Fall 2024

Fiscal Year 2026 Budget Information

5- Year Capital Request Planning and Capital Outlay Request

Submitted by:

MICHIGAN STATE UNIVERSITY

MICHIGAN STATE
UNIVERSITY

October 31, 2024

Jennifer Flood
State Budget Director
State Budget Office
State of Michigan
Lansing, Michigan 48909

Dear Ms. Flood,

In accordance with the State Budget Office instructions, an update of Michigan State University's Five-Year Capital Plan and the State Fiscal Year (SFY) 2026 Capital Outlay request, Appendix G, is posted at the following institutional website:

https://ispm.msu.edu/capital-space-planning/capital-outlay

The SFY2026 Capital Outlay request has also been submitted via SIGMA. The Five-Year Capital Planning document follows your instructions and the academic direction of the university.

The Renovation and Addition of Greenhouses and Dairy Facilities are now in construction with the state's support through the appropriation of $53 million in Public Act 166 of 2022. We are grateful for the state support for these projects that will ensure MSU's continued strength in industry relevant research and teaching programs and will support Michigan's farmers and consumers. We look forward to celebrating the opening of these critical facilities in 2025-2026.

While we provide an expanded list of capital investment needs in our Five-Year Capital Plan, the project: ***Engineering and Digital Innovation Center (EDIC) remains the top priority for the university and is submitted as our Capital Outlay request.*** Michigan needs to educate the 21st Century workforce and the EDIC will serve as a catalyst for attracting and retaining top students and faculty talent, accommodating more than 70 researchers and their respective teams. This new facility will become the epicenter of academic and research excellence in advanced manufacturing and materials science, microelectronics, artificial intelligence, and other areas, and leverage the opportunities provided by FRIB - ultimately preparing our students with the knowledge and skillset to become our problem solvers of tomorrow. This investment aligns with the industry support needed for the success of the state's "Make it in Michigan" economic development strategy, to propel semiconductor manufacturing, research, and development, while also supporting the related landscape of business.

The center will serve as a gateway to our shared digital future and bring together a range of teaching and learning and research initiatives across multiple colleges, including Engineering, Natural Science, Arts and Letters, Business, Communication Arts and Sciences, and Social Science. The EDIC will benefit all MSU students by providing the necessary interdisciplinary opportunities in a cohesive ecosystem, not achievable in existing space, and allow MSU to develop the talent for a future Michigan and support economic development in the state.

Given the magnitude and impact of the ***Engineering and Digital Innovation Center*** for MSU and the direct impact to the state's current and future workforce we continue the

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bold request for a significant funding partnership - totaling $100 million of state investment. The university leadership has identified this project as a key aspect of maintaining and growing the academic and research mission of the university and continuing the strength of research and innovation and a strong talent pipeline within the state. This interdisciplinary approach will provide our administration with the ability to develop our physical and digital technologies research and educational portfolios and talent pipeline. This has direct impacts on recruitment and retention of top students, faculty, and staff, increases our competitiveness for federal support, and responds to industry needs and development industry partnerships.

The university's Five-Year Capital Plan is purposefully structured and illustrates MSU's focus on projects that support programs with strong national reputations, expanding research bases, and high enrollment demand that will advance the university and sustain its contributions to Michigan. Emphasis has been placed on facilities that focus on supporting current and future programmatic initiatives with an emphasis in science, technology, engineering, and mathematics, including biomedical, biological, and engineering sciences; computation and data sciences; water and energy; the arts, and advancing our commitment to diversity, equity and inclusion. The projects included on MSU's Five-Year Capital Plan enhance the tenets of MSU's mission of education, research and outreach, but additionally enhance the state of Michigan's goals to grow the workforce and develop the economy by providing practice ready talent and research support for growing industries.

This partnership between Michigan State University and the State of Michigan to bring the bold vision of the EDIC to fruition will improve student success through interdisciplinary teaching and learning and research opportunities, provide the state with practice ready talent, increase our competitiveness for federal research resources, and respond to industry needs. As we look to the future, MSU is well-positioned to accelerate our contributions and expand our impact as a premier research institution with the unwavering commitment to access and engagement embedded in our land-grant mission.

