcile operating loss to net cash used in operating activities:		
Depreciation expense	568,707	537,670
Changes in assets and liabilities:		
Accounts receivable, net	(21,468)	(11,427)
Prepaid expenses and other assets	(65,680)	(10,662)
Accounts payable	(32,228)	(4,103)
Accrued compensation and other	6,106	21,952
Unearned revenue	23,502	15,716
Insurance and benefits reserves	21,127	10,832
Obligations for defined benefit pension plan, net	(7,259)	(25,742)
Obligations for postemployment benefits	105,413	427,401
Deposits of affiliates and other	20,345	
Changes in deferred outflows	(43,176)	(322,166)
Changes in deferred inflows	106,077	17,281
Net cash used in operating activities	$ (411,082)	$ (173,611)

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
JUNE 30, 2018 AND 2017

NOTE 1—ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Basis of Presentation: The University of Michigan (the "University") is a state-supported institution with an enrollment of over 63,000 students on its three campuses. The financial statements include the individual schools, colleges and departments, the University of Michigan Hospitals, Michigan Health Corporation (a wholly-owned corporation created for joint venture and managed care initiatives), UM Health (a wholly-owned corporation created to hold and develop the University's statewide network of hospitals, hospital joint ventures and other hospital affiliations) and Veritas Insurance Corporation (a wholly-owned captive insurance company). While the University is a political subdivision of the state of Michigan, it is not a component unit of the State in accordance with Governmental Accounting Standards Board ("GASB") Statement No. 14, *The Financial Reporting Entity*. The University is classified as a state instrumentality under Internal Revenue Code Section 115 and a charitable organization under Internal Revenue Code Section 501(c)(3), and is therefore exempt from federal income taxes. Certain activities of the University may be subject to taxation as unrelated business income under Internal Revenue Code Sections 511 to 514.

The University reports as a special purpose government entity engaged primarily in business type activities, as defined by GASB, on the accrual basis. Business type activities are those that are financed in whole or in part by fees charged to external parties for goods or services.

The financial statements of all controlled organizations are included in the University's financial statements; affiliated organizations that are not controlled by, and not dependent on the University, such as booster and alumni organizations, are not included.

On December 15, 2016, the University completed an affiliation with Metropolitan Health Corporation ("Metro Health"), a community health care provider in west Michigan, pursuant to which UM Health became the sole corporate member of Metro Health. In accordance with GASB Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*, this affiliation is included in the financial statements as if it occurred at the beginning of the earliest period presented, resulting in an increase in net position of $80,261,000 at July 1, 2016.

During 2018, the University adopted GASB Statement No. 81, *Irrevocable Split-Interest Agreements* ("GASB 81"). This statement establishes recognition and measurement guidance for situations in which a government is a beneficiary of a split-interest agreement. The adoption of GASB 81 has been reflected as of the beginning of the earliest period presented in the financial statements, resulting in an increase in deferred inflows and a decrease in restricted expendable net position of $52,252,000 at July 1, 2016.

During 2017, the University adopted GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* ("GASB 75"). This statement supersedes GASB Statement No. 45 and establishes new requirements for calculating and reporting the University's postemployment benefits. The adoption of GASB 75 has been reflected as of the beginning of the earliest period presented in the financial statements, resulting in an increase in obligations for postemployment benefits and a decrease in unrestricted net position of $930,343,000 at July 1, 2016.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1—ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED

Net position is categorized as:

- Net investment in capital assets: Capital assets, net of accumulated depreciation, outstanding principal balances of debt and capital lease liabilities, unexpended bond proceeds and deferred outflows associated with the acquisition, construction or improvement of those assets.

- Restricted:

  Nonexpendable – Net position subject to externally imposed stipulations that it be maintained permanently. Such net position includes the corpus portion (historical value) of gifts to the University's permanent endowment funds and certain investment earnings stipulated by the donor to be reinvested permanently.

  Expendable – Net position subject to externally imposed stipulations that can be fulfilled by actions of the University pursuant to those stipulations or that expire by the passage of time. Such net position includes net appreciation of the University's permanent endowment funds that have not been stipulated by the donor to be reinvested permanently.

- Unrestricted: Net position not subject to externally imposed stipulations. Unrestricted net position may be designated for specific purposes by action of management or the Board of Regents. Substantially all unrestricted net position is designated for various academic programs, research initiatives and capital projects.

Summary of Significant Accounting Policies: For purposes of the statement of cash flows, the University considers all highly liquid investments purchased with a maturity of three months or less, to be cash equivalents. Cash equivalents representing assets of the University's endowment, life income and other investments are included in noncurrent investments as these funds are not used for operating purposes.

Investments are reported in four categories in the statement of net position. Investments reported as endowment, life income and other investments are those funds invested in portfolios that are considered by management to be of a long duration. Investments for student loan and capital activities are those funds that are intended to be used for these specific activities. All other investments are reported as investments for operating activities.

GASB defines fair value and establishes a framework for measuring fair value that includes a three tiered hierarchy of valuation inputs, placing a priority on those which are observable in the marketplace. Observable inputs reflect market data obtained from sources independent of the reporting entity and unobservable inputs reflect the University's own assumptions about how market participants would value an asset or liability based on the best information available. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. The three levels of inputs, of which the first two are considered observable and the last unobservable, are as follows:

- Level 1 – Quoted prices for identical assets or liabilities in active markets that can be accessed at the measurement date

- Level 2 – Other significant observable inputs, either direct or indirect, such as quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable; or market corroborated inputs

- Level 3 – Unobservable inputs

GASB allows for the use of net asset value ("NAV") as a practical expedient to determine the fair value of nonmarketable investments if the NAV is calculated in a manner consistent with the Financial Accounting Standards Board's measurement principles for investment companies. Investments that use NAV in determining fair value are disclosed separately from the valuation hierarchy as presented in Note 2.

Investments in marketable securities are carried at fair value, as established by the major securities markets. Purchases and sales of investments are accounted for on the trade date basis. Investment income is recorded on the accrual basis. Realized and unrealized gains and losses are reported in investment income.

Investments in nonmarketable limited partnerships are carried at fair value, which is generally established using the NAV provided by the management of the investment partnerships at June 30, 2018 and 2017. The University may also adjust the fair value of these investments based on market conditions, specific redemption terms and restrictions, risk considerations and other factors. As these investments are not readily marketable, the estimated value is subject to uncertainty, and therefore, may differ from the value that would have been used had a ready market for the investments existed.

Investments denominated in foreign currencies are translated into U.S. dollar equivalents using year end spot foreign currency exchange rates. Purchases and sales of investments denominated in foreign currencies and related income are translated at spot exchange rates on the transaction dates.

Derivative instruments such as financial futures, forward foreign exchange contracts and interest rate swaps held in investment portfolios, are recorded on the contract date and are carried at fair value using listed price quotations or amounts that approximate fair value. To facilitate trading in financial futures, the University is required to post cash or securities to satisfy margin requirements of the exchange where such futures contracts are listed. The University monitors the required amount of cash and securities on deposit for financial futures transactions and withdraws or deposits cash or securities as necessary.

Accounts receivable are recorded net of an allowance for uncollectible accounts receivable. The allowance is based on management's judgment of potential uncollectible amounts, which includes such factors as historical experience and type of receivable.

The University receives pledges and bequests of financial support from corporations, foundations and individuals. Revenue is recognized when a pledge representing an unconditional promise to give is received and all eligibility requirements, including time requirements, have been met. In the absence of such a promise, revenue is recognized when the gift is received. Permanent endowment pledges do not meet eligibility requirements, as defined by GASB, and are not recorded as assets until the related gift is received.

Unconditional promises to give that are expected to be collected in future years are recorded at the present value of the estimated future cash flows. The discounts on these amounts are computed using risk-free interest rates applicable to the years in which the promises are made, commensurate with expected future payments. An allowance for uncollectible pledges receivable is provided based on management's judgment of potential uncollectible amounts and includes such factors as prior collection history, type of gift and nature of fundraising.

Capital assets are recorded at cost or, if donated, at acquisition value at the date of donation. Depreciation of capital assets is provided on a straight-line method over the estimated useful lives of the respective assets, which generally range from three to fifty years. The University does not capitalize works of art or historical treasures that are held for exhibition, education, research or public service. These collections are neither disposed of for financial gain nor encumbered in any way. Accordingly, such collections are not recognized or capitalized for financial statement purposes.

Deferred outflows represent the consumption of net assets attributable to a future period and are primarily associated with the University's obligations for postemployment benefits, debt and derivative activity, and Metro Health's defined benefit pension plan.

Unearned revenue consists primarily of cash received from grant and contract sponsors which has not yet been earned under the terms of the agreement. Unearned revenue also includes amounts received in advance of an event, such as student tuition and advance ticket sales related to future fiscal years.

Deposits of affiliates and others represents cash and invested funds held by the University as a result of agency relationships with various groups. Noncurrent deposits of affiliates represents the portion of endowment and similar funds held by the University on behalf of others.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1—ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES, CONTINUED

The University holds life income funds for beneficiaries of the pooled income fund, charitable remainder trusts and the gift annuity program. These funds generally pay lifetime income to beneficiaries, after which the principal is made available to the University in accordance with donor intentions. All life income fund assets, including those held in trust, are recorded at fair value. The present value of estimated future payments due to life income beneficiaries is recorded as a liability.

Deferred inflows represent the acquisition of net assets attributable to a future period and are associated with the University's postemployment benefits obligations, Metro Health's defined benefit pension plan and irrevocable split-interest agreements.

