Five-Year Master Plan
University of Michigan-Ann Arbor
FY2018

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Facilities and Operations
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FIVE-YEAR MASTER PLAN
UNIVERSITY OF MICHIGAN-ANN ARBOR
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TABLE OF CONTENTS

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 prepares to embark on 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 gladly 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.

INSTRUCTIONAL PROGRAMMING

The University of Michigan, founded in 1817, has a history of nearly 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 the core mission of the university and activities that will 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. The program became a department in 1913, and by 1931, the College of Architecture was established as a separate entity. Today, the college offers bachelor's, master's, and doctoral degrees in various fields, including architecture, urban and regional planning, and urban design. In 1999, the college was renamed in honor of A. Alfred Taubman, a longtime donor and adviser to the college. In 2014, A. Alfred Taubman continued his generosity to the college with a gift to support a partial renovation and expansion of the Art and Architecture Building, where the Taubman College is located. Named after the now late donor, the new A. Alfred Taubman wing will transform classrooms, expand student studio spaces, and provide more student and faculty interaction, critiquing, and exhibition spaces. Construction is underway with expected completion by fall 2017. While this renovation will provide the college with much needed growth space for its programs, the original 1970s building contains outdated classrooms, administrative and faculty spaces, and other support spaces that will need to be addressed at some point in the future.

Penny W. Stamps School of Art & Design

Education in the arts was first offered as part of architecture and engineering studies at the university. As art evolved as a discipline, the programs were moved out of these colleges and the School of Art & Design became an autonomous school in 1974. The school was renamed the Penny W. Stamps School of Art & Design in 2012 after receiving a significant donation from Penny and E. Roe Stamps. The school shares the Art and Architecture Building with the A. Alfred Taubman College of Architecture and Urban Planning, where it provides a comprehensive range of bachelor's and graduate degree programs in art, design, and interarts performance. In 2011, in response to a pressing programmatic need for graduate student and faculty art studios and limited space within their shared building, the university renovated and repurposed an existing university warehouse building for this purpose. The school recently completed a study of its long-term facilities needs and identified the need for a major renovation and expansion of their space in the Art and Architecture Building. This study helped shape plans to repurpose their on-site art

gallery into much needed student maker space and collaboration space and move the gallery to an off-campus lease. While this has helped to free a small amount of space within the Art and Architecture Building, the 1970s structure limits the capabilities of the school to have all of the modern, collaborative teaching and studio spaces it needs.

Stephen M. Ross School of Business

The School of Business Administration was formally established in 1924. Today, at all levels of instruction—bachelor's, master's, doctoral, and executive education—its programs consistently rank high nationally and internationally. In 2004, Stephen M. Ross made a historic gift to the school, and it was renamed in his honor. The gift supported the construction of a new Ross School of Business academic building, which opened in 2009, and provided state-of-the-art instructional and research space to support the school's core mission. Stephen M. Ross continued his generous support of the school with another historic gift in 2013. The gift, along with other donor gifts, supports the renovation of the Kresge Business Administration Library and construction of a new academic building, all connected to the main Ross School of Business academic building. The new academic building is named Jeff T. Blau Hall in recognition of Blau's generous financial contributions to the university. Opened for the fall 2016 term, the new and renovated facilities house modern and innovative spaces for instruction, study and collaboration, and student and career services spaces, which will enable the school to continue its long-standing history of excellence in business education into the future.

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. Through its community-based dental education program, the school's faculty, students, and staff are serving these patients at over thirty sites throughout the state in federally qualified health centers, community clinics, and in private offices. The school occupies two adjoined buildings, one over 75 years old and the other 45 years old, that are in serious need of attention and limit the school from fully achieving its core mission. Addressing this need has been a high priority for the university, which is why the university submitted the School of Dentistry project to the state for fiscal years 2015, 2016 and 2017 capital outlay funding consideration. This year, the university received planning approval from the state for a project that will construct a modest addition and partially renovate the building to improve the school's research and clinic spaces and improve patient access to the building. The university is very appreciative of the state's recognition of this high priority need and, based on the state's instructions, is identifying this project as the top priority as it moves toward capital outlay construction authorization.

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 building that is over 90 years old (a former elementary and high school) and has had only modest renovations over the past several years. The renovations included remodeling a large auditorium and constructing the Brandon Professional Resource Center and Archive in 2011. Made possible by a generous gift from Jan and David Brandon, this space houses digital records of professional practice and other important resources for professional study and use and offers student-focused study and collaboration areas. In 2015, the university completed a renovation project that primarily addressed the building's aging infrastructure and made modest improvements to the teaching and learning environment. The project addressed only some of the school's needs. The school continues to be challenged by its facilities, and has identified needs for a future addition and renovation to fully support its academic and research mission.

College of Engineering

The College of Engineering was officially established in 1895 and 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 32 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. Further, given the student demand, many programs lack sufficient classroom and research space. While the college and university make every effort to maintain and improve the college's facilities, they are challenged to keep up with demands for state-of-the-art space to support ever changing fields of engineering study and research. In 2014, the college completed a 62,500 square foot addition to the G. G. Brown Memorial Laboratories, which houses the Center for Excellence in Nano Mechanical Science and Engineering. In 2016, with a combination of university and state capital outlay funding, the college completed a deep renovation of the G. G. Brown Building to accommodate the growing needs of the Departments of Mechanical Engineering and Civil and Environmental Engineering. Thanks to the support from the state, the college was able to renovate the entire building, creating state-of-the-art academic and instructional spaces and upgrading much of the building's mechanical, electrical, and life safety systems. In 2015, the college began a major renovation of the former Ford Nuclear Reactor with a generous gift from long-time donors Bob and Betty Beyster. The newly named Nuclear Engineering Laboratory building is expected to be complete in 2017 and repurposes former nuclear reactor space into modern research labs, offices, and student collaboration space to support the growing needs of the Department of Nuclear Engineering and Radiological Sciences. The college is currently designing a new building, named the Robotics Laboratory, to better support its programs and research in robotics and autonomous

Systems, including autonomous vehicles. This new facility will bring together faculty and students from across departments and schools under one roof and will house state-of-the-art research labs, teaching labs, classrooms, machine shops and garages, and robot test facilities both indoors and outdoors. In a unique and exciting arrangement, the university recently formalized a long-term lease of space within the Robotics Laboratory for researchers from Ford Motor Company. Ford will contribute funding to the project to provide additional space for its needs. Once completed, the building will be a prime example of industry engagement and interdisciplinary research, teaching, and application at the university. While these projects address many of the college's needs for modern teaching and research space, the college still has a number of departments and programs in inadequate spaces that hinder their academic and research missions. The college's highest priority going forward is to address the needs of its Computer Science and Engineering (CSE) department. This space need is also one of the highest priorities for the university. CSE currently occupies space in the Bob and Betty Bester Building, which was designed to meet the department's needs a decade ago when it's combined undergraduate and graduate enrollment was less than 600 students. Due in large part to the program's reputation and significant demand for computer science graduates in the job market, the program today has nearly 1600 students (an increase of ~167%). Despite experiencing such substantial growth, the department's physical space hasn't changed. CSE has been at 100% capacity for the past several years and the space constraints are preventing it from growing its program further to meet market demands and from providing CSE students with the quality experience that they deserve. The college anticipates that the demand for its CSE graduates will continue to grow with no end in sight for the foreseeable future, which aligns with national and state trends for this field. As a result, addressing CSE's space need is the highest priority to the college and one of the highest priorities to the university. The college will be conducting a formal study of CSE's needs in the coming months and will work with the university to determine the best solution to address these needs going forward. One possible solution that has been discussed is to combine CSE's capital project needs with those of the School of Information (described next in this section), since both have similar types of space needs and would benefit programmatically by having a joint solution. In addition to the CSE need, the college has also identified the need to upgrade and expand its facilities for its Department of Chemical Engineering, Department of Materials Science and Engineering, and Department of Naval Architecture and Marine Engineering in the coming years, but these are secondary to addressing CSE's needs.

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, and the department became a fully independent school 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 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), which was built six years ago and reflects a very traditional,

Narrow academic building with corridors lined with individual offices. The very nature of the building design competes with the school's needs for more open, collaborative and technology-enriched space, making it a challenge for the school to fulfill its mission. In addition to being challenged by the building configuration, the school is especially challenged by having limited space. When the school moved into North Quad in 2010, the school was already at 95% capacity with little room for growth. Since 2010, the school has added two new programs (a Master of Health Informatics and a Bachelor of Science in Information) and experienced significant growth in student enrollment and faculty hires. In 2011, the school had 425 students. Today, the school has 555 students with plans to grow enrollment to 700 students by 2018 (an increase of ~65% from when the school first occupied North Quad). With its significant growth in programs and enrollment, it is increasingly pressed for space to meet its needs. The school is currently leasing space in two nearby off-campus locations as a temporary solution, but this is costly and won't meet the school's space needs as it continues to grow. Operating from three locations is also a serious challenge for the school and hinders its ability to fulfill its academic mission and build community for its students, faculty, and staff. Identifying a long-term solution to meet the School of Information's needs is a high priority to the university. The school will be conducting a formal study of its needs in the coming months and will work with the university to determine the best solution to address these needs going forward. One possible solution that has been discussed is to combine the School of Information's capital project needs with those of the Department of Computer Science and Engineering (CSE) (described earlier in this section), since both have similar types of space needs and would benefit programmatically by having a joint solution.

School of Kinesiology

Kinesiology has been part of the University of Michigan curriculum since the turn of the twentieth century. In 1984, a Division of Kinesiology was created and was later designated as the School of Kinesiology. The school 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. In 2008, a State of Michigan Capital Outlay project for the renovation and upgrade of Observatory Lodge, now called the Kinesiology Building, was completed which provided classrooms, office, and research space for the school. The project also addressed deferred maintenance, code and accessibility requirements for the building. The school has since experienced tremendous growth and now has programs distributed across multiple on-campus buildings and off-campus leased spaces, which makes it very challenging to foster collaboration and community. In response to the growth in enrollment, faculty hires, and research and the need to collocate these functions, the university recently approved a complete renovation of and addition to the historic Edward Henry Kraus Natural Sciences Building. This 1915 building currently houses the university's biological sciences programs, which will be relocated in the coming years. The university is very proud to be able to renovate this historically significant Albert Kahn building, while enabling the school to consolidate its programs and accommodate its significant growth. The university is also using this complete renovation to plan for the next generation of modern, flexible team-based learning spaces that will serve both Kinesiology and campus at large.

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 its historic and iconic facilities through a series of renovations and construction projects. The school now houses state-of-the-art student interaction and study spaces, improved classrooms, multi-purpose and clinical spaces, and offices for faculty and administrators in the new South Hall building, new Aikens Commons, and partially renovated Hutchins Hall. A gift from Robert and Ann Aikens helped fund the school's recent building and renovation projects. In 2013, the university reopened the newly renovated Charles T. Munger Residences in the Lawyers' Club building, a residence hall adjacent to the Law School. This significant renovation to the historic 1923 building was made possible in large part by a donation from Charles T. Munger.

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 in the historic Harlan Hatcher Graduate Library. 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 8.5 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 in recent years, 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. In 2008, a donation from alumnus Bert Askwith enabled the University Library to renovate a portion of the Shapiro Undergraduate Library Building into high-quality study and collaboration areas with a small food service operation to meet student needs. The building now operates 24-hours-a-day to accommodate the demand on its spaces and collections. Although the university continues to invest in library facilities to address infrastructure needs and to accommodate changes in use, the library still struggles to meet campus needs in its historic buildings. The University Library currently leases several off-campus properties to help relieve pressure in overcrowded on-campus collection facilities and would like to find a better, long-term solution (a large repository) for these needs. To partially satisfy their need for safer and stricter temperature controls for collections, the university will conduct a modest renovation to a building at the North Campus Research Complex. This space will also

Be used by a number of other departments on campus to better preserve high-priority collections, including items such as ancient or historical musical instruments and costumes, university and State of Michigan records, and other paper materials requiring a more stable environment for preservation. The University Library has also identified the need to modernize and create space for the next generation of student-oriented services, such as maker spaces, in their facilities on Central Campus, including the historic Harlan H. Hatcher Graduate Library.

College of Literature, Science, and the Arts

The College of Literature, Science, and the Arts (LSA), founded in 1841, was the first duly constituted college of the university. Distinguished in the humanities since its earliest years, the college became preeminent in the natural sciences during the early twentieth century and went on to become a leader in social science research. As the largest college on campus serving the greatest number of undergraduates, the college's departments and centers are housed in several buildings on Central Campus. The university is continually making improvements to these spaces to keep up with its ever-changing fields of study and research. LSA's most urgent need has been to provide improved and collocated research, teaching, administrative, and exhibit space for its programs in Ecology and Evolutionary Biology, Molecular, Cellular and Developmental Biology, and the Museums of Natural History, Paleontology, and Zoology. This need is being addressed by the construction of a new 300,000 gross square foot Biological Sciences Building, expected to be complete in 2018. This building will also connect to the Life Sciences Institute building in order to share core research facilities, resulting in a significant savings in overall cost of building construction. Related to this project, the university has recently renovated an off-campus university warehouse building, called the Varsity Drive Building, to create a state-of-the-art storage and research facility for the collections of the programs and departments noted above. Those collections are in the process of being moved to this new facility. A generous donation from Ambassador Ronald Weiser and Eileen Weiser has enabled LSA to repurpose the former Dennison Building, now Weiser Hall. This project, with expected completion in fall 2017, will transform the 1963 facility comprised mainly of outdated classrooms into an academic center for programs and institutes with international and interdisciplinary themes. The collocation of these programs, currently housed in numerous buildings across campus, will provide students, faculty, and staff with a single location for these academic centers and services and will also enhance programmatic synergies and overall operational efficiencies for the college. LSA is also in the early stages of planning a modest renovation and addition to the Literature, Science, and the Arts Building. The goal of this project is to provide students with a gateway to explore the connection between their liberal arts education and their goals and aspirations in the real world. The new student services space will provide access to a wide variety of experiences and opportunities, including internships, study and work abroad options, funding and employment opportunities, and connections to college alumni. Lastly, LSA also has a pressing need to increase both the number and the quality of instructional spaces to support both existing and developing curriculum and teaching methodologies, particularly team-based learning methodology. The university is looking at options to address both the LSA and university-wide need for modern, team-based instructional spaces.

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. In an effort to maintain its excellence in all areas of its mission, the Medical School continues to renovate and modernize instructional and research facilities as priorities dictate and funds allow. The school's ongoing activation and renovation of the North Campus Research Complex (formerly the Pfizer research and development headquarters) has provided faculty and staff immediate opportunities to expand interdisciplinary research and programs and translational research programs, such as emergency medicine. The university is proud to have activated and leveraged the NCRC campus and the complex is now home to more than 2,500 faculty, staff and external partners. The school recently completed an extensive renovation to the A. Alfred Taubman Health Sciences Library building—home to many of the school's medical student education programs. The facility reopened for the fall 2015 term and now houses high-quality, contemporary teaching, clinical simulation, student services, and study space. The school is also in the process of renovating space throughout the Medical Campus to meet the demands of their vast research portfolio. These strategic renovations will better utilize existing space and provide even more research and funding opportunities for Medical School faculty and partners.

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 conservatories and schools of music 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's academic programs are distributed across five buildings on North and Central Campuses. The university recently completed the renovation of the Power Center for the Performing Arts, one of its signature performance venues, to update life safety and other building infrastructure. In 2015, the school completed a significant facilities project to renovate and expand the school's principal building, the Earl V. Moore Building, made possible by a generous donation from William K. and Delores S. Brehm. The project included a new rehearsal hall, renovations to existing halls, new state-of-the-art classrooms and technology suite, more student practice rooms, and improved faculty space. Having programs and operations distributed across five buildings on two campuses continues to be a challenge. This includes the dance, musicology, and music education departments, as well as other key administrative functions for the school. The school and university have identified relocating Dance as a high priority and are beginning to study how to locate this program closer to the main Moore building. Additionally, the school has identified the need to expand student practice rooms and improve its administrative space to better support students, faculty, and staff. The university is also exploring infrastructure improvements to Revelli Hall, constructed in the early 1970s and home to the university's world renowned marching band.

School of Natural Resources and Environment

The first program of its kind in the nation, the School of Natural Resources and Environment was founded in the late 1880s. Since its founding, the school 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, 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 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 level rating for sustainable construction in the state of Michigan and among the first in the country. The school is currently undergoing a significant transformation and reorganization, and in the coming years, a new school of sustainability will be established on campus. The goal of this new school will be to dramatically strengthen and expand both the mission and the quality of partnerships with the other schools and programs at U-M dealing with environmental and sustainability issues. With this type of administrative reorganization, the university expects that space in both the school's historic home in the Dana Building and in their future partners' and affiliates' space will need to be addressed.

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 on a new 78,000 gross square foot building adjacent to their current building. The new building provides active-learning classrooms, a technologically rich clinical learning center with simulation and skills labs and simulated patient suites, offices for student services and a few faculty offices. With the opening of the new building, the School of Nursing now has its programs and operations distributed across two buildings. The existing building, which is over 100 years old, will eventually need attention or to be replaced.

College of Pharmacy

Established first as a department in 1868, 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 ranked as one of the top 10 programs 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 is also actively involved with other health science schools and colleges on campus in developing and teaching interprofessional health science courses that provide a holistic, real-world approach to health

care education, bringing together students from multiple health science programs (pharmacy, medicine, social work, dentistry, public health, etc.) to focus on patient-centered care. In addition to contributing well-trained pharmacists to the health care industry, the college also plays an instrumental role in research, providing a hub that intersects basic, clinical, and social science disciplines, leading research centers and scientific institutes, and a research-intensive (the University of Michigan Health System) ranked among the best in the nation. Its translational research/drug discovery center plays an instrumental role in taking advanced projects in early drug discovery from idea to clinical proof-of-concept. Other research with the Federal Department of Agriculture (FDA), pharmaceutical industry, and in innovating pharmacy care in physician organizations also contribute to better healthcare of citizens in the state, nation, and world-wide. Over the past century, the college has been successful in delivery high-quality education and research, but this is becoming harder to do in its current facilities. The college currently occupies space in six buildings on campus, excluding clinical space, five of which date from 1909 to 1960. For a small college like Pharmacy, being physically distributed across this many locations significantly challenges its ability to meet its core academic, research, and clinical mission, to building a sense of community within the college, and to operate efficiently. While the university completed a modest renovation in 2013 to reconfigure spaces in the College of Pharmacy Building to address some mechanical and electrical issues and improve student, faculty, and administrative spaces, the college continues to be significantly challenged to meet its research and team-based learning pedagogical needs. The college has been exploring ways to reconfigure existing spaces to construct team-based learning spaces in their building, but the outdated building infrastructure is unable to accommodate this need—severely hindering the college's desire to shift more curriculum in this direction. Having research labs distributed across multiple buildings that are 55 to over 100 years old with outdated infrastructure and structural limitations also limit the college's ability to conduct cutting edge research in antiquated facilities. Addressing Pharmacy's needs is one of the university's highest priorities to address when funding is available.

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. For fall 2015, the college began offering undergraduate courses for the first time, and next fall it will formally launch two undergraduate degree programs Public Health Sciences and Community and Global Public Health. 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, as well as to make 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. Traditionally a graduate and professional school, the school launched a highly successful undergraduate degree program in 2007. 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. The school is beginning to look at how to use their existing facility in new ways to accommodate changes to their research and pedagogy.

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 2011, the school completed a renovation of the lower level of its building, which repurposed space previously housing a small library into areas that enable students to practice and observe clinical approaches, accommodate expanded continuing education programs, and provide much needed student collaboration and study space. The school recently identified the need for additional space for a variety of administrative, faculty, and instructional functions. In fall 2017, the school expects to expand into other areas of the School of Social Work Building, in space currently occupied by a number of non-social work related functions. With this newly opened up space, the school expects to be able to address some of their pressing space needs noted above.

Other Initiatives Impacting Facilities and the Economic Development Impact of Current/Future Programs

As one of the top-ranked public and research institutions in the world, the University of Michigan is fully committed to its role of stewardship and contributing to the state's economy. The university supports students and faculty well beyond the traditional walls of studies and research by creating an environment that fosters innovation, robust collaborations and partnerships, and by providing resources to transfer education and research into applications. Several endeavors are underway that impact current and future facilities usage, and also spur economic development in Michigan and beyond.

Leadership in Transportation, Automotive and Autonomous Systems Research

The University of Michigan has historically held a leadership role in automotive and transportation research and continues to view its strong partnerships with the State government, Federal government, and the private sector, particularly automakers, as essential to the application of the university's research and to the state economy.

- In 2013, the university established the Mobility Transformation Center (MTC), a university-government-industry partnership formed at U-M to transform global mobility by dramatically improving transportation safety, sustainability, and accessibility. Mcity, a cityscape designed expressly for testing connected and automated (including driverless) vehicle systems was launched in 2015. The MTC draws on U-M's broad strengths in engineering, urban planning, energy technology, and information technology to accelerate progress in diverse areas such as connected-vehicle systems, driverless or autonomous vehicles, shared vehicles, and advanced propulsion systems. A key focus of the MTC is a series of model deployments that will enable researchers to test emerging concepts in connected and automated vehicles in on-road settings. Through interdisciplinary cooperation, MTC will also address the many social, political, regulatory, and economic issues inherent in the transition to new mobility technologies and systems. The MTC collaborates closely with its state and federal government founding partners as well as private sector partners including auto manufacturers and suppliers, insurance, telecommunications, data management, and mobility services companies.

- The University of Michigan Transportation Research Institute (UMTRI) is a research institute that collaborates with other university units and with public and private sector institutions and automakers. Its mission is to achieve safe and sustainable transportation, increase driving safety, and further transportation systems knowledge through interdisciplinary research. UMTRI's portfolio is vast and its research covers areas such as vehicle safety and injury biomechanics; connected-vehicle research and testing; sustainable mobility systems; transportation data fusion and analysis; and the efficient movement of heavy freight.

- The College of Engineering has a strong portfolio dedicated to automotive and transportation research and works closely with UMTRI and national and local institutions and business in finding solutions to real world problems. Its research and outreach activities on these topics take place in its Mechanical Engineering department and in a variety of centers within the college, such as the Automotive Research Center, a partnership with the U.S. Army; the National Science Foundation (NSF) Engineering Research Center for Reconfigurable Manufacturing Systems; the General Motors/U-M Institute of Automotive Research and Education; the Advanced Battery Coalition for Drivetrains; the Ground Robotics Research Center for research on mobile robots and autonomous vehicles; and the NSF Emerging Frontiers in Research and Innovation Program for research on electric power grid infrastructures and plug-in hybrid electric vehicles.

Lightweight Materials Manufacturing Research and Application

Founded in 2014 with U-M as a founding partner, the consortium LIFT, or Lightweight Innovations for Tomorrow, is a public-private partnership headquartered in Detroit with a mission to develop and deploy advanced lightweight materials manufacturing technologies and to implement education and training programs to prepare the workforce. LIFT serves the U.S. manufacturing sector by supporting innovative manufacturing technologies, and enabling cost-effective light weighting of components used in transportation systems. Target manufacturing sectors include automotive, aerospace, defense, over the road truck, and rail. The institute's partners identify priorities for technology, workforce, and supply chain development, as well as provide financial support for precompetitive research. This effort aims to yield results in technology insertion, maturation, and opportunities for commercialization. LIFT will also develop relevant manufacturing workforce, education, and apprenticeship programs that can reach students at all levels of the education system.

