Five-Year Master Plan
University of Michigan-Ann Arbor
FY2023

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Facilities and Operations
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FIVE-YEAR MASTER PLAN AND PROJECT REQUEST
UNIVERSITY OF MICHIGAN-ANN ARBOR
FY2023

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I. MISSION STATEMENT

The mission of the University of Michigan is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

VISION STATEMENT

As the University of Michigan is now fully into its third century, we fully embrace the legacy bestowed upon us by President James B. Angell in our first century. We are proud to offer "an uncommon education for the common man."

We are a community of learners. We serve our multiple constituents by providing access to and participation in scholarly and creative endeavors on a vast scale. Our academic research enterprise affects the world. The university is defined by a culture of interdisciplinary teaching and research, coupled with academic rigor. We encourage our students, faculty, and staff to transcend disciplinary boundaries by tackling complex and vexing problems facing modern societies at local, national, and global levels.

We endorse and promote creativity in its many facets. We recognize the arts as a human essential and a foundation that helps to define our future. We create new knowledge and share the joy of discovery, and we see information technology as a powerful means for broadening access to knowledge and exchanging ideas.

We draw from study and experience to prepare our students for leadership in a wide range of social endeavors, including government, law, education, medicine and business, reflecting the university's many roles in contributing to good design and decision making within major domestic and international institutions.

We celebrate and promote diversity in all its forms, seeking the understanding and perspective that distinct life experiences bring. We proclaim ourselves a scholarly community in which ideas may be freely expressed and challenged, and all people are welcomed, respected, and nurtured in their academic and social development.

We are committed to providing for our students and faculty international learning and teaching experiences that will prepare them for a rapidly changing global community. The university encourages intellectual and cultural exchange in other countries, and programs that deeply engage scholars from disparate areas of the globe. We support and promote student, faculty, and staff immersion in local and national communities via service, learning, and leadership endeavors. We nurture lifelong relationships with alumni who span the globe.

We advance health care through discovery and practice. We deliver clinical services to people within our state and the world, educate future generations of health care professionals, conduct basic research in fundamental processes of life, and vigorously advance research on the mechanisms, detection and treatment of a spectrum of human diseases. The university champions fitness, disease prevention, and policy research to advance health, quality of life, and longevity of our own community, the nation, and the globe.

We stimulate economic growth and development in Michigan and beyond. The university engages in productive partnerships among academe, industry, and government to sustain and grow a vigorous and dynamic economy. University students, faculty, and staff embody and advance innovative attitudes and entrepreneurial spirit.

We strive to be an exemplary employer and a positive influence in our community. We provide an environment where all employees have opportunities to develop their potential, and where there is a shared passion for excellence and a commitment to respect for one another.

We dedicate ourselves to ethical and responsible stewardship of financial, physical and environmental resources. We look for tools and strategies to create and enhance sustainable practices in all facets of operations and seek to lead in the global quest for a sustainable future.

We enthusiastically accept the challenges and opportunities confronting us and understand that the University of Michigan must change, adapt and grow to meet the needs of a rapidly evolving society. We will always focus on the horizon.

II. INSTRUCTIONAL PROGRAMMING

NOTE: As was the case last year, the COVID-19 pandemic continues to impact how we work and our needs for physical space. With vaccines readily available, the university, like most institutions, businesses, and organizations, recently returned to a new normal mode of operation. Classes resumed in-person instruction and most schools, colleges, and offices on our campus are piloting some level of hybrid work for their employees, depending on the mission of each unit and the needs for in-person services or support. Most construction projects were paused in 2020 per the Governor's Executive Order and for some capital projects the pause continued into 2021.

The University of Michigan, founded in 1817, has a history of over 200 years of leadership in education, innovative research, stewardship and service to the State of Michigan. The university consistently ranks in the top ten of public universities in the U.S., according to the U.S. News and World Report, and receives high marks for retention and graduation rates and for the reputation and excellence of many of the undergraduate, graduate, and professional degree programs offered by the university's 19 schools and colleges. As a public institution, the university strives to achieve its mission through teaching, research, and service, set within the framework of various schools, colleges, institutes and centers and through strategic partnerships with public and private institutions in Michigan and beyond.

The following information describes various programs that support these core missions of the university and activities that may impact facility needs in the next five years.

A. Alfred Taubman College of Architecture and Urban Planning

The University of Michigan offered its first courses in architecture in 1876, and today the Taubman college offers bachelor's, master's, and doctoral degrees in various fields, including architecture, urban and regional planning, and urban design. The college shares the 1970s Art and Architecture Building on North Campus with the Penny W. Stamps School of Art and Design and leases an off-campus facility as faculty and graduate student studio space. Thanks to a gift from A. Alfred Taubman, the college added a new wing in 2017 that provides modern instructional space, expanded student studios, and more spaces for student and faculty interaction, critiquing, and exhibitions. Much of the original 1970s building has aging classrooms, administrative and faculty spaces, and other support spaces that will eventually need to be renovated.

Penny W. Stamps School of Art & Design

The Penny W. Stamps School of Art & Design shares the Art and Architecture Building with the A. Alfred Taubman College of Architecture and Urban Planning, where it offers a comprehensive range of bachelor's and graduate degree programs in art, design, and inter-arts performance. The school operates out of three facilities (the Art and Architecture Building, a campus warehouse used for faculty and graduate student studios one mile away, and a leased space that is used as a gallery to display student work nearly three miles away) because they are constrained in their main building. The school operates with space constraints that limit some students from having access to studios. The university has worked to expand studio space within the current footprint but the ratio of space per student remains low relative to peers.

Stephen M. Ross School of Business
The Ross School of Business educates leaders, researchers, and lifelong learners who create innovative solutions to the world's most complex business challenges and is consistently ranked high nationally and internationally. They offer all levels of action-based instruction from bachelor's, master's, and doctoral degree programs in business, accounting, management, supply chain management, and business analytics to executive education programs in leadership and management and the impact of the school's graduates extends across the globe. The school occupies multiple buildings on Central Campus, many of which have been recently constructed and renovated with support from its donor and namesake, Stephen M. Ross. The school also leases nearby off-campus space for some core academic functions and continues to express the need for an on-campus solution for these functions.

School of Dentistry
Established in 1875, the School of Dentistry is one of only two schools of dentistry in the State of Michigan and continues to be a top-ranked program nationally. It offers bachelor's, master's, and doctoral degrees, as well as certification and continuing education, in a variety of dental fields including dental hygiene, pediatric dentistry, orthodontics, periodontics, oral and maxillofacial pathology, and surgery. The school's dedication to health and wellness extends well beyond the research lab and classroom. The school provides clinical services to patients on campus and around the State of Michigan and is particularly dedicated to providing care to underserved, at-risk, and special needs patients. In 2017, the State authorized capital outlay funds to renovate and expand the Dental W.K. Kellogg Institute Building. Construction began in 2018 and will conclude in 2022. When complete, the project will improve the building's infrastructure, create modern clinics for improved patient care (including a new special needs clinic), create open, flexible research space to support the school's world-class research, and offer space to foster collaboration. This project addresses the school's most pressing needs; however, due to size of the overall complex, some areas (remaining research labs, classrooms, and vivaria) were not included in the project scope and will require investment in the future.

School of Education
The School of Education was formally founded in 1921; however, teacher diplomas were first offered at the university in 1874 with master's and doctoral degrees added in the decades following. The school prepares students for professional careers in teaching and administration and offers advanced training and certification for researchers and practitioners at all levels of education. The school is housed in a 1920s building (a former elementary and high school) that has had modest renovations over the past several years. The school has identified additional needs for renovations to better support its mission and improve accessibility.

College of Engineering
The College of Engineering, established in 1895 is renowned, both nationally and internationally, for delivering high-quality education and cutting-edge research to help solve the world's problems. Today, nearly all of the college's undergraduate and graduate programs rank in the top 10 nationally, enabling its students to experience academic excellence at its best. The college occupies over 30 buildings on the university's North Campus, many of which were built over 40

years ago when engineering program requirements were much different than they are today. As a result, the university continues to renovate and modernize instructional and research facilities as priorities dictate and funds allow. Examples in the past decade include the following: renovation and addition to the G. G. Brown Memorial Laboratories (with support from the State), repurposing the former Ford Nuclear Reactor into the Nuclear Engineering Laboratory Building (with support from donor gifts), and constructing the new Ford Motor Company Robotics Building that included a naming gift and a lease of one floor to Ford.

While the projects noted above address many of the college's needs for modern teaching and research space, the college still has a number of departments and programs in aging spaces. The college recently completed a strategic facilities master plan to identify its capital project needs and priorities across its many departments, with particular focus on Computer Science and Engineering (CSE), Biomedical Engineering, Chemical Engineering, Civil Engineering, and Naval Architecture and Marine Engineering (NAME). The study indicated that the college's most urgent need is to provide additional space to accommodate its continually growing CSE department. CSE is currently housed in the Bob and Betty Beyster Building, which was built more than a decade ago when CSE's combined undergraduate and graduate enrollment was less than a quarter of its current student enrollment. With recent State capital outlay support, we are currently designing a project to expand the Bob and Betty Beyster Building to address both CSE's needs and the needs of the U-M School of Information.

School for Environment and Sustainability

The University of Michigan began offering classes in forestry in 1881 and was the first university in the United States to do so. In 1903, the university created the Department of Forestry that, over time, transitioned to today's School for Environment and Sustainability (SEAS). Since the late 1880s, SEAS has been a pioneer in developing a scientific understanding of ecosystems, including their conservation, management, and restoration; and trains leaders, assists in policy-making, and teaches the skills necessary to manage and conserve the earth's resources. The school offers degrees at the master's and doctoral levels, as well as certification in fields like conservation ecology, environmental informatics, geographic information system (GIS) and modeling, environmental policy and planning, and sustainable systems. The school's historic home, the Samuel Trask Dana Building, underwent a series of renovations in the early 2000s, thanks in large part to capital outlay funds from the State. At the time of completion in 2004, it was the first major academic renovation to receive a LEED Gold certification rating for sustainable design and construction in the state of Michigan and among the first in the country. Since this renovation, the school has undergone a significant transformation and strengthened its mission to address real world climate issues through research and partnerships across campus, the state, and beyond. The school is exploring retooling its campus spaces to accommodate this growth in mission.

School of Information

A formal program in library and information studies began in 1926 when the Department of Library Science was created within the College of Literature, Science, and the Arts. The department became a fully independent school of library science in 1969. In response to rapid changes brought on by technology, the school broadened its teaching and research significantly

in the 1990s and was renamed the School of Information. Its focus is offering a highly interdisciplinary and collaborative approach to education to those who will serve as leaders in the information professions. The School of Information occupies space in the North Quadrangle Residential and Academic Complex (North Quad) and in three off-campus leased spaces, all needed to support their tremendous growth over the past several years. Since 2010, the school has added several new masters programs and an entirely new undergraduate program. To address this growth, the university is pursuing a project to expand the Bob and Betty Beyster Building on North Campus to house the School of Information and the College of Engineering's Computer Science and Engineering department. The project will address the space needs of both programs and help to support their academic and programmatic synergies. Design is currently underway for this joint project, and we are thankful to the State for their partnership through the capital outlay process.

School of Kinesiology

Kinesiology has been part of the University of Michigan curriculum since the turn of the twentieth century, but the school became an independent unit in 1984. Today, it offers bachelor's, master's and doctoral degrees in a variety of subject areas, including athletic training, health and fitness, movement science, and sport management, and it is a top-ranked program in the nation. Due to the school's tremendous growth, the university recently renovated and transformed the 1915 Edward Henry Kraus Natural Sciences Building (designed by Albert Kahn) for the school and renamed the building the School of Kinesiology Building. This project enabled the school to consolidate its programs into one facility and will accommodate the school's needs for years to come.

Law School

Since its founding in 1859, the Law School has been a national and international leader in the field of law and educational access—in 1870, the school was the nation's second university to award a law degree to an African American and, in 1871, the first in the nation to award a law degree to a woman. The school's graduates work in every state and all over the world in business, as practitioners and professors, as legislators and members of Congress, and as distinguished civil servants and members of the judiciary. In recent years, the Law School was able to significantly improve and expand upon its historic but aging facilities through a series of renovations and construction projects. Many of these projects were only possible by support from donors, like Lisa and Christopher Jeffries and Charles T. Munger, for whom two Law building are now named.

University Library System

The University Library system can trace its history to 1838, one year after the university's relocation to Ann Arbor, with the purchase of John James Audubon's *Birds of America* books that are still on display. Much has changed since the library's founding, but its central role in advancing the university's research and teaching missions continues. Today, the University Library is one of the largest university library systems in the United States, with over 14 million volumes stored in various buildings around the Ann Arbor campus. The library is also leading the university's efforts in materials digitization, online, distance, and digital education, looking at ways to enhance the effectiveness and efficiency of on-campus teaching and educational technology and at ways to expand the university's outreach to new audiences. Such technological advancements and a

general shift in how students and the community interact with collection materials have significantly changed the responsibilities and operations of the library, and as a result, the library has begun to transform the way its buildings are used to provide new ways for the university community to interact with its materials.

The University Library's main operations are housed in the Harlan Hatcher Graduate Library (Hatcher) and Shapiro Undergraduate Library (Shapiro)--two interconnected buildings that form one complex in the heart of Central Campus. Hatcher, one of our iconic Albert Kahn-designed campus buildings, is over 100 years old and Shapiro is over 65 years old. Although these buildings are heavily used (with 2.2 million visitors each year), they no longer adequately meet campus needs. Both buildings were designed and built at times when libraries' missions were primarily to house stacks of books and to provide places for quiet study and research. Like many leading institutions with aging libraries (Duke University, University of California Berkeley, University of Virginia, Princeton University, and more), our vision is to transform Hatcher and Shapiro from antiquated libraries that house books to modern facilities that offer information, services, and spaces that better support modern teaching, learning, and research. In recent years, the university has been looking at options to relocate a large portion of the Hatcher and Shapiro materials elsewhere. The ultimate goal is to repurpose these prime campus spaces into a destination that improves access to digital and print collections and offers a variety of flexible spaces and services to discover, learn, create and collaborate in one location.

College of Literature, Science, and the Arts

The College of Literature, Science, and the Arts (LSA) is the largest college on the Ann Arbor campus serving the greatest number of undergraduates, and it houses its departments and centers in over 25 different buildings on campus. Due to its large size and diverse curriculum and research, the college is continually making space improvements and conducting modest renovations to meet their academic and research needs and update aging buildings. LSA has identified the Chemistry Building as their highest priority to address more comprehensively. The building was built in three phases (1908, 1948, and 1988) and is a total of 545,000 gross square feet. It is used for chemistry research and foundational chemistry and natural science classes that are required by several schools and colleges on campus; however, its research and teaching labs are antiquated, costly to renovate individually, and no longer reflect modern science needs. Addressing the Chemistry Building is a high priority to the university, but will take time to address due to the building's size, complexity, and labs that are essential to so many science-related programs on campus.

Medical School

Since opening its doors in 1850, the Medical School has been a leader in medical education, biomedical research, and patient care. In addition to its professional Doctor of Medicine program, the school offers master's and doctoral degrees in the basic medical sciences. The school is renowned for its many firsts in medicine, including establishing the nation's first university-owned and operated teaching hospital and creating the first departments of pharmacology and human genetics in the United States. The Medical School was also among the first major American medical schools to admit and graduate women and minorities. As science and clinical care models continually change in the healthcare industry, it is important that our top-ranked

Medical School be nimble to position itself for the future of medical education, and the Medical School continues to renovate and modernize instructional and research facilities as priorities dictate and funds allow. The school completed a study for a medical education building that would consolidate its student services in one facility; replace its traditional lecture halls with a variety of flexible, reconfigurable classrooms, and simulation labs that support immersive and active learning; provide spaces that encourage student well-being; and offer an important front door to the Medical School.

School of Music, Theatre & Dance

As one of the oldest and largest schools of music in the United States, the School of Music, Theatre & Dance ranks among the top schools of music and conservatories in the country. Degrees are offered at the bachelor's, master's, and doctoral levels in nearly all fields of music, dance, and theater. The school oversees five buildings on the university's North Campus and Central Campus. In recent years, the university has worked to improve and modernize the school's aging facilities. In 2021, the school opened its new Dance building on North Campus. This 24,000 gross square foot building provides dance studios, a large performance studio theater, physical training and student support spaces, and the department's administrative space, and it replaces a small outdated campus building and a lease several miles away from the school.

School of Nursing

The School of Nursing has maintained a reputation of excellence for more than 100 years and has been a national leader in the advancement of nursing knowledge and the promotion of trends in health care since its founding. The school offers bachelor's, master's, doctoral, and certification programs in a wide variety of nursing fields, such as pediatrics, gerontology and midwifery. In 2015, the school completed construction of a new 78,000 gross square foot building adjacent to their current building. The building provides active-learning classrooms, a technology rich clinical learning center with simulation and skills labs and simulated patient suites, offices for student services and a few faculty offices. The original Nursing Building, which is over 100 years old, still houses a number of Nursing's core functions, and as funds allow, the university modernizes and renews these spaces to support Nursing's mission.

College of Pharmacy

Established first as a department in 1868, the College of Pharmacy became an independent college in 1876, the first at any university in the United States. Today, Pharmacy is the oldest college of pharmacy in the country and is a top three ranked program nationally, offering a number of bachelor's, master's, and doctoral degrees in fields such as pharmaceutical sciences, pharmaceutical engineering, and medicinal chemistry. The college currently occupies space in six buildings on campus, excluding clinical space, five of which were built prior to 1960, so they have aging infrastructure and science research labs and classrooms that reflect a bygone era. For a small college like Pharmacy, being physically distributed across so many locations in aging facilities significantly challenges its ability to meet its core academic, research, and clinical mission, to operate efficiently, and to maintain its high ranking. In May 2019, the U-M Board of Regents approved a project to design a new 130,000 gross square foot building that will co-locate and modernize Pharmacy's core functions, including research, administration, and instructional

spaces. In 2020, the university paused this project in light of the COVID-19 pandemic and the university's need to preserve financial capital. Design was recently reactivated.

After the College of Pharmacy relocates, the university plans to renovate the building for use as temporary swing space for the Department of Chemistry to enable a phased renovation to the Chemistry Building. (See "College of Literature, Science and the Arts," earlier in this section, for information on this capital project need.) Following the Department of Chemistry's temporary needs, the university plans to use the building for student-facing programs that will benefit from the building's prime campus location.

School of Public Health

Though formally established in 1941, the School of Public Health can trace its beginning to 1887 when the first professor of hygiene was appointed, and to 1897 when the university awarded its first degree in that field. Today, the school offers master's and doctoral degrees in fields such as biostatistics, environmental health sciences, epidemiology, health behavior and health education, nutritional sciences, and health management and policy, and health informatics. In fall 2015, the college began offering undergraduate courses for the first time, and in fall 2017, it formally launched two undergraduate degree programs. Over the past decade, the university made a series of renovations and an expansion to the school's existing buildings to provide higher quality research, classroom, and administrative space, and invested in significant infrastructure improvements to its research-heavy facilities.

Gerald R. Ford School of Public Policy

The Gerald R. Ford School of Public Policy traces its history to the founding of the Institute of Public Administration in 1914, the first university program in the United States to provide a systematic course of study in municipal administration. Today, named in honor of Gerald R. Ford, the 38th President of the United States and an alumnus of the University of Michigan, the school prepares graduates for distinguished careers in policy analysis and management and promotes improved public policy through research. Its graduates work in government and in the private and nonprofit sectors all over Michigan, the United States, and throughout the world. Thanks to a generous gift from Joan and Sanford Weill, the school was able to consolidate into a single building, named Weill Hall, in 2006. Since the building opening, the school has experienced changes in its research and pedagogy, including adding an entirely new undergraduate program (beyond its traditional graduate-level focus). To address this growth, the school continually seeks ways to accommodate its changing needs within its building.

Horace H. Rackham School of Graduate Studies

The Horace H. Rackham School of Graduate Studies oversees and coordinates graduate education, bringing together graduate students and faculty from across the institution to experience and take full advantage of the university as a scholarly community. In 2003, a major renovation of the historic Horace H. Rackham Building, originally constructed in 1938, was completed. Additional infrastructure improvements to the facility were completed in 2015. Given the iconic building's age, historic significance, and its prime location as an event and study facility on Central Campus, it is a building that will require on-going upkeep.

School of Social Work

The program in Social Work began in 1921 and was granted the status of a school in 1951. The School of Social Work consistently ranks as one of the top programs in the nation and offers master's and doctoral level degrees and continuing education that prepare practitioners, researchers, and academics in the fields of interpersonal therapy, community organization, management of human services, and social policy and evaluation. Its graduates work throughout Michigan, the U.S., and the globe, with individuals, children and their families, organizations, and communities in such fields as substance abuse, aging, mental health, education, child and public welfare, and public policy. In 2018, the school completed a minor renovation of spaces in the School of Social Work Building that were previously occupied by a number of non-social work functions. This project was able to address some of Social Work's most pressing needs for administrative, faculty, instructional, and student service spaces.