Sincerely,

Kevin M. Guskiewicz, Ph.D.
President

C: Interim Provost and Executive Vice President for Academic Affairs Thomas Jeitschko, Interim Executive Vice President for Administration, Thomas Glasmacher, Vice President for Government Relations Rebecca DeVooght, Senior Vice President, Chief Financial Officer and Treasurer Lisa A. Frace, Assistant Provost, Barbara Kranz

Fiscal Year 2026 Budget Information
Capital Outlay Request
5-Year Capital Request Planning
Table of Contents

Fiscal Year 2026 Budget Information
Michigan State University
Five-year Capital Planning and Capital Outlay Request

Preface

Michigan State University's capital plan is guided by 1) MSU's strategic plan, MSU 2030: Empowering Excellence, Advancing Equity and Expanding Impact[1], 2) Vision 2050: An Integrated Facilities and Land Use Plan[2] and 3) the Capital Planning Framework, which integrates academic, support, human resources, fiscal, and space and facility infrastructure planning. Vision 2050 adopted by the MSU Board of Trustees in December 2023 provides a framework for future development on the university's campuses and landholdings. While flexible in nature, Vision 2050 recommendations affirm MSU's goals of academic excellence; student success; diversity, equity, and inclusion; novel partnership opportunities; resilient and sustainable land use; and a mission that advances the state-wide economy. These goals embedded themselves throughout state-wide facilities and across each of the East Lansing campus precincts, resulting in distinct recommendations around the buildings, mobility networks, open spaces, and utility systems that will support the university's next generation of development.

The planning process includes near- to long-term strategy development to ensure the university has the space and facility resources necessary to carry out its mission. This is accomplished within the context of continuing to identify ways to best utilize our resources of people, dollars, and space. Strategy development takes into consideration internal and external challenges and opportunities, the capacity to be flexible and nimble, allowing for responsiveness to new opportunities, and the dynamic and evolving nature of higher education.

In 2021 the university adopted three interconnected strategic plans: 1.) MSU 2030: Empowering Excellence, Advancing Equity, and Expanding Impact; 2.) Diversity, Equity, and Inclusion; and 3.) Relationship Violence and Sexual Misconduct. We have made tremendous progress in addressing goals within each of the plans, including advances in our Academic Strategic Planning Implementation process, in support of aligning planning with the university strategic plan and broader institutional goals.

MSU 2030: Empowering Excellence, Advancing Equity, Expanding Impact envisions that by 2030 Michigan State University will have significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and have a vibrant, caring community. The strategic plan identifies goals within six key themes, intentionally ordered to begin with a focus on people, followed by themes focused on excellence reaching across the university's core missions, and concluding

[1] See Strategic Plan | Michigan State University (msu.edu)
[2] See Vision 2050 | Michigan State University (msu.edu)

with foundational and cross-cutting themes in support of inclusion, sustainability, effectiveness, and excellence in the future:

- Student success: Provide an exceptional educational experience for all students that prepares them for postgraduate success, achieving high graduation rates with no opportunity gaps.

- Staff and faculty success: Support career development and well-being of staff, faculty, and postdoctoral research associates at MSU, focusing on creating a best-in-class workplace culture and environment in which excellence and opportunity thrive.

- Discovery, creativity and innovation for excellence and global impact: Be a leader in developing transdisciplinary solutions to ecological and human problems affected by social, economic, political, climate and environmental changes.

- Sustainable health: Enhance quality of life for people everywhere by comprehensively leveraging expertise and research activity to improve health and the systems that affect health.

- Stewardship and sustainability: Provide exemplary stewardship of institutional resources to foster the long-term sustainability of MSU and its high-quality education, research and outreach and engagement programs.

- Diversity, equity and inclusion: Become a national leader in increasing diversity, promoting inclusion, ensuring equity, and eliminating disparities on our campus and beyond.