Leadership in Data Science Research and Application

The University of Michigan is investing $100 million in a Data Science Initiative (DSI), launched in fall 2015, that will enhance opportunities for student and faculty researchers across the university to develop the enormous potential of big data. Progress in a wide spectrum of fields ranging from medicine to transportation relies critically on the ability to gather, store, search and analyze big data—collections of information so vast and complex that they challenge traditional approaches to data processing and analysis. The DSI plans to support this with the hiring of 35 new faculty and engagement of existing faculty across campus and by supporting interdisciplinary data-related research initiatives to foster new methodological approaches to big data. Industry engagement is also central to the initiative, with a particular focus on the automotive, advanced manufacturing, chemical, finance, health care and pharmaceutical sectors, and the DSI will also support future and existing research that have practical applications in all of these fields. In one project at U-M's Transportation Research Institute, for example, researchers have collected a continuous stream of data at a rate of 10 times per second from each of nearly 3,000 private cars, trucks and buses on the streets of Ann Arbor in

order to test the operation of connected vehicles. The DSI will help collect, store and analyze the huge amount of data being generated as researchers expand the number of vehicles to more than 20,000 across Southeast Michigan. In medicine and public health, U-M researchers seek to use big data to boost the effectiveness of data-driven biomedical and health research to accelerate the translation from basic research to patient care. By sifting through the massive amount of data generated from DNA sequencing, medical histories and other sources, for example, the DSI will help researchers looking to more precisely diagnose or assess an individual's risk for certain types of cancer and to formulate the most effective personalized therapies.

Research on Labor, Employment, and the Economy

The U-M's Institute for Research on Labor, Employment, and the Economy (IRLEE) has programs aimed at assessing, understanding, and encouraging economic development. Its Defense Manufacturing Assistance Program assists communities and companies in Michigan, Indiana and Ohio that have been impacted by massive cuts in defense supply-chain positions. Its Center for Business Acceleration and Incubation Studies carries out market feasibility studies for proposed new business incubators in the region to help lay the foundation for success. The Technology Commercialization and Assistance program proactively identifies the capabilities and initiatives of emerging or established companies and matches them with technology available at Michigan universities.

IRLEE also created and manages the National Excess Manufacturing Capacity Catalog (NEXCAP), which promotes business expansion and innovation, regional economic development, and job growth by matching companies looking to relocate, expand, or diversify with the vacant manufacturing sites and facilities. With funding from the Economic Development Administration of the U.S. Department of Commerce, NEXCAP is uniquely and comprehensively cataloging these vacant manufacturing facilities, their assets, nearby workforce skills, and those of the surrounding community. The Michigan Economic Development Corporation routinely uses this resource to assist in attracting new business and industry to the state.

Technology Transfer and Business Engagement

The U-M Office of Technology Transfer is the organization responsible for bringing university research to the marketplace. The office enhances university research discoveries to encourage licensing and broad deployment with existing businesses and newly formed U-M start-ups; the Michigan Venture Center, which opens the university to entrepreneurs and venture partners interested in start-up opportunities; and the Venture Accelerator. In addition to these programs, the Office of Technology Transfer provides patenting, licensing, legal, and general decision-making and business advice to the U-M community. With this type of assistance, the university spurred 12 startups last year. A record 176 option and license agreements were signed in fiscal year 2016, compared with 164 the previous fiscal year. The year also marked a record in U.S. patents issued with 175, up from 160 in fiscal year 2015. Researchers reported 428 new inventions in fiscal year 2016, marking four years in a row of more than 400 new inventions. In 2011, the university opened the Venture Accelerator at the North Campus Research Complex to provide space and resources for up to three years for start-up companies

emerging from new ventures at the Office of Technology Transfer. Through its Venture Center, the office averages one new startup every four weeks.
The Business Engagement Center, which is collocated with the Office of Technology Transfer, has a mission to strengthen the university's ties to business and community partners and to help revitalize and diversify Michigan's economy. Acting as a gateway to the university, the Business Engagement Center assists business and community partners in maximizing their growth potential by identifying and accessing the university's vast resources, including research discoveries, new technology, high-tech facilities, student and alumni talent, continuing education programs, and strategic giving opportunities. The Business Engagement Center currently maintains relationships with 1,200 companies.

Sustainability and Great Lakes Research
The University of Michigan has long been engaged in many aspects of sustainability, and in recent years has begun focusing resources to spur progress in this critical arena. Through a number of research centers and initiatives, the university is finding realistic solutions to many major sustainability problems—whether related to energy, water conservation, air pollution, or transportation. In the coming years, we expect research, application, and partnerships in these area to increase significantly with the recent announcement by the university of a new school of sustainability.

- The Great Lakes Integrated Sciences and Assessments Center (GLISA) is a collaboration of the University of Michigan, Michigan State University, Ohio State University, and Michigan Sea Grant. GLISA's focus is mainly the watersheds of Lake Huron and Lake Erie in Michigan, Ohio, and Ontario, but also encompasses the broader Great Lakes basin. Its research and outreach spotlight critical sectors in the region—agriculture, watershed management, urban management, water quality, and natural resources-based tourism.

- The University of Michigan Water Center, part of the university's Graham Environmental Sustainability Institute, was established in October 2012 to bolster freshwater ecosystem restoration and protection efforts. The center engages researchers, practitioners, policymakers, and nonprofit groups, and its initial efforts are focused on the Great Lakes with an emphasis on working closely with academic colleagues and practitioners in the region to improve restoration outcomes. The U-M Water Center is extending its reach beyond the Upper Midwest with a five-year, $20 million cooperative-agreement contract to join the National Oceanic and Atmospheric Administration. The center now oversees research at a nationwide network of 28 coastal reserves and help coordinate the National Estuarine Research Reserve System's collaborative science program. This program supports water quality monitoring and long-term research on the impacts of land-use change, pollution and habitat degradation in the context of climate change trends. The overarching goal is improved stewardship of these economically significant estuaries.

Academic and Practical Training Programs in Entrepreneurship

The university is committed to fostering and nurturing the entrepreneurial spirit with faculty and students through academic programs and incubator-like centers across campus:

- The Zell Lurie Institute, part of the Ross School of Business, is a globally recognized academic program in entrepreneurial studies. The program provides curriculum, program initiatives, community involvement, and alumni outreach activities that deliver exclusive resources for future entrepreneurs at the university. The institute's innovative real-world approach and the Ross School of Business's traditional management excellence encourages, nurtures, and prepares students for entrepreneurial careers and to be leaders for new venture creation and growth.

- The Center for Entrepreneurship, part of the College of Engineering, connects current students with Michigan alumni in the start-up community; provides grants for students to pursue their own ideas for companies and products; supports, simplifies and clarifies intellectual property transfer processes for students and the broader community; and develops entrepreneurship-focused programming on campus. The Center for Entrepreneurship is responsible for launching brand new courses and formal academic programs focused on entrepreneurship and for co-managing the TechArb student startup accelerator, described below.

- TechArb, supported by the Center for Entrepreneurship and the Zell Lurie Institute, is a student venture accelerator program at the university. TechArb provides community space in Ann Arbor for students to interact with each other and with mentors, who include experienced entrepreneurs, investors, venture capitalists, accountants, and lawyers—often U-M alumni. Mentors and TechArb staff hold regular office hours with students to help them work through their ideas with the goal of building and growing actual companies. TechArb also provides students with summer grants so they can work full time on their venture. Numerous companies have been founded by students and cover a wide range of areas from the development of software applications for mobile devices to a clothing manufacturing company that uses recycled and eco-friendly materials.

- Innovate Blue, launched in 2014, is the university's academic home for entrepreneurial activities for undergraduate students, and it connects them to many of the programs and opportunities noted above. Innovate Blue recently launched a 15-credit minor in entrepreneurship that equips undergraduate students from any background or area of study with the necessary skills and experience to translate ideas into real impact in the arts, sciences, commercial, and social areas.

Energy Institute
Established in 2006 and building on the legacy of the Michigan Memorial Phoenix Project, which began in 1948, the Energy Institute builds on a strong energy research heritage at the heart of the nation's automotive and manufacturing industries to develop and integrate science, technology and policy solutions for the world's pressing energy challenges, in order to address the demand for economically and environmentally sound energy solutions that are urgent and global. In 2013, an addition to and renovation of the Michigan Memorial Phoenix Laboratory was completed for the Energy Institute. This project replaced building systems and created state-of-the-art laboratory spaces for energy-related research. The institute recently opened its Battery Fabrication and Characterization User Facility, a space developed in cooperation with the Michigan Economic Development Corporation and Ford Motor Company, to enable industry and university researcher collaboration on developing cheaper and longer lasting energy-storage devices.

University Research Corridor
One example of the university's commitment to the state's economy is its role in the University Research Corridor (URC), a collaboration between the University of Michigan, Michigan State University and Wayne State University that focuses on stimulating economic development in the state and region by leveraging the collective research assets of the three institutions. The URC is an umbrella organization that disseminates information to key stakeholders, including the business community, researchers and students, policymakers, and other investors. In doing so, the URC enhances outreach and collaborative efforts, speeds up technology transfer and development, and communicates the advantages of doing business in Michigan. The URC retained its second-place standing in the Innovation Power Ranking among the nation's most respected innovation clusters for the third year in row. The URC contributed $17.5 billion in state economic activity and over $2.1 billion in research and development spending in 2014. Since 2002, the URC has cultivated 188 start-up companies, including 71 that have formed in the past five years.

Academic and Research Programs in the City of Detroit
The University of Michigan was founded in Detroit in 1817 and has continued its commitment to the city for nearly 200 years. Currently, over 300 U-M programs and activities are held in the city that include education, research and scholarship, community service and outreach, and cultural exchange that mutually enrich both the U-M and Detroit communities. A few examples of the university's Detroit partnerships and connections include:

- Sponsored and non-sponsored research projects with Wayne State University, Henry Ford Health System, the Karmanos Cancer Institute, the Automotive Research Center, the Detroit Schools Higher Education Consortium, and various local community groups. A recent example comes from the School of Public Health, which is working to combat health issues like asthma and cardiovascular disease through a $2.8 million grant from the National Institute of Health and Environmental Sciences. To implement the grant, U-M researchers have partnered with academic peers and Detroit community organizations to form Community Action to Promote

Healthy Environments, a collaborative initiative to help improve air quality and resident health in Detroit.

- Engaged learning opportunities and arrangements that enable U-M students to apply what they've learned in the classroom to real life, such as student teaching assignments in the Detroit Public Schools and clinical placements in Detroit-based hospitals, clinics, medical practices, and schools.

- Community service and outreach that immerses U-M students, faculty, and staff in the Detroit community through programs such as Michigan Engineering Zone that exposes Detroit middle and high schools students to science, engineering, and technology through hands-on learning experiences and the Semester in Detroit program where U-M students live, study, and work in Detroit, interning with Detroit-based community and cultural organizations to strengthen and transform themselves and to make a positive impact on the Detroit region.

- We are exploring additional ways to work with Wayne State University toward common goals in Detroit.

STAFFING AND ENROLLMENT

Enrollment at the University of Michigan – Ann Arbor has been slowly increasing, from 33,600 in 1969 to just over 44,700 today, with the intent to maintain enrollment within a few percent of this level over the next five years. The university believes that this represents a level appropriate for the size of the university's faculty, facilities, and funding. Increased enrollment in key programs is expected, for example, we anticipate an increase in demand for instruction in fields such as nursing; engineering; public policy; information sciences; and biological, biomedical and life sciences. Education in these fields is an important part of the university's mission, and it meets a very real need in the state and the nation, both of which face a shortage of qualified graduates in these areas. (Detailed enrollment data by school and college follows this page.)

Average class size varies by discipline. In the fall of 2015, 57 percent of the sections taught to undergraduate students contained fewer than 20 students. Some sections are taught to large groups where appropriate; sections with 50 or more students represented about 16 percent of the undergraduate sections taught in the fall of 2015.

Total headcount enrollment has grown by just under 13 percent since the fall of 2005, and the volume of research has increased 67 percent. The number of General Fund full time equivalents (FTEs) has grown by about 11.3 percent overall from the fall of 2005 through fall of 2015, as we strive to contain costs and do more with less. Non-academic staff General Fund FTEs grew by about 10.9 percent while the university has deliberately grown the General Fund academic staff ranks, which are up 12 percent since fall of 2005. Furthermore, in the past several years the university has launched initiatives to hire 150 new faculty members in a concerted effort to improve student-faculty ratio. Health System staffing levels have grown at a compound annual growth rate of 3.7 percent from fiscal 2005. At this time it is anticipated that the growth rate in health system staffing levels for the administrative positions to slow down, while patient care/research positions will continue to grow relative to their respective activities.

Impact of Distance Learning

Distance learning has been primarily used to combine technological advances with current methods of instruction for on-campus students. Some academic units, such as the College of Engineering, the College of Literature, Science, and the Arts, the School of Nursing, the School of Public Health, and the Stephen M. Ross School of Business, use distance learning to supplement their Ann Arbor offerings. This approach enhances the quality of the education provided to our students by ensuring that we maintain our competitive edge. Although this area is expected to grow, the university does not anticipate replacing on-campus programs with distance education, nor does the university expect the number of off-campus students to affect the overall enrollment.

University of Michigan-Ann Arbor

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	27,979	28,283	28,395	28,312	28,983
Graduate	12,714	12,725	12,565	12,644	13,027
Professional	2,733	2,702	2,665	2,695	2,708
Total	43,426	43,710	43,625	43,651	44,718

Source: Registrar Report 102 (excludes Extension, Visiting Scholars and Postgraduate Medicine).

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	27,264	27,856	28,003	28,168	27,860
Graduate	13,413	13,631	13,599	13,466	13,644
Professional	2,948	2,954	2,911	2,859	2,858
Total	43,625	44,441	44,513	44,493	44,362

Source: Enrollment and Degree Tables, Table 5 (excludes Officer Education Program)

FTE Faculty and Staff Counts (Includes Hospital)

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	4,592.2	4,711.7	4,793.0	4,902.4	5,072.2
Primary Faculty	925.9	964.3	938.2	930.0	935.2
GSI/Post Docs/Res. Fellows	3,968.7	3,987.3	4,039.9	4,016.8	4,065.0
Non-Academic Staff	26,071.8	27,321.9	27,622.3	28,606.2	29,362.8
Total	35,558.6	36,985.2	37,393.4	38,455.4	39,435.2

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts ($000)

	2011-12	2012-13	2013-14	2014-15	2015-16
Schools & Colleges	851,842	877,436	836,118	871,461	911,711
Hospital, Acad., & Resrch. Units	171,817	175,876	168,974	152,743	170,957

Source: Financial Activities Tables, Table 2.2. Total is for Ann Arbor Campus.

Fall Term Student to Faculty Ratio

2012	2013	2014	2015	2016
16:1	15:1	15:1	15:1	*Avail. Jan 2017*

Source: Common Data Set.

Section III
Staff and Enrollment - Detailed Data

A. Alfred Taubman College of Architecture and Urban Planning

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	179	176	178	152	145
Graduate	427	479	490	492	495
Professional	- -	- -	- -	- -	- -
Total	606	655	668	644	640

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	259	216	203	189	168
Graduate	529	556	612	616	634
Professional	- -	- -	- -	- -	- -
Total	787	772	815	805	802

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	82.1	85.2	85.9	88.3	71.8
Primary Faculty	0.0	0.0	0.0	0.0	0.0
GSI/Post Docs/Res. Fellows	17.6	25.6	16.3	20.3	15.1
Non-Academic Staff	36.8	38.0	41.9	42.6	44.5
Total	136.4	148.8	144.0	151.2	131.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
368	575	1,887	730	1,037

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
16	15	15	15	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Penny W. Stamps School of Art and Design

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	572	588	538	540	535
Undergraduate Joint Program	10	11	10	7	15
Graduate	25	19	16	16	19
Professional	--	--	--	--	--
Total	607	618	564	563	569

Source: Registrar Report 102.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	444	457	442	440	442
Graduate	24	26	23	25	20
Professional	--	--	--	--	--
	468	482	465	465	462

Source: Enrollment and Degree Tables, Table 5.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	47.0	49.1	50.9	45.8	54.5
Primary Faculty	0.0	0.0	0.0	0.0	0.0
GSI/Post Docs/Res. Fellows	6.3	5.9	5.5	4.0	4.1
Non-Academic Staff	35.7	35.3	37.8	36.3	33.5
Total	88.9	90.2	94.2	86.1	92.1

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
0	0	0	4	94

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
				Avail. Jan
14	14	12	14	*2017*

Source: Enrollment and Degree Tables, Table 8.

Section III
Staffing and Enrollment -Detailed Data

Stephen M. Ross School of Business

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	1,333	1,427	1,510	1,595	1,733
Graduate	1,917	1,871	1,832	1,804	1,752
Graduate Joint Program	17	23	11	0	0
Professional	--	--	--	--	--
Total	3,267	3,321	3,353	3,399	3,485

Source: Registrar Report 102.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	913	1,016	1,089	1,192	1,270
Graduate	2,197	2,260	2,245	2,210	2,150
Professional	--	--	--	--	--
Total	3,110	3,276	3,334	3,402	3,420

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	148.3	147.7	149.2	149.4	160.0
Primary Faculty	8.0	7.0	8.0	7.0	10.9
GSI/Post Docs/Res. Fellows	27.7	24.5	23.7	21.6	24.3
Non-Academic Staff	252.2	260.5	279.3	307.3	331.0
Total	436.2	439.7	460.3	485.3	526.2

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
782	399	372	865	3,092

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
55	53	53	47	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

School of Dentistry

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	96	91	86	102	111
Graduate	103	112	107	103	98
Professional	427	430	435	447	460
Total	626	633	628	652	669

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	77	69	66	63	74
Graduate	74	78	78	76	89
Professional	631	619	625	637	661
Total	781	766	769	776	824

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	140.5	140.2	140.2	141.3	138.8
Primary Faculty	18.0	15.1	14.1	14.9	14.8
GSI/Post Docs/Res. Fellows	36.5	31.5	30.5	27.2	21.1
Non-Academic Staff	330.2	321.0	330.8	327.2	325.6
Total	525.2	507.7	515.6	510.6	500.2

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
18,352	18,695	17,713	16,833	15,700

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016

Not Available

School of Education

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	182	177	156	133	113
Graduate	385	364	371	337	357
Professional	--	--	--	--	--
Total	567	541	527	470	470

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	269	247	257	223	190
Graduate	403	453	430	467	425
Professional	--	--	--	--	--
Total	672	700	687	690	615

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	63.0	64.6	62.7	65.5	63.5
Primary Faculty	7.1	7.1	5.6	5.4	3.7
GSI/Post Docs/Res. Fellows	62.9	58.7	56.8	52.1	47.1
Non-Academic Staff	108.8	93.6	91.7	84.0	85.2
Total	241.8	224.0	216.7	207.0	199.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
12,579	13,138	8,864	7,797	9,454

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
14	16	13	11	*2017*

Source: Enrollment and Degree Tables, Table 8.

College of Engineering

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	5,757	5,950	6,024	6,097	6,231
Graduate	3,157	3,157	3,169	3,331	3,515
Graduate Joint Program	17	23	11	0	0
Professional	--	--	--	--	--
Total	8,931	9,130	9,204	9,428	9,746

Source: Registrar Report 102.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	3,686	3,970	4,235	4,430	4,613
Graduate	2,643	2,635	2,639	2,700	2,892
Professional	--	--	--	--	--
Total	6,329	6,605	6,874	7,130	7,505

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	379.9	381.3	397.7	409.4	422.5
Primary Faculty	110.6	107.4	115.3	104.7	116.2
GSI/Post Docs/Res. Fellows	750.9	765.9	776.5	780.9	822.6
Non-Academic Staff	555.3	581.2	605.6	616.7	618.7
Total	1796.7	1835.7	1895.1	1911.6	1979.9

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
165,596	183,990	187,401	213,456	228,875

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
36	35	31	32	*2017*

Source: Enrollment and Degree Tables, Table 8.

School of Information

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	84	151	206
Graduate	432	441	410	376	410
Graduate Joint Program	21	34	43	55	73
Professional	--	--	--	--	--
Total	453	475	537	582	689

Source: Registrar Report 102.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	78	89	124	181	224
Graduate	393	423	435	374	342
Professional	--	--	--	--	--
Total	471	512	559	555	566

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	29.9	30.6	35.2	38.8	39.5
Primary Faculty	1.8	0.6	1.2	1.6	0.7
GSI/Post Docs/Res. Fellows	29.7	32.5	33.5	41.3	37.0
Non-Academic Staff	41.6	46.1	48.8	54.5	54.0
Total	103.0	109.8	118.7	136.2	131.2

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
4,258	5,478	5,756	4,679	2,563

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
36	35	33	31	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Section III

Staffing and Enrollment - Detailed Data

School of Kinesiology

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	883	883	925	924	947
Graduate	69	60	60	79	79
Professional	--	--	--	--	--
Total	952	943	985	1003	1026

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	512	534	534	530	579
Graduate	55	56	42	50	55
Professional	--	--	--	--	--
Total	567	590	576	580	634

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	39.0	41.1	39.8	39.0	43.6
Primary Faculty	2.3	3.6	5.4	4.2	3.7
GSI/Post Docs/Res. Fellows	12.5	13.6	16.4	20.8	16.0
Non-Academic Staff	68.0	64.6	67.6	67.7	61.2
Total	121.8	122.9	129.2	131.7	124.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
7,900	7,482	8,245	7,945	11,059

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
22	19	19	19	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Law School

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	--	--	--
Graduate	--	--	--	--	--
Professional	1,165	1,098	1,047	977	973
Total	1,165	1,098	1,047	977	973

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	--	--	--	--	--
Graduate	6	6	6	8	8
Professional	1,195	1,173	1,101	1,045	974
Total	1,201	1,179	1,107	1,053	982

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	84.9	86.3	84.7	82.8	82.3
Primary Faculty	9.4	8.4	9.4	10.0	11.0
GSI/Post Docs/Res. Fellows	3.5	4.0	6.3	6.0	7.0
Non-Academic Staff	176.6	170.6	164.2	163.8	153.9
Total	274.3	269.2	264.5	262.6	254.3

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
1,472	2,123	2,676	2,036	1,925

Source: Financial Activities Tables, Table 2.2.