Horace H. Rackham Educational Memorial Building (in Midtown Detroit)

The City of Detroit has a special place in University of Michigan (U-M) history, dating back to 1817 when the university was founded as a public institution with the sole purpose of serving society. For decades, the university has been continually engaged in the city, and today, our connection with the city is stronger than ever and our engagement with local communities, organizations, and businesses within the city continues to flourish. Today, we have over 500 projects, research grants, services, and other activities within the City of Detroit that began years, or even decades, ago to support the U-M mission of education, research, service, and practice. In turn, these activities benefit the city in the areas of K-12 education, college readiness, community-engaged research, service learning, public health, and economic development, culture, and more.

Though the university is highly engaged in and around Detroit, we lack a notable presence and a hub to facilitate connections between our many activities. The Horace H. Rackham Educational Memorial Building ("Rackham Detroit") provides an opportunity to fill this void. Located in Midtown Detroit, this stately, 120,000 gross square foot, 80-year-old building is part of the City of Detroit's Cultural Center Historic District, which includes the Detroit Institute of Arts and the Detroit Public Library and is on the National Register of Historic Places. We are exploring a phased renovation to the building where the first phase would create a much-needed central hub for U-M engagement in Detroit and co-locate programs currently in multiple leased properties in the Midtown Detroit area. A future phase would then activate the rest of the building and offer opportunities to expand our programming in Detroit. When renovated, we envision Rackham Detroit as the keystone to the university's presence within the city. The renovation of Rackham Detroit is a significant investment by the university that symbolizes our partnership with the city and our commitment to stay invested in its success into the next century.

III. STAFFING AND ENROLLMENT

The University of Michigan – Ann Arbor enrollment slightly surpassed 50,000 this fall, an increase of about 2,000 students from the previous year (in part because of a pandemic-related enrollment decline last year). Over the last two decades, enrollment has grown modestly at 1.3% per year. In the next several years, enrollment growth is expected to continue at a similar pace, with growth in online course and program offerings and undergraduate summer class enrollment being pursued. Detailed fall enrollment data by school and college for the most recent five years follows this page.

Average class size varies by discipline. In fall 2020, 57 percent of the primary sections taught to undergraduate students had fewer than 20 students. Some sections are taught to large groups where appropriate; about 17 percent of the total undergraduate sections had 50 or more students in fall 2020.

The full-time equivalents (FTEs) of faculty and staff supported by the General Fund displayed a compound annual growth rate of 2.2 percent from fall 2010 through fall 2020. The pandemic led the U-M to institute a hiring freeze starting in the spring of 2020 through June 30, 2021. The volume of research expenditures, the total from grant and university sources, has increased 3.6 percent a year since FY2010.

A year ago, U-M moved a large portion of its courses to online instruction in response to the pandemic. For fall 2021, in-person instruction has largely become the norm again, although the university is ever watchful for a rise in COVID-19 illnesses and the potential to make adjustments to the mode of instruction.

Impact of Distance Learning

Several of the university's schools and colleges – including the College of Engineering; Medial School; School of Nursing; School of Public Health; Stephen M. Ross School of Business; School of Information; and School of Social Work – are offering distance learning as degree programs and online classes in order to reach non-residential students.

Last year, the U-M added two distance learning degree programs – an online M.S. program in population and health sciences through the School of Public Health and an M.S.W. in the School of Social Work. In fall 2021, the Medical School launched an online Master's program in Health Infrastructures and Learning Systems. Additionally, the U-M Center for Academic Innovation provides support for the continued development of new online offerings, some of which will be degree-granting and some will lead to other credentials or support lifelong learning.

University of Michigan-Ann Arbor

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	29,821	30,318	31,266	31,329	32,282
Graduate	13,415	13,492	13,861	13,862	15,219
Professional	2,766	2,906	2,963	2,716	2,777
Total	46,002	46,716	48,090	47,907	50,278

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	28,653	29,414	30,031	31,177	31,422
Graduate	14,170	14,531	14,745	14,932	14,999
Professional	2,931	2,948	3,046	3,145	3,169
Total	45,754	46,893	47,822	49,254	49,590

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts (Includes non-School/College units and Hospital)

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	5,219.6	5,346.1	5,545.5	5,620.9	5,673.9
Primary Faculty *	943.3	947.9	944.3	939.7	891.4
Supplemental *	4,159.5	4,288.9	4,377.7	4,482.3	4,388.2
Staff	30,837.0	32,291.4	33,360.3	34,363.8	33,592.0
Total	41,159.5	42,874.3	44,227.8	45,406.7	44,545.6

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplementa

Research Grants and Contracts ($000)

	2016-17	2017-18	2018-19	2019-20	2020-21
Schools & Colleges	985,072	1,018,166	1,065,848	1,083,734	1,095,283
Hospital, Acad., & Resrch. Units	158,845	183,744	174,189	286,290	339,904
Total	1,143,917	1,201,911	1,240,037	1,370,024	1,435,187

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Student to Faculty Ratio

2017	2018	2019	2020	2021
15:1	15:1	15:1	14:1	*Avail. Jan 2022*

Source: Common Data Set

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

A. Alfred Taubman College of Architecture and Urban Planning

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	162	184	184	177	208
Graduate	490	479	479	403	436
Professional	--	--	--	--	--
Total	652	663	663	580	644

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	167	186	212	203	190
Graduate	619	633	617	566	507
Professional	--	--	--	--	--
Total	786	819	829	769	697

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	87.1	89.5	90.3	85.1	73.6
Primary Faculty *	0.0	0.1	0.0	0.0	0.0
Supplemental *	15.2	14.7	13.8	15.7	13.5
Staff	43.9	47.4	46.8	45.4	47.9
Total	146.2	151.7	150.9	146.2	135.0

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supple

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
1,150	758	1,654	1,500	1,371

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
17	17	18	17	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Penny W. Stamps School of Art and Design

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	540	582	603	616	686
Undergraduate Joint Program	11	12	9	17	14
Graduate	18	19	20	7	24
Professional	--	--	--	--	--
Total	569	613	632	640	724

Source: Dashboard 04. Student Enrollment | Enrollment Trends
Note: Art/Music Joint Program count is reported here and with Music/Theater/Dance, but unduplicated in the Summary.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	423	456	468	511	485
Graduate	24	21	24	23	18
Professional	--	--	--	--	--
Total	447	477	492	534	503

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	56.3	57.8	62.5	62.0	59.8
Primary Faculty *	0.0	0.0	0.0	0.0	0.0
Supplemental *	4.9	3.9	4.6	4.6	3.7
Staff	34.0	35.3	37.7	40.6	43.3
Total	95.3	97.0	104.8	107.1	106.7

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
125	-2	232	252	364

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
15	13	14	14	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Stephen M. Ross School of Business

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	2,330	2,385	2,404	2,377	2,421
Graduate	1,814	1,838	1,902	1,788	1,905
Graduate Joint Program	--	--		--	--
Professional	--	--		--	--
Total	4,144	4,223	4,306	4,165	4,326

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Note: Business/Engineering Joint Program (ended 2014) count reported here and with Engineering, but unduplicated in the Summary.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	1,518	1,653	1,698	1,755	1,681
Graduate	2,109	2,213	2,251	2,211	2,072
Professional	--	--		--	--
Total	3,627	3,866	3,949	3,966	3,754

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	164.6	161.3	170.2	169.4	165.4
Primary Faculty *	9.0	10.0	9.0	9.0	8.0
Supplemental *	24.3	23.9	24.7	24.9	22.6
Staff	357.8	383.8	379.6	394.6	377.1
Total	555.8	579.0	583.5	597.9	573.1

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplen

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
1,109	2,750	2,180	2,185	2,027

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
49	49	54	49	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

School of Dentistry

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	110	102	102	83	74
Graduate	110	121	121	115	110
Professional	471	469	469	471	472
Total	691	692	692	669	656

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	80	84	84	92	102
Graduate	109	148	166	163	159
Professional	680	695	688	695	689
Total	869	926	938	950	949

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	133.1	132.8	136.7	141.1	134.9
Primary Faculty *	11.0	9.8	11.5	11.9	8.0
Supplemental *	20.8	23.6	29.0	33.7	23.6
Staff	325.2	339.7	335.6	349.4	328.3
Total	490.1	505.9	512.9	536.1	494.9

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
14,680	19,369	21,292	22,683	24,259

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
n/a	n/a	n/a	n/a	n/a

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

School for Environment and Sustainability

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	--	--	--	1	--
Graduate	284	283	358	473	551
Professional	--	--	--	--	--
Total	284	283	358	474	551

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	4	6	226	263	256
Graduate	270	238	281	357	440
Professional	--	--	--	--	--
Total	274	245	507	620	696

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	36.6	41.0	52.7	57.7	62.5
Primary Faculty *	6.5	7.3	6.9	10.0	7.9
Supplemental *	35.2	38.8	42.8	55.6	56.5
Staff	85.7	78.5	95.1	99.3	102.5
Total	163.9	165.7	197.5	222.5	229.4

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
13,209	14,704	15,543	17,328	13,488

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
14	20	23	22	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Note: starting in FY2018-19, students enrolled in Program in the Environment are assigned to SEAS rather than LSA.

Section III

Staff and Enrollment - Detailed Data

School of Education

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	118	130	130	126	114
Graduate	379	383	383	310	377
Professional	--	--	--	--	--
Total	497	513	513	436	491

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	190	170	161	188	181
Graduate	451	447	452	387	402
Professional	--	--	--	--	--
Total	641	617	613	575	583

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	63.2	60.5	59.4	60.7	59.8
Primary Faculty *	3.9	2.9	3.0	5.1	5.7
Supplemental *	45.5	43.7	35.4	41.5	41.3
Staff	90.5	87.9	92.3	91.2	89.5
Total	203.2	195.0	190.1	198.5	196.3

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
10,175	11,036	8,892	7,767	12,040

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
13	11	11	12	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

College of Engineering

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	6,442	6,648	6,648	6,841	6,931
Graduate	3,637	3,537	3,537	3,368	3,724
Professional	--	--	--	--	--
Total	10,079	10,185	10,185	10,209	10,655

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	4,844	5,091	5,427	5,692	5,842
Graduate	3,051	3,126	3,130	3,115	3,099
Professional	--	--	--	--	--
Total	7,895	8,217	8,557	8,807	8,942

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	438.3	447.1	471.1	470.1	479.7
Primary Faculty *	103.4	101.7	113.0	112.4	102.9
Supplemental *	846.8	855.5	858.9	877.2	869.5
Staff	645.4	666.4	735.9	771.9	786.2
Total	2,033.9	2,070.7	2,178.8	2,231.6	2,238.2

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supple

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
246,530	225,315	228,912	234,665	231,809

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
35	36	36	36	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III

Staff and Enrollment - Detailed Data

School of Information

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	252	313	322	295	353
Graduate	472	507	725	986	1,263
Graduate Joint Program	75	71	86	74	75
Professional	--	--	--	--	--
Total	799	891	1,133	1,355	1,691

Source: Dashboard 04. Student Enrollment | Enrollment Trends
Note: Information/Public Health Joint Program count is reported here and with Public Health, but unduplicated in the Summary.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	282	343	415	447	447
Graduate	395	460	494	658	950
Professional	--	--	--	--	--
Total	677	803	909	1,105	1,397

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	45.6	47.3	50.6	55.2	63.8
Primary Faculty *	1.2	1.8	2.2	1.5	0.9
Supplemental *	39.0	49.3	66.6	80.4	67.8
Staff	61.6	67.3	66.6	76.9	80.9
Total	147.3	165.6	185.9	213.9	213.4

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source
* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
3,711	4,385	5,819	6,498	5,339

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
41	40	30	31	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

School of Kinesiology

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	973	965	997	1,003	1,066
Graduate	94	108	118	93	120
Professional	--	--	--	--	--
Total	1,067	1,073	1,115	1,096	1,186

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	572	602	597	618	605
Graduate	60	64	80	92	69
Professional	--	--	--	--	--
Total	632	666	677	710	674

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	44.6	45.6	44.9	47.1	47.9
Primary Faculty *	3.4	0.8	0.8	0.0	0.0
Supplemental *	18.6	11.8	20.1	16.7	15.5
Staff	55.8	45.6	50.3	52.8	52.4
Total	122.3	103.7	116.1	116.6	115.9

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
9,231	7,391	8,601	8,911	7,519

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
21	22	22	23	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Law School

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	--	--	--	--	--
Graduate	--	--	--	--	--
Professional	967	1,051	1,051	1,027	998
Total	967	1,051	1,051	1,027	998

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	--	--	--	--	--
Graduate	7	10	15	22	16
Professional	983	955	1,015	1,012	1,022
Total	990	965	1,030	1,034	1,038

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	86.2	90.1	85.3	89.3	86.8
Primary Faculty *	10.0	11.0	10.0	10.0	9.0
Supplemental *	9.0	8.0	10.3	10.3	9.0
Staff	153.8	150.8	151.6	149.9	148.6
Total	259.0	259.9	257.2	259.5	253.3

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
788	594	406	331	861

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Weighted Average Class Size

2017	2018	2019	2020	2021
24	24	23	23	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

College of Literature, Science, and the Arts

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	17,075	17,149	17,837	17,796	18,322
Graduate	2,513	2,524	2,751	2,656	2,697
Professional	--	--	--	--	--
Total	19,588	19,673	20,588	20,452	21,019

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	18,601	18,825	18,691	19,208	19,470
Graduate	3,101	3,128	3,118	3,199	3,109
Professional	--	--	--	--	--
Total	21,702	21,954	21,809	22,407	22,579

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	1,340.6	1,343.8	1,319.2	1,332.5	1,352.5
Primary Faculty *	53.1	44.8	40.7	44.0	44.9
Supplemental *	943.6	986.2	1,017.8	1,023.7	1,040.4
Staff	1,012.9	1,072.5	1,148.3	1,201.4	1,180.1
Total	3,350.1	3,447.3	3,526.0	3,601.6	3,617.9

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
88,015	91,052	91,978	89,225	101,112

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
28	27	28	28	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Medical School

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	25	28	25	34	36
Graduate	469	521	713	732	796
Professional	909	923	923	732	805
Total	1,403	1,472	1,661	1,498	1,637

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	281	249	250	251	280
Graduate	722	755	841	878	935
Professional	824	805	801	870	879
Total	1,827	1,809	1,892	1,999	2,095

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	2,125.5	2,198.7	2,334.9	2,383.8	2,393.2
Primary Faculty *	357.5	364.4	373.3	359.4	341.6
Supplemental *	634.5	678.8	684.0	700.7	653.5
Staff	3,625.3	3,649.6	3,855.2	4,023.1	3,862.9
Total	6,742.8	6,891.5	7,247.4	7,467.0	7,251.1

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
479,411	517,539	559,833	560,916	563,681

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
n/a	n/a	n/a	n/a	n/a

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

School of Music, Theatre and Dance

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	825	808	834	837	869
Undergraduate Joint Program	11	12	9	7	14
Graduate	303	316	292	266	294
Professional	--	--	--	--	--
Total	1,139	1,136	1,135	1,110	1,177

Source: Dashboard 04. Student Enrollment | Enrollment Trends
Note: Art/Music Joint Program count is reported here and with Art, but unduplicated in the Summary.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	850	870	884	949	850
Graduate	362	389	407	391	339
Professional	--	--	--	--	--
Total	1,212	1,259	1,291	1,340	1,190

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	165.4	168.0	170.5	169.7	174.1
Primary Faculty *	0.0	0.0	0.0	0.0	0.0
Supplemental *	32.5	30.8	32.4	33.5	34.4
Staff	94.0	98.5	97.4	94.4	87.8
Total	291.9	297.3	300.3	297.6	296.2

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source
* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Suppl

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
79	285	156	115	176

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
17	17	16	14	*Avail. Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Section III
Staff and Enrollment - Detailed Data

School of Nursing

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	672	630	642	678	713
Graduate	293	249	251	295	334
Professional	85	122	146	154	171
Total	1,050	1,001	1,039	1,127	1,218

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	591	530	523	576	597
Graduate	274	215	197	195	232
Professional	72	118	157	187	204
Total	937	864	877	958	1032

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	95.3	103.3	105.8	104.5	106.9
Primary Faculty *	2.4	3.2	5.3	4.4	5.4
Supplemental *	2.5	2.0	2.3	5.3	3.5
Staff	106.6	117.9	125.1	139.5	133.3
Total	206.8	226.4	238.5	253.6	249.1

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supple

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
9,874	11,550	11,864	11,413	10,867

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
13	11	12	12	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

College of Pharmacy

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	41	56	74	91	104
Graduate	83	90	85	93	111
Professional	334	341	340	332	331
Total	458	487	499	516	546

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	11	24	29	37	37
Graduate	122	107	120	100	125
Professional	374	375	385	381	376
Total	507	506	534	518	538

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	39.6	42.2	46.4	43.1	41.4
Primary Faculty *	22.4	24.4	20.1	23.1	16.8
Supplemental *	49.8	65.5	66.8	67.1	52.6
Staff	65.1	67.0	75.0	74.7	78.1
Total	177.0	199.1	208.4	208.0	188.8

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Suppl

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
17,597	16,353	16,718	15,288	16,332

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
46	43	40	45	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

School of Public Health

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	95	172	170	204	207
Graduate	998	998	960	903	1,072
Graduate Joint Program	75	71	86	74	75
Professional	--	--	--	--	--
Total	1,168	1,241	1,216	1,181	1,354

Source: Dashboard 04. Student Enrollment | Enrollment Trends
Note: Information/Public Health Joint Program count is reported here and with Information, but unduplicated in the Summary.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	104	178	204	214	219
Graduate	1,190	1,228	1,181	1,148	1,089
Professional	--	--	--	--	--
Total	1,294	1,405	1,385	1,362	1,308

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	124.9	130.8	137.3	139.5	135.9
Primary Faculty *	32.9	33.8	35.4	33.4	27.1
Supplemental *	105.3	110.2	112.7	124.4	113.4
Staff	321.8	338.9	338.0	371.6	373.8
Total	585.0	613.8	623.3	668.9	650.2

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source
* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
81,421	84,999	82,064	95,982	95,271

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
34	36	34	28	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Gerald R. Ford School of Public Policy

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	150	154	161	163	164
Graduate	194	192	215	206	219
Professional	--	--	--	--	--
Total	344	346	376	369	383

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	90	97	110	119	126
Graduate	238	231	244	267	247
Professional	--	--	--	--	--
Total	328	328	354	386	372

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	33.4	35.2	39.1	40.5	40.7
Primary Faculty *	0.0	0.2	0.0	0.0	0.0
Supplemental *	13.8	12.6	9.5	9.1	11.2
Staff	39.7	45.0	55.1	68.4	72.1
Total	86.8	92.9	103.7	117.9	124.0

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Suppl

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
3,260	4,979	5,411	3,981	4,114

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
31	32	32	31	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

Horace H. Rackham School of Graduate Studies

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	--	--	--	--	--
Graduate	495	545	303	333	328
Professional	--	--	--	--	--
Total	495	545	303	333	328

Source: Dashboard 04. Student Enrollment | Enrollment Trends
Note: In 2019, several programs previously listed under Rackham were assigned to other schools.

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	1	0	0	0	0
Graduate	93	95	99	94	78
Professional	--	--	--	--	--
Total	94	96	99	94	78

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	0.5	0.5	0.5	0.5	0.5
Primary Faculty *	0.0	0.2	0.0	0.0	0.0
Supplemental *	14.3	16.9	17.1	20.3	17.3
Staff	88.2	97.9	100.4	105.2	98.7
Total	103.0	115.5	118.0	125.9	116.4

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source
* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
617	539	98	161	142

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
18	19	11	8	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

School of Social Work

Fall Term Headcount Enrollment by Level

	2017	2018	2019	2020	2021
Undergraduate	--	--	--	--	--
Graduate	694	711	726	751	783
Professional	--	--	--	--	--
Total	694	711	726	751	783

Source: Dashboard 04. Student Enrollment | Enrollment Trends

Fiscal Year Equated Students

	2016-17	2017-18	2018-19	2019-20	2020-21
Undergraduate	20	28	30	31	35
Graduate	970	1,022	1,026	1,065	1,081
Professional	--	--	--	--	--
Total	990	1,050	1,056	1,096	1,115

Source: Dashboard 05. Student Credit Hours | Student Credit Hours and FYES Crosstabs

FTE Faculty and Staff Counts

	2016-17	2017-18	2018-19	2019-20	2020-21
Instructional Faculty	69.8	66.3	73.2	75.7	78.0
Primary Faculty *	1.4	1.1	2.9	2.5	1.6
Supplemental *	12.0	18.7	17.3	20.8	13.8
Staff	62.4	69.2	78.6	78.0	80.6
Total	145.6	155.3	172.0	176.9	173.9

Source: Dashboard 02. Faculty and Staff | FTE Distribution by Funding Source

* Primary includes Regular and Supplemental Primary; Supplemental includes Research Fellows, House Officers, Graduate Student employees, and other Supplem

Research Grants and Contracts

($000)

2016-17	2017-18	2018-19	2019-20	2020-21
4,090	4,571	4,195	4,533	4,510

Source: U-M Financial Data Warehouse (totals as of October following fiscal year)

Fall Term Weighted Average Class Size

2017	2018	2019	2020	2021
21	19	20	21	*Avail Jan 2022*

Source: Dashboard 06. Student Class Size | Class Size - Weighted Average

Differences between values in these tables and the applicable source dashboards might occur due to rounding.