For donor restricted endowments, the Uniform Prudent Management of Institutional Funds Act, as adopted in Michigan, permits the Board of Regents to appropriate amounts for endowment spending rule distributions as is considered prudent. The University's policy is to retain net realized and unrealized appreciation with the endowment after spending rule distributions. Net appreciation of permanent endowment funds, which totaled $2,067,392,000 and $1,828,744,000 at June 30, 2018 and 2017, respectively, is recorded in restricted expendable net position. The University's endowment spending rule is further discussed in Note 2.

Student tuition and residence fees are presented net of scholarships and fellowships applied to student accounts, while stipends and other payments made directly to students are presented as scholarship and fellowship expenses.

Patient care revenues are reported net of contractual allowances and bad debt expenses. Contractual allowances are estimated based on agreements with third-party payers that provide payments for patient care services at amounts different from established rates. These allowances are subject to the laws and regulations governing the federal and state programs and post-payment audits, and adjusted in future periods as final settlements are determined. Patient care services are primarily provided through the University's health system, which includes the University of Michigan Hospitals, Metro Health, the University of Michigan Medical Group and Michigan Health Corporation. Patient care services are also provided through University Health Service, which provides health care services to students, faculty and staff, and Dental Faculty Associates, which provides dental care services performed by faculty dentists.

Patient care services are provided to patients who meet certain criteria under the University's charity care policies without charge or at amounts less than its established rates. Accordingly, charity care is not reported as revenue in the accompanying statement of revenues, expenses and changes in net position. Charges forgone for charity care services totaled $57,999,000 and $52,986,000 in 2018 and 2017, respectively.

Other auxiliary enterprise revenues primarily represent revenues generated by intercollegiate athletics, parking, student unions and student publications.

The University's policy for defining operating activities as reported on the statement of revenues, expenses and changes in net position are those that generally result from exchange transactions such as payments received for providing services and payments made for services or goods received. Nearly all of the University's expenses are from exchange transactions.

Certain significant revenue streams relied upon for operations result from nonexchange transactions and are recorded as nonoperating revenues including state appropriations, federal Pell grants, gifts and investment income.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. The most significant areas that require management estimates relate to self-insurance and benefits obligations.

NOTE 2—CASH AND INVESTMENTS

Summary: The University maintains centralized management for substantially all of its cash and investments.

Working capital of individual University units is primarily invested in the University Investment Pool ("UIP"). Together with the University's short-term insurance and other benefits reserves, the UIP is invested in the Daily and Monthly Portfolios, which are principally invested in investment-grade money market securities, U.S. government and other fixed income securities and absolute return strategies.

The University collectively invests substantially all of the assets of its endowment funds along with a portion of its insurance and benefits reserves, charitable remainder trusts and gift annuity program in the Long Term Portfolio. The longer investment horizon of the Long Term Portfolio allows for an equity-oriented strategy to achieve higher expected returns over time, and permits the use of less liquid alternative investments, providing for equity diversification beyond the stock markets. The Long Term Portfolio includes investments in domestic and non-U.S. stocks and bonds, commingled funds and limited partnerships consisting of venture capital, private equity, real estate, natural resources and absolute return strategies.

The University also separately invests certain endowments and charitable remainder trusts, unexpended bond proceeds and other funds with investment restrictions outside of the Daily, Monthly and Long Term Portfolios.

Authorizations: The University's investment policies are governed and authorized by University Bylaws and the Board of Regents. The approved asset allocation policy for the Long Term Portfolio sets general targets for both equities and fixed income securities. Since diversification is a fundamental risk management strategy, the Long Term Portfolio is broadly diversified within these general categories.

The endowment spending rule provides for distributions from the University Endowment Fund to the entities that benefit from the endowment fund. The annual distribution rate is 4.5 percent of the one-quarter lagged seven year moving average fair value of fund shares. To protect endowment principal in the event of a prolonged market downturn, distributions are limited to 5.3 percent of the current fair value of fund shares. Distributions are also made from the UIP to University entities based on the 90-day U.S. Treasury Bill rate. The University's costs to administer and grow the University Endowment Fund and UIP are funded by investment returns.

Cash and Cash Equivalents and Unexpended Bond Proceeds: Cash and cash equivalents, which totaled $133,365,000 and $105,127,000 at June 30, 2018 and 2017, respectively, represent short-term money market investments in mutual funds, overnight collective funds managed by the University's custodian or short-term highly liquid investments registered as securities and held by the University or its agents in the University's name. Of its cash and cash equivalents, the University had actual cash balances in its bank accounts in excess of Federal Deposit Insurance Corporation limits in the amount of $42,720,000 and $61,583,000 at June 30, 2018 and 2017, respectively. The University does not require its deposits to be collateralized or insured.

Unexpended bond proceeds, which totaled $82,797,000 and $98,455,000 at June 30, 2018 and 2017, respectively, represent short-term money market investments in mutual funds. These amounts are used solely for the reimbursement of qualifying expenditures for construction projects associated with certain outstanding general revenue bonds issued by the University.

Cash and cash equivalents and unexpended bond proceeds include certain securities that are subject to the leveling requirements defined by GASB. Level 1 securities, which primarily consist of money market funds and U.S. government securities, totaled $132,042,000 and $105,300,000 at June 30 2018 and 2017, respectively. Level 2 securities, which primarily consist of U.S. agencies, totaled $34,100,000 and $59,900,000 at June 30, 2018 and 2017, respectively.

NOTE 2—CASH AND INVESTMENTS, CONTINUED

Investments: At June 30, 2018 and 2017, the University's investments, which are held by the University or its agents in the University's name, are summarized as follows:

(in thousands)	2018	2017
Cash equivalents, noncurrent	$ 229,067	$ 102,550
Equity securities	1,238,818	1,364,719
Fixed income securities	1,826,821	2,181,020
Commingled funds	3,101,671	3,255,747
Nonmarketable alternative investments	7,608,059	6,112,495
Other investments	8,845	9,054
	$ 14,013,281	$ 13,025,585

At June 30, 2018 and 2017, the fair value of the University's investments based on the inputs used to value them is summarized as follows:

2018					
(in thousands)	Level 1	Level 2	Level 3	NAV	Total Fair Value
Cash equivalents, noncurrent	$ 229,067	-	-	-	$ 229,067
Equity securities:					
Domestic	401,755		$ 34,971		436,726
Foreign	801,506		586		802,092
	1,203,261	-	35,557	-	1,238,818
Fixed income securities:					
U.S. Treasury	752,529				752,529
U.S. government agency		$ 116,085			116,085
Corporate and other		955,166	3,041		958,207
	752,529	1,071,251	3,041	-	1,826,821
Commingled funds:					
Absolute return				$ 2,006,037	2,006,037
Domestic equities	17,089			263,389	280,478
Global equities	9,495			758,608	768,103
U.S. fixed income	9,453			33,589	43,042
Other	4,011				4,011
	40,048	-	-	3,061,623	3,101,671
Nonmarketable alternative investments:					
Venture capital				1,771,258	1,771,258
Absolute return				1,636,355	1,636,355
Private equity			343,688	1,504,786	1,848,474
Real estate			9,225	1,104,080	1,113,305
Natural resources			224,151	1,014,516	1,238,667
	-	-	577,064	7,030,995	7,608,059
Other investments	(2,131)	966	10,010	-	8,845
	$ 2,222,774	$ 1,072,217	$ 625,672	$ 10,092,618	$ 14,013,281

2017					
(in thousands)	Level 1	Level 2	Level 3	NAV	Total Fair Value
Cash equivalents, noncurrent	$ 102,550	-	-	-	$ 102,550
Equity securities:					
Domestic	446,823		$ 28,358		475,181
Foreign	888,965		573		889,538
	1,335,788	-	28,931	-	1,364,719
Fixed income securities:					
U.S. Treasury	1,020,420				1,020,420
U.S. government agency		$ 301,634			301,634
Corporate and other		854,885	4,081		858,966
	1,020,420	1,156,519	4,081	-	2,181,020
Commingled funds:					
Absolute return				$ 2,036,001	2,036,001
Domestic equities	17,206			274,829	292,035
Global equities	8,896			862,070	870,966
U.S. fixed income	10,938			41,332	52,270
Other	4,475				4,475
	41,515	-	-	3,214,232	3,255,747
Nonmarketable alternative investments:					
Venture capital				1,430,158	1,430,158
Absolute return				1,299,022	1,299,022
Private equity			207,078	1,271,632	1,478,710
Real estate			8,033	968,849	976,882
Natural resources			176,294	751,429	927,723
	-	-	391,405	5,721,090	6,112,495
Other investments	1,302	(4,036)	11,788	-	9,054
	$ 2,501,575	$ 1,152,483	$ 436,205	$ 8,935,322	$ 13,025,585

Investments categorized as Level 1 are valued using prices quoted in active markets for those securities. Equity securities categorized as Level 3 represent investments in start-up or venture companies. Fixed income securities categorized as Level 2 represent investments valued using a matrix pricing technique, which values debt securities based on their relationship to a benchmark and the relative spread to that benchmark. Fixed income securities categorized as Level 3 represent debt investments with select venture funded University faculty start-ups. Nonmarketable alternative investments categorized as Level 3 primarily represent direct investments which are valued using models that rely on inputs which are unobservable in the market.