Weighted Average Class Size

2012	2013	2014	2015	2016
29	25	26	23	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

College of Literature, Science, and the Arts

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	17,399	17,372	17,307	16,969	17,216
Graduate	2,356	2,409	2,339	2,369	2,452
Professional	--	--	--	--	--
Total	19,755	19,781	19,646	19,338	19,668

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	19,148	19,374	19,247	19,054	18,417
Graduate	3,110	3,148	3,095	3,009	3,024
Professional	--	--	--	--	--
Total	22,258	22,522	22,342	22,063	21,441

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	1,222.5	1,233.3	1,249.7	1,280.4	1,291.1
Primary Faculty	57.0	56.1	49.6	53.9	56.1
GSI/Post Docs/Res. Fellows	921.1	915.7	926.3	893.2	910.7
Non-Academic Staff	867.0	877.3	897.4	895.7	935.7
Total	3,067.7	3,082.4	3,123.0	3,123.2	3,193.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
80,730	83,677	81,306	77,953	79,862

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
30	29	29	27	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Medical School

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	--	3	30
Graduate	412	425	458	450	451
Professional	817	853	842	932	909
Total	1,229	1,278	1,300	1,385	1,390

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	319	303	262	260	267
Graduate	664	658	663	703	705
Professional	769	768	787	782	813
Total	1,752	1,729	1,712	1,745	1,785

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	1,781.9	1,855.0	1,930.4	1,988.0	2,108.4
Primary Faculty	338.3	349.3	330.6	338.5	327.8
GSI/Post Docs/Res. Fellows	666.2	668.4	648.1	610.7	632.9
Non-Academic Staff	3,335.1	3,186.0	3,156.3	3,235.3	3,388.6
Total	6,121.6	6,058.7	6,065.3	6,172.5	6,457.6

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
439,204	450,624	417,874	430,422	441,989

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016

Not Available

School of Music, Theatre and Dance

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	782	797	791	821	820
Undergraduate Joint Progran	10	11	10	7	15
Graduate	309	308	298	282	281
Professional	--	--	--	--	--
Total	1,101	1,116	1,099	1,110	1,116

Source: Registrar Report 102.
Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	844	833	827	826	850
Graduate	368	380	381	360	353
Professional	--	--	--	--	--
Total	1,212	1,213	1,208	1,186	1,203

Source: Enrollment and Degree Tables, Table 5.
Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	147.8	147.8	152.7	152.6	159.8
Primary Faculty	0.0	0.0	0.0	0.0	0.0
GSI/Post Docs/Res. Fellows	24.8	25.1	24.9	27.4	30.3
Non-Academic Staff	86.1	87.1	85.7	87.2	91.4
Total	258.7	260.0	263.4	267.2	281.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
59	139	112	285	124

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
18	17	17	17	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Section III
Staffing and Enrollment - Detailed Data

School of Natural Resources and Environment

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	1	0	0	0	0
Graduate	366	335	324	287	301
Professional	--	--	--	--	--
Total	367	335	324	287	301

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	1	3	1	3	2
Graduate	296	305	268	278	256
Professional	--	--	--	--	--
Total	297	308	269	281	258

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	32.1	32.8	31.3	35.0	33.7
Primary Faculty	9.3	9.1	9.8	5.2	6.3
GSI/Post Docs/Res. Fellows	36.0	37.3	43.9	43.8	36.7
Non-Academic Staff	78.7	87.8	98.6	75.4	75.8
Total	156.0	167.1	183.6	159.4	152.4

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
14,525	14,741	13,401	14,159	14,702

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
16	15	15	15	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

School of Nursing

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	641	662	649	670	706
Graduate	336	326	331	372	351
Professional	12	15	27	27	54
Total	989	1,003	1,007	1,069	1,111

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	573	555	506	566	544
Graduate	228	222	223	207	236
Professional	7	16	23	35	43
Total	808	793	752	808	823

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	77.5	83.3	84.0	85.4	88.5
Primary Faculty	0.9	1.0	1.5	3.3	1.2
GSI/Post Docs/Res. Fellows	8.6	8.4	3.8	2.5	2.5
Non-Academic Staff	74.5	79.7	82.6	83.3	98.1
Total	161.6	172.4	171.8	174.4	190.3

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
6,354	8,432	7,197	7,056	8,920

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
10	8	11	10	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

College of Pharmacy

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	0	2	5	9	33
Graduate	94	81	107	97	91
Professional	335	329	324	328	312
Total	429	412	436	434	436

Source: Registrar Report 102.
Note: In enrollment headcounts, students who entered in the Pharm.D. program *without* a bachelor's degree are shown as undergraduate students; those who entered *with* a bachelor's degree are listed as professional students.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	1	1	1	7	5
Graduate	98	88	102	108	106
Professional	348	378	376	360	367
Total	446	467	479	475	478

Source: Enrollment and Degree Tables, Table 5.
Note: In FYES counts, students in the Pharm.D. program are included in the graduate-professional category.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	35.3	35.8	37.4	38.3	36.4
Primary Faculty	20.0	18.1	17.0	18.6	23.0
GSI/Post Docs/Res. Fellows	31.3	31.8	38.6	41.1	45.6
Non-Academic Staff	49.9	54.2	56.1	61.0	59.4
Total	136.6	139.8	149.0	159.0	164.4

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
7,612	8,160	8,460	10,901	14,187

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
45	44	39	43	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Section III
Staffing and Enrollment - Detailed Data

School of Public Health

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	--	--	--
Graduate	991	967	940	897	942
Graduate Joint Program	21	34	43	55	73
Professional	--	--	--	--	--
Total	1,012	1,001	983	952	1,015

Source: Registrar Report 102.

Note: Joint Programs are shown in both Schools/Colleges, but only once in the Summary.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	50	89	101	97	104
Graduate	1,137	1,128	1,131	1,092	1,096
Professional	--	--	--	--	--
Total	1,187	1,217	1,232	1,189	1,200

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	112.3	112.1	108.7	114.9	114.2
Primary Faculty	30.8	38.7	34.3	31.1	30.5
GSI/Post Docs/Res. Fellows	111.8	108.6	108.0	107.7	103.8
Non-Academic Staff	306.6	288.4	276.4	292.7	288.0
Total	561.5	547.8	527.4	546.4	536.5

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
82,195	72,222	67,275	69,668	69,425

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
31	35	31	31	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

Gerald R. Ford School of Public Policy

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	121	125	126	139	142
Graduate	191	187	191	179	186
Professional	--	--	--	--	--
Total	312	312	317	318	328

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	75	77	77	80	87
Graduate	250	256	259	229	225
Professional	--	--	--	--	--
Total	325	333	336	309	312

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	27.7	30.2	30.9	26.2	32.2
Primary Faculty	1.1	1.0	0.9	0.9	1.0
GSI/Post Docs/Res. Fellows	16.4	11.2	13.8	14.0	12.9
Non-Academic Staff	36.9	41.1	43.2	44.8	40.0
Total	82.1	83.5	88.8	86.0	86.0

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
3,335	2,707	3,048	2,894	4,176

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
37	35	32	31 *Avail. Jan 2017*	

Source: Enrollment and Degree Tables, Table 8.

Section III
Staffing and Enrollment - Detailed Data

Horace H. Rackham School of Graduate Studies

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	--	--	--
Graduate	484	474	449	455	488
Professional	--	--	--	--	--
Total	484	474	449	455	488

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	0	0	1	0	1
Graduate	70	66	70	66	80
Professional	--	--	--	--	--
Total	70	66	71	66	81

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	0.6	1.9	0.3	0.0	0.0
Primary Faculty	0.7	1.2	1.7	2.5	2.0
GSI/Post Docs/Res. Fellows	11.5	14.5	18.3	21.3	6.8
Non-Academic Staff	105.4	97.8	95.8	93.8	103.9
Total	118.1	115.4	116.0	117.6	112.6

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
2,712	1,003	1,270	487	751

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
11	21	18	14 *Avail. Jan 2017*	

Source: Enrollment and Degree Tables, Table 8.

School of Social Work

Fall Term Headcount Enrollment by Level

	2012	2013	2014	2015	2016
Undergraduate	--	--	--	--	--
Graduate	622	630	618	647	686
Professional	--	--	--	--	--
Total	622	630	618	647	686

Source: Registrar Report 102.

Fiscal Year Equated Students

	2011-12	2012-13	2013-14	2014-15	2015-16
Undergraduate	16	23	31	28	26
Graduate	869	888	896	888	948
Professional	--	--	--	--	--
Total	884	911	927	916	974

Source: Enrollment and Degree Tables, Table 5.

FTE Faculty and Staff Counts

	2011-12	2012-13	2013-14	2014-15	2015-16
Instructional Faculty	59.7	65.1	62.8	62.4	71.9
Primary Faculty	2.2	1.3	2.0	1.5	1.0
GSI/Post Docs/Res. Fellows	12.7	11.6	9.8	9.6	11.1
Non-Academic Staff	61.8	65.0	67.1	70.3	66.2
Total	136.4	143.0	141.7	143.8	150.1

Source: Faculty and Staff Data Tables, Table 5

Research Grants and Contracts

($000)

2011-12	2012-13	2013-14	2014-15	2015-16
3,811	3,850	3,261	3,291	3,775

Source: Financial Activities Tables, Table 2.2.

Fall Term Weighted Average Class Size

2012	2013	2014	2015	2016
21	20	19	19	*Avail. Jan 2017*

Source: Enrollment and Degree Tables, Table 8.

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.

Tools to measure classroom utilization and class time offerings and distribution have led to more efficient use of classrooms throughout the day and week and enable the campus to better manage demand during peak hours.

The campus better utilizes existing General Fund space overall and emphasizes renovating and repurposing space to meet campus needs first, before considering building expansion. Examples of creative repurposing include renovating:

- A decommissioned research facility at the North Campus Research Complex to house 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 will increase space utilization, resulting in a 20 percent increase in the total building square footage.

Through more disciplined practices and culture change, the university has slowed the growth of new General Fund space considerably in recent years. This would not have been possible without the campus-wide policies and tools described above.

Physical Properties

The university owns approximately 3,200 acres of property within the Ann Arbor area and approximately 21,000 acres (most within the State of Michigan). A summary of the university's land holdings is included as part II at the end of this section. A building list for the Ann Arbor area is also included as part III. The report includes the following attribute data: building number, building name, location, building type, gross square feet, original construction date, and the deferred maintenance backlog for the building. The approximate replacement value of the Ann Arbor area campus facilities is $8.6 billion.

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. Needs addressed in the database include building components and systems: architectural, structural, civil, mechanical, electrical, life safety and fire protection, environmental health, and building accessibility. The database provides a good baseline of the overall condition of General Fund buildings as well as the facilities for Housing, Athletics, Student Life, and the Hospitals and Health Centers. Overall, the FCA program provides a platform to implement an ongoing system of identification and prioritization of capital repair projects at the U-M. A more detailed description of the Facility Condition Assessment Program is located later in this section.

Campus Parking Structure Assessment

To complement the information in the FCA Program, the U-M every five years engages a parking restoration consultant to assess the condition of the existing parking structures within the system to develop a system-wide maintenance program that serves as a guide for future repairs and cost estimates (adjusted for inflation). An update to this Capital Improvement and Protection Plan (CIPP) was completed in 2015. While continually planning for parking on campus, the university also developed strategies for alternative transportation modes. Some examples include expanded bicycle access, ride share programs, and potential for high-capacity transit systems partnered with the City of Ann Arbor.

The existing parking system provides more than 27,900 parking spaces to academic, health system, and operating staff as well as students, visitors, and other university community members. The university has 15 parking structures, plus joint ownership with the city of a 16th structure, providing approximately 13,000 parking spaces.

The parking structures on campus vary in both type of construction, level of previous repairs and current condition. The plan for facility repairs and improvements based on the CIPP was continued. Replacement of the elevators at Glen structure, begun in 2015, is anticipated for completion in December 2016. Other projects completed in 2016 include stair tower repairs with new handrails and replacement of failed drainage system components at Fletcher structure; extensive concrete repairs at Catherine structure; waterproofing repairs at Simpson Circle Drive structure; façade and ramp edge repairs, and installation of concrete sealer at Thayer structure; repairs to the drain system, replacement of the drive approach and roof deck coating installation at Hill structure; stair and elevator tower repairs with new handrails at Thompson structure, and waterproofing repairs and replacement of the asphalt exit lanes at East Medical Center Drive structure. Numerous parking lots received asphalt repair maintenance, up to and including complete asphalt mill and overlay.

Design work is near completion for the installation of windows in the stair towers at Simpson Circle Drive structure. This project is planned for completion in spring of 2017. Other 2017 projects include concrete repair and deck coating installation at East Medical Center Drive structure; stair repairs and handrail replacement at NCRC structure; drain system replacement at Fletcher structure, and waterproofing repairs at Palmer, Ann and Cardiovascular Center structures. A major project concrete repair project for Simpson Circle Drive structure will open for design, with construction in 2018.

Several staff participated on a committee for site improvement planning at the NCRC campus. The outcome is a near-term (5-year) program of site work to improve circulation, bus service and parking in advance of planned building occupancy. Plans include the reconstruction and expansion of several parking lots, building demolition and construction of a new lot, and roadway improvements that support transit services availability within the campus core.

Improving the sustainability features of the university's parking facilities continues to be a key goal. The lighting system at East Medical Center Drive structure was replaced with LED fixtures with light harvesting and motion detection features to reduce light levels during idle periods. A 65 percent energy reduction is anticipated with this change. 2017 relighting projects include the replacement of high-energy demanding metal halide systems at Ann and North Entrance structures with LED fixtures.

Sustainability Initiatives

Just as the University of Michigan is committed to breadth and depth of research, teaching, and health care, the U-M is also committed to institutionalize campus sustainability. A significant amount of resources are required to support the university's physical plant, justifying the development of a comprehensive strategy to minimize the U-M's environmental impact.

As important as it is for U-M physical operations to reduce its own impact on the environment, the most fundamental contribution that the university will make to world sustainability will come from the research of faculty and education of students that creates a future path for environmental progress. What links both together is the opportunity for the campus to serve as both a model for advanced sustainability practices, and a laboratory for students and faculty to test new ideas and approaches. The living-learning laboratory theme leads the U-M to focus on strategies that decrease the university's environmental footprint in measurable ways while creating hands-on experiences for students.

For more than 100 years, U-M faculty, staff and students have worked to preserve the natural environment by implementing innovative programs, many of which have received significant national recognition. In October 2009, President Emeritus Coleman continued the commitment toward sustainability by creating the Office of Campus Sustainability and endorsing an effort to set university-wide goals that were developed using an Integrated Assessment (IA) framework. The IA process involved teams of faculty, staff, and students focused on an intense two-year

effort that produced a set of guiding principles and campus-wide goals which were presented and endorsed by an Executive Council chaired by Coleman. In 2014, President Schlissel restarted the committee's work to take a new look at the energy, waste reduction and public outreach goals/initiatives to determine if more can be done in a faster time frame.

To further U-M excellence in the field of environmental sustainability, the President and Executive Officers have implemented an organizational framework to accomplish the following:

- Inspire students, faculty, and staff to become involved in helping to solve the environmental sustainability issues facing the campus and the world we live in.
- Coordinate, facilitate and advance sustainability efforts in campus operations.
- Coordinate, facilitate and advance sustainability efforts in university academics.
- Connect academic and operations activities to foster collaborative sustainability learning.

At the heart of this organizational structure is collaboration between the Office of Campus Sustainability and the Graham Sustainability Institute. Together these units work to advance sustainability at the university by connecting operational efforts to research and learning opportunities whenever possible and practical.

Utilities Assessment

Utilities master planning assessments are routinely updated to ensure the necessary production and distribution systems for steam, natural gas, water, sanitary and storm sewers, electricity, and chilled water are in place to support the facilities needed to accomplish the university's academic and research missions. Projects are identified and implemented annually from these assessments. Currently, the university is planning to expand the electric generating capacity of the Central Power Plant by 15 MW. The additional power would be provided by gas turbine technology. Implementation of this arrangement will reduce university scope two emissions by 140,000 MT of CO2 yearly and provide capacity for future growth load. The aging electrical switchgear in the Central Power Plant as well as several campus switching stations on central campus are planned for replacement over the next several years.

The steam tunnel system is in the midst of being reinforced in select areas to accommodate the weight of fire trucks that need to drive over the tunnels to access buildings. Projects on Ingalls and Monroe Malls were recently completed, and a project is currently in construction near the Ruthven Museum Building (2016-2017). Near term projects are planned along South University Avenue near Shapiro Library (2018) and in the area of the Medical School (2019).

Water, sewer, and stormwater master planning efforts have routinely been conducted over the years. Projects that come out of these planning activities are prioritized into a capital plan. Over the next two years the following projects are anticipated to take place: water main replacement on Hubbard Street; water main replacement on Bonisteel Boulevard; and a large stormwater detention/infiltration system near Mason Hall designed to eliminate or significantly reduce the flooding potential to buildings surrounding the Central Campus Diag. The university is also working with the city to model the storm and sanitary systems on Central Campus with the goal

of developing a long-term plan for addressing a number of legacy issues that have existed for some time.

Facility Condition Assessment Program

Overview

The Facility Condition Assessment (FCA) Program includes a comprehensive database on the physical condition of the building portfolio. The database addresses the condition of most major building components and systems, including architectural, structural, civil, mechanical, electrical, life safety and fire protection, environmental health, 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 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.

Program Benefits

The FCA Program provides the platform that is used to implement an ongoing system of identification and prioritization of capital repair projects within the U-M. The FCA Program has a wide range of benefits to several different departments within the university. The program provides:

- A central location for storing of facility condition data.
- A means of organizing and sorting facility condition data such that reports can be viewed and printed using a wide variety of criteria. Users can sort and print the data that suits their particular need.
- A useful tool for organizing and prioritizing all deficiency corrective measures using standardized criteria.
- A facility condition needs index (FCNI) value, which is simply 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.

- A useful tool in the development of a five-year capital renewal model that shows the needs versus available funding and the resultant FCNI.

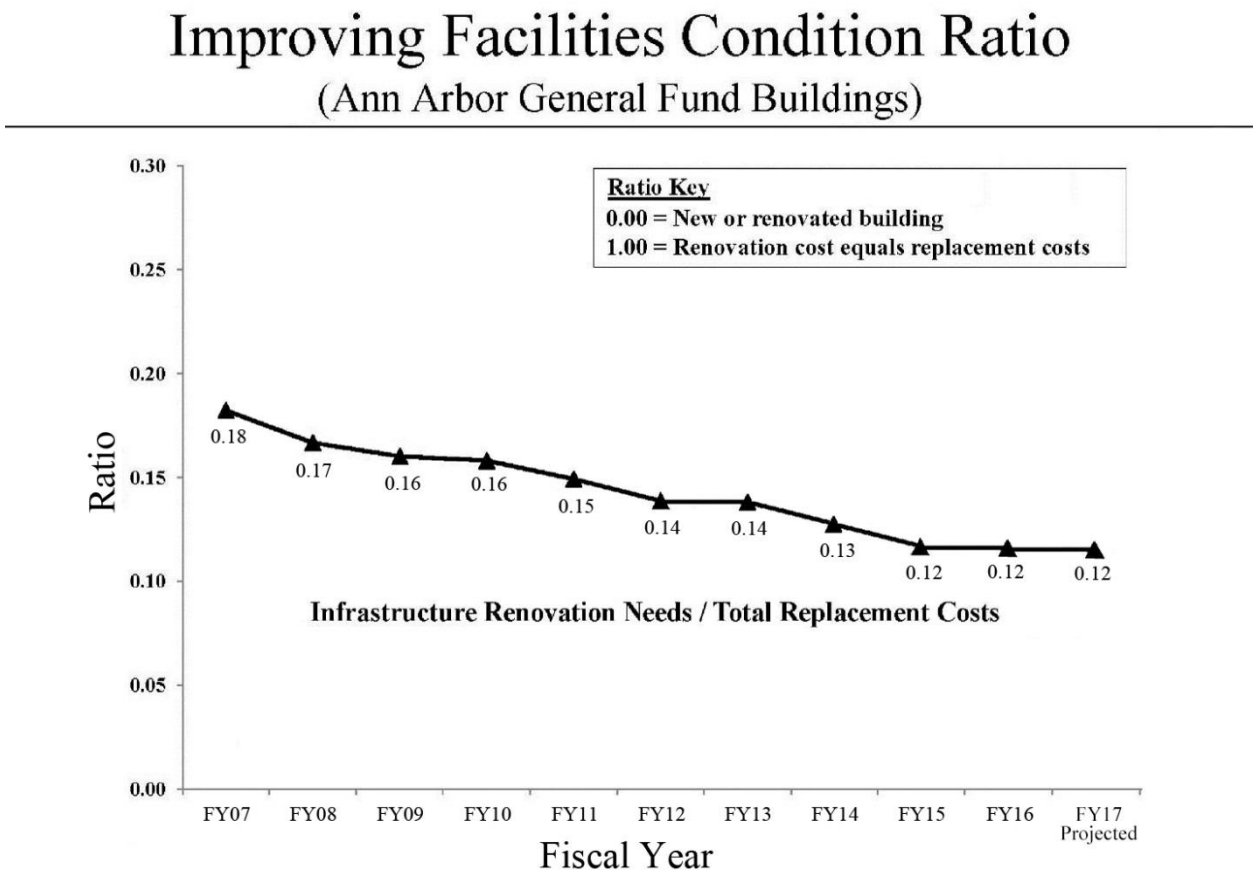
FCA Priority Classification System

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 FCNI for campus buildings has been recorded for each fiscal year. The chart below shows FCNI history. This chart shows improvement of the General Fund FCNI through the years as infrastructure needs are addressed. Since fiscal year 2007, the FCNI has improved approximately 30 percent.