IV. FACILITY ASSESSMENT

Space Management

The university has campus-wide policies, processes, and reporting tools to support a culture of agile space management, more efficient utilization, and coordinated planning. The policies and tools address all types of space, including instructional, research, office, and food operations, and reinforce a culture where space is considered more of an institutional resource that is to be shared and managed effectively for the good of the institution.

Our campus utilizes existing General Fund space by renovating and repurposing space to meet campus needs before considering building expansion. Through more disciplined practices and culture change, the university has slowed the growth of new General Fund space in the past decade. This would not have been possible without campus-wide policies and tools.

Examples of creative repurposing include renovating:

- A decommissioned research facility at the North Campus Research Complex that houses library, art, and other historical collections.
- Weiser Hall, an aging and outdated 1960s classroom building, to house international programs and other centers and institutes currently housed in numerous buildings around campus.
- A number of lesser-used classrooms in the Modern Languages Building into a testing center for students with special test-taking needs.
- A previously vacant university-owned warehouse, the Varsity Drive Building, into a multi-use facility that houses research labs and specimen collections for the College of Literature, Science, and the Arts.
- The former Ford Nuclear Reactor into the Nuclear Engineering Laboratory building – a project that increased overall space utilization, resulting in a 20 percent increase in the total building square footage.

Physical Properties

The university owns approximately 3,200 acres of property within the Ann Arbor area and approximately 21,000 acres overall (most within the State of Michigan). The approximate replacement value of the Ann Arbor area campus facilities is $9.1 billion. A summary of the university's land holdings is included in this section. Also included is a building report for the Ann Arbor area. The report includes the following attribute data: building number, building name, building type, gross square feet, original construction date, and (where available) the deferred maintenance backlog for the building.

University of Michigan
Land Holdings
(Land Holdings Expressed as Acreage)

	2017	2018	2019	2020	2021
Ann Arbor Area:					
Properties Supported by General Fu	1,709	1,705	1,711	1,711	1,711
Auxiliary Activities:					
Student Residences	32	32	32	32	32
University Hospitals Group	448	448	430	427	427
Other	1,019	1,018	1,018	1,018	1,018
Total Ann Arbor Area	**3,207**	**3,202**	**3,191**	**3,188**	**3,188**
Outside the Ann Arbor Area:					
Dearborn Campus	228	228	228	228	228
Flint Campus	51	51	51	51	51
Other Michigan Properties:					
Biological Station	10,329	10,329	10,329	10,329	10,329
Osborn Preserve	3,188	3,188	3,188	3,188	3,188
Willow Run	156	156	156	156	156
Other	3,647	3,649	3,649	3,649	3,649
Out-State Land	**17,599**	**17,600**	**17,600**	**17,600**	**17,600**
Camp Davis - Wyoming	120	120	120	120	120
Grand Total	**20,925**	**20,922**	**20,911**	**20,909**	**20,909**

Campus Parking Assessment

While planning for parking on campus, the university has continued to explore commute strategies including shuttles, e-scooters, and study of high-capacity transit. The existing parking system provides approximately 28,000 total parking spaces serving members of the university community as well as patients and visitors. The university has 17 parking structures, and joint ownership with the City of Ann Arbor of another structure, providing approximately 14,000 parking spaces.

Every five years, a parking restoration consultant is engaged to assess the condition of U-M parking structures. The assessments are used to develop a system-wide maintenance program that serves as a guide for future repairs and includes cost estimates (adjusted for inflation). An update to this Capital Improvement and Protection Plan (CIPP) was completed in fall 2021. A similar assessment of parking lots is used to establish repair and construction priorities.

Projects planned for completion in 2021 include electrical repairs at Rackham Structure (Detroit), construction repairs for the Thayer and Thompson Structures, as well as critical repairs at Medical Campus Structures P3 (Taubman), P4 (Simpson) and P5 (CVC). Fire damage repairs were also completed at P1 (Cancer Center) Structure. Several surface parking lots received asphalt repair maintenance resulting in improved traffic flow, parking capacity, pedestrian circulation, and storm water management. The annual asphalt maintenance program completed patchwork, surface milling and overlay, concrete repairs, and crack filling at several locations throughout campus. At lot M64, a project to resurface the existing parking lot was completed.

Phase III of the North Campus Research Complex (NCRC) improvement plan was completed in July 2019 and included resurfacing of the southwest roadway. Phase IV projects planned for 2020 included reconstruction of two lots (NC82/83) located on the east side of the complex. The university plans to reconstruct lot NC82/83 at the NCRC east campus during the 2022 construction season. This is the final parking location in the 5-year site improvement plan for NCRC.

On South Campus, a project to reconstruct portions of the S. State Street Park & Ride lot including restoration of the detention pond used for regional snow storage completed design. The project will also include a new section of university roadway around the Stephen M. Ross Athletics South Competition and Performance Center. On North Campus, design was completed for a new, approximately 350-space lot on Hubbard St. (NC7). The lot could allow for expansion up to 500 spaces and includes a regional snow storage area.

Construction of the Wall Street West parking structure began in June 2019 and was completed in early 2021. It provides a net gain of approximately 950 new spaces and features the distinctive exterior design of the Wall Street East structure. Power is provided from the East structure, using untapped capacity and saving cost by eliminating the need for separate electrical substations and generators.

Construction and repair projects currently planned for 2022 include needs identified through the CIPP process, at Church, Thayer, Hill and P2 (Taubman) Structures. Plans also include completing the reconstruction of lots NC82/83 at NCRC as well as repairs to the east entry and a portion of lot M75 (Mitchell Field).

Utilities Assessment

Utilities master planning assessments are routinely updated to ensure the necessary production, distribution and collection systems for steam, natural gas, compressed air, potable water, electricity, chilled water and sanitary and storm sewer systems are in place to support university facilities. Projects are identified and implemented annually from these assessments. Currently, the university is working toward expanding the electric generating capacity of the Central Power Plant by 15 MW. Gas turbine technology will provide additional power. This will assure adequate capacity of heating steam to the Central and Medical Campuses. Implementation of this arrangement will reduce university scope two emissions by approximately 80,000 MT of CO2 yearly and provide capacity for future load growth. Projects to replace aging electrical switchgear in the Central Power Plant and at several central campus switching stations are underway or planned to occur over the next several years.

The steam tunnel system is being reinforced in select areas to accommodate the weight of fire trucks that need to drive over the tunnels to access buildings. Near term, projects are planned along South University Avenue near Shapiro Library, in the area of the Medical School, and along East University Avenue. Various condensate return projects are planned to increase system efficiency and reliability.

Water, sewer, and storm water master planning efforts have routinely been conducted over the years. In response to these efforts, several water main replacement projects are underway or in planning over the next several years. One such project, a joint project between the university and the city of Ann Arbor will provide infrastructure upgrades and site improvements in and around South University Avenue between South State Street and East University Avenue. Work will include water main replacement, a new electrical duct bank, tunnel restoration and reinforcement, and sanitary sewer and storm water management improvements. Water main and electrical duct bank replacement is planned to take place along Catherine Street and the Medical Science utility corridor. This will replace aging infrastructure and provide for future expansion at the medical campus.

Facility Condition Assessment Program

The university's Facility Condition Assessment (FCA) program evaluates buildings on campus in an effort to identify infrastructure deficiencies and establish a priority for funding renovations and repairs. The objective of the program is to develop and maintain a 5-year model for buildings showing facility related needs (projects) and track the status of each project through completion. The model considers the highest priority needs and spreads such needs over a 5-year period.

The FCA Program includes a comprehensive database on the physical condition of the building portfolio. The database is a central location for storing facility condition data and addresses the condition of most major building components and systems, including architectural, structural, civil, mechanical, electrical, life safety and fire protection, environmental health and occupational safety, and building accessibility. Deficiencies and anticipated needs are listed in the database as independent projects and assigned a priority, estimated budget, and classification. Costs related to the presence of environmental hazards (asbestos and lead-based paint) are not included. While the university has attempted to make the FCA Program as comprehensive as possible, it is a policy-neutral, technical assessment of existing conditions. It does not include costs related to programs and/or the reconfiguration of building spaces.

The FCA building condition and cost data are intended to serve the university community by: (1) identifying near-term needs to maintain standards and assure the service integrity of aging systems and building components; and (2) providing an information base to support the institution's process for shaping the future of its campus. The FCA Program, therefore, is not a comprehensive capital plan for building renewal.

Recommended scope of work is aimed at restoring the existing buildings, as they presently exist, with some upgrades to meet codes, such as accessibility, and social norms, such as air-conditioning.

FCA Priority Classification System

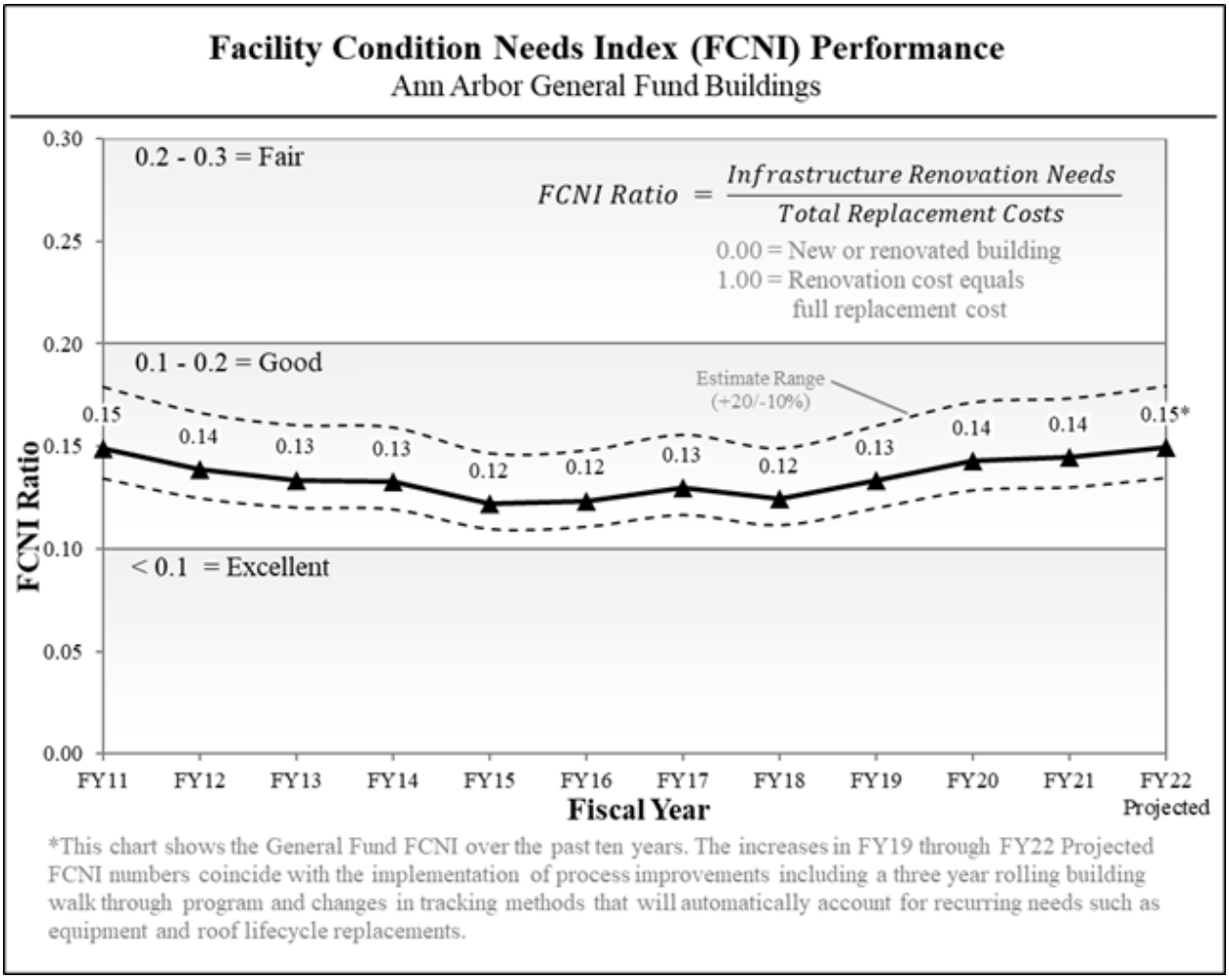
The following system was developed to help clarify priorities and assist with consistency in planning and decision-making:

Priority		Definitions
Necessary	**Priority #1** **Critical**	Needed work that requires near-term action to accomplish one or more of the following: (1) restore building occupancy due to natural disaster or catastrophic failure (2) address cited or known life-threatening safety hazard
	Priority #2 **High Priority**	Needed work that requires near-term action to accomplish one or more of the following: (1) avoid situation from becoming a priority #1 (2) prevent accelerated deterioration of building component or system (3) replace component that has worn out or is no longer in service (4) avoid loss of critical system that would significantly affect services, impact occupancy, or create a safety hazard (5) address existing non-life-threatening safety hazard (6) maintain, restore, or upgrade conditions to minimum acceptable university standards (7) reduce unacceptably high maintenance, energy and/or other operating costs (economically justified via payback) (8) meet program requirements
Deferrable	**Priority #3** **Necessary**	Needed work that is expected to become a priority #1 or #2 within the next 10 years.
	Priority #4 **Deferrable until Building Renewal**	Needed work that can probably wait more than 10 years. This work will be completed during a building renewal.

Overall FCA Program Impact

The facility condition needs index (FCNI) is the cost required to correct all deficiencies in a building divided by the total replacement cost of that building. This indicator is useful in determining which buildings should be considered for major renovations or upgrades.

The chart below shows the General Fund FCNI over the past ten years. The increase in the FY19 FCNI coincides with the implementation of a three-year rolling building walk through program and changes in our tracking software that now automatically populates a new deficiency in the database when a recurring deficiency item, such as a roof that needs replacement every 25 years, is completed.



The university maintains a database of all buildings, including size and use. Deferred maintenance estimates are included here when the information is available. This information allows comparisons of buildings and trends over time with respect to overall condition. Deferred maintenance information is continually updated and sometimes with detailed needs and specific cost estimates to implement projects. The summary information provided here is a planning tool. It is not intended to accurately reflect all costs listed and should not be used for cost estimates. *Denotes building is in planning or under construction.

Bldg #	Building Name	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1005200	1009 CORNWELL PLACE	3,340	1886	Income Properties	
1008039	1011 CORNWELL PLACE	2,879	1951	Income Properties	
1000327	1018 FULLER BUILDING	8,349	1965	Clinical Delivery System	
1000205	1027 EAST HURON BUILDING	6,066	1896	Administration & Support	$90,918
1000816	1032 GREENE BUILDING	5,903	1975	Administration & Support	$1,389,002
1000188	1100 NORTH UNIVERSITY BUILDING	187,416	1925	Teach, Research, Support	$10,227,292
1000225	1310 NORTH UNIVERSITY COURT BUILDING	12,042	1977	Teach, Research, Support	$1,349,749
1000886	1443 WASHTENAW AVENUE BUILDING	13,799	1943	Student Services	$439,021
1000891	1736 BROADWAY GARAGE	480	1965	Income Properties	
1000885	1736 BROADWAY HOUSE	2,970	1965	Income Properties	
1005179	202 SOUTH THAYER BUILDING	59,825	2006	Teach, Research, Support	$6,192
1000335	300 400 N INGALLS BOILER HSE	9,908	1955	Administration & Support	$2,059,320
1000332	300 N INGALLS BUILDING	325,677	1955	TeachResSupport/CDS	$51,267,584
1000333	400 NORTH INGALLS BUILDING	141,977	1913	Teach, Research, Support	$16,511,962
1005347	426 NORTH INGALLS BUILDING	80,301	2015	Teach, Research, Support	$23,163
1005327	439 S DIVISION STREET	3,210	1900	Income Properties	
1005287	523 SOUTH DIVISION BUILDING	9,315	2010	Administration & Support	
1000815	ADMINISTRATIVE SERVICES	91,653	1963	Administration & Support	$11,155,792
1000423	AERO ENG LAB PUMPING STATION	2,456	1955	Teach, Research, Support	
1000426	AERO ENG POWER PLANT	697	1955	Teach, Research, Support	
1000425	AEROSPACE ENGINEERING LAB PLASMA RESEARCH	25,941	1961	Teach, Research, Support	$1,058,582
1000422	AEROSPACE ENGINEERING LAB PROPULSION LAB	8,067	1955	Teach, Research, Support	$4,271,170
1000421	AEROSPACE ENGINEERING LAB WIND TUNNEL LAB	14,171	1955	Teach, Research, Support	$3,294,328
1000192	ALUMNI CENTER	35,315	1983	Administration & Support	$1,543,450
1005123	ALUMNI FIELD	12,209	2008	Intercollegiate Athletics Bldg	
1000151	ALUMNI MEMORIAL HALL	99,304	1910	Teach, Research, Support	$1,320,412
1000206	ANGELL HALL AUDITORIUMS	29,293	1952	Teach, Research, Support	$2,356,513
1000152	ANGELL JAMES B HALL AND TISCH HALL	209,256	1924	Teach, Research, Support	$4,821,480
1000168	ANIMAL RESEARCH FACILITY	15,591	1963	Teach, Research, Support	$2,974,017
1005132	ANN STREET PARKING STRUCTURE	189,202	2009	Parking Structure	
1008079	ARBOR LAKES 1	39,867	1976	AdminSupport/CDS	$7,003,361

1008080	ARBOR LAKES 2	89,277	1979	AdminSupport/CDS	$11,307,627
1008081	ARBOR LAKES 3	84,893	1981	AdminSupport/CDS	$12,798,310
1000831	ARGUS BUILDING II	69,214	1941	Teach, Research, Support	$9,097,468
1000432	ART ARCHITECTURE BUILDING	264,419	1974	Teach, Research, Support	$7,180,957
1000803	ATHLETIC CAMPUS SWITCH STATION	2,467	1973	Switching Stations	
1005371	ATHLETIC DEPARTMENT OPERATIONS CENTER	18,674	2015	Intercollegiate Athletics Bldg	
1005402	ATHLETICS FACILITY SUPPORT BUILDING	2,976	2015	Intercollegiate Athletics Bldg	
1005195	ATHLETICS MAINTENANCE BUILDING	1,473	1985	Intercollegiate Athletics Bldg	
1005168	AUTO LAB FUEL STORAGE BUILDING	427	2005	Teach, Research, Support	
1002501	AUXILIARY SERVICES BUILDING 1	80,622	1968	Administration & Support	$12,471,447
1002502	AUXILIARY SERVICES BUILDING 2	2,893	1983	Administration & Support	
1000395	BAGNOUD FRANCOIS-XAVIER BUILDING	101,812	1991	Teach, Research, Support	$7,977,978
1005236	BAHNA WRESTLING CENTER	22,072	2009	Intercollegiate Athletics Bldg	
1000510	BAITS VERA I EATON HOUSE	36,148	1966	Resident Hall	$58,019,159
1000511	BAITS VERA I LEE HOUSE	33,017	1966	Resident Hall	
1000512	BAITS VERA I PARKER HOUSE	34,411	1966	Resident Hall	
1000513	BAITS VERA I SMITH HOUSE	29,190	1966	Resident Hall	
1000514	BAITS VERA I STANLEY HOUSE	32,600	1966	Resident Hall	
1000515	BAITS VERA II COMAN HOUSE	48,603	1967	Resident Hall	$45,468,978
1000516	BAITS VERA II CONGER HOUSE	26,929	1967	Resident Hall	
1000517	BAITS VERA II CROSS HOUSE	35,118	1967	Resident Hall	
1000518	BAITS VERA II THIEME HOUSE	25,219	1967	Resident Hall	
1000519	BAITS VERA II ZIWET HOUSE	33,931	1967	Resident Hall	
1000051	BARBOUR BETSY HOUSE	33,925	1920	Resident Hall	$11,015,351
1005290	BAXTER ROAD MONITORING SHED	49	2010	Administration & Support	
1000439	BENTLEY ALVIN M & ARVELLA D HISTORICAL LIBRARY	66,537	1973	Library Building	$5,654,130
1005092	BEYSTER BOB AND BETTY BUILDING	104,132	2006	Teach, Research, Support	$146,056
1005169	BIOLOGICAL SCIENCES BUILDING	312,211	2018	Teach, Research, Support	
1005370	BLAU JEFF T HALL	106,172	2016	Teach, Research, Support	
1000402	BONISTEEL INTERDISCIPLINARY RESEARCH BUILDING	21,993	1954	Teach, Research, Support	$2,642,024
1000880	BOYER BUILDING	15,472	1969	Administration & Support	$1,222,195
1005102	BREHM TOWER	252,234	2009	TeachResSupport/CDS	$17,551
1008076	BRIARWOOD 1	17,857	1993	Clinical Delivery System	$2,386,998
1008130	BRIARWOOD 10	17,299	1996	Clinical Delivery System	$229,232
1008030	BRIARWOOD 2	15,924	1988	Clinical Delivery System	$453,929
1008065	BRIARWOOD 3	10,262	1991	Clinical Delivery System	$322,700
1008042	BRIARWOOD 4	14,063	1991	Clinical Delivery System	
1008016	BRIARWOOD 5	9,378	1986	Clinical Delivery System	$117,684
1008142	BRIARWOOD 9	5,324	1998	Clinical Delivery System	$496,683
1000407	BROWN GEORGE GRANGER MEMORIAL LABORATORIES	290,501	1957	Teach, Research, Support	$1,691,734
1000210	BUHL LAWRENCE D RESEARCH CEN FOR HUMAN GENETICS	18,971	1964	Teach, Research, Support	$417,682