NOTE 2—CASH AND INVESTMENTS, CONTINUED

The University's investment strategy incorporates certain financial instruments that involve, to varying degrees, elements of market risk and credit risk in excess of amounts recorded in the financial statements. Market risk is the potential for changes in the value of financial instruments due to market changes, including interest and foreign exchange rate movements and fluctuations embodied in forwards, futures and commodity or security prices. Market risk is directly impacted by the volatility and liquidity of the markets in which the underlying assets are traded. Credit risk is the possibility that a loss may occur due to the failure of a counterparty to perform according to the terms of the contract. The University's risk of loss in the event of a counterparty default is typically limited to the amounts recognized in the statement of net position and is not represented by the contract or notional amounts of the instruments.

Fixed income securities have inherent financial risks, including credit risk and interest rate risk. Credit risk for fixed income securities is the risk that the issuer will not fulfill its obligations. Nationally recognized statistical rating organizations ("NSROs"), such as S&P Global and Moody's, assign credit ratings to security issues and issuers that indicate a measure of potential credit risk to investors. Fixed income securities considered investment grade are those rated at least BBB by S&P Global and Baa by Moody's. To manage credit risk, the University specifies minimum average and minimum absolute quality NSRO ratings for securities held pursuant to its management agreements.

The University minimizes concentration of credit risk, the risk of a large loss attributed to the magnitude of the investment in a single issuer of fixed income securities, by diversifying its fixed income issues and issuers and holding U.S. Treasury securities which are considered to have minimal credit risk. The University also manages this risk at the account level by limiting each fixed income manager's holding of any non-U.S. government issuer to 5 percent of the value of the investment account.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of fixed income securities. Effective duration, a commonly used measure of interest rate risk, incorporates a security's yield, coupon, final maturity, call features and other imbedded options into one number expressed in years that indicates how price-sensitive a security or portfolio of securities is to changes in interest rates. The effective duration of a security or portfolio indicates the approximate percentage change in fair value expected for a one percent change in interest rates. The longer the duration, the more sensitive the security or portfolio is to changes in interest rates. The weighted average effective duration of the University's fixed income securities was 4.2 years at June 30, 2018 compared to 5.0 years at June 30, 2017. The University manages the effective duration of its fixed income securities at the account level, where fixed income managers generally may not deviate from the duration of their respective benchmarks by more than 25 percent. The Monthly Portfolio held positions in bond futures at June 30, 2018 and 2017, which are used to adjust the duration of cash equivalents and the fixed income portion of the portfolios.

The composition of fixed income securities at June 30, 2018 and 2017, along with credit quality and effective duration measures, is summarized as follows:

2018

(in thousands)	U.S. Government	Investment Grade	Non-Investment Grade	Not Rated	Total	Duration (in years)
U.S. Treasury	$ 527,662				$ 527,662	8.7
U.S. Treasury inflation protected	224,867				224,867	2.2
U.S. government agency	116,085				116,085	0.4
Mortgage backed		$ 82,258	$ 2,930	$ 22,634	107,822	0.6
Asset backed		68,336		2,210	70,546	0.7
Corporate and other		753,876	16,841	9,122	779,839	3.2
	$ 868,614	$ 904,470	$ 19,771	$ 33,966	$ 1,826,821	4.2

2017

(in thousands)	U.S. Government	Investment Grade	Non-Investment Grade	Not Rated	Total	Duration (in years)
U.S. Treasury	$ 791,194				$ 791,194	6.2
U.S. Treasury inflation protected	229,226				229,226	2.7
U.S. government agency	301,634				301,634	0.5
Mortgage backed		$ 64,229	$ 7,143	$ 5,159	76,531	1.0
Asset backed		71,441	650	126	72,217	0.7
Corporate and other		695,333	6,975	7,910	710,218	7.2
	$ 1,322,054	$ 831,003	$ 14,768	$ 13,195	$ 2,181,020	5.0

Of the University's fixed income securities, 97 percent and 99 percent were rated investment grade or better at June 30, 2018 and 2017, respectively, and 59 percent and 69 percent of these securities consisted of either U.S. treasury and government agencies or non-U.S. government securities rated AAA/Aaa at June 30, 2018 and 2017, respectively.

Commingled (pooled) funds include Securities and Exchange Commission regulated mutual funds and externally managed funds, limited partnerships and corporate structures which are generally unrated and unregulated. Certain commingled funds may use derivatives, short positions and leverage as part of their investment strategy. These investments are structured to limit the University's risk exposure to the amount of invested capital.

Nonmarketable alternative investments consist of limited partnerships and similar vehicles involving an advance commitment of capital called by the general partner as needed and distributions of capital and return on invested capital as underlying strategies are concluded during the life of the partnership. There is not an active secondary market for these alternative investments, which are generally unrated and unregulated, and the liquidity of these investments is dependent on actions taken by the general partner. The University's limited partnerships are diversified in terms of manager selection, industry and geographic focus. At June 30, 2018 and 2017, no individual partnership investment represented 5 percent or more of total investments.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 2—CASH AND INVESTMENTS, CONTINUED

Absolute return strategies in the commingled funds and nonmarketable alternative investments classifications include long/short stock programs, merger arbitrage, intra-capital structure arbitrage and distressed debt investments. The goal of absolute return strategies is to provide, in aggregate, a return that is consistently positive and uncorrelated with the overall market.

The University's investments in commingled funds and nonmarketable alternative investments are contractual agreements that may limit the ability to initiate redemptions due to notice periods, lock-ups and gates. Additional information about current redemption terms and outstanding commitments at June 30, 2018 is summarized as follows (amounts in thousands):

	Fair Value	Remaining Life	Outstanding Commitments	Redemption Terms	Redemption Notice
Commingled funds	$ 3,101,671	N/A		Daily, monthly, quarterly, and annually, with varying notice periods	Lock-up provisions range from none to 3 years
Nonmarketable alternative investments	$ 7,608,059	1-12 years	$ 5,711,078	Ineligible for redemption	N/A

Commingled funds have liquidity (redemption) provisions, which enable the University to make full or partial withdrawals with notice, subject to restrictions on the timing and amount. Of the University's commingled funds at June 30, 2018 and 2017, approximately 79 percent and 78 percent are redeemable within one year, with 63 percent and 61 percent redeemable within 90 days under normal market conditions. The remaining amounts are redeemable beyond one year, with redemption of certain funds dependent on disposition of the underlying assets. The University's committed but unpaid obligation to nonmarketable alternative investments is further discussed in Note 14.

The University participates in non-U.S. developed and emerging markets through commingled funds invested in non-U.S./global equities and absolute return strategies. Although substantially all of these funds are reported in U.S. dollars, price changes of the underlying securities in local markets as well as changes to the value of local currencies relative to the U.S. dollar are embedded in investment returns. In addition, a portion of the University's equity securities and nonmarketable alternative investments are denominated in foreign currencies, which must be settled in local (non-U.S.) currencies.

Foreign exchange risk is the risk that investments denominated in foreign currencies may lose value due to adverse fluctuations in the value of the U.S. dollar relative to foreign currencies. Forward foreign currency contracts are typically used to manage the risks related to fluctuations in currency exchange rates between the time of purchase or sale and the actual settlement of foreign securities. Various investment managers acting for the University use forward foreign exchange contracts in risk-based transactions to carry out their portfolio strategies and are subject to agreements that provide minimum diversification and maximum exposure limits by country and currency.

The value of the University's non-U.S. dollar holdings, net of the value of the outstanding forward foreign exchange contracts, totaled $1,766,714,000 or 13 percent of total investments at June 30, 2018, and $1,694,128,000 or 13 percent of total investments at June 30, 2017, and are summarized as follows:

(in thousands)	2018	2017
Euro	$ 983,971	$ 954,456
British pound sterling	252,537	230,211
Japanese yen	233,049	230,547
Canadian dollar	79,368	69,764
Swedish krona	78,464	52,440
Norwegian krone	49,760	32,954
Other	89,565	123,756
	$ 1,766,714	$ 1,694,128

The Long Term Portfolio and the Monthly Portfolio participate in a short-term, fully collateralized, securities lending program administered by the University's master custodian. Together, the Portfolios had $79,224,000 and $90,638,000 in securities loans outstanding at June 30, 2018 and 2017, respectively. At loan inception, an approved borrower must deliver collateral of cash, securities or letters of credit to the University's lending agent equal to 102 percent of fair value for domestic securities and 105 percent for foreign securities. Collateral positions are monitored daily to ensure that borrowed securities are never less than 100 percent collateralized. At June 30, 2018, collateral of $82,085,000 (104 percent of securities on loan) includes invested cash of $29,727,000 and U.S. government securities of $52,358,000, while at June 30, 2017, collateral of $95,679,000 (106 percent of securities on loan) includes invested cash of $44,130,000 and U.S. government securities of $51,549,000.

Cash collateral held by the University's lending agent, along with the offsetting liability to return the collateral at loan termination, are recorded in the statement of net position. Neither the University nor its securities lending agent has the ability to pledge or sell securities received as collateral unless a borrower defaults. Securities loans may be terminated upon notice by either the University or the borrower.