University of Michigan
Physical Properties Inventory - FY16
(Land Holdings Expressed as Acreage)

	2011	2012	2013	2014	2015	2016
Ann Arbor Area:						
General Fund	1,699	1,699	1,700	1,717	1,715	1,709
Auxiliary Activities:						
Student Residences	29	29	29	29	32	32
University Hospitals Group	497	497	497	446	446	448
Other	1,019	1,019	1,019	1,019	1,019	1,019
Total Ann Arbor Area	**3,245**	**3,245**	**3,245**	**3,211**	**3,211**	**3,207**
Outside the Ann Arbor Area:						
Dearborn Campus	228	228	228	228	228	228
Flint Campus	48	48	48	48	48	51
Other Michigan Properties:						
Biological Station	10,199	10,199	10,199	10,199	10,199	10,329
Osborn Preserve	3,188	3,188	3,188	3,188	3,188	3,188
Willow Run	156	156	156	156	156	156
Other	3,934	3,934	3,934	3,934	3,934	3,934
Out-State Land	**17,753**	**17,753**	**17,753**	**17,753**	**17,753**	**17,886**
Camp Davis - Wyoming	120	120	120	120	120	120
Grand Total	**21,117**	**21,117**	**21,118**	**21,084**	**21,084**	**21,212**

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1005200	1009 CORNWELL PLACE	ANN ARBOR	3,340	1886	Income Properties	
1008060	101 SIMPSON DRIVE	ANN ARBOR	2,791	1988	Clinical Delivery System	
1008039	1011 CORNWELL PLACE	ANN ARBOR	2,879	1951	Income Properties	
1000327	1018 FULLER BUILDING	ANN ARBOR	8,349	1965	Clinical Delivery System	
1000205	1027 EAST HURON BUILDING	ANN ARBOR	6,066	1937	Teach, Research, Support	$1,371,799
1000816	1032 GREENE BUILDING	ANN ARBOR	5,903	1975	Administration & Support	$1,318,062
1000829	1322 WILMOT	ANN ARBOR	1,819	1919	Income Properties	
1000891	1736 BROADWAY GARAGE	ANN ARBOR	480	1965	Income Properties	
1000885	1736 BROADWAY HOUSE	ANN ARBOR	2,970	1965	Income Properties	
1005179	202 SOUTH THAYER BUILDING	ANN ARBOR	59,825	2006	Teach, Research, Support	$0
1000335	300 400 N INGALLS BOILER HSE	ANN ARBOR	9,908	1955	Administration & Support	$1,430,568
1000332	300 N INGALLS BUILDING	ANN ARBOR	325,677	1940	TeachResSupport/CDS	$37,755,765
1000333	400 NORTH INGALLS BUILDING	ANN ARBOR	141,981	1913	Teach, Research, Support	$14,297,321
1005327	439 S DIVISION STREET	ANN ARBOR	3,210	1900	Income Properties	
1008038	511 GLEN AVENUE	ANN ARBOR	1,619	1910	Income Properties	
1005287	523 SOUTH DIVISION BUILDING	ANN ARBOR	9,315	2010	Administration & Support	
1000815	ADMINISTRATIVE SERVICES	ANN ARBOR	91,653	1963	Administration & Support	$10,045,170
1000423	AERO ENG LAB PUMPING STATION	ANN ARBOR	2,456	1955	Teach, Research, Support	
1000426	AERO ENG POWER PLANT	ANN ARBOR	697	1955	Teach, Research, Support	
1000425	AEROSPACE ENGINEERING LAB PLASMA RESEARCH	ANN ARBOR	25,941	1961	Teach, Research, Support	$383,000
1000422	AEROSPACE ENGINEERING LAB PROPULSION LAB	ANN ARBOR	8,067	1955	Teach, Research, Support	$2,320,251
1000421	AEROSPACE ENGINEERING LAB WIND TUNNEL LAB	ANN ARBOR	14,171	1955	Teach, Research, Support	$2,873,774
1000192	ALUMNI CENTER	ANN ARBOR	34,447	1983	Administration & Support	$2,790,025
1005123	ALUMNI FIELD	ANN ARBOR	12,209	2008	Intercollegiate Athletics Bldg	
1000151	ALUMNI MEMORIAL HALL	ANN ARBOR	99,304	1910	Teach, Research, Support	$648,527
1000206	ANGELL HALL AUDITORIUMS	ANN ARBOR	29,293	1952	Teach, Research, Support	$908,990
1000152	ANGELL JAMES B HALL AND TISCH HALL	ANN ARBOR	209,237	1924	Teach, Research, Support	$4,441,419
1000168	ANIMAL RESEARCH FACILITY	ANN ARBOR	15,591	1963	Teach, Research, Support	$2,877,773
1005132	ANN STREET PARKING STRUCTURE	ANN ARBOR	189,202	2009	Parking Structure	
1008079	ARBOR LAKES 1	ANN ARBOR	39,867	1976	AdminSupport/CDS	$3,872,529
1008080	ARBOR LAKES 2	ANN ARBOR	89,278	1979	AdminSupport/CDS	$10,456,982
1008081	ARBOR LAKES 3	ANN ARBOR	86,330	1981	AdminSupport/CDS	$11,851,136
1000831	ARGUS BUILDING II	ANN ARBOR	69,214	1941	Administration & Support	$5,586,360
1000432	ART ARCHITECTURE BUILDING	ANN ARBOR	225,157	1974	Teach, Research, Support	$9,755,255
1000803	ATHLETIC CAMPUS SWITCH STATION	ANN ARBOR	2,467	1973	Switching Stations	

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1005371	ATHLETIC DEPARTMENT OPERATIONS CENTER	ANN ARBOR	18,674	2015	Intercollegiate Athletics Bldg	
1005195	ATHLETICS MAINTENANCE BUILDING	ANN ARBOR	1,473	1985	Intercollegiate Athletics Bldg	
1005402	ATHLETICS SOUTH FACILITY SUPPORT BUILDING	ANN ARBOR	2,976	2015	Intercollegiate Athletics Bldg	
1005168	AUTO LAB FUEL STORAGE BUILDING	ANN ARBOR	427	2005	Teach, Research, Support	
1002501	AUXILIARY SERVICES BUILDING 1	ANN ARBOR	80,469	1968	Administration & Support	$10,296,677
1002502	AUXILIARY SERVICES BUILDING 2	ANN ARBOR	2,893	1983	Administration & Support	
1000395	BAGNOUD FRANCOIS-XAVIER BUILDING	ANN ARBOR	101,812	1991	Teach, Research, Support	$7,216,303
1005236	BAHNA WRESTLING CENTER	ANN ARBOR	22,072	2009	Intercollegiate Athletics Bldg	
1000510	BAITS VERA I EATON HOUSE	ANN ARBOR	36,148	1966	Residence	$55,954,361
1000511	BAITS VERA I LEE HOUSE	ANN ARBOR	33,017	1966	Residence	included in above
1000512	BAITS VERA I PARKER HOUSE	ANN ARBOR	34,411	1966	Residence	included in above
1000513	BAITS VERA I SMITH HOUSE	ANN ARBOR	29,190	1966	Residence	included in above
1000514	BAITS VERA I STANLEY HOUSE	ANN ARBOR	32,600	1966	Residence	included in above
1000515	BAITS VERA II COMAN HOUSE	ANN ARBOR	48,603	1967	Residence	$43,900,072
1000516	BAITS VERA II CONGER HOUSE	ANN ARBOR	26,929	1967	Residence	included in above
1000517	BAITS VERA II CROSS HOUSE	ANN ARBOR	35,118	1967	Residence	included in above
1000518	BAITS VERA II THIEME HOUSE	ANN ARBOR	25,219	1967	Residence	included in above
1000519	BAITS VERA II ZIWET HOUSE	ANN ARBOR	33,931	1967	Residence	included in above
1000051	BARBOUR BETSY HOUSE	ANN ARBOR	33,884	1920	Residence	$10,637,925
1005290	BAXTER ROAD MONITORING SHED	ANN ARBOR	49	2010	Administration & Support	
1000439	BENTLEY ALVIN M & ARVELLA D HISTORICAL LIBRARY	ANN ARBOR	66,537	1973	Library Building	$4,728,939
1005092	BEYSTER BOB AND BETTY BUILDING	ANN ARBOR	104,132	2006	Teach, Research, Support	$26,000
1005169	BIOLOGICAL SCIENCE BUILDING	ANN ARBOR	*		Teach, Research, Support	
1005370	BLAU JEFF T HALL	ANN ARBOR	*		Teach, Research, Support	
1000402	BONISTEEL INTERDISCIPLINARY RESEARCH BUILDING	ANN ARBOR	21,993	1954	Teach, Research, Support	$2,131,241
1000880	BOYER BUILDING	ANN ARBOR	15,472	1969	Administration & Support	$1,145,256
1005102	BREHM TOWER	ANN ARBOR	252,234	2009	TeachResSupport/CDS	$0
1008076	BRIARWOOD 1	ANN ARBOR	17,699	1993	TeachResSupport/CDS	$2,305,237
1008130	BRIARWOOD 10	ANN ARBOR	17,435	1996	Clinical Delivery System	$221,377
1008030	BRIARWOOD 2	ANN ARBOR	15,924	1988	TeachResSupport/CDS	$438,376
1008065	BRIARWOOD 3	ANN ARBOR	10,611	1991	Clinical Delivery System	$311,643
1008042	BRIARWOOD 4	ANN ARBOR	14,063	1991	Clinical Delivery System	
1008016	BRIARWOOD 5	ANN ARBOR	9,378	1986	Clinical Delivery System	$113,695
1008142	BRIARWOOD 9	ANN ARBOR	5,287	1998	Clinical Delivery System	$479,711
1000407	BROWN GEORGE GRANGER MEMORIAL LABORATORIES	ANN ARBOR	291,443	1957	Teach, Research, Support	$1,000,000

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000210	BUHL LAWRENCE D RESEARCH CEN FOR HUMAN GENETICS	ANN ARBOR	18,971	1964	Teach, Research, Support	$399,646
1000799	BUHR BUILDING	ANN ARBOR	187,245	1952	Administration & Support	$5,894,071
1000010	BURNHAM HOUSE	ANN ARBOR	3,482	1835	Teach, Research, Support	$132,807
1000555	BURSLEY JOSEPH A & MARGUERITE K HALL	ANN ARBOR	341,588	1967	Residence	$79,954,409
1000155	BURTON MEMORIAL TOWER	ANN ARBOR	20,103	1936	Teach, Research, Support	$3,276,434
1000139	BUSINESS ADMIN EXECUTIVE DORM	ANN ARBOR	49,270	1985	Teach, Research, Support	$4,383,633
1000742	CAMPUS SAFETY SERVICES BUILDING	ANN ARBOR	108,241	1978	Administration & Support	$5,645,495
1000301	CANCER CENTER	ANN ARBOR	277,795	1997	TeachResSupport/CDS	$33,925,404
1000718	CANHAM DONALD B NATATORIUM	ANN ARBOR	77,639	1988	Intercollegiate Athletics Bldg	$53,300
1005146	CARDIOVASCULAR CENTER PARKING STRUCTURE	ANN ARBOR	168,596	2009	Parking Structure	
1000258	CATHERINE ST PARKING STRUCTURE	ANN ARBOR	140,168	1959	Parking Structure	
1005126	CENTRAL CAMPUS AND UM HOSPITAL LOAD CENTER	ANN ARBOR	3,884	2006	Switching Stations	
1000226	CENTRAL CAMPUS REC BLD BELL MARGARET POOL	ANN ARBOR	194,261	1954	Recreational Sports Building	$19,740,234
1005042	CENTRAL CAMPUS REC BLD STORAGE FACILITY	ANN ARBOR	739	2000	Recreational Sports Building	
1000260	CENTRAL POWER PLANT	ANN ARBOR	124,114	1914	Administration & Support	$68,335,297
1000158	CHEMISTRY & DOW WILLARD H LABORATORY	ANN ARBOR	544,628	1909	Teach, Research, Support	$19,915,477
1000443	CHRYSLER CENTER CONTINUING ENGINEERING EDUCATION	ANN ARBOR	45,310	1968	Teach, Research, Support	$1,953,952
1000257	CHURCH ST PARKING STRUCTURE	ANN ARBOR	228,214	1957	Parking Structure	$3,944,450
1000159	CLEMENTS WILLIAM L LIBRARY	ANN ARBOR	27,257	1923	Library Building	$0
1000710	COLISEUM	ANN ARBOR	38,404	1926	Recreational Sports Building	$1,850,758
1000230	COLLEGE OF PHARMACY BUILDING	ANN ARBOR	56,772	1960	Teach, Research, Support	$4,909,959
1005221	CONSTRUCTION TRAILER CHILDRENS AND WOMENS HOSP	ANN ARBOR	3,900	2007	Administration & Support	
1000109	COOK JOHN P BUILDING	ANN ARBOR	63,906	1930	Residence	
1000052	COOK MARTHA BUILDING	ANN ARBOR	71,925	1915	Residence	$20,097,962
1000184	COOK WILLIAM W LEGAL RESEARCH LIBRARY	ANN ARBOR	212,255	1931	Library Building	$15,004,456
1000403	COOLEY MORTIMER E BUILDING	ANN ARBOR	46,225	1953	Teach, Research, Support	$5,393,805
1000053	COUZENS HALL	ANN ARBOR	185,523	1925	Residence	$484,618
1000498	CRAM PLACE COMMUNITY CENTER	ANN ARBOR	7,298	1958	Residence	$35,601,521
1000700	CRISLER CENTER	ANN ARBOR	264,041	1968	Intercollegiate Athletics Bldg	$4,799,138
1000189	DANA SAMUEL TRASK BUILDING	ANN ARBOR	117,148	1904	Teach, Research, Support	$294,658
1000225	DANCE BUILDING	ANN ARBOR	12,042	1977	Teach, Research, Support	$1,303,502
1005289	DAVIDSON WILLIAM PLAYER DEVELOPMENT CENTER	ANN ARBOR	70,737	2011	Intercollegiate Athletics Bldg	$0
1000162	DENTAL BLDG AND W K KELLOGG FOUNDATION INSTITUTE	ANN ARBOR	378,556	1940	Teach, Research, Support	$49,020,140
1000198	DETROIT OBSERVATORY	ANN ARBOR	5,370	1854	Teach, Research, Support	$433,011
1000447	DOW HERBERT H BUILDING	ANN ARBOR	154,419	1983	Teach, Research, Support	$10,545,830

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000396	DUDERSTADT JAMES AND ANNE CENTER	ANN ARBOR	240,255	1996	Teach, Research, Support	$8,984,645
1005038	EAST ANN ARBOR AMBULATORY SURGICAL CENTER	ANN ARBOR	49,906	2006	Clinical Delivery System	
1000350	EAST ANN ARBOR HEALTH AND GERIATRICS CENTER	ANN ARBOR	97,158	1996	Clinical Delivery System	$4,410,225
1000166	EAST HALL	ANN ARBOR	339,619	1923	Teach, Research, Support	$4,349,468
1000306	EAST HOSPITAL MECHANICAL BLDG	ANN ARBOR	8,006	1964	Clinical Delivery System	$6,958,994
1000054	EAST QUADRANGLE	ANN ARBOR	333,036	1940	Residence	$1,333,817
1000221	EDUCATION SCHOOL OF	ANN ARBOR	215,013	1923	Teach, Research, Support	$11,343,746
1008072	EISENHOWER CORPORATE PARK WEST	ANN ARBOR	76,726	1990	Clinical Delivery System	$2,695,904
1000728	ELBEL FIELD LOCKER BUILDING	ANN ARBOR	5,943	1951	Recreational Sports Building	$1,019,965
1000448	ELECTRICAL ENGINEERING AND COMPUTER SCIENCE BLD	ANN ARBOR	305,021	1986	Teach, Research, Support	$12,968,870
1000435	ENGINEERING RESEARCH BUILDING 1	ANN ARBOR	36,033	1964	Teach, Research, Support	$6,565,185
1000436	ENGINEERING RESEARCH BUILDING 2	ANN ARBOR	28,332	1964	Teach, Research, Support	$4,003,423
1002505	ENGINEERING RESEARCH SUPPORT BLD	ANN ARBOR	1,432	1997	Teach, Research, Support	
1000414	ENVIRONMENTAL AND WATER RESOURCES ENGINEERING	ANN ARBOR	37,129	1975	Teach, Research, Support	$3,359,640
1000269	EQUIPMENT MAINTENANCE SHOP	ANN ARBOR	2,151	1914	Administration & Support	$54,485
1000800	FACILITIES SERVICES BUILDING A	ANN ARBOR	93,237	1929	Administration & Support	$14,868,394
1000801	FACILITIES SERVICES BUILDING B	ANN ARBOR	44,682	1929	Administration & Support	$4,945,316
1000802	FACILITIES SERVICES BUILDING C	ANN ARBOR	37,309	1929	Administration & Support	$2,526,532
1000706	FERRY FIELD PUMP HOUSE	ANN ARBOR	216	1968	Intercollegiate Athletics Bldg	
1005358	FIELD HOCKEY STADIUM	ANN ARBOR	2,247	2014	Intercollegiate Athletics Bldg	
1005357	FIELD HOCKEY TEAM CENTER	ANN ARBOR	14,683	2014	Intercollegiate Athletics Bldg	
1005359	FIELD HOCKEY TICKET OFFICE	ANN ARBOR	1,977	2014	Intercollegiate Athletics Bldg	
1005387	FIELD HOCKEY TICKET OFFICE WEST	ANN ARBOR	142	2014	Intercollegiate Athletics Bldg	
1000409	FIRE SERV INSTR RES CENTER	ANN ARBOR	21,528	1959	Teach, Research, Support	$1,581,034
1000733	FISHER RAY BASEBALL STADIUM	ANN ARBOR	30,167	1950	Intercollegiate Athletics Bldg	$0
1000149	FLEMING ROBBEN W & ALDYTH ADMINISTRATION BUILDING	ANN ARBOR	78,759	1968	Administration & Support	$21,209,790
1000055	FLETCHER HALL	ANN ARBOR	17,985	1923	Residence	$7,266,162
1000254	FLETCHER ST PARKING STRUCTURE	ANN ARBOR	387,276	1968	Parking Structure	
1000252	FOREST SWITCHING STATION	ANN ARBOR	6,089	1988	Switching Stations	
1000234	FRANCIS THOMAS JR PUBLIC HEALTH	ANN ARBOR	171,437	1971	Teach, Research, Support	$10,630,229
1005109	FRANKEL SAMUEL AND JEAN CARDIOVASCULAR CENTER	ANN ARBOR	444,952	2007	Clinical Delivery System	$0
1000810	GAS PAD STORAGE BUILDING	ANN ARBOR	1,442	1990	Administration & Support	
1000437	GERSTACKER CARL A BUILDING	ANN ARBOR	61,692	1964	Teach, Research, Support	$3,883,669
1000331	GLEN AVE PARKING STRUCTURE	ANN ARBOR	332,918	1987	Parking Structure	$276,484
1005121	GLICK AL FIELD HOUSE	ANN ARBOR	105,709	2009	Intercollegiate Athletics Bldg	$0

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1000747	GOLF COURSE COMFORT STATION A	ANN ARBOR	533	1994	Intercollegiate Athletics Bldg	
1000748	GOLF COURSE COMFORT STATION B	ANN ARBOR	467	1994	Intercollegiate Athletics Bldg	
1000741	GOLF COURSE GARAGE	ANN ARBOR	3,585	1956	Intercollegiate Athletics Bldg	
1005100	GOLF COURSE MAINTENANCE BUILDING	ANN ARBOR	5,555	2007	Intercollegiate Athletics Bldg	
1000749	GOLF COURSE PRACTICE RANGE BLDG	ANN ARBOR	720	1994	Intercollegiate Athletics Bldg	
1000739	GOLF COURSE PUMP HOUSE II	ANN ARBOR	336	1992	Intercollegiate Athletics Bldg	
1000424	GORGUZE FAMILY LABORATORY	ANN ARBOR	29,155	1972	Teach, Research, Support	$1,768,607
1000201	HARTWIG MARIE DOROTHY ADMINISTRATION BUILDING	ANN ARBOR	14,649	1912	Intercollegiate Athletics Bldg	$1,227,726
1000185	HATCHER H NORTH GRADUATE LIBRARY	ANN ARBOR	194,942	1920	Library Building	$4,243,093
1000181	HATCHER HARLAN H SOUTH GRADUATE LIBRARY	ANN ARBOR	147,674	1970	Library Building	$6,813,144
1000175	HAVEN HALL	ANN ARBOR	123,510	1952	Teach, Research, Support	$1,000,000
1000897	HEALTH MANAGEMENT RESEARCH	ANN ARBOR	12,792	1906	Teach, Research, Support	$1,052,629
1000176	HEALTH SERVICE	ANN ARBOR	79,177	1940	Recreational Sports Building	$7,330,501
1000057	HENDERSON MARY BARTRON HOUSE	ANN ARBOR	9,329	1892	Residence	$3,350,977
1000177	HILL AUDITORIUM	ANN ARBOR	105,813	1913	Recreational Sports Building	$365,380
1000253	HILL ST PARKING STRUCTURE	ANN ARBOR	151,160	1970	Parking Structure	
1000804	HOOVER ANNEX	ANN ARBOR	1,905	1929	Administration & Support	$100,152
1000805	HOOVER AVE HEATING PLANT	ANN ARBOR	6,990	1929	Administration & Support	
1000179	HUTCHINS HALL	ANN ARBOR	119,856	1933	Teach, Research, Support	$9,911,099
1000703	INDOOR TRACK BUILDING	ANN ARBOR	69,183	1974	Intercollegiate Athletics Bldg	$3,114,214
1005398	INDOOR TRACK BUILDING NEW	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1000429	INDUSTRIAL AND OPERATIONS ENGINEERING BUILDING	ANN ARBOR	50,220	1963	Teach, Research, Support	$2,255,626
1000862	INGLIS CARETAKERS RESIDENCE	ANN ARBOR	2,342	1927	Administration & Support	
1000868	INGLIS GREENHOUSE #2	ANN ARBOR	459	1975	Administration & Support	
1000867	INGLIS GREENHOUSE AND GARAGE	ANN ARBOR	1,069	1950	Administration & Support	
1000861	INGLIS HOUSE	ANN ARBOR	10,669	1927	Administration & Support	$3,451,365
1000863	INGLIS PEACOCK HOUSE	ANN ARBOR	88	1927	Administration & Support	
1000866	INGLIS ROOT CELLAR	ANN ARBOR	131	1927	Administration & Support	
1000864	INGLIS STORAGE BUILDING	ANN ARBOR	147	1927	Administration & Support	
1000865	INGLIS WELL HOUSE	ANN ARBOR	292	1927	Administration & Support	
1000145	INSTITUTE FOR SOCIAL RESEARCH	ANN ARBOR	225,766	1965	Teach, Research, Support	$17,070,104
1000814	INSTITUTE OF CONTINUING LEGAL ED	ANN ARBOR	12,592	1987	Teach, Research, Support	$1,019,623
1005247	INTERCOLLEGIATE SOCCER STADIUM	ANN ARBOR	17,382	2009	Intercollegiate Athletics Bldg	
1000719	INTRAMURAL SPORTS BUILDING	ANN ARBOR	106,320	1928	Recreational Sports Building	$5,309,801
1000434	IST GAS STORAGE BUILDING	ANN ARBOR	200	1964	Teach, Research, Support	

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1005160	JUNGE FAMILY CHAMPIONS CENTER	ANN ARBOR	11,749	2006	Intercollegiate Athletics Bldg	$0
1000732	KEEN CLIFFORD P ARENA	ANN ARBOR	37,261	1956	Intercollegiate Athletics Bldg	$3,643,408
1000324	KELLOGG W K EYE CENTER	ANN ARBOR	81,556	1985	Teach, Research, Support	$5,354,694
1000851	KINESIOLOGY BUILDING	ANN ARBOR	30,964	1930	Teach, Research, Support	$0
1000211	KRAUS EDWARD HENRY BUILDING	ANN ARBOR	182,966	1915	Teach, Research, Support	$27,371,946
1000137	KRESGE HALL	ANN ARBOR	75,164	1985	Library Building	$4,447,889
1005395	LACROSSE STADIUM	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1005396	LACROSSE TICKET BUILDING	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1000183	LANE HALL	ANN ARBOR	39,993	1917	Teach, Research, Support	$93,263
1000419	LAUNDRY	ANN ARBOR	48,521	1969	Clinical Delivery System	$3,370,001
1000108	LAWYERS CLUB AND MUNGER CHARLES T RESIDENCES	ANN ARBOR	93,805	1924	Residence	$16,181,229
1000400	LAY WALTER E AUTOMOTIVE ENGINEERING LABORATORY	ANN ARBOR	63,295	1955	Teach, Research, Support	$10,501,734
1005036	LIFE SCIENCES INSTITUTE BUILDING	ANN ARBOR	295,882	2003	Teach, Research, Support	$122,171
1000105	LIPSEY STANFORD STUDENT PUBLICATIONS BUILDING	ANN ARBOR	14,829	1932	Recreational Sports Building	$0
1000150	LITERATURE SCIENCE AND THE ARTS	ANN ARBOR	129,755	1948	Teach, Research, Support	$10,790
1000188	LITTLE CLARENCE COOK SCIENCE BLD	ANN ARBOR	187,433	1925	Teach, Research, Support	$7,892,584
1000059	LLOYD ALICE CROCKER HALL	ANN ARBOR	176,615	1949	Residence	$8,506,328
1000154	LORCH HALL	ANN ARBOR	89,572	1928	Teach, Research, Support	$7,093,264
1000214	LSA ADMINISTRATION ANNEX	ANN ARBOR	10,907	1891	Teach, Research, Support	$1,895,588
1000406	LURIE ANN AND ROBERT H BIOMEDICAL ENGINEERING BLD	ANN ARBOR	65,028	1957	Teach, Research, Support	$1,121,280
1000394	LURIE ANN AND ROBERT H TOWER	ANN ARBOR	11,452	1996	Teach, Research, Support	$790,479
1000397	LURIE ROBERT H ENGINEERING CTR	ANN ARBOR	53,878	1996	Teach, Research, Support	$1,422,467
1000858	MADISON BUILDING	ANN ARBOR	22,318	1883	Teach, Research, Support	$51,304
1000060	MARKLEY MARY BUTLER HALL	ANN ARBOR	285,877	1959	Residence	$57,902,432
1000197	MASON HALL	ANN ARBOR	136,012	1952	Teach, Research, Support	$4,993,548
1000976	MATT BOT GNDS HOUSE	ANN ARBOR TWP	3,650	1825	Income Properties	
1000986	MATTHAEI BOT GDNS ENVIRONMENT	ANN ARBOR TWP	2,762	1962	Teach, Research, Support	
1000991	MATTHAEI BOT GDNS EXHIB GRN HSE	ANN ARBOR TWP	18,747	1966	Teach, Research, Support	$9,445,396
1000983	MATTHAEI BOT GDNS GREENHOUSE #1	ANN ARBOR TWP	6,197	1962	Teach, Research, Support	
1000984	MATTHAEI BOT GDNS GREENHOUSE #2	ANN ARBOR TWP	6,344	1960	Teach, Research, Support	
1000988	MATTHAEI BOT GDNS GREENHOUSE #3	ANN ARBOR TWP	6,195	1960	Teach, Research, Support	
1000989	MATTHAEI BOT GDNS GREENHOUSE #4	ANN ARBOR TWP	2,819	1962	Teach, Research, Support	
1000990	MATTHAEI BOT GDNS GREENHOUSE #5	ANN ARBOR TWP	2,817	1962	Teach, Research, Support	
1000994	MATTHAEI BOT GDNS INSTR SHELTER	ANN ARBOR TWP	168	1978	Teach, Research, Support	
1000979	MATTHAEI BOT GDNS NORTH BARN #1	ANN ARBOR TWP	4,241	1880	Teach, Research, Support	