1000799	BUHR BUILDING	187,245	1952	Administration & Support	$7,004,764
1000010	BURNHAM HOUSE	3,482	1837	Teach, Research, Support	$725,023
1000555	BURSLEY JOSEPH A & MARGUERITE K HALL	341,587	1967	Resident Hall	$82,863,562
1000155	BURTON MEMORIAL TOWER	20,103	1936	Teach, Research, Support	$3,391,977
1000139	BUSINESS ADMIN EXECUTIVE DORM	50,734	1985	Teach, Research, Support	$4,024,509
1000742	CAMPUS SAFETY SERVICES BUILDING	108,241	1978	Administration & Support	$5,873,467
1000718	CANHAM DONALD B NATATORIUM	77,639	1988	Intercollegiate Athletics Bldg	$55,200
1005146	CARDIOVASCULAR CENTER PARKING STRUCTURE	168,596	2009	Parking Structure	
1000258	CATHERINE ST PARKING STRUCTURE	140,168	1959	Parking Structure	
1005126	CENTRAL CAMPUS AND UM HOSPITAL LOAD CENTER	3,884	2006	Switching Stations	
1005451	CENTRAL CAMPUS CLASSROOM BUILDING		*	Teach, Research, Support	
1000226	CENTRAL CAMPUS REC BLD BELL MARGARET POOL	194,261	1954	Recreational Sports Building	$20,573,006
1005421	CENTRAL CAMPUS SWITCHING STATION	1,002	1984	Switching Stations	
1000260	CENTRAL POWER PLANT	123,112	1914	Administration & Support	$53,658,568
1000158	CHEMISTRY & DOW WILLARD H LABORATORY	544,628	1909	Teach, Research, Support	$27,942,435
1000443	CHRYSLER CENTER CONTINUING ENGINEERING EDUCATION	45,310	1968	Teach, Research, Support	$2,983,662
1000257	CHURCH ST PARKING STRUCTURE	228,214	1957	Parking Structure	$4,064,037
1000159	CLEMENTS WILLIAM L LIBRARY	27,257	1923	Library Building	$291,015
1000441	CLIMATE AND SPACE RESEARCH BUILDING	105,521	1965	Teach, Research, Support	$14,945,448
1005440	CLINICAL INPATIENT TOWER		*	Clinical Delivery System	
1005036	COLEMAN MARY SUE HALL	298,399	2003	Teach, Research, Support	$524,173
1000710	COLISEUM	38,404	1926	Recreational Sports Building	$2,163,895
1000230	COLLEGE OF PHARMACY BUILDING	56,772	1960	Teach, Research, Support	$4,710,737
1000109	COOK JOHN P BUILDING	63,906	1930	Resident Hall	
1000052	COOK MARTHA BUILDING	71,925	1915	Resident Hall	$20,890,575
1000184	COOK WILLIAM W LEGAL RESEARCH LIBRARY	212,255	1931	Library Building	$14,444,117
1000403	COOLEY MORTIMER E BUILDING	46,129	1953	Teach, Research, Support	$6,217,391
1000053	COUZENS HALL	185,523	1925	Resident Hall	$501,812
1000498	CRAM PLACE COMMUNITY CENTER	7,298	1958	Residence	$36,864,639
1000700	CRISLER CENTER	265,276	1968	Intercollegiate Athletics Bldg	$4,969,408
1000189	DANA SAMUEL TRASK BUILDING	117,139	1904	Teach, Research, Support	$501,396
1005439	DANCE BUILDING	30,441	2020	Teach, Research, Support	
1005289	DAVIDSON WILLIAM PLAYER DEVELOPMENT CENTER	70,705	2011	Intercollegiate Athletics Bldg	
1005491	DEAN ROAD TRANSPORTATION FACILITY		*	Administration & Support	
1000162	DENTAL BLDG AND W K KELLOGG FOUNDATION INSTITUTE	425,888	1940	Teach, Research, Support	$31,329,020
1000447	DOW HERBERT H BUILDING	154,419	1983	Teach, Research, Support	$11,832,578
1000396	DUDERSTADT JAMES AND ANNE CENTER	240,256	1996	Teach, Research, Support	$9,450,940
1005038	EAST ANN ARBOR AMBULATORY SURGICAL CENTER	49,906	2006	Clinical Delivery System	
1000350	EAST ANN ARBOR HEALTH AND GERIATRICS CENTER	97,393	1996	Clinical Delivery System	$4,566,366
1000166	EAST HALL	338,897	1923	Teach, Research, Support	$11,938,854
1000306	EAST HOSPITAL MECHANICAL BLDG	8,182	1964	Clinical Delivery System	$7,158,743

1000054	EAST QUADRANGLE	333,036	1940	Resident Hall	$1,381,140
1000221	EDUCATION SCHOOL OF	215,010	1923	Teach, Research, Support	$12,251,476
1008072	EISENHOWER CORPORATE PARK WEST	76,726	1990	Clinical Delivery System	$2,791,553
1000728	ELBEL FIELD LOCKER BUILDING	5,943	1951	Recreational Sports Building	$1,118,062
1000448	ELECTRICAL ENGINEERING AND COMPUTER SCIENCE BLD	305,021	1986	Teach, Research, Support	$18,470,082
1000435	ENGINEERING RESEARCH BUILDING 1	36,033	1964	Teach, Research, Support	$9,103,588
1000436	ENGINEERING RESEARCH BUILDING 2	28,332	1964	Teach, Research, Support	$5,626,856
1002505	ENGINEERING RESEARCH SUPPORT BLD	1,432	1997	Teach, Research, Support	
1000414	ENVIRONMENTAL AND WATER RESOURCES ENGINEERING BL	37,129	1975	Teach, Research, Support	$4,947,574
1000269	EQUIPMENT MAINTENANCE SHOP	2,151	1914	Administration & Support	$71,887
1000800	FACILITIES SERVICES BUILDING A	92,981	1929	Administration & Support	$18,090,788
1000801	FACILITIES SERVICES BUILDING B	44,682	1929	Administration & Support	$9,689,288
1000802	FACILITIES SERVICES BUILDING C	37,309	1929	Administration & Support	$6,219,671
1000706	FERRY FIELD PUMP HOUSE	216	1968	Intercollegiate Athletics Bldg	
1005452	FGRL BLDG 1	9,785	Unknown	Administration & Support	
1005457	FGRL BLDG 20	1,700	1968	Income Properties	
1005458	FGRL BLDG 27	843	1965	Income Properties	
1005454	FGRL BLDG 5	4,886	Unknown	Administration & Support	
1005358	FIELD HOCKEY STADIUM	2,247	2014	Intercollegiate Athletics Bldg	
1005357	FIELD HOCKEY TEAM CENTER	14,683	2014	Intercollegiate Athletics Bldg	
1005359	FIELD HOCKEY TICKET OFFICE	1,977	2014	Intercollegiate Athletics Bldg	
1005387	FIELD HOCKEY TICKET OFFICE WEST	142	2014	Intercollegiate Athletics Bldg	
1000409	FIRE SERV INSTR RES CENTER	21,528	1959	Teach, Research, Support	$1,932,655
1000733	FISHER RAY BASEBALL STADIUM	30,275	1950	Intercollegiate Athletics Bldg	
1000149	FLEMING ROBBEN W & ALDYTH ADMINISTRATION BUILDING	78,759	1968	Administration & Support	$23,600,501
1000055	FLETCHER HALL	17,985	1923	Resident Hall	$7,524,785
1000254	FLETCHER ST PARKING STRUCTURE	387,276	1968	Parking Structure	
1005418	FORD MOTOR COMPANY ROBOTICS BUILDING	144,117	2020	Teach, Research, Support	
1000252	FOREST SWITCHING STATION	6,089	1988	Switching Stations	
1000234	FRANCIS THOMAS JR PUBLIC HEALTH	171,437	1971	Teach, Research, Support	$16,158,531
1000198	FRANKEL JUDY AND STANLEY DETROIT OBSERVATORY	12,785	1854	Teach, Research, Support	$464,170
1005109	FRANKEL SAMUEL AND JEAN CARDIOVASCULAR CENTER	414,392	2007	Clinical Delivery System	
1000810	GAS PAD STORAGE BUILDING	1,442	1990	Administration & Support	
1000437	GERSTACKER CARL A BUILDING	61,692	1964	Teach, Research, Support	$5,189,180
1000331	GLEN AVE PARKING STRUCTURE	332,918	1987	Parking Structure	$299,273
1005121	GLICK AL FIELD HOUSE	107,253	2009	Intercollegiate Athletics Bldg	
1000747	GOLF COURSE COMFORT STATION A	533	1994	Intercollegiate Athletics Bldg	
1000748	GOLF COURSE COMFORT STATION B	467	1994	Intercollegiate Athletics Bldg	
1000741	GOLF COURSE GARAGE	3,585	1956	Intercollegiate Athletics Bldg	
1005100	GOLF COURSE MAINTENANCE BUILDING	5,555	2007	Intercollegiate Athletics Bldg	
1000749	GOLF COURSE PRACTICE RANGE BLDG	720	1994	Intercollegiate Athletics Bldg	

1000739	GOLF COURSE PUMP HOUSE II	336	1992	Intercollegiate Athletics Bldg	
1000424	GORGUZE FAMILY LABORATORY	29,155	1972	Teach, Research, Support	$2,424,049
1000201	HARTWIG MARIE DOROTHY ADMINISTRATION BUILDING	14,649	1912	Intercollegiate Athletics Bldg	$1,271,285
1000185	HATCHER H NORTH GRADUATE LIBRARY	194,942	1920	Library Building	$12,168,323
1000181	HATCHER HARLAN H SOUTH GRADUATE LIBRARY	147,674	1970	Library Building	$13,184,024
1000175	HAVEN HALL	123,488	1952	Teach, Research, Support	$1,140,658
1000897	HEALTH MANAGEMENT RESEARCH	12,792	1906	Teach, Research, Support	
1000176	HEALTH SERVICE	79,177	1940	Student Services	$5,884,781
1000057	HENDERSON MARY BARTRON HOUSE	9,329	1892	Resident Hall	$3,770,317
1000177	HILL AUDITORIUM	105,813	1913	Recreational Sports Building	$6,183,180
1000253	HILL ST PARKING STRUCTURE	151,175	1970	Parking Structure	
1000804	HOOVER ANNEX	1,905	1929	Administration & Support	$103,856
1000805	HOOVER AVE HEATING PLANT	7,121	1929	Administration & Support	
1000179	HUTCHINS HALL	119,856	1933	Teach, Research, Support	$11,441,303
1005398	INDOOR TRACK BUILDING	123,539	2018	Intercollegiate Athletics Bldg	$3,224,704
1000703	INDOOR TRAINING CENTER	69,183	1974	Intercollegiate Athletics Bldg	
1000429	INDUSTRIAL AND OPERATIONS ENGINEERING BUILDING	50,214	1963	Teach, Research, Support	$2,857,850
1000145	INSTITUTE FOR SOCIAL RESEARCH	226,082	1965	Teach, Research, Support	$18,750,013
1000814	INSTITUTE OF CONTINUING LEGAL ED	12,592	1987	Teach, Research, Support	$1,053,697
1005247	INTERCOLLEGIATE SOCCER STADIUM	17,382	2009	Intercollegiate Athletics Bldg	
1000719	INTRAMURAL SPORTS BUILDING	108,676	1928	Recreational Sports Building	$3,751,559
1000434	IST GAS STORAGE BUILDING	200	1964	Teach, Research, Support	
1005235	JEFFRIES HALL	103,128	2011	Teach, Research, Support	$215,776
1005160	JUNGE FAMILY CHAMPIONS CENTER	11,638	2006	Intercollegiate Athletics Bldg	
1000732	KEEN CLIFFORD P ARENA	37,261	1956	Intercollegiate Athletics Bldg	$3,772,674
1000324	KELLOGG W K EYE CENTER	81,670	1985	TeachResSupport/CDS	$6,256,248
1000137	KRESGE HALL	76,731	1985	Teach, Research, Support	$4,661,785
1005395	LACROSSE STADIUM	26,467	2018	Intercollegiate Athletics Bldg	
1005396	LACROSSE TICKET BUILDING	238	2018	Intercollegiate Athletics Bldg	
1000183	LANE HALL	39,993	1917	Teach, Research, Support	$521,549
1000108	LAWYERS CLUB AND MUNGER CHARLES T RESIDENCES	93,805	1924	Resident Hall	$16,761,777
1000400	LAY WALTER E AUTOMOTIVE ENGINEERING LABORATORY	63,295	1955	Teach, Research, Support	$11,331,822
1000105	LIPSEY STANFORD STUDENT PUBLICATIONS BUILDING	14,829	1932	Recreational Sports Building	
1000150	LITERATURE SCIENCE AND THE ARTS	156,119	1948	Teach, Research, Support	$189,192
1000059	LLOYD ALICE CROCKER HALL	176,615	1949	Resident Hall	$8,808,127
1000154	LORCH HALL	89,572	1928	Teach, Research, Support	$8,742,592
1000214	LSA ADMINISTRATION ANNEX	10,907	1891	Teach, Research, Support	$28,202
1000406	LURIE ANN AND ROBERT H BIOMEDICAL ENGINEERING BLD	65,028	1957	Teach, Research, Support	$1,986,956
1000394	LURIE ANN AND ROBERT H TOWER	11,452	1996	Teach, Research, Support	$1,077,052
1000397	LURIE ROBERT H ENGINEERING CTR	53,878	1996	Teach, Research, Support	$1,238,697
1000858	MADISON BUILDING	22,318	1883	Administration & Support	$56,756

1005419	M-AIR	11,235	2018	Teach, Research, Support	
1000060	MARKLEY MARY BUTLER HALL	285,877	1959	Resident Hall	$59,958,437
1000197	MASON HALL	136,012	1952	Teach, Research, Support	$5,457,191
1000976	MATT BOT GNDS HOUSE	3,650	1825	Income Properties	
1000986	MATTHAEI BOT GDNS ENVIRONMENT	2,762	1962	Teach, Research, Support	
1000991	MATTHAEI BOT GDNS EXHIB GRN HSE	18,747	1966	Teach, Research, Support	$9,691,655
1000983	MATTHAEI BOT GDNS GREENHOUSE #1	6,197	1962	Teach, Research, Support	
1000984	MATTHAEI BOT GDNS GREENHOUSE #2	6,344	1960	Teach, Research, Support	
1000988	MATTHAEI BOT GDNS GREENHOUSE #3	6,195	1960	Teach, Research, Support	
1000989	MATTHAEI BOT GDNS GREENHOUSE #4	2,819	1962	Teach, Research, Support	
1000990	MATTHAEI BOT GDNS GREENHOUSE #5	2,817	1962	Teach, Research, Support	
1000994	MATTHAEI BOT GDNS INSTR SHELTER	168	1978	Teach, Research, Support	
1000979	MATTHAEI BOT GDNS NORTH BARN #1	4,241	1880	Teach, Research, Support	
1000978	MATTHAEI BOT GDNS NORTH BARN #2	1,212	1870	Teach, Research, Support	
1000992	MATTHAEI BOT GDNS REPTILE HSE	3,205	1969	Teach, Research, Support	
1000982	MATTHAEI BOT GDNS RESEARCH-ADMIN	21,811	1960	Teach, Research, Support	
1000987	MATTHAEI BOT GDNS SCREENHOUSE #1	399	1962	Teach, Research, Support	
1000980	MATTHAEI BOT GDNS STORAGE BLDG	1,920	1975	Teach, Research, Support	
1000985	MATTHAEI BOT GDNS SUPT RESIDENCE	2,928	1961	Administration & Support	
1000981	MATTHAEI BOT GDNS UTILITY-BOILER	12,248	1960	Teach, Research, Support	
1005381	MCITY	4,463	2015	Teach, Research, Support	
1005442	MCITY STORAGE	3,305	2019	Teach, Research, Support	
1000300	MED CTR N ENTRANCE PARKING STRUCTURE	340,052	1994	Parking Structure	
1000323	MEDICAL CAMPUS SWITCH STATION SE	2,746	1983	Switching Stations	
1000315	MEDICAL CENTER DR PARKING STRUCT	684,123	1984	Parking Structure	
1000319	MEDICAL PROFESSIONAL BUILDING	37,298	1977	Clinical Delivery System	$7,855,131
1000190	MEDICAL SCIENCE UNIT I	298,913	1958	Teach, Research, Support	$40,799,156
1000200	MEDICAL SCIENCE UNIT II	333,207	1969	Teach, Research, Support	$26,655,862
1000223	MEDICAL SCIENCES RESEARCH BLDG I	144,646	1985	Teach, Research, Support	$10,786,770
1000213	MEDICAL SCIENCES RESEARCH BLDG II	163,757	1989	Teach, Research, Support	$13,852,871
1000229	MEDICAL SCIENCES RESEARCH BLDG III	217,894	1994	Teach, Research, Support	$10,721,513
1000308	MED-INN	119,437	1952	Clinical Delivery System	$16,162,115
1000191	MICHIGAN LEAGUE	130,518	1929	Teach, Research, Support	$24,585,923
1000404	MICHIGAN MEMORIAL PHOENIX PROJECT LABORATORY	47,171	1955	Teach, Research, Support	$1,416,832
1000222	MICHIGAN NEWS BUILDING	7,811	1955	Administration & Support	$2,545,069
1000711	MICHIGAN STADIUM	570,378	1927	Intercollegiate Athletics Bldg	
1005242	MICHIGAN STADIUM NORTH PLAZA BUILDING A	9,029	2009	Intercollegiate Athletics Bldg	
1005243	MICHIGAN STADIUM NORTH PLAZA BUILDING B	9,337	2009	Intercollegiate Athletics Bldg	
1000120	MICHIGAN UNION	262,717	1919	Recreational Sports Building	$46,573,987
1002500	MITCHELL FIELD BUILDING	1,440	1981	Recreational Sports Building	
1005380	MITCHELL FIELD RECREATION BUILDING	3,661	2014	Recreational Sports Building	