NOTE 3—ACCOUNTS RECEIVABLE

The composition of accounts receivable at June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Patient care	$ 628,189	$ 633,727
Sponsored programs	164,264	143,958
State appropriations, educational and capital	67,230	65,933
Student accounts	27,457	29,544
Other	32,219	33,602
	919,359	906,764
Less allowance for uncollectible accounts receivable:		
Patient care	243,732	258,847
All other	8,816	8,533
	$ 666,811	$ 639,384

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 4—NOTES AND PLEDGES RECEIVABLE

The composition of notes and pledges receivable at June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Notes:		
Federal student loan programs	$ 85,918	$ 88,911
University student loan funds	16,664	17,563
Other	1,390	1,120
	103,972	107,594
Less allowance for uncollectible notes	3,134	3,100
Total notes receivable, net	100,838	104,494
Gift pledges:		
Capital	165,342	177,043
Operations	164,920	121,047
	330,262	298,090
Less:		
Allowance for uncollectible pledges	9,523	10,064
Unamortized discount to present value	4,942	3,894
Total pledges receivable, net	315,797	284,132
Total notes and pledges receivable, net	416,635	388,626
Less current portion	79,765	76,148
	$ 336,870	$ 312,478

The principal repayment and interest rate terms of federal and university loans vary considerably. The allowance for uncollectible notes only applies to University funded notes and the University portion of federal student loans, as the University is not obligated to fund the federal portion of uncollected student loans. Federal loan programs are funded principally with federal advances to the University under the Perkins and various health professions loan programs.

Payments on pledges receivable at June 30, 2018 are expected to be received in the following years ended June 30 (in thousands):

2019	$ 63,596
2020	53,412
2021	50,792
2022	36,255
2023	28,327
2024 and after	97,880
	$ 330,262

As discussed in Note 1, permanent endowment pledges do not meet eligibility requirements, as defined by GASB, until the related gift is received. Accordingly, permanent endowment pledges totaling $168,926,000 and $185,551,000 at June 30, 2018 and 2017, respectively, are not recognized as assets in the accompanying financial statements. In addition, bequest intentions and other conditional promises are not recognized as assets until the specified conditions are met due to uncertainties with regard to their realizability and valuation.

NOTE 5—CAPITAL ASSETS

Capital assets activity for the years ended June 30, 2018 and 2017 is summarized as follows:

2018

(in thousands)	Beginning Balance	Additions	Retirements	Ending Balance
Land	$ 126,617	$ 2,952	$ 193	$ 129,376
Land improvements	137,981	7,275	1,518	143,738
Infrastructure	258,449	4,149	391	262,207
Buildings	8,618,377	620,725	60,227	9,178,875
Construction in progress	476,124	(174,690)		301,434
Equipment	2,050,848	163,428	115,906	2,098,370
Library materials	620,200	26,176		646,376
	12,288,596	650,015	178,235	12,760,376
Less accumulated depreciation	6,243,154	568,707	172,482	6,639,379
	$ 6,045,442	$ 81,308	$ 5,753	$ 6,120,997

2017

(in thousands)	Beginning Balance	Additions	Retirements	Ending Balance
Land	$ 124,207	$ 2,410		$ 126,617
Land improvements	125,953	12,152	$ 124	137,981
Infrastructure	255,921	2,528		258,449
Buildings	8,206,614	430,132	18,369	8,618,377
Construction in progress	456,391	19,733		476,124
Property held for future use	24,502	(24,502)		-
Equipment	2,068,851	167,252	185,255	2,050,848
Library materials	593,768	26,432		620,200
	11,856,207	636,137	203,748	12,288,596
Less accumulated depreciation	5,907,820	537,670	202,336	6,243,154
	$ 5,948,387	$ 98,467	$ 1,412	$ 6,045,442

The decrease in construction in progress of $174,690,000 in 2018 represents the amount of capital expenditures for new projects of $527,908,000 net of assets placed in service of $702,598,000. The increase in construction in progress of $19,733,000 in 2017 represents the amount of capital expenditures for new projects of $563,683,000 net of assets placed in service of $543,950,000.

During 2018, the University recognized $24,698,000 of additional depreciation expense in connection with the impairment of certain components of Metro Health's hospital facilities.

NOTE 6—LONG-TERM DEBT

Long-term debt at June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Commercial paper:		
Tax-exempt, variable rate (1.44%)*	$ 155,595	$ 157,160
Taxable, variable rate (2.00%)*	2,865	3,885
General revenue bonds:		
Series 2018A, 4.00% to 5.00% through 2048	137,510	
unamortized premium	19,055	
Series 2017A, 4.00% to 5.00% through 2047	456,265	464,750
unamortized premium	78,186	84,172
Series 2015, 4.00% to 5.00% through 2046	302,415	304,615
unamortized premium	47,640	50,686
Series 2014A, 4.25% to 5.00% through 2044	76,060	77,825
Series 2014B, 2.071% to 3.516% through 2024	5,730	6,625
unamortized premium	6,503	6,963
Series 2013A, 2.50% to 5.00% through 2029	44,975	46,385
unamortized premium	1,649	1,885
Series 2012A, variable rate (1.40%)* through 2036	50,000	50,000
Series 2012B, variable rate (1.45%)* through 2042	65,000	65,000
Series 2012D-1, variable rate (1.40%)* through 2025 with partial swap to fixed through 2025	60,220	63,635
Series 2012D-2, variable rate (1.45%)* through 2030 with partial swap to fixed through 2026	62,725	66,990
Series 2012E**, variable rate (1.78%)* through 2033	95,020	95,500
Series 2010A, taxable-Build America Bonds, 4.926% to 5.593% through 2040	163,110	163,110
Series 2010C, 3.75% to 5.00% through 2027	50,485	61,570
unamortized premium	3,647	4,434
Series 2010D, taxable-Build America Bonds, 3.356% to 5.333% through 2041	165,790	173,560
Series 2009A, 3.00% to 5.00% through 2019	4,165	12,555
unamortized premium	2,769	2,991
Series 2009B, variable rate (1.50%)* through 2039	118,710	118,710
Series 2009D, taxable-Build America Bonds, 5.155% to 6.172% through 2030	89,815	89,815
Series 2008A, variable rate (1.50%)* through 2038	57,085	57,085
Series 2008B, variable rate (1.46%)* through 2028 with swap to fixed through 2026	70,845	77,185
Series 2005A, 5.00% through 2018		1,065
unamortized premium		17
Series 2002, variable rate through 2018 with swap to fixed through 2018		7,595
Other	174	1,747
	2,394,008	2,317,515
Less:		
Commercial paper and current portion of bonds payable	237,371	237,243
Long-term bonds payable subject to remarketing, net	195,552	202,718
	$ 1,961,085	$ 1,877,554

* Denotes variable rate at June 30, 2018

** Denotes variable rate bonds not subject to remarketing

Certain variable rate bonds have remarketing features which allow bondholders to put debt back to the University. Accordingly, variable rate bonds payable is classified as current unless supported by liquidity agreements, such as lines of credit or standby bond purchase agreements, which can refinance the debt on a long-term basis. The classification of the University's variable rate bonds payable at June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Variable rate bonds payable subject to remarketing	$ 484,585	$ 506,200
Less:		
Current principal maturities	13,770	21,615
Long-term liquidity agreements:		
Unsecured line of credit	275,263	150,000
Standby bond purchase agreements		131,867
Long-term bonds payable subject to remarketing, net	$ 195,552	$ 202,718

The University's available lines of credit were entirely unused at June 30, 2018.

In connection with certain issues of variable rate debt, the University has entered into various floating-to-fixed interest rate swaps to convert all or a portion of the associated variable rate debt to synthetic fixed rates to protect against the potential of rising interest rates. The fair value, significant terms and other information about the University's interest rate swaps is discussed in Note 7.

Long-term debt activity for the years ended June 30, 2018 and 2017 is summarized as follows:

2018

(in thousands)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	$ 161,045	$ 6,600	$ 9,185	$ 158,460
Bonds	2,154,723	156,728	76,077	2,235,374
Other	1,747		1,573	174
	$ 2,317,515	$ 163,328	$ 86,835	$ 2,394,008

2017

(in thousands)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	$ 159,970	$ 23,420	$ 22,345	$ 161,045
Bonds	2,025,251	550,019	420,547	2,154,723
Other	4,175		2,428	1,747
	$ 2,189,396	$ 573,439	$ 445,320	$ 2,317,515

NOTE 6—LONG-TERM DEBT, CONTINUED

The University maintains a combination of variable and fixed rate debt supported by general revenues, with effective interest rates that averaged 2.9 percent and 2.7 percent in 2018 and 2017, respectively, including federal subsidies for interest on taxable Build America Bonds.

The University utilizes commercial paper to provide interim financing for its capital improvement program. The Board of Regents has authorized the issuance of up to $300,000,000 in commercial paper backed by a general revenue pledge. Outstanding commercial paper debt is converted to long-term debt financing, as appropriate, within the normal course of business.

During 2018, the University issued $137,510,000 of fixed rate General Revenue Bonds Series 2018A with a net original issue premium of $19,218,000. Total bond proceeds of $156,728,000 were utilized to provide $156,200,000 for capital projects and $528,000 for debt issuance costs.

During 2017, the University issued $464,750,000 of fixed rate General Revenue Bonds Series 2017A with a net original issue premium of $85,269,000. Total bond proceeds of $550,019,000 together with amounts held by trustees under bond indenture of $12,019,000 were utilized to convert $12,285,000 of commercial paper to long-term debt, refund $237,540,000 of existing bonds, and establish an escrow of $111,752,000 to advance refund existing bonds, as well as provide $199,014,000 for capital projects and $1,447,000 for debt issuance costs.