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1000978	MATTHAEI BOT GDNS NORTH BARN #2	ANN ARBOR TWP	1,212	1870	Teach, Research, Support	
1000992	MATTHAEI BOT GDNS REPTILE HSE	ANN ARBOR TWP	3,205	1969	Teach, Research, Support	
1000982	MATTHAEI BOT GDNS RESEARCH-ADMIN	ANN ARBOR TWP	21,811	1960	Teach, Research, Support	
1000987	MATTHAEI BOT GDNS SCREENHOUSE #1	ANN ARBOR TWP	399	1962	Teach, Research, Support	
1000980	MATTHAEI BOT GDNS STORAGE BLDG	ANN ARBOR TWP	1,920	1975	Administration & Support	
1000985	MATTHAEI BOT GDNS SUPT RESIDENCE	ANN ARBOR TWP	2,928	1961	Administration & Support	
1000981	MATTHAEI BOT GDNS UTILITY-BOILER	ANN ARBOR TWP	12,248	1960	Teach, Research, Support	
1000300	MED CTR N ENTRANCE PARKING STRUCTURE	ANN ARBOR	340,052	1994	Parking Structure	
1000323	MEDICAL CAMPUS SWITCH STATION SE	ANN ARBOR	2,746	1983	Switching Stations	
1000315	MEDICAL CENTER DR PARKING STRUCT	ANN ARBOR	684,123	1984	Parking Structure	
1000319	MEDICAL PROFESSIONAL BUILDING	ANN ARBOR	37,298	1977	Clinical Delivery System	$7,563,320
1000190	MEDICAL SCIENCE UNIT I	ANN ARBOR	298,913	1958	Teach, Research, Support	$34,897,842
1000200	MEDICAL SCIENCE UNIT II	ANN ARBOR	333,202	1969	Teach, Research, Support	$15,549,201
1000223	MEDICAL SCIENCES RESEARCH BLDG I	ANN ARBOR	144,646	1985	Teach, Research, Support	$8,097,744
1000213	MEDICAL SCIENCES RESEARCH BLDG II	ANN ARBOR	163,757	1989	Teach, Research, Support	$13,151,389
1000229	MEDICAL SCIENCES RESEARCH BLDG III	ANN ARBOR	217,894	1994	Teach, Research, Support	$9,349,903
1000308	MED-INN	ANN ARBOR	121,126	1952	Clinical Delivery System	$15,620,372
1000191	MICHIGAN LEAGUE	ANN ARBOR	130,395	1929	Teach, Research, Support	$23,294,794
1000404	MICHIGAN MEMORIAL PHOENIX PROJECT LABORATORY	ANN ARBOR	45,461	1955	Teach, Research, Support	$734,658
1000222	MICHIGAN NEWS BUILDING	ANN ARBOR	7,811	1955	Administration & Support	$2,429,306
1000711	MICHIGAN STADIUM	ANN ARBOR	570,265	1927	Intercollegiate Athletics Bldg	$0
1005242	MICHIGAN STADIUM NORTH PLAZA BUILDING A	ANN ARBOR	9,029	2009	Intercollegiate Athletics Bldg	
1005243	MICHIGAN STADIUM NORTH PLAZA BUILDING B	ANN ARBOR	9,337	2009	Intercollegiate Athletics Bldg	
1000120	MICHIGAN UNION	ANN ARBOR	255,176	1919	Recreational Sports Building	$45,762,549
1002500	MITCHELL FIELD BUILDING	ANN ARBOR	1,440	1981	Recreational Sports Building	
1005380	MITCHELL FIELD RECREATION BUILDING	ANN ARBOR	3,661	2014	Recreational Sports Building	
1000207	MODERN LANGUAGES BUILDING	ANN ARBOR	135,366	1972	Teach, Research, Support	$5,906,662
1005125	MODULAR ATHLETICS MAINTENANCE	ANN ARBOR	506	2002	Intercollegiate Athletics Bldg	
1005348	MODULAR MRI BUILDING	ANN ARBOR	824	2012	Teach, Research, Support	
1000100	MOLECULAR & BEHAVIORAL NEUROSCIENCE INSTITUTE	ANN ARBOR	49,956	1960	Teach, Research, Support	$9,450,785
1000440	MOORE EARL V BLDG	ANN ARBOR	172,639	1964	Teach, Research, Support	$10,229,572
1000061	MOSHER ELIZA M HALL & JORDAN MYRA B HALL	ANN ARBOR	191,152	1930	Residence	$0
1005173	MOTT CHILDRENS VON VOIGTLANDER WOMENS HOSPITALS	ANN ARBOR	1,139,406	2011	Clinical Delivery System	$0
1005369	MUNGER GRADUATE RESIDENCES	ANN ARBOR	390,215	2015	Residence	
1000415	NAVAL ARCHITECTURE AND MARINE ENGINEERING	ANN ARBOR	28,207	1962	Teach, Research, Support	$4,355,895

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1002518	NC BEAL-CRAM SWITCH GEAR	ANN ARBOR	1,804	1995	Switching Stations	
1005205	NC GROUNDS GARAGE 1	ANN ARBOR	1,692	2007	Administration & Support	
1005111	NC GROUNDS STORAGE BUILDING # 2	ANN ARBOR	2,008	1987	Administration & Support	
1005116	NC GROUNDS STORAGE BUILDING # 3	ANN ARBOR	2,008	1987	Administration & Support	
1000220	NC GROUNDS STORAGE BUILDING #1	ANN ARBOR	3,373	1953	Administration & Support	$223,261
1005131	NC STORAGE BUILDING #4	ANN ARBOR	4,792	2003	Administration & Support	
1000178	NEWBERRY HALL	ANN ARBOR	40,574	2008	Teach, Research, Support	$750,620
1000062	NEWBERRY HELEN H RESIDENCE	ANN ARBOR	31,304	1915	Residence	$9,413,949
1000007	NICHOLS ARBORETUM GAR WORKSHOP	ANN ARBOR	1,354	1963	Teach, Research, Support	
1000005	NICHOLS ARBORETUM RESIDENCE	ANN ARBOR	2,259	1908	Teach, Research, Support	$272,340
1000006	NICHOLS ARBORETUM STORAGE SHED	ANN ARBOR	308	1908	Teach, Research, Support	$56,210
1000399	NORTH CAMPUS ADMINISTRATIVE COMPLEX	ANN ARBOR	133,741	1987	TeachResSupport/CDS	$3,429,361
1005223	NORTH CAMPUS AUXILIARY SUPPORT BUILDING	ANN ARBOR	53,530	2009	AdminSupport/CDS	
1005018	NORTH CAMPUS CHILDRENS CENTER	ANN ARBOR	13,567	1999	Teach, Research, Support	
1005139	NORTH CAMPUS CHILLER PLANT	ANN ARBOR	17,246	2005	Administration & Support	$0
1002506	NORTH CAMPUS FACILITIES SERVICES BUILDING	ANN ARBOR	48,599	1999	Administration & Support	
1002514	NORTH CAMPUS GROUND SVC FACILITY	ANN ARBOR	28,246	1990	Administration & Support	$493,373
1005140	NORTH CAMPUS GROUND SVC FACILITY ANNEX	ANN ARBOR	112	2003	Administration & Support	
1005297	NORTH CAMPUS GROUNDS STORAGE SHED	ANN ARBOR	256	2009	Administration & Support	
1000449	NORTH CAMPUS HOUSING SERVICE BLD	ANN ARBOR	31,855	1978	Administration & Support	$1,193,465
1002517	NORTH CAMPUS MICROWAVE TOWER	ANN ARBOR	279	1991	Administration & Support	
1000427	NORTH CAMPUS RECREATION BUILDING	ANN ARBOR	66,876	1976	Recreational Sports Building	$7,033,085
1005253	NORTH CAMPUS RESEARCH COMPLEX BUILDING 10	ANN ARBOR	66,796	1959	Teach, Research, Support	$9,582,761
1005276	NORTH CAMPUS RESEARCH COMPLEX BUILDING 100	ANN ARBOR	10,492	1964	Teach, Research, Support	$1,593,613
1005254	NORTH CAMPUS RESEARCH COMPLEX BUILDING 14	ANN ARBOR	53,718	1987	Teach, Research, Support	$6,762,064
1005255	NORTH CAMPUS RESEARCH COMPLEX BUILDING 15	ANN ARBOR	4,623	1959	Teach, Research, Support	$370,428
1005256	NORTH CAMPUS RESEARCH COMPLEX BUILDING 16	ANN ARBOR	121,832	1991	Teach, Research, Support	$6,061,099
1005258	NORTH CAMPUS RESEARCH COMPLEX BUILDING 18	ANN ARBOR	92,380	2000	Teach, Research, Support	$2,899,292
1005259	NORTH CAMPUS RESEARCH COMPLEX BUILDING 20	ANN ARBOR	179,496	1959	Teach, Research, Support	$32,996,433
1005277	NORTH CAMPUS RESEARCH COMPLEX BUILDING 200	ANN ARBOR	26,648	1964	Teach, Research, Support	$2,352,698
1005260	NORTH CAMPUS RESEARCH COMPLEX BUILDING 22	ANN ARBOR	21,270	1999	Teach, Research, Support	$2,776,610
1005261	NORTH CAMPUS RESEARCH COMPLEX BUILDING 23	ANN ARBOR	10,508	2002	Teach, Research, Support	$112,928
1005262	NORTH CAMPUS RESEARCH COMPLEX BUILDING 25	ANN ARBOR	105,221	1984	Teach, Research, Support	$35,660,504
1005263	NORTH CAMPUS RESEARCH COMPLEX BUILDING 26	ANN ARBOR	192,713	2000	Teach, Research, Support	$6,100,099
1005264	NORTH CAMPUS RESEARCH COMPLEX BUILDING 28	ANN ARBOR	134,720	1992	Teach, Research, Support	$25,079,373

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1005265	NORTH CAMPUS RESEARCH COMPLEX BUILDING 30	ANN ARBOR	32,358	1965	Teach, Research, Support	$8,227,125
1005278	NORTH CAMPUS RESEARCH COMPLEX BUILDING 300	ANN ARBOR	39,513	1964	Teach, Research, Support	$4,466,967
1005266	NORTH CAMPUS RESEARCH COMPLEX BUILDING 35	ANN ARBOR	95,808	1985	Teach, Research, Support	$49,257,385
1005267	NORTH CAMPUS RESEARCH COMPLEX BUILDING 36	ANN ARBOR	116,148	2006	Teach, Research, Support	$3,357,367
1005268	NORTH CAMPUS RESEARCH COMPLEX BUILDING 40	ANN ARBOR	4,370	1959	Teach, Research, Support	$1,464,475
1005279	NORTH CAMPUS RESEARCH COMPLEX BUILDING 400	ANN ARBOR	27,571	1982	Teach, Research, Support	$2,514,543
1005269	NORTH CAMPUS RESEARCH COMPLEX BUILDING 50	ANN ARBOR	25,713	1977	Teach, Research, Support	$5,930,939
1005280	NORTH CAMPUS RESEARCH COMPLEX BUILDING 500	ANN ARBOR	14,775	1998	Administration & Support	$0
1005281	NORTH CAMPUS RESEARCH COMPLEX BUILDING 520	ANN ARBOR	199,850	1998	Teach, Research, Support	$8,204,093
1005282	NORTH CAMPUS RESEARCH COMPLEX BUILDING 550	ANN ARBOR	236,634	1998	Teach, Research, Support	$3,782,012
1005270	NORTH CAMPUS RESEARCH COMPLEX BUILDING 60	ANN ARBOR	25,149	1983	Teach, Research, Support	$4,189,411
1005271	NORTH CAMPUS RESEARCH COMPLEX BUILDING 70	ANN ARBOR	773	1959	Teach, Research, Support	$46,900
1005272	NORTH CAMPUS RESEARCH COMPLEX BUILDING 73	ANN ARBOR	231,655	1991	Parking Structure	$529,096
1005273	NORTH CAMPUS RESEARCH COMPLEX BUILDING 80	ANN ARBOR	52,404	1959	Administration & Support	$13,579,252
1005283	NORTH CAMPUS RESEARCH COMPLEX BUILDING 800	ANN ARBOR	20,250	2001	Administration & Support	$1,176,334
1005274	NORTH CAMPUS RESEARCH COMPLEX BUILDING 85	ANN ARBOR	5,132	2005	Administration & Support	$317,697
1005335	NORTH CAMPUS RESEARCH COMPLEX BUILDING 86	ANN ARBOR	1,034	2006	Switching Stations	
1005275	NORTH CAMPUS RESEARCH COMPLEX BUILDING 90	ANN ARBOR	35,767	1999	Teach, Research, Support	$2,012,318
1000418	NORTH CAMPUS SERVICE BLDG #1	ANN ARBOR	23,191	1965	Administration & Support	$398,679
1000430	NORTH CAMPUS STORAGE BUILDING	ANN ARBOR	45,750	1967	Administration & Support	$1,483,700
1005334	NORTH CAMPUS SUPPORT FACILITY	ANN ARBOR	2,529	2011	Administration & Support	
1000408	NORTH CAMPUS SWITCH STATION	ANN ARBOR	10,161	1957	Switching Stations	$84,124
1005177	NORTH QUADRANGLE RESIDENTIAL AND ACADEMIC	ANN ARBOR	388,357	2010	Resident Hall	$0
1000600	NORTHWOOD COMMUNITY CENTER	ANN ARBOR	13,744	1991	Recreational Sports Building	$936,149
1000451	NORTHWOOD I APTS 451	ANN ARBOR	11,744	1955	Residence	$18,877,122
1000452	NORTHWOOD I APTS 452	ANN ARBOR	5,312	1955	Residence	included in above
1000453	NORTHWOOD I APTS 453	ANN ARBOR	14,412	1955	Residence	included in above
1000455	NORTHWOOD I APTS 455	ANN ARBOR	5,312	1955	Residence	included in above
1000456	NORTHWOOD I APTS 456	ANN ARBOR	11,744	1955	Residence	included in above
1000450	NORTHWOOD I SVC BUILDING 450	ANN ARBOR	3,168	1955	Residence	$18,877,122
1000462	NORTHWOOD II APTS 462	ANN ARBOR	4,246	1957	Residence	included in above
1000464	NORTHWOOD II APTS 464	ANN ARBOR	5,645	1957	Residence	included in above
1000465	NORTHWOOD II APTS 465	ANN ARBOR	5,645	1957	Residence	included in above
1000466	NORTHWOOD II APTS 466	ANN ARBOR	4,246	1957	Residence	included in above
1000467	NORTHWOOD II APTS 467	ANN ARBOR	4,246	1957	Residence	included in above

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1000468	NORTHWOOD II APTS 468	ANN ARBOR	4,246	1957	Residence	included in above
1000469	NORTHWOOD II APTS 469	ANN ARBOR	12,405	1957	Residence	included in above
1000470	NORTHWOOD II APTS 470	ANN ARBOR	5,645	1957	Residence	included in above
1000471	NORTHWOOD II APTS 471	ANN ARBOR	5,645	1957	Residence	included in above
1000472	NORTHWOOD II APTS 472	ANN ARBOR	5,645	1957	Residence	included in above
1000473	NORTHWOOD II APTS 473	ANN ARBOR	12,405	1957	Residence	included in above
1000474	NORTHWOOD II APTS 474	ANN ARBOR	3,738	1957	Residence	included in above
1000475	NORTHWOOD II APTS 475	ANN ARBOR	3,738	1957	Residence	included in above
1000476	NORTHWOOD II APTS 476	ANN ARBOR	3,738	1957	Residence	included in above
1000477	NORTHWOOD II APTS 477	ANN ARBOR	3,738	1957	Residence	included in above
1000478	NORTHWOOD II APTS 478	ANN ARBOR	3,738	1957	Residence	included in above
1000479	NORTHWOOD II APTS 479	ANN ARBOR	5,645	1957	Residence	included in above
1000480	NORTHWOOD II APTS 480	ANN ARBOR	5,645	1957	Residence	included in above
1000481	NORTHWOOD II APTS 481	ANN ARBOR	5,645	1957	Residence	included in above
1000482	NORTHWOOD II APTS 482	ANN ARBOR	3,738	1957	Residence	included in above
1000483	NORTHWOOD II APTS 483	ANN ARBOR	3,738	1957	Residence	included in above
1000484	NORTHWOOD II APTS 484	ANN ARBOR	3,738	1957	Residence	included in above
1000485	NORTHWOOD II APTS 485	ANN ARBOR	3,738	1957	Residence	included in above
1000486	NORTHWOOD II APTS 486	ANN ARBOR	3,738	1957	Residence	included in above
1000487	NORTHWOOD II APTS 487	ANN ARBOR	3,738	1957	Residence	included in above
1000488	NORTHWOOD II APTS 488	ANN ARBOR	3,738	1957	Residence	included in above
1000489	NORTHWOOD II APTS 489	ANN ARBOR	3,738	1957	Residence	included in above
1000490	NORTHWOOD II APTS 490	ANN ARBOR	3,738	1957	Residence	included in above
1000491	NORTHWOOD II APTS 491	ANN ARBOR	3,738	1957	Residence	included in above
1000492	NORTHWOOD II APTS 492	ANN ARBOR	3,738	1957	Residence	included in above
1000493	NORTHWOOD II APTS 493	ANN ARBOR	3,738	1957	Residence	included in above
1000494	NORTHWOOD II APTS 494	ANN ARBOR	3,738	1957	Residence	included in above
1000495	NORTHWOOD II APTS 495	ANN ARBOR	3,738	1957	Residence	included in above
1000496	NORTHWOOD II APTS 496	ANN ARBOR	3,738	1957	Residence	included in above
1000497	NORTHWOOD II APTS 497	ANN ARBOR	3,738	1957	Residence	included in above
1000457	NORTHWOOD II SVC BUILDING 457	ANN ARBOR	5,400	1957	Residence	$40,626,996
1000458	NORTHWOOD II SVC BUILDING 458	ANN ARBOR	2,760	1957	Residence	included in above
1000459	NORTHWOOD II SVC BUILDING 459	ANN ARBOR	2,879	1957	Residence	included in above
1000460	NORTHWOOD II SVC BUILDING 460	ANN ARBOR	5,270	1957	Residence	included in above
1000461	NORTHWOOD II SVC BUILDING 461	ANN ARBOR	2,879	1957	Residence	included in above

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000501	NORTHWOOD III APTS 501	ANN ARBOR	27,371	1958	Residence	included in above
1000502	NORTHWOOD III APTS 502	ANN ARBOR	17,585	1958	Residence	included in above
1000503	NORTHWOOD III APTS 503	ANN ARBOR	17,585	1958	Residence	included in above
1000504	NORTHWOOD III APTS 504	ANN ARBOR	25,068	1958	Residence	included in above
1000505	NORTHWOOD III APTS 505	ANN ARBOR	17,585	1958	Residence	included in above
1000506	NORTHWOOD III APTS 506	ANN ARBOR	17,585	1958	Residence	included in above
1000507	NORTHWOOD III APTS 507	ANN ARBOR	17,585	1958	Residence	included in above
1000508	NORTHWOOD III APTS 508	ANN ARBOR	17,585	1958	Residence	included in above
1000499	NORTHWOOD III SVC BUILDING 499	ANN ARBOR	2,471	1958	Residence	included in above
1000500	NORTHWOOD III SVC BUILDING 500	ANN ARBOR	2,471	1958	Residence	included in above
1000601	NORTHWOOD IV APTS 601	ANN ARBOR	8,029	1969	Residence	$64,154,628
1000602	NORTHWOOD IV APTS 602	ANN ARBOR	4,061	1969	Residence	included in above
1000603	NORTHWOOD IV APTS 603	ANN ARBOR	3,066	1969	Residence	included in above
1000604	NORTHWOOD IV APTS 604	ANN ARBOR	4,899	1969	Residence	included in above
1000605	NORTHWOOD IV APTS 605	ANN ARBOR	10,708	1969	Residence	included in above
1000606	NORTHWOOD IV APTS 606	ANN ARBOR	3,117	1969	Residence	included in above
1000607	NORTHWOOD IV APTS 607	ANN ARBOR	6,763	1969	Residence	included in above
1000608	NORTHWOOD IV APTS 608	ANN ARBOR	5,425	1969	Residence	included in above
1000609	NORTHWOOD IV APTS 609	ANN ARBOR	5,425	1969	Residence	included in above
1000610	NORTHWOOD IV APTS 610	ANN ARBOR	4,123	1969	Residence	included in above
1000611	NORTHWOOD IV APTS 611	ANN ARBOR	7,181	1969	Residence	included in above
1000612	NORTHWOOD IV APTS 612	ANN ARBOR	6,726	1969	Residence	included in above
1000613	NORTHWOOD IV APTS 613	ANN ARBOR	4,442	1969	Residence	included in above
1000614	NORTHWOOD IV APTS 614	ANN ARBOR	5,399	1969	Residence	included in above
1000615	NORTHWOOD IV APTS 615	ANN ARBOR	3,159	1969	Residence	included in above
1000616	NORTHWOOD IV APTS 616	ANN ARBOR	10,707	1969	Residence	included in above
1000617	NORTHWOOD IV APTS 617	ANN ARBOR	7,967	1969	Residence	included in above
1000618	NORTHWOOD IV APTS 618	ANN ARBOR	7,082	1969	Residence	included in above
1000619	NORTHWOOD IV APTS 619	ANN ARBOR	6,727	1969	Residence	included in above
1000620	NORTHWOOD IV APTS 620	ANN ARBOR	6,727	1969	Residence	included in above
1000621	NORTHWOOD IV APTS 621	ANN ARBOR	3,117	1969	Residence	included in above
1000622	NORTHWOOD IV APTS 622	ANN ARBOR	5,876	1969	Residence	included in above
1000623	NORTHWOOD IV APTS 623	ANN ARBOR	8,065	1969	Residence	included in above
1000624	NORTHWOOD IV APTS 624	ANN ARBOR	6,727	1969	Residence	included in above
1000625	NORTHWOOD IV APTS 625	ANN ARBOR	4,061	1969	Residence	included in above