1000207	MODERN LANGUAGES BUILDING	135,367	1972	Teach, Research, Support	$10,073,879
1005348	MODULAR MRI BUILDING	824	2012	Teach, Research, Support	
1000100	MOLECULAR & BEHAVIORAL NEUROSCIENCE INSTITUTE	49,956	1960	Teach, Research, Support	$9,832,394
1000440	MOORE EARL V BLDG	172,639	1964	Teach, Research, Support	$11,635,967
1000061	MOSHER ELIZA M HALL & JORDAN MYRA B HALL	191,152	1930	Resident Hall	
1005173	MOTT CHILDRENS VON VOIGTLANDER WOMENS HOSPITALS	1,126,305	2011	Clinical Delivery System	
1005369	MUNGER GRADUATE RESIDENCES	390,215	2015	Resident Hall	
1000415	NAVAL ARCHITECTURE AND MARINE ENGINEERING	28,207	1962	Teach, Research, Support	$4,902,318
1002518	NC BEAL-CRAM SWITCH GEAR	1,804	1995	Switching Stations	
1005205	NC GROUNDS GARAGE 1	1,692	2007	Administration & Support	$3,164
1000220	NC GROUNDS STORAGE BUILDING # 1	3,373	1953	Administration & Support	$236,068
1005111	NC GROUNDS STORAGE BUILDING # 2	2,008	1987	Administration & Support	
1005116	NC GROUNDS STORAGE BUILDING # 3	2,008	1987	Administration & Support	
1005131	NC STORAGE BUILDING #4	4,792	2003	Administration & Support	
1005445	NEW CENTRAL CAMPUS RECREATION BUILDING		*	Recreational Sports Building	
1005492	NEW PHARMACY BUILDING		*	Teach, Research, Support	
1000178	NEWBERRY HALL	40,574	1891	Teach, Research, Support	
1000062	NEWBERRY HELEN H RESIDENCE	31,304	1915	Resident Hall	$9,747,949
1000007	NICHOLS ARBORETUM GAR WORKSHOP	1,354	1963	Teach, Research, Support	
1000005	NICHOLS ARBORETUM RESIDENCE	2,259	1908	Teach, Research, Support	$300,918
1000006	NICHOLS ARBORETUM STORAGE SHED	308	1908	Teach, Research, Support	$62,926
1000399	NORTH CAMPUS ADMINISTRATIVE COMPLEX	129,114	1987	Clinical Delivery System	$3,567,893
1005223	NORTH CAMPUS AUXILIARY SUPPORT BUILDING	54,428	2009	AdminSupport/CDS	
1005018	NORTH CAMPUS CHILDRENS CENTER	14,426	1999	Teach, Research, Support	$563,021
1005139	NORTH CAMPUS CHILLER PLANT	17,246	2005	Administration & Support	
1002506	NORTH CAMPUS FACILITIES SERVICES BUILDING	48,588	1999	Administration & Support	$26,364
1002514	NORTH CAMPUS GROUND SVC FACILITY	28,246	1990	Administration & Support	$1,199,190
1005140	NORTH CAMPUS GROUND SVC FACILITY ANNEX	112	2003	Administration & Support	
1005297	NORTH CAMPUS GROUNDS STORAGE SHED	256	2009	Administration & Support	
1000449	NORTH CAMPUS HOUSING SERVICE BLD	31,855	1978	Administration & Support	$1,233,643
1002517	NORTH CAMPUS MICROWAVE TOWER	279	1991	Administration & Support	
1000427	NORTH CAMPUS RECREATION BUILDING	67,512	1976	Recreational Sports Building	$500,000
1005253	NORTH CAMPUS RESEARCH COMPLEX BUILDING 10	66,940	1959	Teach, Research, Support	$10,295,082
1005254	NORTH CAMPUS RESEARCH COMPLEX BUILDING 14	53,718	1987	Teach, Research, Support	$7,266,139
1005255	NORTH CAMPUS RESEARCH COMPLEX BUILDING 15	4,623	1959	Administration & Support	$361,047
1005256	NORTH CAMPUS RESEARCH COMPLEX BUILDING 16	121,832	1991	Teach, Research, Support	$6,512,924
1005258	NORTH CAMPUS RESEARCH COMPLEX BUILDING 18	92,349	2000	Teach, Research, Support	$3,115,413
1005259	NORTH CAMPUS RESEARCH COMPLEX BUILDING 20	182,996	1959	Teach, Research, Support	$35,532,600
1005260	NORTH CAMPUS RESEARCH COMPLEX BUILDING 22	21,270	1999	Teach, Research, Support	$2,983,591
1005261	NORTH CAMPUS RESEARCH COMPLEX BUILDING 23	10,517	2002	Teach, Research, Support	$121,348
1005262	NORTH CAMPUS RESEARCH COMPLEX BUILDING 25	103,877	1984	Teach, Research, Support	$38,318,819

1005263	NORTH CAMPUS RESEARCH COMPLEX BUILDING 26	192,689	2000	Teach, Research, Support	$6,555,738
1005264	NORTH CAMPUS RESEARCH COMPLEX BUILDING 28	131,407	1992	Teach, Research, Support	$27,572,958
1005265	NORTH CAMPUS RESEARCH COMPLEX BUILDING 30	34,632	1965	Teach, Research, Support	$8,840,417
1005432	NORTH CAMPUS RESEARCH COMPLEX BUILDING 32	7,027	1992	Teach, Research, Support	
1005266	NORTH CAMPUS RESEARCH COMPLEX BUILDING 35	93,162	1985	Teach, Research, Support	$52,929,281
1005267	NORTH CAMPUS RESEARCH COMPLEX BUILDING 36	116,835	2006	Teach, Research, Support	$3,728,073
1005270	NORTH CAMPUS RESEARCH COMPLEX BUILDING 60	25,380	1983	Teach, Research, Support	$4,541,764
1005271	NORTH CAMPUS RESEARCH COMPLEX BUILDING 70	773	1959	Teach, Research, Support	$50,492
1005272	NORTH CAMPUS RESEARCH COMPLEX BUILDING 73	231,655	1991	Parking Structure	$568,536
1005273	NORTH CAMPUS RESEARCH COMPLEX BUILDING 80	52,404	1959	Administration & Support	$14,479,015
1005274	NORTH CAMPUS RESEARCH COMPLEX BUILDING 85	5,132	2005	Administration & Support	$342,178
1005335	NORTH CAMPUS RESEARCH COMPLEX BUILDING 86	1,034	2006	Switching Stations	
1005275	NORTH CAMPUS RESEARCH COMPLEX BUILDING 90	35,767	1999	Teach, Research, Support	$2,162,325
1005276	NORTH CAMPUS RESEARCH COMPLEX BUILDING 100	10,492	1964	Teach, Research, Support	$1,712,405
1005277	NORTH CAMPUS RESEARCH COMPLEX BUILDING 200	26,648	1964	Teach, Research, Support	$2,528,079
1005278	NORTH CAMPUS RESEARCH COMPLEX BUILDING 300	39,513	1964	Teach, Research, Support	$3,595,939
1005279	NORTH CAMPUS RESEARCH COMPLEX BUILDING 400	27,571	1982	Teach, Research, Support	$2,701,990
1005280	NORTH CAMPUS RESEARCH COMPLEX BUILDING 500	14,775	1998	Administration & Support	
1005281	NORTH CAMPUS RESEARCH COMPLEX BUILDING 520	199,850	1998	Teach, Research, Support	$8,815,661
1005282	NORTH CAMPUS RESEARCH COMPLEX BUILDING 550	236,634	1998	Teach, Research, Support	$4,175,207
1005283	NORTH CAMPUS RESEARCH COMPLEX BUILDING 800	20,250	2001	Administration & Support	$1,058,771
1000418	NORTH CAMPUS SERVICE BLDG #1	23,191	1965	Administration & Support	$963,026
1000430	NORTH CAMPUS STORAGE BUILDING	45,750	1967	Administration & Support	$2,081,432
1005334	NORTH CAMPUS SUPPORT FACILITY	2,529	2011	Administration & Support	
1000408	NORTH CAMPUS SWITCH STATION	10,161	1957	Switching Stations	$88,615
1005177	NORTH QUADRANGLE RESIDENTIAL AND ACADEMIC COMPLEX	388,357	2010	Resident Hall	$657,220
1000600	NORTHWOOD COMMUNITY CENTER	13,744	1991	Recreational Sports Building	$969,363
1000450	NORTHWOOD I SVC BUILDING 450	3,168	1955	Residence	$19,546,870
1000451	NORTHWOOD I APTS 451	11,744	1955	Residence	included in above
1000452	NORTHWOOD I APTS 452	5,312	1955	Residence	included in above
1000453	NORTHWOOD I APTS 453	14,412	1955	Residence	included in above
1000454	NORTHWOOD I APTS 454	14,412	1955	Residence	included in above
1000455	NORTHWOOD I APTS 455	5,312	1955	Residence	included in above
1000456	NORTHWOOD I APTS 456	11,744	1955	Residence	included in above
1000462	NORTHWOOD II APTS 462	4,246	1957	Residence	included in above
1000464	NORTHWOOD II APTS 464	5,645	1957	Residence	included in above
1000465	NORTHWOOD II APTS 465	5,645	1957	Residence	included in above
1000466	NORTHWOOD II APTS 466	4,246	1957	Residence	included in above
1000467	NORTHWOOD II APTS 467	4,246	1957	Residence	included in above
1000468	NORTHWOOD II APTS 468	4,246	1957	Residence	included in above
1000469	NORTHWOOD II APTS 469	12,405	1957	Residence	included in above

1000470	NORTHWOOD II APTS 470	5,645	1957	Residence	included in above
1000471	NORTHWOOD II APTS 471	5,645	1957	Residence	included in above
1000472	NORTHWOOD II APTS 472	5,645	1957	Residence	included in above
1000473	NORTHWOOD II APTS 473	12,405	1957	Residence	included in above
1000474	NORTHWOOD II APTS 474	3,738	1957	Residence	included in above
1000475	NORTHWOOD II APTS 475	3,738	1957	Residence	included in above
1000476	NORTHWOOD II APTS 476	3,738	1957	Residence	included in above
1000477	NORTHWOOD II APTS 477	3,738	1957	Residence	included in above
1000478	NORTHWOOD II APTS 478	3,738	1957	Residence	included in above
1000479	NORTHWOOD II APTS 479	5,645	1957	Residence	included in above
1000480	NORTHWOOD II APTS 480	5,645	1957	Residence	included in above
1000481	NORTHWOOD II APTS 481	5,645	1957	Residence	included in above
1000482	NORTHWOOD II APTS 482	3,738	1957	Residence	included in above
1000483	NORTHWOOD II APTS 483	3,738	1957	Residence	included in above
1000484	NORTHWOOD II APTS 484	3,738	1957	Residence	included in above
1000485	NORTHWOOD II APTS 485	3,738	1957	Residence	included in above
1000486	NORTHWOOD II APTS 486	3,738	1957	Residence	included in above
1000487	NORTHWOOD II APTS 487	3,738	1957	Residence	included in above
1000488	NORTHWOOD II APTS 488	3,738	1957	Residence	included in above
1000489	NORTHWOOD II APTS 489	3,738	1957	Residence	included in above
1000490	NORTHWOOD II APTS 490	3,738	1957	Residence	included in above
1000491	NORTHWOOD II APTS 491	3,738	1957	Residence	included in above
1000492	NORTHWOOD II APTS 492	3,738	1957	Residence	included in above
1000493	NORTHWOOD II APTS 493	3,738	1957	Residence	included in above
1000494	NORTHWOOD II APTS 494	3,738	1957	Residence	included in above
1000495	NORTHWOOD II APTS 495	3,738	1957	Residence	included in above
1000496	NORTHWOOD II APTS 496	3,738	1957	Residence	included in above
1000497	NORTHWOOD II APTS 497	3,738	1957	Residence	included in above
1000457	NORTHWOOD II SVC BUILDING 457	5,400	1957	Residence	$42,068,415
1000458	NORTHWOOD II SVC BUILDING 458	2,760	1957	Residence	included in above
1000459	NORTHWOOD II SVC BUILDING 459	2,879	1957	Residence	included in above
1000460	NORTHWOOD II SVC BUILDING 460	5,270	1957	Residence	included in above
1000461	NORTHWOOD II SVC BUILDING 461	2,879	1957	Residence	included in above
1000501	NORTHWOOD III APTS 501	27,371	1958	Residence	included in above
1000502	NORTHWOOD III APTS 502	17,585	1958	Residence	included in above
1000503	NORTHWOOD III APTS 503	17,585	1958	Residence	included in above
1000504	NORTHWOOD III APTS 504	25,068	1958	Residence	included in above
1000505	NORTHWOOD III APTS 505	17,585	1958	Residence	included in above
1000506	NORTHWOOD III APTS 506	17,585	1958	Residence	included in above
1000507	NORTHWOOD III APTS 507	17,585	1958	Residence	included in above
1000508	NORTHWOOD III APTS 508	17,585	1958	Residence	included in above

1000499	NORTHWOOD III SVC BUILDING 499	2,471	1958	Residence	included in above
1000500	NORTHWOOD III SVC BUILDING 500	2,471	1958	Residence	included in above
1000601	NORTHWOOD IV APTS 601	8,029	1969	Residence	$66,430,791
1000602	NORTHWOOD IV APTS 602	4,061	1969	Residence	included in above
1000603	NORTHWOOD IV APTS 603	3,066	1969	Residence	included in above
1000604	NORTHWOOD IV APTS 604	4,899	1969	Residence	included in above
1000605	NORTHWOOD IV APTS 605	10,708	1969	Residence	included in above
1000606	NORTHWOOD IV APTS 606	3,117	1969	Residence	included in above
1000607	NORTHWOOD IV APTS 607	6,763	1969	Residence	included in above
1000608	NORTHWOOD IV APTS 608	5,425	1969	Residence	included in above
1000609	NORTHWOOD IV APTS 609	5,425	1969	Residence	included in above
1000610	NORTHWOOD IV APTS 610	4,123	1969	Residence	included in above
1000611	NORTHWOOD IV APTS 611	7,181	1969	Residence	included in above
1000612	NORTHWOOD IV APTS 612	6,726	1969	Residence	included in above
1000613	NORTHWOOD IV APTS 613	4,442	1969	Residence	included in above
1000614	NORTHWOOD IV APTS 614	5,399	1969	Residence	included in above
1000615	NORTHWOOD IV APTS 615	3,159	1969	Residence	included in above
1000616	NORTHWOOD IV APTS 616	10,707	1969	Residence	included in above
1000617	NORTHWOOD IV APTS 617	7,967	1969	Residence	included in above
1000618	NORTHWOOD IV APTS 618	7,082	1969	Residence	included in above
1000619	NORTHWOOD IV APTS 619	6,727	1969	Residence	included in above
1000620	NORTHWOOD IV APTS 620	6,727	1969	Residence	included in above
1000621	NORTHWOOD IV APTS 621	3,117	1969	Residence	included in above
1000622	NORTHWOOD IV APTS 622	5,876	1969	Residence	included in above
1000623	NORTHWOOD IV APTS 623	8,065	1969	Residence	included in above
1000624	NORTHWOOD IV APTS 624	6,727	1969	Residence	included in above
1000625	NORTHWOOD IV APTS 625	4,061	1969	Residence	included in above
1000626	NORTHWOOD IV APTS 626	5,741	1969	Residence	included in above
1000627	NORTHWOOD IV APTS 627	3,117	1969	Residence	included in above
1000628	NORTHWOOD IV APTS 628	5,425	1969	Residence	included in above
1000629	NORTHWOOD IV APTS 629	5,425	1969	Residence	included in above
1000630	NORTHWOOD IV APTS 630	11,534	1969	Residence	included in above
1000631	NORTHWOOD IV APTS 631	4,442	1969	Residence	included in above
1000632	NORTHWOOD IV APTS 632	2,821	1969	Residence	included in above
1000633	NORTHWOOD IV APTS 633	6,727	1969	Residence	included in above
1000634	NORTHWOOD IV APTS 634	4,123	1969	Residence	included in above
1000635	NORTHWOOD IV APTS 635	4,123	1969	Residence	included in above
1000636	NORTHWOOD IV APTS 636	3,159	1969	Residence	included in above
1000637	NORTHWOOD IV APTS 637	7,034	1969	Residence	included in above
1000638	NORTHWOOD IV APTS 638	5,775	1969	Residence	included in above
1000639	NORTHWOOD IV APTS 639	8,029	1969	Residence	included in above

1000640	NORTHWOOD IV APTS 640	5,425	1969	Residence	included in above
1000641	NORTHWOOD IV APTS 641	4,478	1969	Residence	included in above
1000642	NORTHWOOD IV APTS 642	4,061	1969	Residence	included in above
1000643	NORTHWOOD IV APTS 643	5,363	1969	Residence	included in above
1000644	NORTHWOOD IV APTS 644	8,348	1969	Residence	included in above
1000645	NORTHWOOD IV APTS 645	6,279	1969	Residence	included in above
1000646	NORTHWOOD IV APTS 646	5,425	1969	Residence	included in above
1000647	NORTHWOOD IV APTS 647	4,123	1969	Residence	included in above
1000648	NORTHWOOD IV APTS 648	3,159	1969	Residence	included in above
1000649	NORTHWOOD IV APTS 649	4,442	1969	Residence	included in above
1000650	NORTHWOOD IV APTS 650	4,123	1969	Residence	included in above
1000651	NORTHWOOD IV APTS 651	5,425	1969	Residence	included in above
1000652	NORTHWOOD IV APTS 652	6,701	1969	Residence	included in above
1000653	NORTHWOOD IV APTS 653	4,442	1969	Residence	included in above
1000654	NORTHWOOD IV APTS 654	5,425	1969	Residence	included in above
1000655	NORTHWOOD IV APTS 655	11,099	1969	Residence	included in above
1000656	NORTHWOOD IV APTS 656	10,080	1969	Residence	included in above
1000657	NORTHWOOD IV APTS 657	6,727	1969	Residence	included in above
1000658	NORTHWOOD IV APTS 658	8,480	1969	Residence	included in above
1000659	NORTHWOOD IV APTS 659	9,269	1969	Residence	included in above
1000660	NORTHWOOD IV APTS 660	8,348	1969	Residence	included in above
1000661	NORTHWOOD IV APTS 661	5,744	1969	Residence	included in above
1000662	NORTHWOOD IV APTS 662	3,159	1969	Residence	included in above
1000663	NORTHWOOD IV APTS 663	9,650	1969	Residence	included in above
1000664	NORTHWOOD IV APTS 664	8,348	1969	Residence	included in above
1000665	NORTHWOOD IV APTS 665	3,159	1969	Residence	included in above
1000666	NORTHWOOD IV APTS 666	4,442	1969	Residence	included in above
1000667	NORTHWOOD IV APTS 667	6,665	1969	Residence	included in above
1000668	NORTHWOOD IV APTS 668	9,331	1969	Residence	included in above
1000669	NORTHWOOD IV APTS 669	8,348	1969	Residence	included in above
1000670	NORTHWOOD IV APTS 670	7,095	1969	Residence	included in above
1000671	NORTHWOOD IV APTS 671	10,858	1969	Residence	included in above
1000672	NORTHWOOD IV APTS 672	5,425	1969	Residence	included in above
1000673	NORTHWOOD IV APTS 673	9,779	1969	Residence	included in above
1000674	NORTHWOOD IV APTS 674	8,029	1969	Residence	included in above
1000675	NORTHWOOD IV APTS 675	10,679	1969	Residence	included in above
1000676	NORTHWOOD IV APTS 676	6,727	1969	Residence	included in above
1000677	NORTHWOOD IV APTS 677	8,104	1969	Residence	included in above
1000678	NORTHWOOD IV APTS 678	7,046	1969	Residence	included in above
1000679	NORTHWOOD IV APTS 679	3,159	1969	Residence	included in above
1000680	NORTHWOOD IV APTS 680	7,967	1969	Residence	included in above

1000681	NORTHWOOD IV APTS 681	8,348	1969	Residence	included in above
1000682	NORTHWOOD IV APTS 682	11,045	1969	Residence	included in above
1000683	NORTHWOOD IV APTS 683	6,727	1969	Residence	included in above
1000684	NORTHWOOD IV APTS 684	1,479	1996	Residence	included in above
1002701	NORTHWOOD V APTS 2701	5,603	1972	Residence	$68,425,852
1002702	NORTHWOOD V APTS 2702	10,695	1972	Residence	included in above
1002703	NORTHWOOD V APTS 2703	9,393	1972	Residence	included in above
1002704	NORTHWOOD V APTS 2704	5,603	1972	Residence	included in above
1002705	NORTHWOOD V APTS 2705	9,393	1972	Residence	included in above
1002706	NORTHWOOD V APTS 2706	9,393	1972	Residence	included in above
1002707	NORTHWOOD V APTS 2707	5,603	1972	Residence	included in above
1002708	NORTHWOOD V APTS 2708	8,091	1972	Residence	included in above
1002709	NORTHWOOD V APTS 2709	6,218	1972	Residence	included in above
1002710	NORTHWOOD V APTS 2710	9,393	1972	Residence	included in above
1002711	NORTHWOOD V APTS 2711	8,091	1972	Residence	included in above
1002712	NORTHWOOD V APTS 2712	6,789	1972	Residence	included in above
1002713	NORTHWOOD V APTS 2713	5,603	1972	Residence	included in above
1002714	NORTHWOOD V APTS 2714	6,789	1972	Residence	included in above
1002715	NORTHWOOD V APTS 2715	5,603	1972	Residence	included in above
1002716	NORTHWOOD V APTS 2716	8,091	1972	Residence	included in above
1002717	NORTHWOOD V APTS 2717	6,218	1972	Residence	included in above
1002718	NORTHWOOD V APTS 2718	6,218	1972	Residence	included in above
1002719	NORTHWOOD V APTS 2719	5,603	1972	Residence	included in above
1002720	NORTHWOOD V APTS 2720	5,603	1972	Residence	included in above
1002721	NORTHWOOD V APTS 2721	5,603	1972	Residence	included in above
1002722	NORTHWOOD V APTS 2722	9,393	1972	Residence	included in above
1002723	NORTHWOOD V APTS 2723	5,603	1972	Residence	included in above
1002724	NORTHWOOD V APTS 2724	6,789	1972	Residence	included in above
1002725	NORTHWOOD V APTS 2725	6,789	1972	Residence	included in above
1002726	NORTHWOOD V APTS 2726	6,218	1972	Residence	included in above
1002727	NORTHWOOD V APTS 2727	6,218	1972	Residence	included in above
1002728	NORTHWOOD V APTS 2728	5,603	1972	Residence	included in above
1002729	NORTHWOOD V APTS 2729	6,789	1972	Residence	included in above
1002730	NORTHWOOD V APTS 2730	5,603	1972	Residence	included in above
1002731	NORTHWOOD V APTS 2731	6,789	1972	Residence	included in above
1002732	NORTHWOOD V APTS 2732	8,091	1972	Residence	included in above
1002733	NORTHWOOD V APTS 2733	9,393	1972	Residence	included in above
1002734	NORTHWOOD V APTS 2734	8,091	1972	Residence	included in above
1002735	NORTHWOOD V APTS 2735	5,603	1972	Residence	included in above
1002736	NORTHWOOD V APTS 2736	5,603	1972	Residence	included in above
1002737	NORTHWOOD V APTS 2737	6,218	1972	Residence	included in above