Deferred outflows associated with the University's refunding activity totaled $14,095,000 and $17,011,000 at June 30, 2018 and 2017, respectively, which will be amortized into interest expense over the remaining life of the refunded bonds.

Debt obligations are generally callable by the University and mature at various dates through fiscal 2048. Principal maturities, including interest on debt obligations, based on scheduled bond maturities for the next five years and in subsequent five-year periods are as follows:

(in thousands)	Principal	Interest*	Total
2019	$ 225,808	$ 80,820	$ 306,628
2020	69,086	78,849	147,935
2021	72,805	76,620	149,425
2022	76,070	74,406	150,476
2023	77,130	71,629	148,759
2024-2028	449,120	310,255	759,375
2029-2033	427,650	216,722	644,372
2034-2038	470,480	133,927	604,407
2039-2043	265,895	54,252	320,147
2044-2048	100,515	12,848	113,363
Total payments	2,234,559	$ 1,110,328	$ 3,344,887
Plus unamortized premiums	159,449		
	$ 2,394,008		

* Interest on variable rate debt is estimated based on rates in effect at June 30, 2018; amounts do not reflect federal subsidies to be received for Build America Bonds interest

If all variable rate bonds were put back to the University and existing unsecured lines of credit were not extended upon their current expiration dates, the total principal payments due in 2019 would increase to $421,360,000, total principal payments due in 2020 would increase to $234,195,000, total principal payments due in 2021 would increase to $87,278,000, total principal payments due in 2022 would increase to $89,899,000 and total principal payments due in 2023 would increase to $80,454,000. Accordingly, principal payments due in subsequent years would be reduced to $358,048,000 in 2024 through 2028; $349,630,000 in 2029 through 2033; $302,195,000 in 2034 through 2038; and $210,985,000 in 2039 through 2043. Principal payments due in 2044 through 2048 would remain the same. There would not be a material impact on annual interest payments due to the low variable rate of interest on these bonds.

NOTE 7—DERIVATIVE INSTRUMENTS

Derivatives held by the University are recorded at fair value in the statement of net position. For hedging derivative instruments that are effective in significantly reducing an identified financial risk, the corresponding change in fair value is deferred and included in the statement of net position. For all other derivative instruments, changes in fair value are reported as net investment income (loss).

Derivative instruments held by the University at June 30, 2018 and 2017 are summarized as follows:

	2018		2017	
(in thousands)	Notional Amount	Fair Value	Notional Amount	Fair Value
Investment derivative instruments:				
Investment portfolios:				
Futures	$ 183,096	$ (2,131)	$ 242,854	$ (6,371)
Foreign currency forwards:				
Chinese yuan	332,924	10,829	332,080	(8,633)
Swedish krona	209,549	8,221	82,727	(2,019)
South African rand	58,800	(7,463)	71,852	3,453
Australian dollar	207,419	(7,647)	9,559	1,528
Turkish lire	59,214	(8,269)	66,218	1,358
Brazil real	123,133	(11,745)	81,588	(1,170)
All other currencies	1,573,663	20,467	1,124,200	(3,454)
	2,564,702	4,393	1,768,224	(8,937)
Other	2,939,567	(790)	2,089,063	12,723
	$ 5,687,365	$ 1,472	$ 4,100,141	$ (2,585)
Floating-to-fixed interest rate swap on debt	$ -	$ -	$ 7,595	$ (186)
Effective cash flow hedges:				
Floating-to-fixed interest rate swaps on debt	$ 152,655	$ (12,212)	$ 166,660	$ (19,312)

The University utilizes bond futures in its investment portfolios to adjust the duration of cash equivalents and fixed income securities, while foreign currency forward contracts are utilized to settle securities and transactions denominated in foreign currencies and manage foreign exchange risk. Other derivative instruments in the University's investment portfolios consist primarily of interest rate swaps, credit default swaps and total return swaps used to carry out investment and portfolio strategies.

In connection with certain issues of variable rate debt, the University has entered into various floating-to-fixed interest rate swaps to convert all or a portion of the associated variable rate debt to synthetic fixed rates to protect against the potential of rising interest rates. The fair value generally represents the estimated amount that the University would pay to terminate the swap agreements at the statement of net position date, taking into account current interest rates and creditworthiness of the underlying counterparty. The valuation inputs used to determine the fair value of these instruments are considered Level 2, as they rely on observable inputs other than quoted market prices. The notional amount represents the underlying reference of the instrument and does not represent the amount of the University's settlement obligations.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 7—DERIVATIVE INSTRUMENTS, CONTINUED

At June 30, 2018 and 2017, the fair value of floating-to-fixed interest rate swaps associated with the University's variable rate debt is ($12,212,000) and ($19,498,000), respectively, and is included in the statement of net position as a component of deposits of affiliates and other. The deferred outflows for the fair value of swaps deemed effective cash flow hedges totaled $731,000 and $5,181,000 at June 30, 2018 and 2017, respectively.

The change in fair value of derivative instruments, which includes realized gains and losses on positions closed, for the years ended June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Investment derivative instruments:		
Investment portfolios:		
Futures	$ 8,592	$ 27,627
Foreign currency forwards	(58,308)	57,408
Other	1,098	(21,006)
	$ (48,618)	$ 64,029
Floating-to-fixed interest rate swap on debt	$ 186	$ 462
Effective cash flow hedges:		
Floating-to-fixed interest rate swaps on debt	$ 7,100	$ 10,626

The University's interest rate swaps, along with their associated variable rate debt and significant terms, are summarized below.

The floating-to-fixed interest rate swap associated with the Series 2008B General Revenue Bonds has a notional amount of $54,130,000 and $60,470,000 at June 30, 2018 and 2017, respectively, and the notional amount decreases as principal on the underlying bonds is repaid. The University makes payments based on a fixed rate of 3.105 percent and receives variable rate payments from the swap counterparty based on 68 percent of One-Month USD LIBOR, until the swap terminates in April 2026. The University has the option to terminate the swap upon five business days written notice and payment of the fair market compensation for the value of the swap. This swap is considered an effective hedge at June 30, 2018 and 2017 and has a fair value of ($3,076,000) and ($5,448,000), respectively.

The floating-to-fixed interest rate swap associated with the Series 2012D-2 General Revenue Bonds has a notional amount of $38,430,000 and $42,685,000 at June 30, 2018 and 2017, respectively, covering a portion of the principal outstanding and the notional amount decreases as principal on the underlying bonds is repaid. The University makes payments based on a fixed rate of 3.229 percent and receives variable rate payments from the swap counterparty based on 68 percent of the One-Month USD LIBOR, until the swap terminates in December 2025. The University has the option to terminate the swap upon five business days written notice and payment of the fair market compensation for the value of the swap. This swap is considered an effective hedge at June 30, 2018 and 2017 and has a fair value of ($2,010,000) and ($3,564,000), respectively.

The first floating-to-fixed interest rate swap associated with the Series 2012D-1 General Revenue Bonds has a notional amount of $44,670,000 at June 30, 2018 and 2017, covering a portion of the principal outstanding and the notional amount decreases as principal on the underlying bonds is repaid. The University makes payments based on a fixed rate of 4.705 percent and receives variable rate payments from the swap counterparty based on the floating Securities Industry and Financial Markets Association ("SIFMA") Municipal Index through the final maturity dates of the underlying bonds in December 2024. The counterparty has the option of terminating the swaps if for any 180-day period the average variable rate is more than 7.0 percent. This swap is considered an effective hedge at June 30, 2018 and 2017 and has a fair value of ($6,234,000) and ($8,663,000), respectively.

The second floating-to-fixed interest rate swap associated with the Series 2012D-1 General Revenue Bonds has a notional amount of $15,425,000 and $18,835,000 at June 30, 2018 and 2017, respectively, covering a portion of the principal outstanding and the notional amount decreases as principal on the underlying bonds is repaid. The University makes payments based on a fixed rate of 4.685 percent and receives variable rate payments based on the floating SIFMA Municipal Index through the final maturity dates of a portion of the underlying bonds in December 2021. The counterparty has the option of terminating the swaps if for any 180-day period the average variable rate is more than 7.0 percent. This swap is considered an effective hedge at June 30, 2018 and 2017 and has a fair value of ($892,000) and ($1,637,000), respectively.

Using rates in effect at June 30, 2018, the projected cash flows for the floating-to-fixed interest rate swaps deemed effective cash flow hedges, along with the debt service requirements of the associated variable rate debt, are summarized as follows:

	Variable Rate Bonds		Swap	Total
(in thousands)	Principal	Interest	Payments, Net	Payments
2019	$ 13,770	$ 2,700	$ 3,385	$ 19,855
2020	14,365	2,501	3,094	19,960
2021	15,000	2,284	2,776	20,060
2022	15,645	2,067	2,457	20,169
2023	26,150	1,758	1,890	29,798
2024-2028	98,440	3,874	1,649	103,963
2029-2030	10,420	95		10,515
	$ 193,790	$ 15,279	$ 15,251	$ 224,320

By using derivative financial instruments to hedge exposures to changes in interest rates, the University is exposed to termination risk and basis risk. There is termination risk with floating-to-fixed interest rate swaps because the University or swap counterparty may terminate a swap if the other party fails to perform under the terms of the contract or its credit rating falls below investment grade. Termination risk is the risk that the associated variable rate debt no longer carries a synthetic fixed rate and if at the time of termination a swap has a negative fair value, the University is liable to the counterparty for payment equal to the swap's fair value. The University is also exposed to basis risk as a portion of the variable payments paid to the University by the counterparties are based on a percentage of LIBOR. Basis risk is the risk that changes in the relationship between SIFMA and LIBOR may impact the synthetic fixed rate of the variable rate debt. At June 30, 2018 and 2017, the University is not exposed to credit risk as the swaps have negative fair values.