I. Mission Statement

For more than 165 years, Michigan State University has been advancing knowledge and transforming lives through high-impact, innovative teaching, research, and outreach initiatives. Today, as it continues to help students become responsible, knowledgeable, and productive citizens, MSU is a major public research university with global reach and extraordinary impact.

We are an inclusive, academic community known for our traditionally strong academic disciplines and professional programs and our liberal arts foundation. Our cross- and interdisciplinary enterprises connect the sciences, humanities, and professions in practical, sustainable, and innovative ways to address society's rapidly changing needs.

As a public, research-intensive, land-grant university, funded in part by the State of Michigan, our mission is to advance knowledge and transform lives by:

- providing outstanding undergraduate, graduate, and professional education to promising, qualified students in order to prepare them to contribute fully to society as globally engaged citizen leaders.

- conducting research of the highest caliber that seeks to answer questions and create solutions in order to expand human understanding and make a positive difference, both locally and globally.
- advancing outreach, engagement, and economic development activities that are innovative, research-driven, and lead to a better quality of life for individuals and communities, at home and around the world.[3]

Since the mid-1960s, MSU has been recognized as a top academic institution and is a member of the prestigious Association of American Universities, consisting of a group of elite research universities in the United States and Canada. MSU is one of only 23 land-grant universities, and one of 38 public universities with membership in the Association of American Universities. MSU's success is further evidenced by its consistent inclusion among the top 40 public universities according to U.S. News & World Report. MSU received its greatest one-year improvement to date in the 2024 rankings, jumping 17 places to tie for No. 60 overall and tied for No. 28 among public universities. MSU has 33 programs featured in the top 25 nationally by U.S. News and World Report, including nine ranked number one.

Research

MSU continues to ensure that research programs grow, providing stimulus for economic development while creating a culture of innovation and creativity that maintains the university's international competitiveness. MSU is a leader in creating knowledge for the 21st century, routinely receiving in excess of $700 million in sponsored awards annually, focused in areas such as nuclear physics, food security, plant sciences; sustainable health sciences; material sciences, basic sciences such as chemistry, microbiology, and molecular genetics; computational sciences, and population and the environment, including food, water, and energy. According to National Science Foundation Higher Education Research and Development data, MSU's research expenditures for 2023 were $844 million, putting the institution on target to achieve its MSU 2030 Strategic Plan goal of $1 billion in expenditures by 2030. Contributing to MSU's ten-year long increase in research expenditures is the success of the university's Global Impact Initiative (GII). Launched in 2014, the GII has a goal to recruit 100 new faculty in some of the most exciting new areas of research. The Global Impact Initiative has helped to bring some of the best and brightest faculty to MSU, with 96 candidates hired to date from Harvard, Stanford, Princeton, MIT, Johns Hopkins University, Lawrence Berkeley National Lab, Los Alamos National Lab, and many other top institutions. Phase two of the initiative, GII 2.0, was approved by the Board of Trustees in June 2024 and aligns new positions with research thrusts outlined in the MSU 2030 Strategic Plan. The sustained investments in faculty hiring from the Global Impact Initiative, along with sustained investments in research infrastructure, positions MSU to exceed its strategic plan goals and make progress toward finding solutions to the most pressing societal challenges.

[3] See MSU Mission Statement | Board of Trustees | Michigan State University

Education

This fall, MSU enrolled 32,263 in-state resident undergraduate students. At the same time, MSU draws students from all over the state, country, and world. This year, MSU enrolled individuals from all 83 counties in Michigan, all 50 states in the country, and more than 138 countries. In an ongoing effort to uphold its commitment to access, MSU has established strong and substantial financial aid programs to assure student access to high-quality MSU programs. MSU routinely enrolls in excess of 8,000 Pell Grant recipients, representing 20% of the undergraduate population. For fiscal year 2023-2024, MSU administered $900 million in financial aid. For the 2024-25 fiscal year, MSU is committing an unprecedented $249.5 million to student financial aid — a $12.7 million increase over the previous year. Investments in financial aid have increased at an average 7.5% annual growth rate since the 2018-19 academic year, outpacing the increases in the cost of tuition over the same period. Additionally, beginning with the 2024-25 aid year, MSU launched Spartan Tuition Advantage. In support of the university's commitment to making an MSU education within reach for all Michigan residents, the Spartan Tuition Advantage financial program will cover the full cost of tuition for all qualifying in-state students. Further enhancing accessibility, MSU announced that the Native American Tuition Advantage Program will start for Fall 2025, aiming to eliminate financial barriers and increase enrollment among historically underrepresented Native American students. The program will offer in-state tuition rates to out-of-state Native American students. Native students will also be eligible for a total tuition waiver through the Spartan Tuition Advantage Program.