1002738	NORTHWOOD V APTS 2738	5,603	1972	Residence	included in above
1002739	NORTHWOOD V APTS 2739	6,789	1972	Residence	included in above
1002740	NORTHWOOD V APTS 2740	8,091	1972	Residence	included in above
1002741	NORTHWOOD V APTS 2741	8,091	1972	Residence	included in above
1002742	NORTHWOOD V APTS 2742	9,393	1972	Residence	included in above
1002743	NORTHWOOD V APTS 2743	5,603	1972	Residence	included in above
1002744	NORTHWOOD V APTS 2744	8,091	1972	Residence	included in above
1002745	NORTHWOOD V APTS 2745	9,393	1972	Residence	included in above
1002746	NORTHWOOD V APTS 2746	5,603	1972	Residence	included in above
1002747	NORTHWOOD V APTS 2747	5,603	1972	Residence	included in above
1002748	NORTHWOOD V APTS 2748	5,603	1972	Residence	included in above
1002749	NORTHWOOD V APTS 2749	6,789	1972	Residence	included in above
1002750	NORTHWOOD V APTS 2750	6,789	1972	Residence	included in above
1002751	NORTHWOOD V APTS 2751	5,603	1972	Residence	included in above
1002752	NORTHWOOD V APTS 2752	8,091	1972	Residence	included in above
1002753	NORTHWOOD V APTS 2753	5,603	1972	Residence	included in above
1002754	NORTHWOOD V APTS 2754	6,789	1972	Residence	included in above
1002755	NORTHWOOD V APTS 2755	5,603	1972	Residence	included in above
1002756	NORTHWOOD V APTS 2756	9,393	1972	Residence	included in above
1002757	NORTHWOOD V APTS 2757	5,603	1972	Residence	included in above
1002758	NORTHWOOD V APTS 2758	9,393	1972	Residence	included in above
1002759	NORTHWOOD V APTS 2759	9,393	1972	Residence	included in above
1002760	NORTHWOOD V APTS 2760	5,603	1972	Residence	included in above
1002761	NORTHWOOD V APTS 2761	5,603	1972	Residence	included in above
1002762	NORTHWOOD V APTS 2762	9,393	1972	Residence	included in above
1002763	NORTHWOOD V APTS 2763	5,603	1972	Residence	included in above
1002764	NORTHWOOD V APTS 2764	6,789	1972	Residence	included in above
1002765	NORTHWOOD V APTS 2765	6,789	1972	Residence	included in above
1002766	NORTHWOOD V APTS 2766	6,218	1972	Residence	included in above
1002767	NORTHWOOD V APTS 2767	5,603	1972	Residence	included in above
1002768	NORTHWOOD V APTS 2768	6,789	1972	Residence	included in above
1002769	NORTHWOOD V APTS 2769	6,789	1972	Residence	included in above
1002770	NORTHWOOD V APTS 2770	8,091	1972	Residence	included in above
1002771	NORTHWOOD V APTS 2771	6,218	1972	Residence	included in above
1002772	NORTHWOOD V APTS 2772	9,279	1972	Residence	included in above
1002773	NORTHWOOD V APTS 2773	9,279	1972	Residence	included in above
1002774	NORTHWOOD V APTS 2774	9,279	1972	Residence	included in above
1002775	NORTHWOOD V APTS 2775	6,218	1972	Residence	included in above
1002776	NORTHWOOD V APTS 2776	9,279	1972	Residence	included in above
1002777	NORTHWOOD V APTS 2777	6,218	1972	Residence	included in above
1002778	NORTHWOOD V APTS 2778	6,218	1972	Residence	included in above

1002779	NORTHWOOD V APTS 2779	9,279	1972	Residence	included in above
1000405	NUCLEAR ENGINEERING LABORATORIES	20,565	1955	Teach, Research, Support	$500,000
1000851	OBSERVATORY HALL	30,964	1930	Teach, Research, Support	$5,423
1000042	OH ADELIA CHEEVER RESIDENCE	9,413	1964	Resident Hall	
1000041	OH ARTHUR AND HAZEL VANDENBERG HALL	20,117	1964	Resident Hall	
1000043	OH GEDDES RESIDENCE	11,204	1964	Resident Hall	
1000044	OH JULIA ESTHER EMANUEL RESIDENCE	8,984	1964	Resident Hall	
1000046	OH LAUREL HARPER SEELEY HALL	36,375	1964	Resident Hall	
1000040	OH MARY ALICE AND LILLIAN GODDARD HALL	21,995	1964	Resident Hall	$32,174,023
1000045	OH PAMELA NOBLE RESIDENCE	9,413	1964	Resident Hall	
1000047	OH PLANT SERVICE	3,341	1964	Administration & Support	
1000704	OOSTERBAAN BENNIE FIELD HOUSE	89,001	1981	Intercollegiate Athletics Bldg	$761,406
1005047	PALMER COMMONS	106,471	2005	Teach, Research, Support	$1,504,848
1000263	PALMER DRIVE PARKING STRUCTURE	389,120	2004	Parking Structure	$15,733
1005399	PERFORMANCE CENTER	147,863	2018	Intercollegiate Athletics Bldg	
1000890	PERRY BUILDING	117,904	1902	Teach, Research, Support	$56,991
1000807	PHYSICAL PROPERTIES BUILDING	7,183	1920	Administration & Support	$612,254
1000442	PIERPONT WILBUR K COMMONS	90,488	1965	Recreational Sports Building	$7,265,969
1008050	PLANT STORAGE BUILDING #1	3,087	1987	Administration & Support	
1008051	PLANT STORAGE BUILDING #2	2,577	1987	Administration & Support	
1008052	PLANT STORAGE BUILDING #3	2,577	1987	Administration & Support	
1005385	POSTMA RICHARD L FAMILY CLUBHOUSE	25,268	2017	Intercollegiate Athletics Bldg	
1000186	POUND MADELON HOUSE	7,571	1898	Teach, Research, Support	$1,979,635
1000187	POUND MADELON HOUSE GARAGE	527	1951	Teach, Research, Support	
1000180	POWER CENTER FOR PERFORMING ARTS	73,088	1971	Teach, Research, Support	$3,911,248
1000203	PRESIDENTS RESIDENCE	13,781	1840	Administration & Support	$987,074
1000172	RACKHAM HORACE H SCHOOL OF GRADUATE STUDIES	157,957	1938	Teach, Research, Support	$789,703
1000416	RADIATION SCIENCES LABORATORY 1	7,708	1962	Teach, Research, Support	$524,938
1000417	RADIATION SCIENCES LABORATORY 2	10,660	1962	Teach, Research, Support	$410,488
1000972	RADRICK FARMS BARN #1	4,902	1962	Administration & Support	
1000955	RADRICK FARMS CARETAKERS HOUSE	2,874	1962	Administration & Support	
1000958	RADRICK FARMS CHICKEN HOUSE	200	1962	Administration & Support	
1000970	RADRICK FARMS COMFORT STATION	251	1987	Administration & Support	
1005331	RADRICK FARMS COMFORT STATION #2	253	1987	Administration & Support	
1000959	RADRICK FARMS CORNCRIB #1	105	1962	Administration & Support	
1000918	RADRICK FARMS DRIVE RANGE SHELT	128	1989	Administration & Support	
1000962	RADRICK FARMS FIRE BARN	792	1962	Administration & Support	
1000960	RADRICK FARMS FOOD SERVICE BLDG	408	1995	Administration & Support	
1000974	RADRICK FARMS GOLF CART BUILDING	2,909	1976	Administration & Support	
1000963	RADRICK FARMS GOLF CLUBHOUSE	10,725	1940	Administration & Support	
1000971	RADRICK FARMS GOLF STORAGE BLDG	6,458	1966	Administration & Support	

1000954	RADRICK FARMS PUMP HOUSE	168	1976	Administration & Support	
1000956	RADRICK FARMS SHED-GARAGE	2,370	1962	Administration & Support	
1005048	RADRICK FARMS STORAGE	4,055	2003	Administration & Support	
1000957	RADRICK FARMS TACKROOM-BARN	2,855	1962	Administration & Support	
1000953	RADRICK RECREATION FACILITY	2,459	1994	Recreational Sports Building	$5,273
1000208	RANDALL HARRISON M LABORATORY	217,169	1924	Teach, Research, Support	$5,193,948
1000812	RESEARCH MUSEUMS CENTER	153,375	1969	Teach, Research, Support	$3,183,704
1005426	REVELLI TEMPORARY STORAGE BUILDING	475	2018	Teach, Research, Support	
1000813	REVELLI WILLIAM D BAND REHEARSAL HALL	15,620	1973	Teach, Research, Support	$2,217,471
1000301	ROGEL CANCER CENTER	278,072	1997	TeachResSupport/CDS	$35,203,184
1005188	ROSS SCHOOL OF BUSINESS BUILDING	292,008	2009	Teach, Research, Support	$180,414
1005120	ROSS STEPHEN M ACADEMIC CENTER	45,356	2006	Teach, Research, Support	
1000193	RUTHVEN ALEXANDER G BUILDING	183,694	1928	Administration & Support	$22,656,616
1003542	SAGINAW FOREST GARAGE	682	1903	Teach, Research, Support	
1003541	SAGINAW FOREST RESIDENCE	567	1903	Teach, Research, Support	
1000268	SALT STORAGE BUILDING	2,385	1984	Administration & Support	$73,983
1000705	SCHEMBECHLER GLENN E HALL	90,891	1971	Intercollegiate Athletics Bldg	$907,207
1000420	SCHOOL OF INFORMATION NORTH	30,930	1971	Teach, Research, Support	$6,628,264
1000211	SCHOOL OF KINESIOLOGY BUILDING	228,460	1915	Teach, Research, Support	$19,021
1000219	SCHOOL OF SOCIAL WORK BUILDING	143,675	1997	Teach, Research, Support	$4,446,357
1000999	SEISMOGRAPH STATION	576	1963	Teach, Research, Support	
1000227	SHAPIRO HAROLD T AND VIVIAN B LIBRARY	175,900	1957	Library Building	$6,810,803
1000944	SHEEP RESEARCH FAC EAST BARN	2,016	1983	Teach, Research, Support	
1005406	SHEEP RESEARCH FAC HOOP BARN	2,038	2002	Teach, Research, Support	
1000942	SHEEP RESEARCH FAC PORTAL VISTA	3,744	1993	Teach, Research, Support	
1000943	SHEEP RESEARCH FAC SQUARE DOME	1,280	1985	Teach, Research, Support	
1005405	SHEEP RESEARCH FAC TRACTOR SHED	680	1994	Teach, Research, Support	
1000947	SHEEP RESEARCH FACILITY HAY BARN	280	1976	Teach, Research, Support	
1000973	SHEEP RESEARCH FACILITY OLD BARN	1,153	1962	Teach, Research, Support	
1000946	SHEEP RESEARCH FACILITY P BARN 1	4,575	1976	Teach, Research, Support	
1005349	SHEPHERD DONALD R SOFTBALL CENTER	10,500	2014	Intercollegiate Athletics Bldg	
1005077	SHEPHERD DONALD R WOMENS GYMNASTIC CENTER	22,837	2002	Intercollegiate Athletics Bldg	
1000320	SIMPSON CIRCLE PARKING STRUCTURE	467,374	1968	Parking Structure	$78,304
1000212	SIMPSON THOMAS H MEMORIAL INST MEDICAL RESEARCH	17,769	1927	Teach, Research, Support	$6,068,486
1005401	SOCCER TICKET BUILDING	238	2015	Intercollegiate Athletics Bldg	
1000063	SOUTH QUADRANGLE	371,519	1951	Resident Hall	$69,714,894
1000714	STADIUM PUMPING STATION	6,746	1927	Intercollegiate Athletics Bldg	
1005224	STAMPS AUDITORIUM	13,488	2008	Teach, Research, Support	
1000445	STEARNS FREDERICK BUILDING	18,261	1955	Teach, Research, Support	$2,317,151
1000064	STOCKWELL MADELON LOUISA HALL	145,204	1940	Resident Hall	$480,812
1000215	STUDENT ACTIVITIES	119,626	1957	Student Services	$7,763,380

1000216	TAPPAN HALL	37,576	1894	Teach, Research, Support	$2,237,362
1005037	TAUBMAN A ALFRED BIOMEDICAL SCIENCE RESEARCH BLDG	593,717	2006	Teach, Research, Support	$1,109,854
1000317	TAUBMAN A ALFRED HEALTH CARE CTR	405,003	1986	Clinical Delivery System	$34,782,725
1000209	TAUBMAN A ALFRED HEALTH SCIENCES LIBRARY	143,974	1980	Library Building	$407,565
1002515	TELECOMMUNICATIONS BLDG I	311	1985	Administration & Support	
1000259	THAYER ST PARKING STRUCTURE	165,419	1962	Parking Structure	
1000255	THOMPSON ST PARKING STRUCTURE	365,996	1963	Parking Structure	
1000738	TISCH PRESTON ROBERT TENNIS BLD	89,026	1997	Intercollegiate Athletics Bldg	
1000313	TOWSLEY CENTER FOR CONTINUING MEDICAL EDUCATION	52,332	1969	Teach, Research, Support	$7,702,652
1005240	TOWSLEY CHILDRENS HOUSE	25,428	2010	Teach, Research, Support	$305,790
1005400	TRACK AND FIELD AUXILIARY BUILDING	2,325	2018	Intercollegiate Athletics Bldg	
1005397	TRACK AND FIELD STADIUM	512	2018	Intercollegiate Athletics Bldg	
1000808	TRANSPORTATION SERVICES BUILDING	40,611	1964	Administration & Support	$2,064,782
1005413	TROTTER WILLIAM MONROE MULTICULTURAL CENTER	20,719	2019	Student Services	
1002519	UM TRANS RES FLAMMABLE STOR BLDG	192	1996	Teach, Research, Support	
1000444	U-M TRANSPORTATION RESEARCH INST	77,883	1969	Teach, Research, Support	$10,350,973
1005338	UM TRANSPORTATION RESEARCH TESTING BUILDING	3,454	2012	Teach, Research, Support	
1005051	UMH MODULAR OFFICE A	2,050	2000	Clinical Delivery System	
1005046	UNDERGRADUATE SCIENCE BUILDING	141,749	2005	Teach, Research, Support	$256,696
1000390	UNIV HOSPITALS CHILD CARE CENTER	14,850	1991	Clinical Delivery System	$466,009
1000316	UNIVERSITY HOSPITAL	1,713,623	1986	Clinical Delivery System	$185,758,262
1000309	UNIVERSITY HOSPITAL SOUTH UNIT 1	67,494	1950	Clinical Delivery System	$3,969,357
1000312	UNIVERSITY HOSPITAL SOUTH UNIT 2	266,038	1969	Clinical Delivery System	$59,731,877
1000314	UNIVERSITY HOSPITAL SOUTH UNIT 3	19,988	1972	Clinical Delivery System	$1,325,092
1000318	UNIVERSITY HOSPITAL SOUTH UNIT 4	158,938	1990	Clinical Delivery System	$8,380,574
1005012	UNIVERSITY HOSPITALS HELIPAD	5,397	2001	Clinical Delivery System	
1005117	UPJOHN RACHEL BUILDING	117,097	2006	Clinical Delivery System	
1000261	UTILITIES SERVICE BUILDING	15,183	1973	Administration & Support	$2,074,915
1000204	VAUGHAN HENRY FRIEZE PUBLIC HEALTH BUILDING	210,906	1942	Teach, Research, Support	$923,627
1000065	VAUGHAN VICTOR C HOUSE	51,518	1939	Teach, Research, Support	$4,991,266
1005059	WALGREEN CHARLES R JR DRAMA CENTER	84,149	2007	Teach, Research, Support	$15,402
1005193	WALL STREET EAST PARKING STRUCTURE	249,962	2014	Parking Structure	
1005430	WALL STREET WEST PARKING STRUCTURE	367,321	2020	Parking Structure	
1008067	WALLACE MIKE AND MARY HOUSE	7,863	1909	Teach, Research, Support	
1000731	WEIDENBACH JOHN P HALL	23,229	1955	Intercollegiate Athletics Bldg	$523,694
1005101	WEILL JOAN & SANFORD HALL	97,989	2006	Teach, Research, Support	$1,003,765
1000165	WEISER HALL	144,701	1963	Teach, Research, Support	$12,993,213
1005319	WEISFELD FAMILY GOLF CENTER	11,307	2011	Intercollegiate Athletics Bldg	
1005388	WEST ANN ARBOR HEALTH CENTER NEW	75,260	2017	Clinical Delivery System	
1000167	WEST HALL	166,528	1904	Teach, Research, Support	$460,450
1000066	WEST QUADRANGLE	386,311	1937	Resident Hall	$1,554,560

1008090	WOLVERINE TOWER	224,981	1973	Administration & Support	$9,188,111
1000135	WYLY SAM HALL	82,855	2000	Teach, Research, Support	$815,440
1000709	YOST ICE ARENA	125,259	1924	Intercollegiate Athletics Bldg	$2,150,817

V. IMPLEMENTATION PLAN

The university consistently ranks in the top ten of public universities in the United States, according to the U.S. News and World Report. Strategic facility investments allow the university to provide exemplary spaces serving a wide range of needs from classroom and research spaces, student residences and patient care, to athletics and the performing arts.

In March 2021, the President's Commission on Carbon Neutrality issued a final report and recommendations. The report includes recommendation for updating the university's master plan and creating district plans. In May, the President announced that the university would be renewing the campus master planning process with carbon neutrality at its center in collaboration with faculty experts. The new integrated planning will bring together major campus unit needs into one comprehensive master plan. Integrated planning supports efficient resource allocation and identifies immediate, short-term and longer-term needs and planning opportunities to guide future land use planning and capacity targets, functional use requirements, transportation and pedestrian circulation, open space and recreational resources, and utility support. The comprehensive nature of this process ensures alignment between all units and prudent investment decisions. This new planning process will include Flint and Dearborn campuses, and will include an emphasis on carbon neutrality, environmental justice, diversity, equity and inclusion, interconnectedness and other core areas of priority. Shared guiding principles will be developed with campus community engagement during this academic year that will help provide the foundation for developing a new integrated master plan that will be initiated in fall, 2022.

As the university experiences new growth and expansion of existing programs and facilities, our commitment to making strategic facility investments remains a high priority. The U-M has maintained a strategic focus on transforming and enriching the student experience, resulting in a rigorous building renewal program for its residential halls and dining facilities. The university has also executed a significant renovation and expansion program for athletic and recreational facilities over the last decade to address the aging condition of heritage structures, and to provide new amenities needed to remain competitive with U-M peers. The university continues to focus on ways to improve the quality of campus life with emphasis on locations and adjacencies, the selection and organization of programs and services, housing facilities, retail, and other amenities. The university also continues to identify ways to support and strengthen our engagement efforts and partnerships within the City of Detroit. In 2017, the university purchased approximately one-third of the Horace H. Rackham Education Memorial Building located in Midtown and not previously owned by the university. A study is currently underway to identify how to best renovate the facility to support U-M's programs within the city.

With an anticipated increase of activity on Central, Medical and North Campus, improved connectivity between campuses is essential to supporting academic, research and clinical missions. The university continues to explore opportunities to increase capacity, improve reliability, enhance sustainability, and provide greater efficiency that may help reduce travel time between campuses. One such opportunity being explored is a rapid transit system, such as a bus, train or monorail, to better connect the campuses. We have also initiated the construction of the

Dean Road Transportation Facility, which when completed, will allow the university to better maintain, enhance and diversify our transit fleet.