The University is subject to collateral requirements with its counterparties on certain derivative instrument positions. To meet trading margin requirements for bond futures, the University had cash and U.S. government securities with a fair value of $15,306,000 and $21,099,000 at June 30, 2018 and 2017, respectively, on deposit with its futures broker as collateral.

NOTE 8—SELF-INSURANCE

The University is self-insured for medical malpractice, workers' compensation, directors' and officers' liability, property damage, auto liability and general liability through Veritas Insurance Corporation. The University is also self-insured for various employee benefits through internally maintained funds.

Claims and expenses are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. Those losses include an estimate of claims that have been incurred but not reported and the future costs of handling claims. These liabilities are generally based on actuarial valuations and are reported at present value, discounted at a rate of 5 percent.

Changes in the total reported liability for insurance and benefits obligations for the years ended June 30, 2018 and 2017 are summarized as follows:

(in thousands)	2018	2017
Balance, beginning of year	$ 214,035	$ 203,203
Claims incurred and changes in estimates	694,199	628,681
Claim payments	(673,072)	(617,849)
Balance, end of year	235,162	214,035
Less current portion	98,159	97,799
	$ 137,003	$ 116,236

NOTE 9—PENSION PLAN

Metro Health has a noncontributory, single employer defined benefit pension plan, which covered substantially all employees prior to being frozen as of December 31, 2007. The plan generally provides benefits based on each employee's years of service and final average earnings, as defined, and does not provide any automatic or ad-hoc cost of living adjustments. The Metro Health Board of Directors has the authority to establish and amend benefit provisions of the plan.

The annual pension expense and net pension liability is actuarially determined using the entry age normal level percentage of pay method. Metro Health has elected to measure the net pension liability one year prior to the fiscal year end reporting date, and amounts measured as of June 30, 2017 and 2016 were determined based on an actuarial valuation as of October 1, 2016 and 2015, respectively. There are no significant changes known which would impact the total pension liability between the measurement date and the reporting date, other than typical plan experience.

For purposes of the June 30, 2017 and 2016 measurement dates, the number of plan participants consisted of the following:

	2017	2016
Active participants	612	685
Vested terminated participants	947	928
Retirees, beneficiaries and disabled participants	366	323
	1,925	1,936

Changes in the reported net pension liability for the years ended June 30, 2018 and 2017 are summarized as follows:

2018

(in thousands)	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance, beginning of year	$ 73,968	$ 70,532	$ 3,436
Interest cost	5,013		5,013
Changes in assumptions	(822)		(822)
Differences between expected and actual plan experience	(767)		(767)
Benefit payments	(4,712)	(4,712)	-
Contributions from the employer		2,171	(2,171)
Net investment income:			
Expected investment earnings		4,848	(4,848)
Difference between expected and actual earnings		3,664	(3,664)
Balance, end of year	$ 72,680	$ 76,503	$ (3,823)

2017

(in thousands)	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance, beginning of year	$ 96,414	$ 67,236	$ 29,178
Interest cost	4,482		4,482
Changes in assumptions	(24,906)		(24,906)
Differences between expected and actual plan experience	2,067		2,067
Benefit payments	(4,089)	(4,089)	-
Contributions from the employer		2,903	(2,903)
Net investment income:			
Expected investment earnings		3,166	(3,166)
Difference between expected and actual earnings		1,316	(1,316)
Balance, end of year	$ 73,968	$ 70,532	$ 3,436

The plan fiduciary net position as a percentage of the total pension liability was 105 percent and 95 percent at June 30, 2018 and 2017, respectively.

NOTE 9—PENSION PLAN, CONTINUED

Significant actuarial assumptions used at the June 30, 2017 and 2016 measurement dates are as follows:

	2017	2016
Discount rate	7.00%	7.00%
Inflation	2.00%	2.75%
Investment rate of return	7.00%	7.00%
Mortality table	RP-2014 Employee and Healthy Annuitant, Scale MP-2016	RP-2014 Employee and Healthy Annuitant, Scale MP-2015

Discount rates are based on the expected rate of return on pension plan investments. The projection of cash flows used to determine the single discount rate for each fiscal year end assumed that employer contributions will be made based on the minimum contribution projection under provisions of ERISA and the Pension Protection Act of 2006 (including MAP-21) for future years. Based on the stated assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance the future benefit payments of the current plan members for all projection years. As a result, the long-term expected rate of return on pension plan investments was applied to all periods of the projected benefit payments to determine the total pension liability.

The long-term expected rate of return on pension plan investments of 7.00 percent at June 30, 2017 and 2016, was determined using the expected future rates of return for the target asset allocation of the portfolio. The target allocation and best estimate geometric rates of return by asset class are summarized as follows:

	2017		2016	
	Portfolio Allocation	Long-Term Expected Return	Portfolio Allocation	Long-Term Expected Return
U.S. large cap	25.0%	6.8%	25.0%	7.3%
U.S. mid cap	10.5%	7.6%	10.5%	7.5%
U.S. small cap	6.5%	8.3%	6.5%	7.8%
International developed	14.0%	5.6%	14.0%	6.8%
Emerging market	9.0%	5.6%	9.0%	12.6%
STRIPs	7.0%	4.5%	7.0%	2.1%
Corporate 10+ year	28.0%	4.8%	28.0%	5.1%

A one-percentage point change in the discount rate would impact the net pension liability at June 30, 2018 and 2017 as follows:

	2018		2017	
(in thousands)	1% Decrease	1% Increase	1% Decrease	1% Increase
Net pension liability	$ 4,928	$ (11,075)	$ 9,056	$ (7,470)

The components of pension expense (income) for the years ended June 30, 2018 and 2017 are summarized as follows:

(in thousands)	2018	2017
Interest cost	$ 5,013	$ 4,482
Expected investment earnings	(4,848)	(3,166)
Amortization of deferred outflows and deferred inflows	(9,582)	(8,221)
	$ (9,417)	$ (6,905)

Deferred outflows and deferred inflows related to the net pension liability at June 30, 2018 and 2017 are summarized as follows:

	2018		2017	
(in thousands)	Deferred Outflows	Deferred Inflows	Deferred Outflows	Deferred Inflows
Changes in assumptions		$ 8,047		$ 16,228
Difference between expected and actual plan experience	$ 626	464	$ 1,347	
Difference between expected and actual investment earnings		3,720		1,053
	626	12,231	1,347	17,281
Contributions made after measurement date	1,047		2,171	
	$ 1,673	$ 12,231	$ 3,518	$ 17,281

Deferred outflows and deferred inflows related to changes in assumptions and differences between expected and actual experience will be recognized into expense in the following years ended June 30 based upon the average future work life expectancy of plan participants (in thousands):

2019	$ 8,547
2020	1,329
2021	996
2022	733
	$ 11,605

NOTE 9—PENSION PLAN, CONTINUED

The reported fair value of the plan's investments based on the inputs used to value them at June 30, 2018 and 2017 is summarized as follows:

2018

(in thousands)	Level 1	Level 2	NAV	Total Fair Value
Equity securities	$ 54,057			$ 54,057
Fixed income securities		$ 21,297		21,297
Nonmarketable alternative investments			$ 1,149	1,149
	$ 54,057	$ 21,297	$ 1,149	$ 76,503

2017

(in thousands)	Level 1	Level 2	NAV	Total Fair Value
Equity securities	$ 49,494			$ 49,494
Fixed income securities		$ 19,555		19,555
Nonmarketable alternative investments			$ 1,483	1,483
	$ 49,494	$ 19,555	$ 1,483	$ 70,532

NOTE 10—POSTEMPLOYMENT BENEFITS

The University provides retiree health and welfare benefits, primarily medical, prescription drug, dental and life insurance coverage, to eligible retirees and their eligible dependents. Substantially all full-time regular University employees may become eligible for these benefits if they reach retirement age while working for the University. For employees retiring on or after January 1, 1987, contributions toward health and welfare benefits are shared between the University and the retiree and can vary based on date of hire, date of retirement, age and coverage elections.

The University also provides income replacement benefits, retirement savings contributions and health and life insurance benefits to substantially all regular University employees that are enrolled in a University sponsored long-term disability plan and qualify, based on disability status while working for the University, to receive basic or expanded long-term disability benefits. Contributions toward the expanded long-term disability plan are shared between the University and employees and vary based on years of service, annual base salary and coverage elections. Contributions toward the basic long-term disability plan are paid entirely by the University.

These postemployment benefits are provided through single-employer plans administered by the University. The Executive Vice Presidents of the University have the authority to establish and amend benefit provisions of the plans.

Actuarial projections of benefits expense are based on the substantive plan (the plan as understood by the employer and the plan members) and include the types of benefits provided and announced future changes at the time of each valuation and the historical pattern of sharing of benefit costs between the employer and plan members to that point.

The University's reported liability for postemployment benefits obligations is calculated using the entry age normal level percent of pay method. The University has elected to measure the total postemployment liability one year prior to the fiscal year end reporting date, and amounts measured as of June 30, 2017 and 2016 were determined based on an actuarial valuation as of January 1, 2017 and 2016, respectively. There are no significant changes known which would impact the total postemployment liability between the measurement date and the reporting date, other than typical plan experience.