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000626	NORTHWOOD IV APTS 626	ANN ARBOR	5,741	1969	Residence	included in above
1000627	NORTHWOOD IV APTS 627	ANN ARBOR	3,117	1969	Residence	included in above
1000628	NORTHWOOD IV APTS 628	ANN ARBOR	5,425	1969	Residence	included in above
1000629	NORTHWOOD IV APTS 629	ANN ARBOR	5,425	1969	Residence	included in above
1000630	NORTHWOOD IV APTS 630	ANN ARBOR	11,534	1969	Residence	included in above
1000631	NORTHWOOD IV APTS 631	ANN ARBOR	4,442	1969	Residence	included in above
1000632	NORTHWOOD IV APTS 632	ANN ARBOR	2,821	1969	Residence	included in above
1000633	NORTHWOOD IV APTS 633	ANN ARBOR	6,727	1969	Residence	included in above
1000634	NORTHWOOD IV APTS 634	ANN ARBOR	4,123	1969	Residence	included in above
1000635	NORTHWOOD IV APTS 635	ANN ARBOR	4,123	1969	Residence	included in above
1000636	NORTHWOOD IV APTS 636	ANN ARBOR	3,159	1969	Residence	included in above
1000637	NORTHWOOD IV APTS 637	ANN ARBOR	7,034	1969	Residence	included in above
1000638	NORTHWOOD IV APTS 638	ANN ARBOR	5,775	1969	Residence	included in above
1000639	NORTHWOOD IV APTS 639	ANN ARBOR	8,029	1969	Residence	included in above
1000640	NORTHWOOD IV APTS 640	ANN ARBOR	5,425	1969	Residence	included in above
1000641	NORTHWOOD IV APTS 641	ANN ARBOR	4,478	1969	Residence	included in above
1000642	NORTHWOOD IV APTS 642	ANN ARBOR	4,061	1969	Residence	included in above
1000643	NORTHWOOD IV APTS 643	ANN ARBOR	5,363	1969	Residence	included in above
1000644	NORTHWOOD IV APTS 644	ANN ARBOR	8,348	1969	Residence	included in above
1000645	NORTHWOOD IV APTS 645	ANN ARBOR	6,279	1969	Residence	included in above
1000646	NORTHWOOD IV APTS 646	ANN ARBOR	5,425	1969	Residence	included in above
1000647	NORTHWOOD IV APTS 647	ANN ARBOR	4,123	1969	Residence	included in above
1000648	NORTHWOOD IV APTS 648	ANN ARBOR	3,159	1969	Residence	included in above
1000649	NORTHWOOD IV APTS 649	ANN ARBOR	4,442	1969	Residence	included in above
1000650	NORTHWOOD IV APTS 650	ANN ARBOR	4,123	1969	Residence	included in above
1000651	NORTHWOOD IV APTS 651	ANN ARBOR	5,425	1969	Residence	included in above
1000652	NORTHWOOD IV APTS 652	ANN ARBOR	6,701	1969	Residence	included in above
1000653	NORTHWOOD IV APTS 653	ANN ARBOR	4,442	1969	Residence	included in above
1000654	NORTHWOOD IV APTS 654	ANN ARBOR	5,425	1969	Residence	included in above
1000655	NORTHWOOD IV APTS 655	ANN ARBOR	11,099	1969	Residence	included in above
1000656	NORTHWOOD IV APTS 656	ANN ARBOR	10,080	1969	Residence	included in above
1000657	NORTHWOOD IV APTS 657	ANN ARBOR	6,727	1969	Residence	included in above
1000658	NORTHWOOD IV APTS 658	ANN ARBOR	8,480	1969	Residence	included in above
1000659	NORTHWOOD IV APTS 659	ANN ARBOR	9,269	1969	Residence	included in above
1000660	NORTHWOOD IV APTS 660	ANN ARBOR	8,348	1969	Residence	included in above

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000661	NORTHWOOD IV APTS 661	ANN ARBOR	5,744	1969	Residence	included in above
1000662	NORTHWOOD IV APTS 662	ANN ARBOR	3,159	1969	Residence	included in above
1000663	NORTHWOOD IV APTS 663	ANN ARBOR	9,650	1969	Residence	included in above
1000664	NORTHWOOD IV APTS 664	ANN ARBOR	8,348	1969	Residence	included in above
1000665	NORTHWOOD IV APTS 665	ANN ARBOR	3,159	1969	Residence	included in above
1000666	NORTHWOOD IV APTS 666	ANN ARBOR	4,442	1969	Residence	included in above
1000667	NORTHWOOD IV APTS 667	ANN ARBOR	6,665	1969	Residence	included in above
1000668	NORTHWOOD IV APTS 668	ANN ARBOR	9,331	1969	Residence	included in above
1000669	NORTHWOOD IV APTS 669	ANN ARBOR	8,348	1969	Residence	included in above
1000670	NORTHWOOD IV APTS 670	ANN ARBOR	7,095	1969	Residence	included in above
1000671	NORTHWOOD IV APTS 671	ANN ARBOR	10,858	1969	Residence	included in above
1000672	NORTHWOOD IV APTS 672	ANN ARBOR	5,425	1969	Residence	included in above
1000673	NORTHWOOD IV APTS 673	ANN ARBOR	9,779	1969	Residence	included in above
1000674	NORTHWOOD IV APTS 674	ANN ARBOR	8,029	1969	Residence	included in above
1000675	NORTHWOOD IV APTS 675	ANN ARBOR	10,679	1969	Residence	included in above
1000676	NORTHWOOD IV APTS 676	ANN ARBOR	6,727	1969	Residence	included in above
1000677	NORTHWOOD IV APTS 677	ANN ARBOR	8,104	1969	Residence	included in above
1000678	NORTHWOOD IV APTS 678	ANN ARBOR	7,046	1969	Residence	included in above
1000679	NORTHWOOD IV APTS 679	ANN ARBOR	3,159	1969	Residence	included in above
1000680	NORTHWOOD IV APTS 680	ANN ARBOR	7,967	1969	Residence	included in above
1000681	NORTHWOOD IV APTS 681	ANN ARBOR	8,348	1969	Residence	included in above
1000682	NORTHWOOD IV APTS 682	ANN ARBOR	11,045	1969	Residence	included in above
1000683	NORTHWOOD IV APTS 683	ANN ARBOR	6,727	1969	Residence	included in above
1000684	NORTHWOOD IV APTS 684	ANN ARBOR	1,479	1996	Residence	included in above
1002701	NORTHWOOD V APTS 2701	ANN ARBOR	5,603	1972	Residence	$66,081,331
1002702	NORTHWOOD V APTS 2702	ANN ARBOR	10,695	1972	Residence	included in above
1002703	NORTHWOOD V APTS 2703	ANN ARBOR	9,393	1972	Residence	included in above
1002704	NORTHWOOD V APTS 2704	ANN ARBOR	5,603	1972	Residence	included in above
1002705	NORTHWOOD V APTS 2705	ANN ARBOR	9,393	1972	Residence	included in above
1002706	NORTHWOOD V APTS 2706	ANN ARBOR	9,393	1972	Residence	included in above
1002707	NORTHWOOD V APTS 2707	ANN ARBOR	5,603	1972	Residence	included in above
1002708	NORTHWOOD V APTS 2708	ANN ARBOR	8,091	1972	Residence	included in above
1002709	NORTHWOOD V APTS 2709	ANN ARBOR	6,218	1972	Residence	included in above
1002710	NORTHWOOD V APTS 2710	ANN ARBOR	9,393	1972	Residence	included in above
1002711	NORTHWOOD V APTS 2711	ANN ARBOR	8,091	1972	Residence	included in above

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1002712	NORTHWOOD V APTS 2712	ANN ARBOR	6,789	1972	Residence	included in above
1002713	NORTHWOOD V APTS 2713	ANN ARBOR	5,603	1972	Residence	included in above
1002714	NORTHWOOD V APTS 2714	ANN ARBOR	6,789	1972	Residence	included in above
1002715	NORTHWOOD V APTS 2715	ANN ARBOR	5,603	1972	Residence	included in above
1002716	NORTHWOOD V APTS 2716	ANN ARBOR	8,091	1972	Residence	included in above
1002717	NORTHWOOD V APTS 2717	ANN ARBOR	6,218	1972	Residence	included in above
1002718	NORTHWOOD V APTS 2718	ANN ARBOR	6,218	1972	Residence	included in above
1002719	NORTHWOOD V APTS 2719	ANN ARBOR	5,603	1972	Residence	included in above
1002720	NORTHWOOD V APTS 2720	ANN ARBOR	5,603	1972	Residence	included in above
1002721	NORTHWOOD V APTS 2721	ANN ARBOR	5,603	1972	Residence	included in above
1002722	NORTHWOOD V APTS 2722	ANN ARBOR	9,393	1972	Residence	included in above
1002723	NORTHWOOD V APTS 2723	ANN ARBOR	5,603	1972	Residence	included in above
1002724	NORTHWOOD V APTS 2724	ANN ARBOR	6,789	1972	Residence	included in above
1002725	NORTHWOOD V APTS 2725	ANN ARBOR	6,789	1972	Residence	included in above
1002726	NORTHWOOD V APTS 2726	ANN ARBOR	6,218	1972	Residence	included in above
1002727	NORTHWOOD V APTS 2727	ANN ARBOR	6,218	1972	Residence	included in above
1002728	NORTHWOOD V APTS 2728	ANN ARBOR	5,603	1972	Residence	included in above
1002729	NORTHWOOD V APTS 2729	ANN ARBOR	6,789	1972	Residence	included in above
1002730	NORTHWOOD V APTS 2730	ANN ARBOR	5,603	1972	Residence	included in above
1002731	NORTHWOOD V APTS 2731	ANN ARBOR	6,789	1972	Residence	included in above
1002732	NORTHWOOD V APTS 2732	ANN ARBOR	8,091	1972	Residence	included in above
1002733	NORTHWOOD V APTS 2733	ANN ARBOR	9,393	1972	Residence	included in above
1002734	NORTHWOOD V APTS 2734	ANN ARBOR	8,091	1972	Residence	included in above
1002735	NORTHWOOD V APTS 2735	ANN ARBOR	5,603	1972	Residence	included in above
1002736	NORTHWOOD V APTS 2736	ANN ARBOR	5,603	1972	Residence	included in above
1002737	NORTHWOOD V APTS 2737	ANN ARBOR	6,218	1972	Residence	included in above
1002738	NORTHWOOD V APTS 2738	ANN ARBOR	5,603	1972	Residence	included in above
1002739	NORTHWOOD V APTS 2739	ANN ARBOR	6,789	1972	Residence	included in above
1002740	NORTHWOOD V APTS 2740	ANN ARBOR	8,091	1972	Residence	included in above
1002741	NORTHWOOD V APTS 2741	ANN ARBOR	8,091	1972	Residence	included in above
1002742	NORTHWOOD V APTS 2742	ANN ARBOR	9,393	1972	Residence	included in above
1002743	NORTHWOOD V APTS 2743	ANN ARBOR	5,603	1972	Residence	included in above
1002744	NORTHWOOD V APTS 2744	ANN ARBOR	8,091	1972	Residence	included in above
1002745	NORTHWOOD V APTS 2745	ANN ARBOR	9,393	1972	Residence	included in above
1002746	NORTHWOOD V APTS 2746	ANN ARBOR	5,603	1972	Residence	included in above

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1002747	NORTHWOOD V APTS 2747	ANN ARBOR	5,603	1972	Residence	included in above
1002748	NORTHWOOD V APTS 2748	ANN ARBOR	5,603	1972	Residence	included in above
1002749	NORTHWOOD V APTS 2749	ANN ARBOR	6,789	1972	Residence	included in above
1002750	NORTHWOOD V APTS 2750	ANN ARBOR	6,789	1972	Residence	included in above
1002751	NORTHWOOD V APTS 2751	ANN ARBOR	5,603	1972	Residence	included in above
1002752	NORTHWOOD V APTS 2752	ANN ARBOR	8,091	1972	Residence	included in above
1002753	NORTHWOOD V APTS 2753	ANN ARBOR	5,603	1972	Residence	included in above
1002754	NORTHWOOD V APTS 2754	ANN ARBOR	6,789	1972	Residence	included in above
1002755	NORTHWOOD V APTS 2755	ANN ARBOR	5,603	1972	Residence	included in above
1002756	NORTHWOOD V APTS 2756	ANN ARBOR	9,393	1972	Residence	included in above
1002757	NORTHWOOD V APTS 2757	ANN ARBOR	5,603	1972	Residence	included in above
1002758	NORTHWOOD V APTS 2758	ANN ARBOR	9,393	1972	Residence	included in above
1002759	NORTHWOOD V APTS 2759	ANN ARBOR	9,393	1972	Residence	included in above
1002760	NORTHWOOD V APTS 2760	ANN ARBOR	5,603	1972	Residence	included in above
1002761	NORTHWOOD V APTS 2761	ANN ARBOR	5,603	1972	Residence	included in above
1002762	NORTHWOOD V APTS 2762	ANN ARBOR	9,393	1972	Residence	included in above
1002763	NORTHWOOD V APTS 2763	ANN ARBOR	5,603	1972	Residence	included in above
1002764	NORTHWOOD V APTS 2764	ANN ARBOR	6,789	1972	Residence	included in above
1002765	NORTHWOOD V APTS 2765	ANN ARBOR	6,789	1972	Residence	included in above
1002766	NORTHWOOD V APTS 2766	ANN ARBOR	6,218	1972	Residence	included in above
1002767	NORTHWOOD V APTS 2767	ANN ARBOR	5,603	1972	Residence	included in above
1002768	NORTHWOOD V APTS 2768	ANN ARBOR	6,789	1972	Residence	included in above
1002769	NORTHWOOD V APTS 2769	ANN ARBOR	6,789	1972	Residence	included in above
1002770	NORTHWOOD V APTS 2770	ANN ARBOR	8,091	1972	Residence	included in above
1002771	NORTHWOOD V APTS 2771	ANN ARBOR	6,218	1972	Residence	included in above
1002772	NORTHWOOD V APTS 2772	ANN ARBOR	9,279	1972	Residence	included in above
1002773	NORTHWOOD V APTS 2773	ANN ARBOR	9,279	1972	Residence	included in above
1002774	NORTHWOOD V APTS 2774	ANN ARBOR	9,279	1972	Residence	included in above
1002775	NORTHWOOD V APTS 2775	ANN ARBOR	6,218	1972	Residence	included in above
1002776	NORTHWOOD V APTS 2776	ANN ARBOR	9,279	1972	Residence	included in above
1002777	NORTHWOOD V APTS 2777	ANN ARBOR	6,218	1972	Residence	included in above
1002778	NORTHWOOD V APTS 2778	ANN ARBOR	6,218	1972	Residence	included in above
1002779	NORTHWOOD V APTS 2779	ANN ARBOR	9,279	1972	Residence	included in above
1000405	NUCLEAR ENGINEERING LABORATORIES	ANN ARBOR	17,910	1955	Teach, Research, Support	$0
1000042	OH ADELIA CHEEVER RESIDENCE	ANN ARBOR	9,413	1964	Residence	$31,058,458

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1000041	OH ARTHUR AND HAZEL VANDENBERG HALL	ANN ARBOR	20,117	1964	Residence	included in above
1000043	OH GEDDES RESIDENCE	ANN ARBOR	11,204	1964	Residence	included in above
1000044	OH JULIA ESTHER EMANUEL RESIDENCE	ANN ARBOR	8,984	1964	Residence	included in above
1000046	OH LAUREL HARPER SEELEY HALL	ANN ARBOR	36,375	1964	Residence	included in above
1000040	OH MARY ALICE AND LILLIAN GODDARD HALL	ANN ARBOR	21,995	1964	Residence	included in above
1000045	OH PAMELA NOBLE RESIDENCE	ANN ARBOR	9,413	1964	Residence	included in above
1000047	OH PLANT SERVICE	ANN ARBOR	3,341	1964	Administration & Support	included in above
1000704	OOSTERBAAN BENNIE FIELD HOUSE	ANN ARBOR	78,278	1981	Intercollegiate Athletics Bldg	$735,317
1005400	OUTDOOR TRACK AUXILIARY BUILDING	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1005397	OUTDOOR TRACK STADIUM	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1005047	PALMER COMMONS	ANN ARBOR	106,471	2005	Teach, Research, Support	$598,797
1000263	PALMER DRIVE PARKING STRUCTURE	ANN ARBOR	389,120	2004	Parking Structure	$5,351
1000890	PERRY BUILDING	ANN ARBOR	123,632	1902	Teach, Research, Support	$0
1000807	PHYSICAL PROPERTIES BUILDING	ANN ARBOR	7,183	1920	Administration & Support	$538,669
1000442	PIERPONT WILBUR K COMMONS	ANN ARBOR	90,487	1965	Recreational Sports Building	$7,019,509
1000261	PLANT SERVICE BUILDING	ANN ARBOR	15,183	1973	Administration & Support	$1,928,659
1008050	PLANT STORAGE BUILDING #1	ANN ARBOR	3,087	1987	Administration & Support	
1008051	PLANT STORAGE BUILDING #2	ANN ARBOR	2,577	1987	Administration & Support	
1008052	PLANT STORAGE BUILDING #3	ANN ARBOR	2,577	1987	Administration & Support	
1005385	POSTMA RICHARD L FAMILY CLUBHOUSE	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1000186	POUND MADELON HOUSE	ANN ARBOR	7,571	1898	Teach, Research, Support	$1,622,717
1000187	POUND MADELON HOUSE GARAGE	ANN ARBOR	527	1951	Teach, Research, Support	
1000180	POWER CENTER FOR PERFORMING ARTS	ANN ARBOR	73,087	1971	Teach, Research, Support	$3,898,077
1000203	PRESIDENTS RESIDENCE	ANN ARBOR	13,781	1840	Administration & Support	$552,775
1000172	RACKHAM HORACE H SCHOOL OF GRADUATE STUDIES	ANN ARBOR	157,957	1938	Teach, Research, Support	$661,011
1000417	RADIATION SCIENCES LABORATORY 2	ANN ARBOR	10,660	1962	Teach, Research, Support	$179,580
1000416	RADIATION SCIENCES LABORATORY 1	ANN ARBOR	7,708	1962	Teach, Research, Support	$336,348
1000972	RADRICK FARMS BARN #1	SUPERIOR TWP	4,902	1962	Administration & Support	
1000955	RADRICK FARMS CARETAKERS HOUSE	ANN ARBOR TWP	2,874	1962	Administration & Support	
1000958	RADRICK FARMS CHICKEN HOUSE	ANN ARBOR TWP	200	1962	Administration & Support	
1000970	RADRICK FARMS COMFORT STATION	SUPERIOR TWP	251	1987	Administration & Support	
1005331	RADRICK FARMS COMFORT STATION #2	SUPERIOR TWP	253	1987	Administration & Support	
1000959	RADRICK FARMS CORNCRIB #1	ANN ARBOR TWP	105	1962	Administration & Support	
1000918	RADRICK FARMS DRIVE RANGE SHELT	ANN ARBOR TWP	128	1989	Administration & Support	
1000962	RADRICK FARMS FIRE BARN	ANN ARBOR TWP	792	1962	Administration & Support	

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1000960	RADRICK FARMS FOOD SERVICE BLDG	ANN ARBOR TWP	408	1995	Administration & Support	
1000974	RADRICK FARMS GOLF CART BUILDING	ANN ARBOR TWP	2,909	1976	Administration & Support	
1000963	RADRICK FARMS GOLF CLUBHOUSE	ANN ARBOR TWP	10,725	1940	Administration & Support	
1000971	RADRICK FARMS GOLF STORAGE BLDG	SUPERIOR TWP	6,458	1966	Administration & Support	
1000950	RADRICK FARMS POOL HOUSE	ANN ARBOR TWP	704	1962	Administration & Support	
1000954	RADRICK FARMS PUMP HOUSE	ANN ARBOR TWP	168	1976	Administration & Support	
1000953	RADRICK FARMS RECREATION FACILITY	ANN ARBOR	2,459	1994	Teach, Research, Support	$0
1000956	RADRICK FARMS SHED-GARAGE	ANN ARBOR TWP	2,370	1962	Administration & Support	
1005048	RADRICK FARMS STORAGE	ANN ARBOR	4,055	2003	Administration & Support	
1000957	RADRICK FARMS TACKROOM-BARN	ANN ARBOR TWP	2,855	1962	Administration & Support	
1000208	RANDALL HARRISON M LABORATORY	ANN ARBOR	217,169	1924	Teach, Research, Support	$3,056,603
1000813	REVELLI WILLIAM D BAND REHEARSAL HALL	ANN ARBOR	15,620	1973	Teach, Research, Support	$3,262,997
1005378	ROSS SCHOOL OF BUSINESS AUXILIARY BUILDING	ANN ARBOR	14,827	2014	Teach, Research, Support	
1005188	ROSS SCHOOL OF BUSINESS BUILDING	ANN ARBOR	291,415	2009	Teach, Research, Support	$0
1005120	ROSS STEPHEN M ACADEMIC CENTER	ANN ARBOR	45,356	2006	Teach, Research, Support	$0
1000193	RUTHVEN ALEXANDER G MUSEUMS BLDG	ANN ARBOR	183,694	1928	Teach, Research, Support	$21,782,557
1000268	SALT STORAGE BUILDING	ANN ARBOR	2,385	1984	Administration & Support	$71,448
1000705	SCHEMBECHLER GLENN E HALL	ANN ARBOR	85,526	1971	Intercollegiate Athletics Bldg	$1,320,074
1000420	SCHOOL OF INFORMATION NORTH	ANN ARBOR	30,930	1971	Administration & Support	$5,170,008
1005347	SCHOOL OF NURSING NEW BUILDING	ANN ARBOR	80,301	2015	Teach, Research, Support	$0
1000219	SCHOOL OF SOCIAL WORK BUILDING	ANN ARBOR	143,450	1997	Teach, Research, Support	$3,344,899
1000999	SEISMOGRAPH STATION	SUPERIOR TWP	576	1963	Teach, Research, Support	
1000227	SHAPIRO HAROLD T AND VIVIAN B LIBRARY	ANN ARBOR	175,908	1957	Library Building	$6,380,363
1000944	SHEEP RESEARCH FAC EAST BARN	SUPERIOR TWP	2,016	1983	Teach, Research, Support	
1005406	SHEEP RESEARCH FAC HOOP BARN	SUPERIOR TWP	2,038	2002	Teach, Research, Support	
1000942	SHEEP RESEARCH FAC PORTAL VISTA	SUPERIOR TWP	3,744	1993	Teach, Research, Support	
1000943	SHEEP RESEARCH FAC SQUARE DOME	SUPERIOR TWP	1,280	1985	Teach, Research, Support	
1005405	SHEEP RESEARCH FAC TRACTOR SHED	SUPERIOR TWP	680	1994	Teach, Research, Support	
1000947	SHEEP RESEARCH FACILITY HAY BARN	SUPERIOR TWP	280	1976	Teach, Research, Support	
1000973	SHEEP RESEARCH FACILITY OLD BARN	SUPERIOR TWP	1,153	1962	Teach, Research, Support	
1000946	SHEEP RESEARCH FACILITY P BARN 1	SUPERIOR TWP	4,575	1976	Teach, Research, Support	
1005349	SHEPHERD DONALD R SOFTBALL CENTER	ANN ARBOR	10,500	2014	Intercollegiate Athletics Bldg	
1005077	SHEPHERD DONALD R WOMENS GYMNASTIC CENTER	ANN ARBOR	22,837	2002	Intercollegiate Athletics Bldg	
1000320	SIMPSON CIRCLE PARKING STRUCTURE	ANN ARBOR	467,375	1968	Parking Structure	$75,621
1000212	SIMPSON THOMAS H MEMORIAL INST MEDICAL RESEARCH	ANN ARBOR	17,769	1927	Teach, Research, Support	$5,884,830