The university's housing system serves as home to approximately 10,000 undergraduate students in a typical year. Facilities include 18 residence halls as well as 1,480 apartments on North Campus that accommodate undergraduates, students with families and graduate students. Many years ago, the university implemented a comprehensive capital plan to address significant building renewal of existing residence halls as well as new facilities for housing and dining. This included renovation of several heritage facilities as well as the construction of the first undergraduate residence hall in more than forty years, the North Quadrangle Residential and Academic Complex. The Munger Graduate Residences opened its doors in 2015. Made possible by a generous donation from philanthropist and alumnus Charles T. Munger, the facility houses 630 graduate students from multiple disciplines and provides opportunities for living and learning. A new housing development is being considered in the area of South Fifth Avenue area as a successor to the existing Mary Markley Hall located in the Hill Neighborhood. Also being considered is a potential housing redevelopment on North Campus to replace a portion of the Northwoods Housing.

Infrastructure planning continues as a critical component of the university's master plan. As the university continues to refine short-term and long-term facility needs, requirements for additional power, chilled water, domestic water, and storm water will evolve. The university continues to explore ongoing regional storm water management strategies to support new facilities and impacts from renovation and maintenance projects. Recently, a new storm water infiltration system was installed on Central Campus to help protect university buildings from potential floods and to free-up capacity in the university and city of Ann Arbor's storm water systems. Most recently, the President's Commission on Carbon Neutrality (PCCN) is exploring potential strategies for evolving the university's heat and power infrastructure toward carbon neutrality.

Major projects (over $5 million) in various stages of planning, design or construction are detailed in this section. These projects support student life, collaboration and interdisciplinary learning, preservation of knowledge, international studies, and the university's commitment to nourish the arts and cultural activities on campus. Over the next five years, a wide variety of infrastructure projects or programmatic changes will emerge that will require the development of projects not on the lists. Although the university brings a consistent set of planning principles to all areas of campus, each campus has a unique set of dynamics. A brief description of the planning emphasis of each campus is provided.

Central Campus and Medical Center Campus

The development of Central Campus remains consistent with university planning principles that promote renovating and re-purposing existing facilities while maintaining the character of the historic core. Medical Center Campus planning continues to focus on redevelopment opportunities as well as addressing infrastructure, transportation and site improvements to support existing facilities. Construction is now underway with new adult inpatient tower in response to space needs needed improve inpatient clinical care and will be named The Pavilion

at University of Michigan Health. In addition, Michigan Medicine's ongoing strategic facilities master planning effort may impact planning for the future of the Medical Center Campus core area as well as the Wall Street district, the North Ingalls area, and East Medical Campus.

A significant number of projects, some highlighted below, are planned or underway in response to growth pressures by academic and research initiatives as well as patient care needs.

- Construction is near completion on a new 100,000-square-foot classroom building on Central Campus that will serve as many as 10,000 students each day. The classroom building will include 1,400 classroom seats in a variety of learning spaces and all designed to support active and team-based learning. The project's design accommodates the university's evolving academic needs, as more courses and instructors require large, modern, team-based and active-learning classrooms. The project also includes a renovation and reuse of the historic Alexander G. Ruthven Museums building to house space for academic and research initiatives as well as administrative functions.

- Construction has been completed on a project to renovate and add to the Edward Henry Kraus Building, now renamed the School of Kinesiology Building, to consolidate the School of Kinesiology and allow for future growth in programs. The renovation addressed the building's deferred maintenance needs including full replacement of the mechanical, electrical and plumbing systems.

- Plans are moving forward to build a new teaching and research facility to address the College of Pharmacy's need to consolidate and modernize its space. The new building will house active learning-style classrooms, laboratories and associated support spaces.

- The School of Dentistry's renovation and addition project continues in construction. This project is part of the FY17 Capital Outlay Request with State providing $30 million in funding. The renovation and expansion will create a more welcoming, accessible facility with an improved patient entrance, modern teaching clinics and open, flexible research space. A new special needs and inter-professional care clinic will treat patients with complex medical conditions and disabilities.

- A project is being explored to replace the university's largest recreational sports center, the Central Campus Recreation Building, with a new 200,000-square foot facility to enable greater access and opportunity for students, faculty and staff to improve their health and well-being. The project follows recent extensive renovations to the North Campus Recreation Building and the Intramural Sports Building.

- Construction is now underway of a new adult inpatient tower (The Pavilion at University of Michigan Health) for the Medical Center Campus in response to high demand for patient rooms and surgical suites. The 690,000-square-foot project will accommodate an inpatient care program with single-occupancy patient rooms and surgical/interventional radiology suites. Specifically, the patient program emphasizes improved access to clinical neurosciences and cardiac care services. Relocation of existing clinical services from

University Hospital will allow for future redesign and growth for patient programs remaining in that facility.

- Construction was completed on the Wall Street West parking structure. This project was built over an existing surface parking lot to provide additional parking options for the Medical Campus and Central Campus.

- Updates to the Ginsberg Center facilities are currently being explored to further enhance community and civic engagement and cultivate and steward equitable partnerships between communities and the University of Michigan in order to advance social change for the public good.

Current and Planned Major Projects Central and Medical Center Campuses (>$5M) FY21-FY25

PROJECT/BUILDING & STATUS	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED $ (MILLIONS)
Central Campus Recreation Building Replacement [in design]	New Construction	200,000	$150
Central Campus Classroom Building and Alexander Ruthven Museums Building [in construction]	Renov/Addition	150,000 Renov 100,000 Addition	$150
College of Pharmacy – New Building [in design]	New Construction	130,000	$121
A. Alfred Taubman Biomedical Science Research Building Vivarium Expansion [in construction]	Renovation	20,000	$19
Central Power Plant Expansion [in construction]	Addition	12,000	$80
Central Power Plant Switchgear Upgrade [in Construction]	Renovation	N/A	$23
MMED Clinical Inpatient Tower (The Pavilion at University of Michigan Health)[in construction]	New Construction	690,000	$920
MMED Medical Science Building 1	Renovation	TBD	TBD
Dental Building/Kellogg Institute– FY17 Capital Outlay Request [in construction]	Renov/Addition	176,000 Renov 48,000 Addition	$140
Observatory Hall	Renovation	TBD	TBD
Residential	Replacement/ Demolition	TBD	TBD

North Campus

With the greatest capacity for future growth and development, North Campus continues to be a high priority planning focus. Efforts to strengthen and reinforce connections internally on North Campus, as well as between campuses, and strategies to further enliven and enrich student life remain a primary focus of ongoing planning activities. Currently, about one third of students who live in U-M housing reside on North Campus. A future residential development is being considered for the southeast corner of Murfin Avenue and Plymouth Road, where the Northwoods Apartments are located.

Design plans are progressing for the Computer Science and Engineering and School of Information Addition. This project will address projected growth over the next 10-15 years. The space and enrollment challenges faced by the College of Engineering and the School of Information are similar, and both units will benefit from this project. This project received planning authorization in 2018 and construction authorization in 2020.

Other current or planned projects for North Campus include:

- Construction is completed on the new Dance Building for the School of Music, Theatre and Dance. The building provides much-needed rehearsal and performance space for the Department of Dance, which outgrew its previous building on Central Campus. In joining the other creative disciplines on North Campus, the new building will foster more innovation and collaborations with music, theatre, the visual arts, architecture, and engineering.

- Construction on the new Ford Motor Company Robotics Building is completed. The project brings faculty and students together from across multiple disciplines and houses research laboratories in an open plan to allow for greater collaboration and increased flexibility of space utilization. Ford occupies space in the building and works side-by-side with university researchers to accelerate autonomous vehicle research. Several key testing spaces include a robot-walking lab, a flight-testing lab, and labs for electronics and software development.

- Construction has been completed to renovate the last two empty buildings at the North Campus Research Complex (NCRC) to create more than 50 modern research laboratories. Comprising more than 2.1 million square feet of space, NCRC is home to approximately 3,500 occupants and brings together people and activities for research in health, biomedical sciences and other disciplines.

- Construction is underway for the Dean Road Transportation Facility. This facility will accommodate current and future vehicle maintenance space needs. The approximately 70,000 square foot building and adjacent grounds will be able to accommodate larger, electric, articulated buses and will include infrastructure for bus charging.

- A study is underway for a geothermal exchange central plant building and wellfield on the university's North Campus. The plant would provide medium temperature heating hot water and chilled water to the Computer Science and Engineering and School of Information Addition and, potentially, the existing Beyster Building.

Current and Planned Major Projects North Campus (>$5M) FY21–FY25

PROJECT /BUILDING & STATUS	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED $ (MILLIONS)
Computer Science and Engineering and School of Information - FY20 Capital Outlay request [in design]	Renovation/ Addition	TBD Renov 163,000 Addition	$145
Dean Road Transportation Facility [in construction]	New Construction	70,000	$39
Naval Architecture and Marine Engineering	Renovation/Addition	TBD	TBD
Residential	Replacement/ Demolition	TBD	TBD

Stephen M. Ross Athletic Campus

The Ross Athletic Campus is primarily a venue for the Athletics Department, with numerous athletic fields and facilities. Recent facility improvements by the Athletics Department have resulted in a number of projects that improved student recreation and enriched the experience for student athletes. The Athletics Department is reviewing potential future uses for the Ferry Field area as facility needs within the historic core of the Ross Athletic Campus are being re-evaluated in response to the shift of indoor and outdoor track to their new venues.

Current and Planned Major Projects Ross Athletic Campus (>$5M) FY21–FY25

PROJECT/BUILDING & STATUS	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED $ (MILLIONS)
Ferry Field Improvements	TBD	TBD	TBD

East Medical Campus

East Medical Campus is primarily an outpatient clinical care complex that includes associated research and medical education activities. Any plans for future facilities at this location would fit within the framework of plans for Michigan Medicine and the university at large. Storm water management, transit and non-motorized transportation strategies, parking, and infrastructure improvements are all campus components that would be considered with any future proposals.

Michigan Medicine Off-Campus

The volume of ambulatory care and specialty care visits continue to grow and the need for strategically located outpatient facilities is core to the Michigan Medicine's plan to improve access to patient care. The Northville Health Center opened in 2014 and is being used near capacity. Construction was completed on two additional off-campus facilities, the West Ann Arbor Health Center in 2017 and Brighton Health Center South in 2018. These new outpatient facilities are part of Michigan Medicine's overall strategy to deliver enhanced and comprehensive services in the communities where patients are located. Thereby allowing outpatient clinical space on the Medical Center Campus to be repurposed for increased acuity care. Also, Michigan Medicine continues to evaluate potential affiliations to expand access, quality, and level of care to patients.

Detroit Academic Off-Campus

The university continues to identify ways to support and strengthen engagement efforts and partnerships within the City of Detroit. The university is conducting a study of a phased renovation to the Rackham Detroit building to create a central hub for U-M engagement in Detroit and co-locate programs currently in multiple leased properties in the Midtown Detroit area. The university also continues to exploring potential academic initiatives through the construction of the Detroit Center for Innovation

Infrastructure and Deferred Maintenance

Each year a significant number of infrastructure projects are prioritized through the Facility Condition Assessment program as described in Section IV. A planning priority is to adapt existing facilities to meet current and future program needs for the campus by updating building infrastructure and re-programming/reconfiguring existing buildings. Over the next five years the university will implement various projects in this category.

Status of State Building Authority Projects (Ann Arbor)

Completed Projects	Lease Start Date	Lease Termination Date
G.G. Brown Memorial Laboratories Renovation	September 2017	September 2052
Student Activities Building Renovation	December 2009	December 2044
Michigan Memorial Phoenix Laboratory Renovation	December 2009	December 2044
Observatory Lodge Renovation	November 2008	November 2043
Literature, Science and the Arts Building Renovation	August 2007	August 2042
West Hall Renovation	January 2005	January 2040
Mason Hall and Haven Hall Renovations and Addition	November 2005	November 2040
S. T. Dana Building Renovation	November 2003	November 2038
Perry Building Renovation	November 2003	November 2038

Sustainability Initiatives

The University of Michigan announced steps that will be taken to achieve carbon neutrality across all greenhouse gas emission scopes at the Board of Regents meeting in May 2021. This commitment is comprehensive and includes three campuses, an expansive athletics complex, and Michigan Medicine. Following the President's Commission on Carbon Neutrality (PCCN) guidance, U-M will eliminate Scope 1 emissions (resulting from direct, on-campus sources) by 2040, achieve carbon neutrality for Scope 2 emissions (resulting from purchased electricity) by 2025, and establish net-zero goals for Scope 3 emissions categories (resulting from indirect sources like commuting, food procurement, and university-sponsored travel) by 2025.

A set of initial transformative projects will advance the carbon neutrality goal, including:

- Geothermal systems for heating and cooling some of new construction projects, beginning with the Computer Science and Engineering and School of Information building addition on North Campus.

- Electric campus buses for Ann Arbor and Dearborn, as a first step toward decarbonizing U of M's entire vehicle fleet.

- Reevaluating the campus master plan with carbon neutrality at its center in collaboration with faculty experts.

- Making new building projects compatible with renewable energy powered heating and cooling systems, and developing higher energy efficiency standards for new construction and renovation.

- Establishing a university-wide revolving fund for energy efficiency projects, beginning with $25 million over five years.

While work is underway to achieve carbon neutrality, the U-M continues to work toward its 2025 Ann Arbor campus sustainability goals, established in 2011. These goals pertain to climate action, waste reduction, healthy environments and community engagement. Information and analysis related to the university's 2025 goals is available on the university Planet Blue website.

UNIVERSITY OF MICHIGAN – ANN ARBOR

FISCAL YEAR 2023

CAPITAL OUTLAY PROJECT REQUEST

Institution Name:	University of Michigan – Ann Arbor
Project Title:	428 Church Street Building Renovation Project
Project Focus:	Academic, research, and administrative support
Type of Project:	Renovation to the 428 Church Street Building (formally referred to as the "College of Pharmacy Building")
Program Focus of Occupants:	Chemistry web lab, classroom and administrative space for teaching and research.
Approximate Square Footage:	Current building is 56,772 gross square feet. Proposed project renovates the majority of the existing building, updates building infrastructure, includes accessibility improvements, and corrects life and safety deficiencies.
Total Estimated Cost:	$50,000,000
Estimated Start/ Completion Dates:	Start: Programming and conceptual design study to be completed Spring 2025, to align with timing of building being vacated. Construction estimated to start Summer 2025 and be complete by Fall 2027.

Is the Five-Year-Plan posted on the institution's public internet site?	Yes
Is the requested project the top priority in the Five-Year Capital Outlay Plan?	Yes
Is the requested project focused on a single, stand-alone facility?	Yes

Describe the Project Purpose

Overview

One of the University of Michigan's highest priority capital project needs at this time is to renovate our aging Willard H. Dow Chemistry & Laboratory Building (Chemistry Building) for the College of Literature, Science, and the Arts (LSA). This renovation will enable LSA's Department of Chemistry to create modern class labs, research labs, and collaborative space to better support their teaching and research needs. The department teaches foundational chemistry classes to over 11,500 students each year from disciplines across campus and conducts pioneering chemistry research that contributes to solving many of the world's most challenging scientific problems.

The Chemistry Building is a large, complex, 545,000 gross square foot (GSF) building composed primarily of research and class labs along with administrative and classroom space. Taking this building offline for any type of renovation will be complicated, require careful planning, and take years to complete in phases as resources and funding allow. Therefore, the first step is to create temporary space to accommodate a portion of the department's teaching and research activities during the renovation.

The 428 Church Street Building, which is adjacent to the Chemistry Building, will serve as a key solution to help provide temporary space. The university plans to renovate the 428 Church Street Building after it is vacated by the College of Pharmacy in the spring of 2025. Following the Department of Chemistry's temporary needs, the building is envisioned to be used as a long-term home for student-facing programs that will benefit from the building's prime campus location.

The 428 Church Street Building renovation project is being submitted for state capital outlay funding consideration to enable the university to continue conducting critical chemistry classes and research during a future Chemistry Building renovation. This renovation will allow continuity in education and research and make a larger Chemistry Building project possible. Details about the Department of Chemistry, the Chemistry Building, and 428 Church Street Building are provided below for reference.

<u>About the Department of Chemistry and Chemistry Building</u>

The LSA Department of Chemistry has a long tradition of excellence in the chemical sciences. In 1844, the University of Michigan began offering studies in this field. In 1856, the university built the chemical laboratory, thought to be the first such building erected for that purpose on a public campus.

Today, the Department of Chemistry is home to over 500 undergraduate majors, 280 graduate and PhD students, and teaches foundational chemistry classes to over 11,500 students from disciplines across campus each year. It consistently ranks among the top chemistry programs in the country (ranked 15th by U.S. News and World Reports in 2018) and continually seeks to improve the teaching of chemistry and expand opportunities for STEM education for individuals of all backgrounds.

On the research side, our Department of Chemistry faculty have a long-standing tradition of research excellence in several core areas of chemistry (analytical, chemical biology, chemical education, inorganic, materials, organic, and physical) and are highly productive with over $22M in research funding. As the questions chemists ask have become more complex, the Department of Chemistry pushes the boundaries of traditional work in fundamental chemical sciences into the interface with other disciplines. Our Department of Chemistry faculty are leading quests for cleaner energy sources, better battery technology, greener chemical production, new therapies, improved biomedical diagnostics and a host of other work that addresses fundamental challenges of national and global importance.

The Department of Chemistry occupies the 545,000 gross square foot Chemistry Building, located in the heart of our Central Campus on "The Diag." The building was constructed for the department in 1908 and expanded once in 1948 and again in 1988 as the department grew. Today, sixty-seven percent (67%) of the building is dedicated to research and class labs. The remaining 33% of the building is classrooms and administrative space.

The Chemistry Building hinders the Department of Chemistry's ability to meet its core mission due to lack of space, lack of modern teaching labs, and aging research labs. The building has significant deferred maintenance needs and is the second highest energy consumption facility of all U-M Ann Arbor campus buildings due to its large number of fume hoods and the infrastructure needed to support its many labs.

Our vision is to renovate the Chemistry Building to create modern class labs, research labs, administrative, and other spaces that are efficiently laid out and flexible in design to keep up with ever-changing demands. This vision also includes installing new infrastructure that better supports Chemistry's needs and reduces the building's carbon footprint.

Due to the Chemistry Building's sheer size, complexity, and the need to continue chemistry classes and research, however, we cannot renovate the entire building at once. Instead, we anticipate renovating the building in multiple phases, a project that will take years to complete.

About the 428 Church Street Building

The 428 Church Street Building is a four-story, approximately 57,000 GSF building that was constructed for our College of Pharmacy (Pharmacy) in 1960 with an addition added in 1992. The building is comprised of research labs (54%), administrative space (43%), and a small vivarium (3%) and has been dedicated entirely to Pharmacy all these years.

Since occupying the building in 1960, the Pharmacy program, and particularly its research, has grown. Today, Pharmacy occupies space in six different buildings on campus, including the aging 428 Church Street Building. Being distributed across multiple buildings and trying to conduct modern research and classes in outdated facilities has constrained Pharmacy's ability to fulfill its academic and research mission. To address Pharmacy's space challenges, the university is planning to construct a new building that will provide modern space that will support the college well into the future. The 130,000 GSF New College of Pharmacy Building will be located on the corner of Glen Avenue and East Huron Street and is anticipated to be complete in spring 2025.

In terms of facility condition, the 428 Church Street Building's structure is in reasonable condition, given its age, making the building worth preserving for future use. However, the building's infrastructure, and particularly its research infrastructure, is decades old and prone to failures. Restrooms are limited in number and do not support the building's population and the building does not fully meet current building code or ADA accessibility requirements. The building's windows are also past their product life, leak frequently, and need replacement, and because the building was not constructed to meet State of Michigan Bureau of Fire Services (BFS) instructional space requirements, we are unable to use it for credit-bearing classes.

Short-term need and use
When Pharmacy vacates the 428 Church Street Building in spring 2025, we will be able to start renovating the 428 Church Street Building to support the Department of Chemistry's needs during the Chemistry Building renovation. The 428 Church Street Building will help with this swing space need, but will not address all of the department's needs, so other temporary spaces will be needed elsewhere. We envision that the Department of Chemistry will need to use the 428 Church Street Building during all phases of a Chemistry Building renovation, which will take years to complete.

Long-term need and use
Once the Chemistry Building renovation is eventually complete and Chemistry vacates the 428 Church Street Building, we will transition its use for other academic needs. We envision using the building as a long-term home for student-facing programs that will benefit from the building's prime Central Campus location that is adjacent to the Central Campus Transit Center (our main campus bus stop) and at a prominent campus gateway entrance. Some of these programs currently reside on off-campus leases, so this also provides an opportunity to reduce university space costs.