For purposes of the June 30, 2017 and 2016 measurement dates, the number of plan participants consisted of the following:

2017

	Retiree Health and Welfare	Long-term Disability
Active employees	40,757	35,020
Retirees receiving benefits	9,694	
Surviving spouses	862	
Participants receiving disability benefits		619
	51,313	35,639

2016

	Retiree Health and Welfare	Long-term Disability
Active employees	39,510	34,496
Retirees receiving benefits	9,099	
Surviving spouses	872	
Participants receiving disability benefits		610
	49,481	35,106

NOTE 10—POSTEMPLOYMENT BENEFITS, CONTINUED

Changes in the reported total liability for postemployment benefits obligations for the years ended June 30, 2018 and 2017 are summarized as follows:

2018

(in thousands)	Retiree Health and Welfare	Long-term Disability	Total
Balance, beginning of year	$ 2,930,656	$ 267,671	$ 3,198,327
Service cost	115,686	28,101	143,787
Interest cost	86,129	8,024	94,153
Changes in assumptions	(124,729)	16,855	(107,874)
Differences between expected and actual plan experience	43,472	9,249	52,721
Benefit payments	(48,910)	(28,464)	(77,374)
Balance, end of year	3,002,304	301,436	3,303,740
Less current portion	53,974	33,664	87,638
	$ 2,948,330	$ 267,772	$ 3,216,102

2017

(in thousands)	Retiree Health and Welfare	Long-term Disability	Total
Balance, beginning of year	$ 2,532,952	$ 237,974	$ 2,770,926
Service cost	97,193	24,880	122,073
Interest cost	99,036	9,525	108,561
Changes in assumptions	244,109	10,932	255,041
Differences between expected and actual plan experience	5,259	8,769	14,028
Benefit payments	(47,893)	(24,409)	(72,302)
Balance, end of year	2,930,656	267,671	3,198,327
Less current portion	48,910	28,464	77,374
	$ 2,881,746	$ 239,207	$ 3,120,953

Since a portion of retiree medical services will be provided by the University's health system, the liability for postemployment benefits obligations is net of the related margin and fixed costs of providing those services which totaled $611,361,000 and $674,252,000 at June 30, 2018 and 2017, respectively.

The University's liability for postemployment benefits obligations at June 30, 2018 is not reduced by the anticipated Medicare Retiree Drug Subsidy for future periods. This subsidy would reduce the total postemployment benefits liability by approximately $382,000,000.

The University does not maintain a separate legal trust to house assets used to fund postemployment benefits, has no obligation to make contributions in advance of when insurance premiums or claims are due for payment and currently pays for postemployment benefits on a pay-as-you-go basis. The University's reported postemployment benefits obligations at June 30, 2018 and 2017 as a percentage of covered payroll of $3,792,553,000 and $3,568,918,000 was 87 percent and 90 percent, respectively.

Significant actuarial assumptions used at the June 30, 2017 and 2016 measurement dates are as follows:

	2017	2016
Discount rate*	3.58%	2.85%
Inflation rate	2.00%	2.75%
Immediate/ultimate administrative trend rate	0.0%/3.0%	0.0%/3.0%
Immediate/ultimate medical trend rate	7.0%/4.5%	7.0%/4.5%
Immediate/ultimate Rx trend rate	9.5%/4.5%	10.0%/4.5%
Increase in compensation rate	4.00%	4.00%
Mortality table**	RP-2014 White Collar Head Count Table, Scale MP-2016	RP-2014 White Collar Head Count Table, Scale MP-2015
Average future work life expectancy (years):		
Retiree health and welfare	9.17	9.54
Long-term disability	11.43	11.90

* Bond Buyer 20-year General Obligation Municipal Bond Index as of the last publication of the measurement period

** Based on the University's study of mortality experience from 2010-2014

A one-percentage point change in the discount rate and assumed health care cost trend rates would impact the total liability for postemployment benefits obligations at June 30, 2018 and 2017 as follows:

2018

(in thousands)	1% Decrease	1% Increase
Discount rate:		
Retiree health and welfare	$ 677,895	$ 520,431)
Long-term disability	$ 11,211	$ (11,260)
Health care trend rates:		
Retiree health and welfare	$ (563,305)	$ 768,219
Long-term disability	$ (11,907)	$ 12,196

2017

(in thousands)	1% Decrease	1% Increase
Discount rate:		
Retiree health and welfare	$ 672,064	$ (516,547)
Long-term disability	$ 9,360	$ (8,600)
Health care trend rates:		
Retiree health and welfare	$ (570,224)	$ 776,594
Long-term disability	$ (9,402)	$ 9,661

NOTE 10—POSTEMPLOYMENT BENEFITS, CONTINUED

The components of postemployment benefits expense for the years ended June 30, 2018 and 2017 are summarized as follows:

2018			
(in thousands)	Retiree Health and Welfare	Long-term Disability	Total
Service cost	$ 115,686	$ 28,101	$ 143,787
Interest cost	86,129	8,024	94,153
Amortization of deferred outflows and deferred inflows	17,278	3,940	21,218
	$ 219,093	$ 40,065	$ 259,158

2017			
(in thousands)	Retiree Health and Welfare	Long-term Disability	Total
Service cost	$ 97,193	$ 24,880	$ 122,073
Interest cost	99,036	9,525	108,561
Amortization of deferred outflows	26,139	1,656	27,795
	$ 222,368	$ 36,061	$ 258,429

Deferred outflows and deferred inflows related to postemployment benefits obligations at June 30, 2018 and 2017 are summarized as follows:

	2018		2017
(in thousands)	Deferred Outflows	Deferred Inflows	Deferred Outflows
Changes in assumptions	$ 217,407	$ 111,127	$ 228,534
Difference between expected and actual plan experience	58,623		12,740
	276,030	111,127	241,274
Benefit payments made after measurement date	87,638		77,374
	$ 363,668	$ 111,127	$ 318,648

Deferred outflows and deferred inflows related to changes in assumptions and the difference between expected and actual plan experience will be recognized into expense in the following years ended June 30 based upon the average future work life expectancy of plan participants (in thousands):

2019	$ 21,218
2020	21,218
2021	21,218
2022	21,218
2023	21,218
2024 and beyond	58,813
	$ 164,903

NOTE 11—RETIREMENT PLAN

The University has a defined contribution retirement plan for all qualified employees through the Teachers Insurance and Annuity Association - College Retirement Equities Fund ("TIAA-CREF") and Fidelity Management Trust Company ("FMTC") mutual funds. All regular and supplemental instructional and primary staff are eligible to participate in the plan based upon age and service requirements. Participants maintain individual contracts with TIAA-CREF, or accounts with FMTC, and are fully vested.

For payroll covered under the plan, eligible employees generally contribute 5 percent of their pay and the University generally contributes 10 percent of employees' pay to the plan, while certain employees generally contribute 4.5 percent of their pay, with the University contributing 9 percent of those employees' pay to the plan. The University contribution commences after an employee has completed one year of employment. Participants may elect to contribute additional amounts to the plans within specified limits that are not matched by University contributions. Contributions and covered payroll under the plan (excluding participants' additional contributions) for the years ended June 30, 2018 and 2017 are summarized as follows:

(in thousands)	2018	2017
University contributions	$ 286,376	$ 271,669
Employee contributions	$ 150,488	$ 142,539
Payroll covered under plan	$ 3,792,553	$ 3,568,918
Total payroll	$ 3,947,501	$ 3,727,646

NOTE 12—NET POSITION

The composition of net position at June 30, 2018 and 2017 is summarized as follows:

(in thousands)	2018	2017
Net investment in capital assets	$ 3,722,086	$ 3,735,130
Restricted:		
Nonexpendable:		
Permanent endowment corpus	2,146,358	1,966,541
Expendable:		
Net appreciation of permanent endowments	2,067,392	1,828,744
Funds functioning as endowment	2,308,185	2,126,286
Restricted for operations and other	631,747	632,551
Unrestricted	3,405,277	3,071,403
	$ 14,281,045	$ 13,360,655

Unrestricted net position, as defined by GASB, is not subject to externally imposed stipulations; however, it is subject to internal restrictions. For example, unrestricted net position may be designated for specific purposes by action of management or the Board of Regents. At June 30, 2018 and 2017, substantially all of the unrestricted net position has been designated for various academic programs, research initiatives and capital projects.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 13—FEDERAL DIRECT LENDING PROGRAM

The University distributed $301,194,000 and $291,964,000 during the years ended June 30, 2018 and 2017, respectively, for student loans through the U.S. Department of Education ("DoED") federal direct lending program. These distributions and related funding sources are not included as expenses and revenues in the accompanying financial statements. The statement of net position includes a receivable of $3,183,000 and $2,429,000 at June 30, 2018 and 2017, respectively, for DoED funding received subsequent to distribution.

NOTE 14—COMMITMENTS AND CONTINGENCIES

Authorized expenditures for construction and other projects unexpended at June 30, 2018 were $970,655,000. Of these expenditures, the University expects that $798,608,000 will be funded by internal sources, gifts, grants and future borrowings, $89,250,000 by the State Building Authority and the remaining $82,797,000 will be funded using unexpended bond proceeds.