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1005401	SOCCER TICKET BUILDING	ANN ARBOR	238	2015	Intercollegiate Athletics Bldg	
1005235	SOUTH HALL	ANN ARBOR	103,128	2011	Teach, Research, Support	$124,800
1000063	SOUTH QUADRANGLE	ANN ARBOR	371,520	1951	Residence	$67,290,303
1000441	SPACE RESEARCH LABORATORY	ANN ARBOR	104,265	1965	Teach, Research, Support	$13,221,692
1005399	SPORTS PERFORMANCE CENTER	ANN ARBOR	*		Intercollegiate Athletics Bldg	
1000714	STADIUM PUMPING STATION	ANN ARBOR	6,746	1927	Intercollegiate Athletics Bldg	
1005224	STAMPS AUDITORIUM	ANN ARBOR	13,488	2008	Teach, Research, Support	$0
1000445	STEARNS FREDERICK BUILDING	ANN ARBOR	18,261	1955	Teach, Research, Support	$1,673,488
1000064	STOCKWELL MADELON LOUISA HALL	ANN ARBOR	145,204	1940	Residence	$464,338
1000215	STUDENT ACTIVITIES	ANN ARBOR	119,626	1957	Administration & Support	$7,356,282
1000216	TAPPAN HALL	ANN ARBOR	37,576	1894	Teach, Research, Support	$1,851,315
1005037	TAUBMAN A ALFRED BIOMEDICAL SCIENCE RESEARCH	ANN ARBOR	593,719	2006	Teach, Research, Support	$42,222
1000317	TAUBMAN A ALFRED HEALTH CARE CTR	ANN ARBOR	396,965	1986	Clinical Delivery System	$33,596,542
1000209	TAUBMAN A ALFRED HEALTH SCIENCES LIBRARY	ANN ARBOR	143,974	1980	Library Building	$374,464
1002515	TELECOMMUNICATIONS BLDG I	ANN ARBOR	311	1985	Administration & Support	
1005337	TEMPORARY LACROSSE TRAILER	ANN ARBOR	2,000	2011	Intercollegiate Athletics Bldg	
1005381	TEMPORARY MOBILITY TRANSFORMATION CENTER BUILDING	ANN ARBOR	4,463	2015	Teach, Research, Support	
1000259	THAYER ST PARKING STRUCTURE	ANN ARBOR	165,422	1962	Parking Structure	
1000255	THOMPSON ST PARKING STRUCTURE	ANN ARBOR	365,996	1963	Parking Structure	$0
1000738	TISCH PRESTON ROBERT TENNIS BLD	ANN ARBOR	89,026	1997	Intercollegiate Athletics Bldg	
1000313	TOWSLEY CENTER FOR CONTINUING MEDICAL EDUCATION	ANN ARBOR	52,332	1969	Teach, Research, Support	$7,373,638
1005240	TOWSLEY CHILDRENS HOUSE	ANN ARBOR	25,428	2010	Teach, Research, Support	$0
1000808	TRANSPORTATION SERVICES BUILDING	ANN ARBOR	40,611	1964	Administration & Support	$1,994,035
1000886	TROTTER WILLIAM MONROE HOUSE	ANN ARBOR	13,799	1943	Teach, Research, Support	$419,977
1002519	UM TRANS RES FLAMMABLE STOR BLDG	ANN ARBOR	192	1996	Teach, Research, Support	
1000444	U-M TRANSPORTATION RESEARCH INST	ANN ARBOR	77,883	1969	Teach, Research, Support	$10,855,709
1005338	UM TRANSPORTATION RESEARCH TESTING BUILDING	ANN ARBOR	3,454	2012	Teach, Research, Support	
1005051	UMH MODULAR OFFICE A	ANN ARBOR	2,050	2000	Clinical Delivery System	
1005046	UNDERGRADUATE SCIENCE BUILDING	ANN ARBOR	141,517	2005	Teach, Research, Support	$81,232
1000390	UNIV HOSPITALS CHILD CARE CENTER	ANN ARBOR	14,850	1991	Clinical Delivery System	$450,042
1000309	UNIVERSITY HOSPITAL SOUTH UNIT 1	ANN ARBOR	67,494	1950	Clinical Delivery System	$3,833,352
1000312	UNIVERSITY HOSPITAL SOUTH UNIT 2	ANN ARBOR	266,038	1969	Clinical Delivery System	$57,567,587
1000314	UNIVERSITY HOSPITAL SOUTH UNIT 3	ANN ARBOR	19,988	1972	Clinical Delivery System	$1,279,690
1000318	UNIVERSITY HOSPITAL SOUTH UNIT 4	ANN ARBOR	157,595	1990	Clinical Delivery System	$8,094,187
1000316	UNIVERSITY HOSPITALS	ANN ARBOR	1,714,076	1986	Clinical Delivery System	$179,478,295

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Bldg #	Building Name	City	Gross Sq.Ft.	Original Construction	Building Type	Deferred Maintenance Backlog
1005012	UNIVERSITY HOSPITALS HELIPAD	ANN ARBOR	5,397	2001	Clinical Delivery System	
1005117	UPJOHN RACHEL BUILDING	ANN ARBOR	117,097	2006	Clinical Delivery System	
1000812	VARSITY DRIVE BUILDING	ANN ARBOR	153,375	1969	Administration & Support	$6,069,789
1000204	VAUGHAN HENRY FRIEZE PUBLIC HEALTH BUILDING	ANN ARBOR	210,906	1942	Teach, Research, Support	$887,053
1000065	VAUGHAN VICTOR C HOUSE	ANN ARBOR	51,518	1939	Teach, Research, Support	$5,489,314
1005059	WALGREEN CHARLES R JR DRAMA CENTER	ANN ARBOR	84,149	2007	Teach, Research, Support	$0
1005193	WALL STREET EAST PARKING STRUCTURE	ANN ARBOR	249,962	2014	Parking Structure	
1008067	WALLACE MIKE AND MARY HOUSE	ANN ARBOR	7,863	1909	Teach, Research, Support	
1000731	WEIDENBACH JOHN P HALL	ANN ARBOR	23,229	1955	Intercollegiate Athletics Bldg	$505,750
1005101	WEILL JOAN & SANFORD HALL	ANN ARBOR	97,989	2006	Teach, Research, Support	$902,091
1000165	WEISER HALL	ANN ARBOR	143,096	1963	Teach, Research, Support	$10,343,805
1005319	WEISFELD FAMILY GOLF CENTER	ANN ARBOR	11,307	2011	Intercollegiate Athletics Bldg	
1000167	WEST HALL	ANN ARBOR	166,541	1904	Teach, Research, Support	$546,000
1000066	WEST QUADRANGLE	ANN ARBOR	386,311	1937	Residence	$1,499,622
1008090	WOLVERINE TOWER	ANN ARBOR	224,966	1973	Administration & Support	$9,763,555
1000135	WYLY SAM HALL	ANN ARBOR	82,352	2000	Teach, Research, Support	$0
1000709	YOST ICE ARENA	ANN ARBOR	125,253	1924	Intercollegiate Athletics Bldg	$2,080,553

IMPLEMENTATION PLAN

Campus Planning

Over the last several years, the university has experienced growth in new academic, research and clinical initiatives. The U-M has maintained a strategic focus on an exemplary student experience, resulting in a rigorous building renewal program for the residential halls. The university has also executed a significant renovation and expansion program for athletic facilities to address the aging condition of heritage structures, and to provide new amenities needed to remain competitive with U-M peers. New growth, expansion of existing programs and facilities, and reinvestment in existing physical plant allow us to meet the robust needs of the campus community.

The University Planner's Office brought major campus units into a comprehensive integrated planning effort several years ago. 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.

The effort to enhance transportation between campuses continues with the Connector Study, a joint effort between the City of Ann Arbor, the Downtown Development Authority (DDA), the Ann Arbor Area Transportation Authority (AAATA), and the University of Michigan. The high capacity corridor as studied generally extends from the Ross Athletic Campus to Central Campus, the Medical Center Campus, North Campus and eventually East Medical Campus. The alternatives analysis phase of the study was recently completed and identified light rail as the preferred mode of transportation. The university will lead the next phase of the project, a two-year environmental impact statement and preliminary engineering review. A consultant will be retained to assist with the comprehensive review of the project's potential social, economic, and environmental impacts. This phase also includes refinement of the route and station locations. During this time, the project team will also continue developing detailed capital and operating cost estimates and work on a proposed governance structure. The project is following the Federal Transit Administration process in order to remain competitive for future federal funding, and must comply with the National Environmental Policy Act.

The university continues to focus on ways to improve the quality of campus life and the overall student experience, with emphasis on locations and adjacencies, as well as the selection and organization of programs, services, offices, housing facilities, retail and amenities. In addition, improvements to address facility needs for Recreational Sports and the University Unions are currently underway.

The university's housing system serves as home to approximately 9,500 undergraduate students in a typical year. Facilities include eighteen residence halls and apartment buildings. In response to the aging condition of many of the residence halls, the university implemented a comprehensive capital plan many years ago 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, North Quadrangle.

A renovated South Quadrangle reopened in fall 2014 and extensive renovations to West Quadrangle were completed in 2015. In addition, a new residence for graduate and professional students, the Munger Graduate Residences, opened its doors in August 2015. Made possible by a generous donation from philanthropist and alumnus Charles T. Munger, the facility houses 630 graduate students from multiple disciplines. Combining high-quality living, attractive amenities and an interactive design conducive to graduate-level studies, the facility provides opportunities for living and learning never before offered at the graduate level on the U-M campus. Planning is also underway to renovate the Michigan Union. Constructed in 1919, a deep renovation of this landmark facility will greatly expand and improve lounge and study spaces, create appropriate spaces for counseling and student support services, and address the building's deferred maintenance needs.

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, stormwater, etc., will evolve. In addition, the university is exploring ongoing regional stormwater management strategies that will support new facilities through planned growth as well as impacts from renovation and maintenance projects. The university also anticipates a continued transformation to a more technology rich campus environment, which will certainly influence ongoing infrastructure requirements. Parking and transit requirements, and safe/efficient pedestrian circulation remain high priority design components with each upcoming project.

Major projects, over $5 million, are in various stages of planning, design or construction as detailed below. 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 needs 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 U-M planning principles, with a significant number of projects planned over the next several years in response to growth pressures by academic and research initiatives, such as the new Biological Science Building, now under construction, which is envisioned as a teaching and research center for the biological science units, as well as the university's research and exhibit museums. Planning is also underway to renovate the 1915 Kraus Building to consolidate the School of Kinesiology and allow for future growth in programs. The renovation will address the building's deferred maintenance needs including full replacement of the mechanical, electrical and plumbing systems. One of the priority projects remains the renovation of and addition to the School of Dentistry's facilities. The state recently approved planning authorization as part of the university's FY17 Capital Outlay Request. This project will create a more welcoming, accessible facility with an improved patient entrance, modern teaching clinics and open, flexible research space.

As part of our continued assessment of infrastructure needs and building conditions, we learned the Fleming Administration Building exterior brick was pulling away from the structure. A subsequent engineering analysis and detailed physical inspection confirmed significant resources will need to be committed to address the problem. Emergency actions were taken in 2014 to address masonry that was loose and in danger of falling off the building. We are now in a multi-year plan to continue to inspect the building each year as we develop a long-term solution.

Medical Center Campus planning continues to focus on redevelopment opportunities, as well as transportation and site improvements to support existing facilities. Longer term space needs to grow and improve inpatient clinical care may play a significant role in revisiting master planning assumptions. The ongoing Health System's strategic facilities master planning effort may have significant impact on planning for the future of the Medical Center Campus core area as well as the Wall Street district and the North Ingalls area.

Current and Planned Major Projects FY16 – FY21 - Central and Medical Center Campuses

PROJECT NAME	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED COST (MILLIONS)
Multicultural Center [in planning]	New construction	20,000	$10.0
Literature, Science and the Arts Building [in planning]	Renov/Addition	24,500 renovation 18,000 addition	$35.0
Sam Wyly Hall renovations for Davidson Institute [in design]	Renovation	14,100	$5.1
Ross School of Business/Blau Hall, and Exterior Cladding [under construction]	New construction/ Renovation	104,000 new 75,000 renovation	$135.0

Edward Henry Kraus Building [in planning]	Renov/Addition	159,600 renovation 62,000 addition	$120.0
Biological Science Building [under construction]	New construction	300,000	$261.0
Dental Building / Kellogg Institute– FY17 Capital Outlay Request [in planning]	Renov/Addition	31,000 addition 120,000 renov	$122.0
Michigan Union [in planning]	Renovation	250,000	$85.2
Weiser Hall (formerly Dennison Building) [under construction]	Renovation	106,000 renov 1,500 addition	$49.0
University Hospital Operating Room [under construction]	Renovation	24,500	$23.5
University Hospital South Faculty Office [in design]	Renovation	65,000	$8.2
Taubman Health Care Center Central Cardiac Monitoring [in design]	Renovation	1,500	$5
Frankel Cardiovascular Center Operating Room and Cath Lab [in design)	Renovation	11,000	$14.8
Central Power Plant Gas Turbine Technology	Addition	TBD	TBD
Central Campus Recreation Building	Addition and renovation	TBD	TBD
Ruthven Museums Building	Renovation	TBD	TBD
University Hospital South Unit 2 CSPD Scope Reprocessing Center	Renovation	TBD	TBD

North Campus

The development of North Campus has been a high priority planning focus. Efforts to strengthen physical and functional connections with other campuses, and strategies to further enliven and enrich student life on North Campus, remain a primary focus of ongoing planning activities. The recent completion of the Gerstacker Grove, in the iconic heart of the North Campus core, creates a dynamic new venue for informal gatherings, performances, and special events, and contributes to expanded vitality and campus life as a new destination.

A renovation and expansion is underway to significantly improve the quantity and quality of space for the Taubman College of Architecture and Urban Planning. New classrooms and studios will be provided as well as multipurpose spaces for the presentation of academic projects and events. Design is also underway for a high-tech Robotics Laboratory that will bring faculty and

students together from across multiple disciplines. The 140,000 gross-square-foot building will house research laboratories in an open plan to allow for greater collaboration and increased flexibility of space utilization. Ford Motor Company will occupy space in the building and work side-by-side with university researchers to accelerate autonomous vehicle research.

The Mcity test facility opened in 2015 and has become the epicenter for 21st century mobility. In partnership with government and industry, U-M researchers designed Mcity, a testing environment for automated and connected vehicles of the future. Locating the facility on North Campus allow for many disciplines to come together to go beyond technical development and address key implementation issues related to social, regulatory and economic changes.

The North Campus Research Complex (NCRC), now home to approximately 2,500 occupants, continues to play a significant role in the future of North Campus. Since the acquisition of NCRC in 2009, more than 350 new jobs have been created and more than 30 partnerships have co-located here. The NCRC provides an opportunity for the university to fulfill current and future needs for its research activities in health, biomedical sciences and other disciplines, and facilitate interactions, without the enormous expense of building similar facilities. The co-location of the College of Engineering with the NCRC, and the close proximity of the Medical Center Campus, creates a rich and dynamic hub for future interdisciplinary opportunities. Planning is underway to renovate the last two empty buildings on the site to create more than 50 modern research laboratories. While construction is underway to renovate four NCRC buildings to relocate a large portion of the Health System's clinical pathology teams and educational programs. The goals of the project are to enhance clinical laboratory functions necessary to meet present and future growth in test volumes, improve operational efficiency, and reduce the expense of having laboratories in multiple locations.

Current and Planned Major Projects FY16 – FY21 – North Campus

PROJECT	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED COST (MILLIONS)
North Campus Recreation Building [in design]	Addition and renovation	18,000 addition 50,000 renovation	$13.0
Nuclear Engineering Laboratory [under construction]	Renovation	20,500	$12.0
Art and Architecture Building – Taubman Wing addition [under construction]	Addition and renovation	36,000 addition 11,000 renovation	$28.5
Robotics Laboratory [in design]	New construction	140,000	$75.0
North Campus Research Complex Multiple Buildings-Clinical Pathology Laboratories [under construction]	Renovation	180,000	$160.0

North Campus Research Complex Buildings 20 and 25 [in planning]	Renovation	158,000	$78.5
Baits I Complex demolition	Demolition	165,000	TBD

Ross Athletic Campus

The Ross Athletic Campus is primarily a venue for the Athletics Department, with numerous athletic fields and facilities. Facility program planning by the Athletic Department, and by Student Life – Recreational Sports, has resulted in a number of new projects planned over the next five years with the goal of enriching the experience for student athletes and for student recreation. Construction is underway for the Athletics South Competition and Performance Project, which will consolidate in one performance center specialized teams spaces and shared resources for strength and conditioning, athletic medicine, a performance lab, meeting space and locker rooms, for men's and women's track and field, cross country, lacrosse, soccer and rowing. The project includes indoor and outdoor track competition venues, and a lacrosse stadium. In addition, the Athletics Department recently initiated a strategic facility plan for the Ferry Field area. Facility needs within the historic core of the Ross Athletic Campus will be re-evaluated in response to the future shift of indoor and outdoor track south of the Michigan Golf Course.

Current and Planned Major Projects FY16 – FY21 – Ross Athletic Campus

PROJECT	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED COST (MILLIONS)
Athletics South Competition and Performance Project [under construction]	New construction	310,000	$168.0
Postma Family Clubhouse [under construction]	New construction	23,000	$15.0
Oosterbaan Fieldhouse	Renovation	TBD	TBD

East Medical Campus

East Medical Campus is primarily an outpatient clinical care complex that includes associated research and medical education activities. Opportunities for growth and investment by the Health System over the next fifteen years include new "cluster" development potential for ambulatory care and/or academic activities. Plans for future facilities at this location will fit within the framework of plans for the broader Health System and the university at large. Stormwater management, transit and non-motorized transportation strategies, parking, and infrastructure improvements are all campus components that will be considered with any proposals that may come forward in the future.

University Health System Off-Campus

Ambulatory care activity within the Health System has risen steadily over time and is now nearing two million visits per year. The need for strategically located outpatient facilities is core to the Health System's business plan to improve access to patient care. After the successful opening of the Northville Health Center in 2014, the Health System is planning two additional off-campus facility projects as noted below.

The Health System is also expanding into west Michigan under a proposed affiliation agreement with Metro Health Corp. The agreement will create a clinical care network that builds upon the strengths of the world-class U-M academic medical center and a very successful community-based health system. Together the two organizations will focus on bringing increased health care innovation to west Michigan and beyond.

Current and Planned Major Projects FY16 – FY21 – University Health System Off-Campus

PROJECT	PROJECT TYPE	GROSS SQUARE FEET	ESTIMATED COST (MILLIONS)
UMHHC Brighton Health Center South [under construction]	New construction	297,000	$175
UMHHC West Ann Arbor Health Center [under construction]	New construction	75,000	$46

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. Re-programming and reconfiguring addresses building density, program and organization adjacencies, open site use, building addition or replacement options, and redistribution of the density to other areas.

The Capital Renewal Fund, established by the Office of the Provost, enables General Fund academic and administrative units to apply to have an aging building considered for renovation and reprogramming to address major infrastructure needs and to renew and extend the useful life of the building. The fund is used specifically for major renovations to an existing building and focuses on retaining the existing building footprint and square footage as much as possible. A key consideration during the review and selection process is how the building fits into the overall strategic vision and master plan for the physical campus.

In order to support a healthy and strong campus infrastructure for future generations, the university had a policy on fundraising related to facility endowments from 2009 to 2015 for newly

named buildings. All such endowed funds are managed by the Executive Vice President and Chief Financial Officer (CFO). The CFO's office works closely with the users of the building to prioritize the facility needs and the uses of the endowment distributions to support capital maintenance and upkeep of the facility.

Status of State Building Authority Projects (Ann Arbor)

Completed Projects	Lease Start Date	Lease Termination Date
G.G. Brown Memorial Laboratories Renovation (complete Sept. 2016)	Pending lease execution	N/A
Student Activities 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
C. C. Little Science Building Renovation	February 1997	February 2032

2025 Sustainability Goals and Strategies

The 2025 goals are based on a 2006 baseline adopted by the Integrated Assessment process for all goals with exception of the Sustainable Food Goal (as no baseline data was available). All goals were scheduled to be re-evaluated in 2016 and may be adjusted to become more stringent or less stringent. However, at the request of President Schlissel, the goals for greenhouse gas (GHG) reduction, waste reduction, and public outreach were re-evaluated beginning in the fall of 2014 in an effort to simulate faster implementation. Goal evaluation and adjustment will be based on many variables including but not limited to changes in technology, the State of Michigan energy platform, economics, and competing university priorities.

Goal 1: Decrease campus scope 1 and 2 carbon dioxide emissions by 25 percent. This goal focuses on reducing U-M's greenhouse gas emissions for the Ann Arbor campus.

Successes to date:

- Planet Blue Operations Teams – One way the university is addressing the growth in building energy demands is through the Plant Blue Operations Teams program, which actively engages

the university community to conserve utilities thereby saving money and benefiting the environment.

- Expansion of building specific energy conservation projects throughout all General Fund and Auxiliary units of the institution.
- Introduction (fall 2016) of a new renewable energy demonstration initiative that will link renewable energy technology to active research and curriculum on campus.
- The university continues to purchase wind renewable energy credits (RECs) through our DTE partnerships that account for 2-3 percent of the GHG emissions.

The U-M Design Guidelines for Design and Construction outline the institution's detailed requirements related to energy efficiency as well as sustainable design and environmental stewardship. The design guidelines and standard practices challenge architects to exceed the minimum baseline energy performance mandated by codes. Typical standard energy savings measures employed include additional insulation in foundation walls, exterior walls, and roof assemblies; energy efficient windows/glazing; occupancy sensors to reduce lighting levels; variable water flow controls; resetting of space temperatures based on occupancy sensors; and exhaust heat recovery.

Currently, under consideration is expanding the electric generating capacity of the Central Power Plant. The additional power would be provided by gas turbine technology. Implementation of this arrangement would reduce university scope two emissions by 140,000 MT of CO_2 yearly and provide capacity for future growth load.

Additionally, the university continues to evaluate energy and GHG reduction strategies including photovoltaics, wind and geothermal generation technologies. The purchase of additional REC's, building automation improvements, continuous monitoring of building systems, and the use of alternative bio-fuels in the Central Power Plant are actions in the early stages of implementation.

Goal 2: Decrease carbon intensity of passenger trips on U-M transportation options by 30 percent.

The university aims to reduce emissions associated with transportation by modeling and promoting sustainable transportation alternatives, such as public mass transit, car pools and van pools, and bike programs.

Successes to date:

- GreenRide is a web-based ride-matching system that helps university commuters find carpool/vanpool partners by searching for other employees who live nearby and have similar schedules. Over 7,000 employees have registered since the program launched in May 2008. The GreenRide program reduces the load on campus parking infrastructure, vehicle maintenance, and vehicle depreciation expenses. It reduces parking and campus traffic congestion and vehicle emissions, and contributes to the improvement of air quality.