Scope of the Project
This project will renovate the four-story, approximately 57,000 GSF 428 Church Street Building to address the backlog of deferred maintenance needs and address all building code requirements necessary for State of Michigan BFS certification in order to prepare its labs for temporary, swing space use by the Department of Chemistry. Examples of the deferred maintenance work includes replacing windows, replacing HVAC systems, constructing additional restrooms, improving ADA accessibility, making the building compliant with State of Michigan BFS code for instruction, upgrading the fire alarm and addressing other life safety upgrades, and more. This basic infrastructure investment will extend the life of the building by another 50+ years and enable us to use the building not only for Chemistry's temporary space needs, but also give us the flexibility to use the building for other subsequent academic needs for many years to come.

Program Focus of Occupants

The occupants who will benefit from the 428 Church Street Building renovation project have programs focused in fundamental chemical science as well as specializations in several core areas of chemistry (analytical, chemical biology, chemical education, inorganic, materials, organic, and physical). The fundamental and foundational programs are essential to students pursuing careers in the sciences, engineering, or health science fields. The research conducted in specialized areas contributes to our understanding of life sciences, materials, energy, environment and climate. It also contributes to solving pressing global problems and has enormous impacts on the industrial sector.

Additional Information:

1. How does the project enhance Michigan's job creation, talent enhancement and economic growth initiatives on a local, regional, and/or statewide basis?

The 428 Church Street Building renovation project supports the university's overall goal of renovating the Chemistry Building for the Department of Chemistry. In turn, the renovated Chemistry Building will contribute to talent enhancement and economic growth as described below.

Contribution to talent enhancement

Chemical knowledge is essential for many technical and medical careers. Nearly every undergraduate who majors in science and engineering at the university takes at least one chemistry course. This includes all students who enter graduate schools in the sciences or engineering and those who go directly to the workforce in technically oriented companies, such as Dow, BASF, PPG, GM, Ford, and Chrysler. It also includes all students who enter health-related professional schools (Medical School, School of Dentistry, and College of Pharmacy) and contribute vital services and research to support the State's healthcare industry[1]. This breadth is reflected in the ~35,000 student credit hours taught by the Department of Chemistry in 2020. The ~500 undergraduate students who major in Department of Chemistry disciplines are mostly pre-med, pre-dental, pre-pharmacy, and other pre-professional students, many of whom further their training or ultimately practice in Michigan. The PhD program has produced 207 graduates over the past 5 years. Of these, 14% have entered the Michigan workforce in a variety of companies and colleges. Another 70-100 post-doctoral fellows further their training in the Department of Chemistry each year. In addition, Chemistry faculty mentor and graduate PhD students from other programs including the Program in Chemical Biology, Macromolecular Science and Engineering, and Chemical Engineering. Thirty companies have recruited specifically in the U-M Department of Chemistry in recent years. A variety of other companies, such as Dow, PPG, AbbVie, BASF, Bristol Myers Squibb (BMS), some of which have facilities in Michigan, also support U-M graduate students with fellowships to maintain relationships with the Department of Chemistry as a pipeline for future hiring.

Contributions to economic growth

Attracting people. As a prominent and highly respected program, the Department of Chemistry attracts students, faculty, and staff from the state and around the world to U-M interested in being part of its academic and research programs. Our Department of Chemistry also attracts students and faculty in related disciplines, such as life sciences, chemical and materials engineering, and environmental science because it offers opportunities for interdisciplinary collaborations and shared expertise. These individuals contribute to and strengthen our U-M community and the local communities in which they live.

Generating research dollars. In fiscal year 2019, the Department of Chemistry accounted for more than $23.4 million in research expenditures. For the past 5 years, research expenditures

[1] Over 50% of State of Michigan dentists are University of Michigan alumni.

exceeded $109 million. This funding was spent mostly on salaries of local employees who contribute to the local economy through spending. Other expenditures were for supplies and services needed for research that directly or indirectly benefitted the state and local economy.

Synergy with industry. Research-intensive academic institutions with successful chemistry programs can attract and develop mutually beneficial relationships with chemical and biotech companies in the region. Examples of this type of synergy include the chemical/biotech industry in the vicinity of Harvard/MIT (Vertex, Novartis, Millenium Pharmaceuticals) and University of North Carolina/Duke (bioMerieux, Biogen, Novo Nordisk). A similar ecosystem of local small chemical/biotech companies, including Cayman Chemicals, LynxDx, Arbor Assays, BoroPharm, Enzo Life Sciences, and Kaiser Optical, as well as international chemical companies (e.g., Dow, BASF, PPG, Sartorius), exists in Michigan. These companies thrive on hiring students who received training through the Department of Chemistry as well as interactions with U-M. For example, Sartorius recently announced a $57 million investment in Ann Arbor with the creation of 160 high wage jobs and emphasized their interest in local talent for their company. The Department of Chemistry receives substantial funding from companies such as Dow, BASF, Merck, P&G, and Agilent. These interactions contribute to the local economy through research grants and gifts to the university. Non-federal research support (which is primarily from companies) to the Department of Chemistry totals $13.7 million over the past 5 years. Maintaining the Department of Chemistry operation at the highest possible level is necessary to keep these interactions vital.

Innovation. The university has averaged approximately 400 patents and 20 start-up companies per year. The Department of Chemistry accounted for 48 patents and 6 start-ups over the past five years. Further, much of the other science-related entrepreneurial activity relies on the underlying chemistry expertise and facility infrastructure housed in the department. Maintaining the Department of Chemistry in its highest functional state is necessary to continue this work.

2. How does the project enhance the core academic and/or research mission of the institution?

The 428 Church Street Building renovation will have a direct impact on the academic and research mission of the Department of Chemistry and on other academic units later. The investment in the 428 Church Street Building will enable the Department of Chemistry to continue offering classes, conducting research, and operating while the Chemistry Building is under construction. Once the Department of Chemistry no longer needs temporary space, the 428 Church Street Building will enhance the academic mission by providing a home for student-facing and other academic programs that will benefit from its prime Central Campus/gateway location.

The 428 Church Street Building renovation project on its own will not enhance the core academic or research mission of the university. It will, however, enable us to begin a deep renovation of our Chemistry Building, a project that will greatly enhance science and engineering-based teaching and learning and our overall academic and research mission.

Enhancing the academic mission

The Department of Chemistry teaches foundational courses required for engineering, medical, pharmacy, and natural science students. Over 1500 students are enrolled in the introductory CHEM 130 (General Chemistry: Macroscopic Investigations and Reaction Principles) class this fall representing approximately 20% of the incoming first-year undergraduates enrolled at U-M. Another 1300 undergraduate students are enrolled in CHEM 210 (Structure and Reactivity I). These large classes are taught in the Chemistry Building, which houses the largest lecture hall on campus as well as numerous class labs for accompanying chemistry lab classes.

The Department of Chemistry also participates in numerous outreach activities that promote science to youth in the surrounding area. A few examples are listed below.

- Females Excelling in More in Mathematics Engineering and Sciences (FEMMES) is a program that aims to promote science as a career to young high school women. The Chemistry Building traditionally hosts one of the main activities that involves bringing girls to the building for a day of science demonstrations.
- DRISE provides summer internships to high school students through a partnership between the U-M Department of Chemistry and Cass Tech High School in Detroit. Students perform full-time research for seven weeks in a chemistry lab, all while living on campus as U-M students would. The program aims to increase underrepresented, minority participation in the sciences and motivates students to consider attending college and pursuing STEM fields.
- Michigan Chemistry Opportunities for Research and Education (MCORE) is a preview program for graduate school directed at students from underprivileged backgrounds.

Enhancing the research mission

The Department of Chemistry maintains the largest research footprint, measured as research funding and graduate program size, in the largest college at U-M. It plays an essential role as a central science to many U-M science and engineering-based programs and collaborates on a variety of research projects with schools and colleges across the university, particularly in the health sciences and engineering. As a central science, Department of Chemistry research contributes to our understanding of life sciences, materials, energy, environment and climate. It also contributes to solving pressing global problems and has enormous impacts on the industrial sector. For example, the Department of Chemistry houses active research programs in recycling plastics and new battery technology. The department also has exceptional expertise in developing catalysts, which are substances, like enzymes, that increase the rate of a chemical reaction (without the catalyst being consumed itself) and is at the heart of the chemical industry. Catalysts have broad impact to the world of chemical processing and can save vast amounts of energy and chemical waste and enable chemical processing to occur in ways that would not otherwise be possible. Approximately 80% of all manufactured products use

catalysts, so catalyst development is critical to the world's economic success and yields an economic impact equivalent to 30% of the global gross domestic product (GDP).[2]

By renovating the Chemistry Building and constructing state of the art class labs and research labs, we enable our Department of Chemistry faculty to teach in new and innovative ways, improve the student learning experience, and continue a large volume of innovative and leading research that supports the mission of the university and the university's role in serving society. Renovating the 428 Church Street Building is the first step to making this critical need come to fruition.

3. Is the requested project focused on a single, stand-alone facility? If no, please explain.

Yes.

4. How does the project support investment in or adaptive re-purposing of existing facilities and infrastructure?

The 428 Church Street Building project renews and extends the life of this building for another 50 years, providing a more cost-effective, convenient, and sustainable solution to meeting the Department of Chemistry's temporary needs rather than constructing temporary lab space elsewhere on campus or leasing off-campus lab space.

The building structure is in good condition, considering its age; however, the building's exterior envelope is in need of renovation to address leaks and needed improvements to the building's energy efficiency. The aging mechanical, electrical, and plumbing infrastructure has outlived its useful life and needs replacement. Investments in new infrastructure will focus on achieving the highest levels of energy efficiency within the target budget to support the institution's commitment to sustainability and to keep operating costs to a minimum.

As mentioned previously, the 428 Church Street Building will serve the U-M campus well beyond the needs of Chemistry and be flexible enough to support other academic needs in the future. Our long-term vision is to use the building for decades to come as the home for student-facing programs that will benefit from being in the heart of Central Campus.

5. Does the project address or mitigate any current health/safety deficiencies relative to existing facilities? If yes, please explain.

The university maintains an on-going list of infrastructure deficiencies within U-M buildings. This project would address nearly all identified infrastructure deficiencies within the 428 Church Street Building and would include the following:

- Improvements to create a facility that is barrier-free as defined by the Americans with Disabilities Act (ADA) and the Michigan Building Code

[2] Philosophical Transactions of the Royal Society A, 'Catalysis making the world a better place', *National Center for Biotechnology Information*, Catlow, C. Richard. Davidson, Matthew. Hardacre, Christopher. Hutchings, Graham J., 2016 February 28, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4707691/, (accessed 7 October 2021).

- Repair and/or replacement of mechanical equipment to ensure adequate ventilation, temperature control, and safety in chemical laboratories

- Installation of an emergency power and distribution network

- Life safety improvements including fire rating repairs and upgrading the fire detection and alarm system

- Replacement of both electrical substations (aged 50 years and 25 years) to improve electrical system safety

6. How does the institution measure utilization of its existing facilities, and how does it compare relative to established benchmarks for educational facilities? How does the project help to improve the utilization of existing space and infrastructure, or conversely how does the current utilization support the need for additional space and infrastructure?

How we measure and compare utilization of existing facilities

We recognize that physical space is a valuable resource needed to fulfill our core mission and take a holistic approach to ensuring good stewardship of campus space. We have space management policies, processes, and reporting tools in place to support a culture of agile space management, more efficient utilization, and coordinated planning, and have been a leader in helping other institutions implement similar approaches on their campuses for years.

The key elements of our space utilization model include:

- Space utilization data, policies, and processes – Our campus-wide policies, processes, and reporting tools (available at provost.umich.edu/space) have been in place for over a decade and address all types of space, including instructional, research, office, and food operations, and reinforce a culture where space is considered more an institutional resource that is to be shared and managed effectively for the good of the institution. Examples of tools we use to monitor and encourage effective classroom utilization include:
    - *Classroom time utilization report* – measures # of hours a classroom is scheduled / # of hours a classroom is available for use (Mon-Fri, 8-5)
    - *Classroom seat utilization report* – measures # of enrolled students in a class / # of seats available in the classroom (Mon-Fri, 8-5)
    - *Scheduling distribution report* - measures how well schools and colleges are distributing their classes and events throughout the day (8-5) and throughout the week (Mon-Fri)
- Budget and space-charging model – The university's activity-based budget model (in place for over 20 years) includes assigning space operating costs (utilities and plant operating costs) directly to units our schools, colleges, and units with revenue streams for the space they occupy. This internal space-charging model offers financial incentives for using space more efficiently and effectively. For example, units that need more space must demonstrate that they can afford to fund the space operating costs

associated with the additional square footage before exploring the possibility of increasing their physical footprints. Conversely, units that reduce their physical square footage reduce their space operating costs proportionally, which enables them to apply the savings to other higher priority and mission-focused needs. This space-charging model influences how units think about their space, its financial budget implications, and how to use space more effectively.

- Capital projects process – General Fund units with major capital project needs (for new buildings, additions, or renovations) have the opportunity to submit their needs (business case) for consideration annually. A cross-functional committee of executive leaders and deans reviews the unit needs, tours their spaces to understand how the capital project needs of each unit compare to each other, and recommends priorities to the provost. This process allows for different perspectives in determining academic capital project priorities.

- Informal benchmarking – We share space utilization data and policy information as a method of informal benchmarking with institutional colleagues in the Big 10 as needed.

How the current utilization supports the need for improved / modern space and infrastructure

We considered the items listed above along with programmatic needs and facility condition in assessing the Department of Chemistry / Chemistry Building renovation need, which is, in turn, driving the need to renovate the 428 Church Street Building as a temporary home for the Department of Chemistry and this state capital outlay funding request.

The Department of Chemistry has experienced tremendous growth and research activity has more than doubled over the years as indicated in the table below; however, the building's physical footprint hasn't changed since 1988.

	Fall 1999	**Fall 2019**	**% Difference**
Building gross footage	545,000	545,000	0%
# of Dept. of Chemistry undergraduate majors	70	500	614%
# of Dept. of Chemistry PhD students	175	280	60%
# of U-M students enrolled in introductory 100- and 200-level Chemistry courses	6,500	11,500	77%
Research funding *(actual dollars, not including inflation)*	$7M	$22M	214%

This growth has strained the Department of Chemistry's class labs, research labs, general classrooms, and administrative spaces, as well as the building's infrastructure, all of which were designed and built decades ago for a lower demand use.

Classroom and Class Lab Time and Seat Utilization[3] (M-F, 8am – 5pm)	**Higher Ed Norm**	**Chemistry Bldg Fall 2019**	**% Difference**
Classroom *time* utilization	65 to 70%	86%	exceeds norm by 16 to 21%
Class lab *time* utilization	~50 to 60%	59%	within norm
Classroom *seat* utilization	65%	64%	slightly below norm by 1%
Class lab *seat* utilization	assume 65%	81%	exceeds norm by 16%

The Chemistry Building renovation project will position the Department of Chemistry to better fulfill its academic and research mission for decades to come. But first, we need to renovate the 428 Church Street Building, which is the linchpin to a subsequent Chemistry Building project.

7. How does the institution intend to integrate sustainable design principles to enhance the efficiency and operations of the facility?

The university has had a long history of environmental stewardship in its approach to facility design and construction, and in 2021 we formally and publicly committed to placing carbon neutrality at the center of the university's mission.[4] As a public research university, we are compelled to apply and share our knowledge, expertise, and resources to address the global climate crisis and be a leader and model for others. Part of this commitment relates directly to capital projects, so we now have the following project requirements in place that will apply to the 428 Church Street Building renovation project:

[3] Time utilization measures the number of classes scheduled versus the number of hours a room is available Monday-Friday, 8am-5pm. Classroom time utilization in the ~65-70 percent range is considered the industry norm in higher education. It acknowledges that a perfect match between available classroom seating capacities and course enrollments is not always possible in every time period. It also acknowledges that classroom seating capacity, course enrollment, room configuration, instructional technology, and other room features impact demand and availability. Utilization in this range also enables rooms to be taken off line for maintenance, construction, equipment replacement, and other ad hoc needs, without negatively impacting class scheduling needs. Class labs have a lower time utilization norm of ~50-60% because they are specialized spaces and need to align with corresponding discussion sections, so they are more challenging to schedule back-to-back.

[4] "U-M commits to university wide carbon neutrality," Michigan News, Vice President for Communications, University of Michigan, last updated on May 20, 2021, https://news.umich.edu/u-m-commits-to-universitywide-carbon-neutrality/

- Designing the renovation to reuse the existing building structure and envelope as appropriate to meet program needs while reducing demolition waste and the environmental impact of producing and transporting new materials.
- Designing the renovation to incorporate water conservation measures that in aggregate use a minimum of 20% less water than a baseline water based on the Michigan Plumbing Code.
- Designing the renovation to exceed building code requirements for energy efficiency by a minimum of 20% and to meet the university's target for operational carbon reduction. The university follows a rigorous energy efficiency evaluation process that requires the incorporation of numerous mandatory energy efficiency measures on projects, comprehensive evaluation of additional energy efficiency measures, and comprehensive modeling of energy usage and development of energy impact statements at each phase of design. Projects are required to complete a life cycle analysis of the building's estimated carbon consumption in order to demonstrate that the project meets the university's established target for maximum GHG emissions per square foot.
- Designing the mechanical system components for conversion in the future to low-to-medium hot water heating, as the university anticipates moving toward implementing regional geothermal plants as part of an overall carbon reduction master plan.
- All major projects (new construction and renovation) follow the "integrative design process" and are subject to a sustainability review process to help guide the design from a sustainable practices standpoint. At the conclusion of schematic design, the architect is required to develop a preliminary Leadership in Energy and Environmental Design (LEED) scorecard for the project, using accredited personnel, as a measure of the project's overall sustainability performance and the scorecards are updated at the end of design development and construction documents. The LEED scorecards serve as a measurement and reporting tool for the project's overall sustainability features.

8. Are match resources currently available for the project? If <u>yes</u>, what is the source of the match resources? If <u>no</u>, identify the intended source and the estimated timeline for securing said resources.

The university has identified matching funds from investment proceeds to support the 428 Church Street Building renovation project.

9. If authorized for construction, the state typically provides a <u>maximum</u> of 75% of the total cost of university projects and 50% of the total cost for community college projects. Does the institution intend to commit additional resources that would reduce the state share from the amounts indicated? If so, by what amount?

Although the current state authorization anticipates a maximum state contribution of 75 percent toward the total cost of a project, we are very open to funding more than 25 percent, if required, as we did with our most recent state supplemental appropriation and project authorization from fiscal year 2020-21 (Public Act 257 of 2020) for the Computer Science and Engineering and School of Information Addition project, currently underway.

10. Will the completed project increase operating costs to the institution? If yes, please provide an estimated cost (annually, and over a five-year period) and indicate whether the institution has identified available funds to support the additional cost.

We estimate that the 428 Church Street Building renovation project will not increase our annual operating costs. It is an existing building, so we will not increase our physical footprint or operating costs. By improving the building's infrastructure, it is possible that we may see slight reductions in operating costs with more efficient systems.

11. What impact, if any, will the project have on tuition costs?

This project will have no impact on future tuition costs.

12. If this project is not authorized, what are the impacts to the institution and its students?

If the 428 Church Street Building project is not authorized, we will continue to pursue this project because it is so critical to addressing the bigger need of renovating our Chemistry Building. It may take longer for us to identify other funding sources for the 428 Church Street Building project, which will delay the subsequent Chemistry Building renovation, but it will eventually be addressed. In the meantime, the Department of Chemistry will continue to operate as best they can in their aging building and will continue to be challenged in its ability to:

- Teach classes in innovative ways or conduct innovative research due to outdated class and research labs
- Recruit and retain the best students and faculty, who will continue to be pursued by other institutions with better and more modern chemistry class lab and research lab facilities
- Maintain or increase research productivity and pursue new research funding opportunities
- Meet modern lab safety requirements
- Reduce its energy consumption and carbon footprint

All of these challenges negatively impact our student experience and student success and the university's ability to fulfill its academic and research mission.

13. What alternatives to this project were considered? Why is the requested project preferable to those alternatives?

The Department of Chemistry has over 100 wet labs that will require temporary space at various points in a phased Chemistry Building project. These lab needs will be challenging to accommodate because they are so specialized, but we anticipated being able to accommodate many of them in the 428 Church Street Building, which currently has nearly 15,000 assignable square feet (ASF) of research space (including 20 wet labs) and nearly 9,000 ASF of office space.

The alternatives to renovating the 428 Church Street Building for the Department of Chemistry's temporary swing space needs are to: 1) use class labs and wet labs in other schools and colleges on campus, 2) look for lab space to rent or use off-campus, and 3) construct a new temporary lab facility on or near campus. All these alternatives are costly to pursue, not