Under the terms of various limited partnership agreements approved by the Board of Regents or by University officers, the University is obligated to make periodic payments for advance commitments to venture capital, private equity, real estate, natural resources and absolute return strategies. As of June 30, 2018, the University had committed, but not paid, a total of $5,711,078,000 in funding for these alternative investments. Based on historical capital calls and discussions with those managing the limited partnerships, outstanding commitments for such investments are anticipated to be paid in the following years ended June 30 (in thousands):

2019	$ 1,999,817
2020	1,270,335
2021	950,868
2022	542,402
2023	370,162
2024 and beyond	577,494
	$ 5,711,078

These commitments are generally able to be called prior to an agreed commitment expiration date and therefore may occur earlier or later than estimated.

The University has entered into capital and operating leases for certain space and equipment, which expire at various dates through 2039. Outstanding commitments for these leases are expected to be paid in the following years ended June 30:

(in thousands)	Capital	Operating
2019	$ 11,290	$ 46,301
2020	10,705	43,218
2021	10,139	37,197
2022	10,211	33,252
2023	10,327	27,938
2024-2028	45,280	85,369
2029-2033	47,628	2,618
2034-2038	25,505	26
2039	3,312	
	174,397	$ 275,919
Less amount representing interest	80,139	
Present value of minimum lease payments	$ 94,258	

Operating lease expenses totaled $49,058,000 and $50,409,000 in 2018 and 2017, respectively.

Substantial amounts are received and expended by the University under federal and state programs and are subject to audit by cognizant governmental agencies. This funding relates to research, student aid, patient care and other programs. The University believes that any liabilities arising from such audits will not have a material effect on its financial position.

The University is a party to various pending legal actions and other claims in the normal course of business, and is of the opinion that the outcome of these proceedings will not have a material adverse effect on its financial position.

NOTE 15—OPERATING EXPENSES BY FUNCTION

Operating expenses by functional classification for the years ended June 30, 2018 and 2017 are summarized as follows:

2018

(in thousands)	Compensation and Benefits	Supplies and Services	Depreciation	Scholarships and Fellowships	Total
Instruction	$ 1,000,388	$ 152,833			$ 1,153,221
Research	555,853	267,734			823,587
Public service	129,675	81,769			211,444
Academic support	255,641	61,604			317,245
Student services	89,762	27,516			117,278
Institutional support	185,801	60,702			246,503
Operations and maintenance of plant	53,337	297,558			350,895
Auxiliary enterprises	3,160,935	1,452,876			4,613,811
Depreciation			$ 568,707		568,707
Scholarships and fellowships				$ 156,738	156,738
	$ 5,431,392	$ 2,402,592	$ 568,707	$ 156,738	$ 8,559,429

2017

(in thousands)	Compensation and Benefits	Supplies and Services	Depreciation	Scholarships and Fellowships	Total
Instruction	$ 939,548	$ 160,206			$ 1,099,754
Research	538,613	264,980			803,593
Public service	120,755	67,010			187,765
Academic support	237,819	60,278			298,097
Student services	87,885	24,075			111,960
Institutional support	181,106	55,556			236,662
Operations and maintenance of plant	40,575	275,789			316,364
Auxiliary enterprises	2,918,121	1,256,124			4,174,245
Depreciation			$ 537,670		537,670
Scholarships and fellowships				$ 143,932	143,932
	$ 5,064,422	$ 2,164,018	$ 537,670	$ 143,932	$ 7,910,042

NOTE 16—UM HEALTH

Condensed financial information for UM Health, a blended component unit, before the elimination of certain intra-University transactions, as of and for the years ended June 30, 2018 and 2017 is as follows:

(in thousands)	2018	2017
Condensed Statement of Net Position		
Assets:		
Current assets	$ 121,110	$ 142,403
Noncurrent assets	242,561	258,190
Total assets	363,671	400,593
Deferred outflows	5,094	7,851
Total assets and deferred outflows	$ 368,765	$ 408,444
Liabilities:		
Current liabilities	$ 60,717	$ 56,449
Noncurrent liabilities	214,465	229,256
Total liabilities	275,182	285,705
Deferred inflows	15,042	20,258
Net position:		
Net investment in capital assets	(2,536)	18,691
Restricted:		
Nonexpendable	3,247	177
Expendable	13,310	11,569
Unrestricted	64,520	72,044
Total net position	78,541	102,481
Total liabilities, deferred inflows and net position	$ 368,765	$ 408,444
Condensed Statement of Revenues, Expenses and Changes in Net Position		
Operating revenues	$ 434,611	$ 377,202
Operating expenses other than depreciation expense	401,607	367,561
Depreciation expense	46,268	20,952
Operating loss	(13,264)	(11,311)
Nonoperating expenses, net	(7,408)	(9,512)
Other expenses, net	(3,268)	(1,974)
Net expenses before transfers	(23,940)	(22,797)
Transfers from other University units		45,000
(Decrease) increase in net position	(23,940)	22,203
Net position, beginning of year	102,481	80,278
Net position, end of year	$ 78,541	$ 102,481
Condensed Statement of Cash Flows		
Net cash provided by operating activities	$ 10,509	$ 16,916
Net cash (used in) provided by noncapital financing activities	(1,187)	38,113
Net cash used in capital and related financing activities	(32,866)	(63,550)
Net cash provided by (used in) investing activities	148	(529)
Net decrease in cash and cash equivalents	(23,396)	(9,050)
Cash and cash equivalents, beginning of year	44,723	53,773
Cash and cash equivalents, end of year	$ 21,327	$ 44,723

REQUIRED SUPPLEMENTARY INFORMATION
(UNAUDITED)

PENSION PLAN

Changes in the net pension liability for the years ended June 30, 2018 and 2017 are summarized as follows:

2018

(in thousands)	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance, beginning of year	$ 73,968	$ 70,532	$ 3,436
Interest cost	5,013		5,013
Changes in assumptions	(822)		(822)
Differences between expected and actual plan experience	(767)		(767)
Benefit payments	(4,712)	(4,712)	-
Contributions from the employer		2,171	(2,171)
Net investment income:			
Expected investment earnings		4,848	(4,848)
Difference between expected and actual earnings		3,664	(3,664)
Balance, end of year	$ 72,680	$ 76,503	$ (3,823)

2017

(in thousands)	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
Balance, beginning of year	$ 96,414	$ 67,236	$ 29,178
Interest cost	4,482		4,482
Changes in assumptions	(24,906)		(24,906)
Differences between expected and actual plan experience	2,067		2,067
Benefit payments	(4,089)	(4,089)	-
Contributions from the employer		2,903	(2,903)
Net investment income:			
Expected investment earnings		3,166	(3,166)
Difference between expected and actual earnings		1,316	(1,316)
Balance, end of year	$ 73,968	$ 70,532	$ 3,436

The plan fiduciary net position as a percentage of the total pension liability was 105 percent and 95 percent at June 30, 2018 and 2017, respectively.

Employer contributions in relation to actuarially determined contributions for the years ended June 30, 2018 and 2017 are as follows:

(in thousands)	2018	2017
Employer contributions*	$ 1,047	$ 2,171
Actuarially determined contributions	1,622	1,754
(Deficient) excess contributions	$ (575)	$ 417

* Reflects no employer contributions after April 30 of the respective fiscal year

Significant methods and assumptions used to calculate the actuarially determined contributions for the years ended June 30 are as follows:

Actuarially determined contributions	The plan is subject to funding requirements under the provisions of ERISA and the Pension Protection Act of 2006 (including MAP-21, HATFA and BBA). The actuarially determined contributions represent the IRC Section 430 minimum required contributions.
Contributions in relation to actuarially determined contributions	Under IRC Section 430, the due date to pay minimum required contributions for the plan year is generally 8 ½ months after the end of the plan year. For the plan years ended September 30, contributions are due by June 15 of the following year.
Actuarial cost method	Unit Credit method
Asset valuation method	24-month smoothed value of assets
Interest rate	2018: First segment rate: 4.16%; Second segment rate: 5.72%; Third segment rate: 6.48%; Effective rate: 5.93% 2017: First segment rate: 4.43%; Second segment rate: 5.91%; Third segment rate: 6.65%; Effective rate: 6.13%
Mortality	Prescribed by the Secretary of Treasury and described in Treasury regulation 1.430(h)(3)-1. Based on the RP-2000 gender distinct table that reflects projected mortality improvements 15 years into the future from the valuation date for non annuitants and 7 years into the future for annuitants.

POSTEMPLOYMENT BENEFITS

The historical reconciliation of the total reported liability for postemployment benefits obligations for the years ended June 30, 2018 and 2017 is summarized as follows (amounts in thousands):

	2018	2017
Service cost	$ 143,787	$ 122,073
Interest cost	94,153	108,561
Changes in assumptions	(107,874)	255,041
Differences between expected and actual plan experience	52,721	14,028
Benefit payments	(77,374)	(72,302)
Net change	$ 105,413	$ 427,401
Total liability, beginning of year	$ 3,198,327	$ 2,770,926
Total liability, end of year	$ 3,303,740	$ 3,198,327
Covered employee payroll	$ 3,792,553	$ 3,568,918
Total liability as a percentage of covered employee payroll	87%	90%

Discount rates used in determining the total reported liability for postemployment benefits obligations at June 30 are as follows:

2018	3.58%
2017	2.85%
2016	3.80%

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Photos: Michigan Photography, Joe Vaughn, UM-Flint, Michigan Engineering Communications & Marketing, and Sean Ahlquist, A Alfred Taubman College of Architecture and Urban Planning
Design and Production by: Michigan Creative
Printed by: U-M Print • Copy • Mail
MC190105
1/19-335

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