- U-M Sponsored Vanpool system has entered its fourth decade of operation, with 640 employees participating in 106 vanpools.
- The university operates a large alternative fuel fleet with alternative fuel vehicles comprising more than 68 percent of the fleet. Of the 480 vehicles in the automobile class, more than 85 percent run on alternative fuels. Of the 485 vehicles in the truck class, 50 percent are alternative fuel vehicles and of the 53 vehicles in the bus class, 100 percent run on alternative fuel.

Goal 3: Reduce waste tonnage diverted to disposal facilities by 40 percent.

Strategies include:
- Promote reuse, leverage new technologies, and reduce the use of disposable products such as plastic non-recyclable outer packaging.
- Establish and install university wide recycling, composting, waste bin, and related signage/labeling standards.
- Implement a university-wide organics composting program based on and expanding current programs in food service areas including the residence halls.
- Perform a detailed waste audit of the Hospital and Health System to identify medical waste diversion opportunities.
- Develop purchasing and procurement strategies to increase the purchase of environmentally friendly products and decrease the purchase of products that contribute to the solid waste stream.
- Continue to expand the Sustainable Laboratory Program reducing chemical waste disposal.
- Work with university vendors to reduce packaging materials and minimum volume orders to reduce waste.

Successes to date include:
- Successfully piloted the use of hand dryers in public restrooms in several facilities to reduce paper waste. The program is being expanded where feasible.
- Pre and post-consumer composting programs are in place in all residence hall dining facilities.
- Expansion of zero waste events across campus.
- Development of a zero-waste program for the Michigan Football Stadium – full implementation in fall 2017.

Goal 4: Protect Huron River water quality by reducing runoff from impervious surfaces and reducing the volume of land management chemicals used on campus by 40 percent.

The campus landscape is a critical part of the university's commitment to responsible environmental stewardship. The U-M has a legacy of landscape planning that is sensitive to water-use and inputs to the regional Huron River Watershed.

Strategies include:

- Apply an integrated landscaping approach that recognizes vegetation, soils, pavement systems, and stormwater management as interlinked, and helps to restore the quality and capacity of the regional Huron River watershed.
- Minimize use of potable water for irrigation, increase water retained for beneficial purposes on campus, and improve the quality of water outflow.
- Reduce water use for infrastructure to the maximum extent possible.
- Reduce stormwater runoff through on-site mitigation techniques such as rain gardens, storm-water retention basins, or green roofs, when appropriate.
- Minimize irrigation through the use of drought resistant plantings and properly selected soils.
- Since 2006 use of pesticides have been reduced 54 percent.
- Since 2006 use of synthetic fertilizer has decreased 34 percent.
- Most of the reduction is due to a campus-wide effort to switch to organic fertilizer. At this time, it's estimated that 75 percent of fertilizer used on campus is organic.

Goal 5: Purchase 20 percent of U-M food in accordance with the U-M Sustainable Food Purchasing Guidelines.

The U-M purchases food for a variety of On-Campus dining areas such as Residential Dining Services and MCatering (within MDining) and patient meals with the Hospital and Health System. Food is also purchased for retail areas including campus eateries and University Unions. MDining purchases represent 2/3 of On-Campus dining spend and has made significant strides by engaging with new vendors that will help U-M meet this goal.

- Contracted with a local coffee roaster (Whitmore Lake) to provide Fair Trade/Organic coffee for the Residential retail and dining halls.
- Contracted with a supplier that provides aggregation of produce from farmers in Southeast Michigan.
- Expanded local meat purchases.
- The Palmer Commons café opened in FY16 with a Farm to Table concept called Field's café.

While not always the case, the sustainability of food generally increases as the distance it travels from the point of harvest to consumption decreases. Minimizing transportation and refrigeration generally reduces fossil fuel consumption and carbon dioxide emissions. Local food also requires fewer preservatives and less packaging. In addition, local production often employs a more diverse crop strategy, which reduces pest susceptibility and the need for pesticide and chemical fertilizer use. Finally, supporting local farmers and growers keeps money circulating within the community longer and directly profits local producers.

Action Item: Community Awareness – The university will pursue stakeholder engagement, education, and evaluation strategies toward a campus-wide ethic of sustainability. The success of achieving the goals in the plan will require the active contribution of every member of the university community. The U-M cannot delegate responsibilities to a handful of departments, but rather must change behaviors as well as policies and practices. The president's committees took a hard look at this effort and made a number of recommendations around communication and marketing activities that can help improve community awareness and work toward faster goal implementation.

UNIVERSITY OF MICHIGAN – ANN ARBOR

FISCAL YEAR 2018

CAPITAL OUTLAY PROJECT REQUEST

Institution Name:	University of Michigan – Ann Arbor
Project Title:	School of Dentistry Renovation Project
Project Focus:	Academic, research, clinical and administrative support
Type of Project:	Renovation and modest addition to the Dental Building and W.K. Kellogg Foundation Institute (referred to as the "Dental Building")
Program Focus of Occupants:	Dental and oral health care teaching, research, and clinical patient care
Approximate Square Footage:	Current building is 379,000 gross square feet, 209,363 net assignable square feet. Proposed project renovates approximately 45% of the existing building and includes a modest addition of 37,000 gross square feet.
Total Estimated Cost:	$122 million
Estimated Start/ Completion Dates:	Start: Programming and conceptual design study complete. Completion: Winter 2021 (to accommodate phased construction)

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

As one of the oldest and highest ranked dental schools in the country, the University of Michigan School of Dentistry has earned a reputation of nearly 140 years of innovation and excellence. Through a combination of education, patient care, research, and community service, our students, faculty and staff are committed to improving the oral health and well-being of people in the State of Michigan, across the nation, and around the world. The school not only provides the educational foundation and clinical experience for highly-skilled dentists, dental hygienists, and graduate students trained in current and emerging areas of oral health care, but also specializes in research and continuing professional education that advances the field of dentistry and impacts oral health care practices at the local, national, and global levels.

In 2016, the School of Dentistry ranked number one among the 66 dental schools in the country via the only current ranking system of dental schools, QS World University Rankings. Despite its high regard in the nation and world, it is increasingly challenged to fulfill its academic, research,

and clinical patient care mission in its current facility. The School of Dentistry occupies a teaching, research and clinical building (referred to as the "Dental Building") comprising four interconnected sections: the W.K. Kellogg Foundation Institute (1940), the Dental Clinic (1968), the Research Tower (1971), and the Library (1973). The newest section of the building is nearly 45 years old while other areas are over 70 years old. Although updates have been made where possible over the years, the building has reached the point where a major renovation is needed to support the school's academic, research, and clinical programs going forward and to extend the life of the building.

In 2011, the School of Dentistry commissioned an external architectural consulting firm specializing in science and higher education facilities to study its facility and determine its programmatic space needs for the next 10 years. The study indicated that the school's most pressing needs require improvements to teaching clinics and research space. It also indicated that of the 209,363 net assignable square feet (nasf) in the existing facilities, approximately 44 percent (92,331 nasf) was in serious need of attention and that additional space was needed to meet current and growing programmatic needs.

Teaching Clinics and Patient Care Space Needs

Teaching clinics and patient care are a vital part of the School of Dentistry's core mission. In fiscal year 2016 alone, the school had close to 197,000 patient visits. These clinics enable students to receive hands-on experience treating patients before entering the workforce and provide an affordable option for patients in the community and around the State of Michigan to receive oral health care. Teaching clinic services range from exams, x-rays, cleanings, and fillings to orthodontics and periodontics to cosmetic dentistry and dental implants to oral and maxillofacial pathology and reconstructive surgery.

The primary challenges with the current teaching clinics space include:

- Aging, outdated clinic space - The teaching clinics are over 40 years old and comprise 144 small (78 nasf), crowded cubicles with fixed furniture and infrastructure and limited aisle space that compromise patient privacy and make treating physically disabled patients nearly impossible. (Contemporary treatment cubicles at peer institutions are typically ~120 nasf.) The cubicles limit the faculty and students who can treat a patient at any given time. The tightly confined spaces also present daily challenges in managing basic infection control, instrument usage, and patient flow as well as in providing sufficient space for patients and their caregivers to wait for appointments. The Oral Surgery Clinic also includes areas that date back to the 1940s and has an inadequate quantity and quality of treatment rooms that do not meet contemporary surgical standards.
- Inadequate space to treat patients with special needs – The school is in critical need of dedicated space to train dental students on how to provide care to patients with disabilities or who have complex medical conditions, such as children with autism, seniors and veterans with mobility issues. These patients require specialized treatment areas

that are barrier free, provide private operatories, and enable special equipment to meet their unique needs.

- Lack of interprofessional clinic space – A recent accreditation mandate for schools of dentistry and other health profession schools requires providing interprofessional education for students so they can be better prepared for the health care models of the future. This requires having clinic space that can accommodate teams of student and faculty health care professionals (e.g., dentists, pharmacists, social workers, and others) working together with patients at a given time in a real or simulated setting. The current clinic space is not sized appropriately to accommodate teams of professional students and faculty working with patients.

- Poor patient access – The main clinic entrance, located on the south "street" side of the building, represents a time decades ago when most patients arrived by bus or on foot. Today, most patients arrive by car and enter from the parking structure located on the opposite (north) side of the building. The mismatch between where patients enter the building and where they check in means patients and their caregivers must walk a significant distance through various sections of the building, without clear sightlines or an easy path to follow, before reaching a staff member for assistance. This problem poses a significant challenge for the elderly and those with physical challenges.

  The current clinic entrance also prevents the school from offering clinic services during the evenings or weekends because it cannot be secured or separated from academic and research areas of the building during off hours. As a result, the school cannot provide more convenient hours of operation for its patients or emergency care services that would reduce the need for patients to turn to expensive hospital emergency rooms for dental emergencies.

Research Space Needs

With few exceptions, the Dental Building research lab design and infrastructure is the legacy of 1960s planning, which never anticipated current technology, present levels of research involvement, or the collaborative manner in which research and teaching are conducted today.

- Most labs are overcrowded and core service/support areas are dispersed, resulting in operational inefficiencies and redundant support systems and associated infrastructure requirements.

- Many labs are oddly shaped or too inflexible to accommodate modern research equipment, in some instances leading to positioning equipment without sufficient space for door access or egress.

- Lack of space for modern research programs or growth in new programs compromises the school's ability to maintain its top position among schools of dentistry competing for research funding and top students, faculty and staff.

- Lack of adaptable and flexible space for co-locating research by theme compromises the school's ability to cluster research groups to enable intellectual synergies and collaborative research.
- Lack of sufficient quality and quantity of space has led the school to place nearly 25 percent of its research mission (~12,000 nasf) off-site in commercial lease space. This not only results in increased operating expenses, but also compromises opportunities for collaboration with colleagues who are physically located within the school.

Building Infrastructure Needs

In addition to teaching clinic and research lab needs, the building also has a number of facility-wide issues that negatively affect the school's overall mission and compromise sustainability.

- Electrical system – There is no emergency generator for the building. This has severely compromised patient care and research during power outages. Electrical service panels are at capacity, preventing equipment from being added or upgraded.
- Heating, ventilation, and air conditioning (HVAC) – The HVAC system is inefficient and running at maximum capacity, creating environmental problems for building occupants and generating unnecessary utilities costs. Too few fume hoods exist for wet-lab research and no additional fume hoods can be added. Medical air system piping is old, unreliable, and poses safety concerns.
- Waste and suction lines – Lines are corroding and need to be replaced. This has had a serious impact during the past year with corrosion causing blockages on several occasions.
- Elevators – The building lacks a service/freight elevator. Chemicals, equipment, instruments, animals and other research materials are transported in standard passenger elevators.
- Life/safety needs – The building requires updates to emergency lighting and signage, as well as improvements to stairwells to better ensure the safety of students, faculty, staff, and visitors.
- Barrier-free code compliance – A large number of restrooms are not wheelchair accessible.

Describe the Scope of the Project

The School of Dentistry capital project will address all of the needs described above and provide a modern environment that enables the school to successfully fulfill its core teaching, research, and patient care mission and remain a top-ranked dental program in the U.S.

The school recently completed working with a team of architects and engineers on a program study of its needs and completed conceptual designs as preliminary work to support a future

capital project. In September 2016, the university's Board of Regents approved moving forward with the project and authorized the commissioning of SmithGroupJJR for its design.

This study focused on renovating the existing building and adding a modest addition to accommodate the school's programmatic needs. The priorities and scope of the study specifically address the following needs:

Teaching Clinics and Patient Care Space Improvements

- Co-locates and expands teaching clinics to provide modern patient-centered care, open environments, state-of-the-art equipment, and flexible furniture that can be reconfigured to accommodate needs now and in the future.
- Constructs a new special needs/interprofessional care clinic with specialized facilities to treat patients with disabilities and complex medical conditions and is sized to accommodate special equipment and teams of student health care professionals (e.g., dentists, nurses, pharmacists, social workers, and others) working together.
- Relocates the clinic entrance and reception areas to improve patient accessibility and building navigation and provides reception and check out areas that accommodate patients and care givers with current standards of privacy and accessibility.

Research Space Improvements

- Creates additional state-of-the-art, open, flexible, and adaptable research lab space to support the school's world-class research.
- Connects the School of Dentistry to nearby campus buildings to leverage existing campus animal housing facilities and facilitate opportunities for future research partnerships with other University of Michigan schools and colleges.

Building and Infrastructure Improvements

- Renovates approximately 175,000 gsf (~45 percent) of the existing building (in varying degrees).
- Adds approximately 37,000 gsf of new space to address the school's programmatic needs. This represents a modest increase to the overall building size.
- Replaces the aging infrastructure in all renovated spaces.
- Addresses life/safety needs.
- Enhances the school's exterior plaza to make it more usable and inviting and more environmentally sustainable.

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 School of Dentistry has a significant impact on the Michigan job market, economy, health and welfare, all of which would be enhanced greatly by this capital project.

Job Creation and Talent Enhancement

As the only public dental school out of two dental schools in the state, U-M dental graduates are found in virtually every community in Michigan and serve as leaders in many aspects of local life. Currently, nearly 50 percent of the 5,700 dentists licensed in the State of Michigan and over 1,500 dental hygienists are U-M alumni. A high percentage of graduates remain in the state after graduation.

The School of Dentistry also offers continuing education programs that provide professional development and lifelong learning opportunities for those in the oral healthcare field seeking to enhance their knowledge and skills. Approximately 25 courses are offered each year and the majority of participants are dental professionals from throughout the State of Michigan.

Economic Growth Impact

As a top-ranked dental program, the school recruits and employs renowned and respected faculty and scientists and attracts visiting researchers all of whom conduct research in a variety of areas that support the dental and health care industries. They rent or own homes in nearby communities, stay in local hotels, shop in stores, go to restaurants and contribute to all sectors of the local economy.

In fiscal year 2015, research expenditures for the School of Dentistry totaled $16.4 million. This funding was spent on employees, goods, services, and other expenses that support research activities and directly or indirectly benefitted the local, regional, and state economies. Over the past 11 years, School of Dentistry research has also produced 139 disclosures of new inventions, 65 applications to the U.S. Patent Office, and 42 U.S. patents, demonstrating the school's intellectual talent, focus on innovation, and broad contributions to the oral healthcare field.

This capital project will contribute to the state's economic growth by providing a modern teaching, learning, and research environment that enables the School of Dentistry to continue to attract top students and researchers to the institution and to the State of Michigan. It will also provide researchers with a flexible and adaptable research environment that enables them to expand their research portfolios and explore innovative and advanced methods for patient care and treatment, as well as to engage in more interdisciplinary research, all of which can lead to opportunities for more technology transfers and spin-off companies that would benefit the state's economy.

Statewide Outreach and Health Care Impact

Providing oral health care to patients is a vital part of the School of Dentistry's core mission. It not only enables students to receive practical and valuable learning experience, but also enables

patients around the state to have affordable access to oral health care. As mentioned previously, the school had more than 197,000 patient visits to its teaching clinics in fiscal year 2016. The school's clinics in the Dental Building drew patients from 81 of the 83 counties in the state. Nearly 20 percent of these patients were Medicaid recipients, who are considered at-risk patients or have limited options for being treated elsewhere or. Of these visits, 14 percent were children under the age of 18.

In addition to the oral health care provided at the school, students and faculty of the School of Dentistry provide care throughout the state to underserved and at-risk populations. Through these experiences, our students are better prepared to engage in more complex treatment procedures, address the statewide burden of access to care, and work with allied health care professionals to provide the best care for our community. The students who provide care at these clinics develop their didactic, preclinical, and clinical skills in the Dental Building that is being submitted for capital outlay consideration.

- Underserved and at-risk programs – Through the school's Community-Based Dental Education program at 30 sites throughout the state, at-risk populations are cared for at Federally Qualified Health Centers, community clinics and in private offices. From 2005 to 2016, over 172,000 patients received over $ 38 million in services encompassing nearly 319,249 procedures. Locally, the school also operates the Community Dental Center in Ann Arbor, providing care to the underserved in Washtenaw County.

- Special needs clinic – In anticipation of modernizing the Dental Building, the school has received a $2 million commitment from the Delta Dental Foundation to create the state's first interprofessional clinic for patients with special needs. The clinic will improve health care access and convenience for patients with developmental disabilities, cognitive impairments, complex medical problems, significant medical limitations, veterans with post-traumatic stress disorder (PTSD), and the elderly. It will also enable dental students and faculty to partner with other U-M health science schools and colleges to provide care together. The renovation of the Dental Building will enable this clinic to be built in existing space, and it is believed to be the only clinic of this type in the state.

- Pediatric programs – Children in the state represent one of the most vulnerable populations. Early intervention in oral health can have a lifelong impact on overall health and quality of life. The School of Dentistry actively participates in the Healthy Kids Dental program, which currently takes place in 80 counties in the state. In addition, the Pediatric Dentistry Department works in collaboration with the Pediatric Dentistry Residency Program at the Hurley Medical Center (Flint) and the Mott Children's Health Center (Flint) to provide services to children throughout Genesee County. Some graduates also choose to pursue their community-based dental education at Bay Mills (Brimley), which is a site that focuses on pediatric patients with special needs. Nearly one half of all the dental care provided to children throughout the state is provided by dentists who have trained in the University of Michigan School Of Dentistry.

- Military veterans program – In 2012, a group of School of Dentistry students, in partnership with faculty and alumni, established the Wolverine Patriot Project, an outreach program that provides oral health care to disabled and homeless military veterans in northern Lower Michigan. To date, it has provided over $112,000 in oral health care services to more than 40 underserved veterans in Michigan. For their efforts, the students received a major national award from the American Dental Association Foundation that recognizes dental school student programs that demonstrate excellence in assisting underserved groups of individuals in the U.S.

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

A renovation and addition to the Dental Building will have a significant impact on the academic and research missions of the school and the institution. It will enable the school to:

- Continue a tradition of excellence and leadership as a top-ranked program by providing a state-of-the-art teaching and learning environment to students and faculty
- Recruit and retain top students, faculty, scientists, and staff
- Better compete for research funding and expand its research portfolio to include more innovative and interdisciplinary research programs
- Provide more modern, patient-friendly, accessible clinic space
- Expand clinic hours to evenings and weekends to better meet patient scheduling needs
- Provide a dedicated interprofessional special needs clinic space designed specifically for patients with disabilities and complex medical conditions
- Offer interprofessional curricular programs to maintain accreditation as required by the Commission on Dental Accreditation

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

The School of Dentistry project focuses on a major renovation of the existing Dental Building with a modest addition to support needs that cannot be accommodated in the existing building footprint. It renews and extends the life of this aging building for another 50 years, providing a more cost-effective and sustainable solution to meeting the school's needs rather than demolishing the existing building and constructing a new facility. The building exterior is in good condition, and requires only modest improvements. The aging mechanical, electrical, and plumbing infrastructure, however, has outlived its useful life and will need to be replaced. 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 building operating costs to a minimum.

4. 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. The project would address nearly all identified infrastructure deficiencies within the Dental Building. This work 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
- Repair of unsafe doors and hardware
- Repair and/or replacement of mechanical equipment to ensure adequate ventilation and temperature control (improved exhaust from fume hoods and toilet rooms is a particular concern)
- Replacement of corroded plumbing
- Replacement of unsafe electrical wiring
- Replacement of electrical equipment to ensure reliable power during power outages
- Replacement of antiquated emergency egress lighting

In addition, the project will create more open and accessible clinic spaces that enable emergency response personnel and equipment (e.g., crash carts) to access patients easily in emergency situations.

5. 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?

Since buildings vary so much in size, design, infrastructure and age, the university considers utilization of existing facilities primarily on a case-by-case, project-by-project basis. The university has retained the architectural firm of SmithGroupJJR with extensive clinic and research lab experience as well as significant experience working with the university.

Feedback during the conceptual design phase indicated that some School of Dentistry areas are underutilized while other areas do not offer enough space to meet the school's needs. The firms provided a recommendation, along with a proposed conceptual design, that align the school's programmatic needs with benchmarks validated by the university's department of Architecture, Engineering and Construction.

This project will improve space utilization by creating more functional and efficient building layouts, open and flexible spaces, and more opportunities for sharing than exist today. It will also reconfigure the building infrastructure systems to optimize layouts and improve operating efficiencies. It is anticipated that through creating more flexible space, several departments may share clinic operatories that might previously have had significant "down time". In addition, the

building has been unable to provide after-hours care, as it was not possible to secure patient treatment areas from the remainder of the building. With the redesign and renovation, some patient treatment areas will be able to operate beyond the standard 8:00 a.m. to 5:00 p.m., increasing utilization and providing more services.

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

The university is fully committed to sustainability in teaching, research and student life, and has a long history of environmental stewardship in its approach to facility design and construction. The university requires projects with a construction budget of $10 million or greater to exceed American Association of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Energy Code 90.1-2007 by 30 percent. The university also requires the incorporation of numerous mandatory energy conservation measures on projects, comprehensive evaluation of additional energy efficiency measures, and comprehensive modeling of energy usage for proposed projects and development of energy impact statements at each phase of design.

All projects (new construction and renovation) with a construction budget of $5 million or greater are also subject to an environmental 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) score for the project, using accredited personnel, as a measure of the project's overall sustainability.

The School of Dentistry project would adhere to these requirements and continue the institution's firm commitment to sustainability.

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

The university has identified matching funds from an internal capital renewal fund that was established in fiscal year 2011 to address the growing need for major renovations to aging General Fund buildings.

8. If authorized for construction, the state typically provides a maximum 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 capital project authorization from fiscal year 2011 (HB-5858).

9. 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 project will increase our annual operating costs by an average of $390,000 per year or approximately $1.95 million over a five-year period. Funds have been identified to support these additional costs.

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

The project will have no impact on future tuition costs.

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

Addressing the School of Dentistry's needs remains a high priority for the University of Michigan. If the project is not authorized for construction, the institution will proceed with the project but will reduce its scope to align with funding that is available. This will enable the institution to address school's most critical needs, but will leave many needs unmet, which will limit the school's ability to attract and retain top students, faculty, and scientists and to deliver quality education, research, and patient care going forward. Patients will continue to be given the highest quality care possible, however, they will continue to experience this care in less than optimal conditions.

The impact of not authorizing the project is great and affects not only the School of Dentistry and the university, but also patients across the State of Michigan now and in the future.

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

The primary alternative considered for this project was building a new, stand-alone School of Dentistry Building. Building a new building is too costly to the institution, would require placing the school far from its current location, would be disruptive to the school's current activities, and would leave the existing building still in need of repair or demolition which is unnecessary and costly.