Michigan State is committed to student success, and this remains a central focus of the MSU's strategic plan. At Michigan State, we believe every student we admit has the ability to succeed and graduate. As established in the strategic plan, student success is the measure of an institution's ability to provide an inclusive, equitable curriculum and environment with the academic, social, wellness, and financial support that enables all students to learn, thrive, persist, graduate, and succeed after graduation. Understood this way, student success is not a measure of the academic achievement of either individual students or students collectively; rather, measures like academic standing, persistence, graduation, sense of belonging, engagement, time-to-degree, and placement rate indicate how well an institution supports its students. MSU has been a leader in student success initiatives for more than a decade. As a member of the University Innovation Alliance, we have been part of a group of collaborative innovators determined to share knowledge and scale successes to better serve students, raise graduation rates, and create equitable educational outcomes.

MSU provides diverse learning experiences that blend the theoretical with the practical, combines curricular and co-curricular experiences, and instills an entrepreneurial mindset in its students. Student learning experiences include study abroad, hands-on research engagement, service learning, internships, co-ops, field placement, student teaching, and clinical placement during their degree program. All complement a variety of classroom experiences to provide rich learning opportunities. The entrepreneurial ethos fits our progressive pedagogy preparing students for real-world careers demanding both technical and disciplinary expertise along with connective interpersonal

skills. Curricular and co-curricular experiences aim to help students develop deep knowledge within a specific content area as well as a broad set of skills across content areas focused on critical thinking, analytical reasoning, and communication.

Our collective efforts to enhance the student experience have resulted in MSU's graduation rate trending up for the ninth year in a row, to 82% in 2023. MSU has a goal of increasing that rate to 86% by 2030. MSU is coupling its efforts at improving graduation rates with a focus on being accessible to a wide range of students and able to support those students to persist and graduate. MSU's improvement in graduation rate is particularly noteworthy when also considering its increase in acceptance rate over the same time period, to its current rate of 88%. In terms of employability, 93% of students who earn bachelor's degrees from MSU are immediately employed or pursue additional education; as undergraduate students, nearly 80% graduate from MSU having already completed an internship. MSU's efforts have been recognized nationally, earning 4.5 out of 5 stars from Money magazine based on the combination of quality, affordability, and student outcomes.

Outreach

Thinking globally has always been a priority at MSU, and the university's focus on international engagement has helped establish MSU as one of the world's top research universities. The 2023 Times Higher Education World University Rankings placed Michigan State University in the top 6% of global universities – and #37 among U.S. institutions. Our global ranking helps MSU recruit top students and faculty from around the world, generate revenue and funding from international and internationally focused donors, and position MSU as a leader on the world stage. MSU ranks #1 for study abroad among public institutions, offering more than 300 education abroad programs on all seven continents. In addition to their invaluable cultural and academic contributions on campus, MSU's 4,300+ international students and scholars contribute $185 million to the Greater Lansing economy. Approximately 1,600 faculty members are involved in international research, teaching, and service projects and programs, and MSU maintains partnerships with more than 325 international institutions in over 80 countries. MSU receives $80 million in external funding for international work each year—about 10% of total external research funding annually. We continue to expand our reach around the globe through:

- Creating the new Center for Global Learning and Innovation in 2024, aligning with MSU's commitment to global education and innovation. The center will focus on education abroad while promoting student, staff and faculty success that is driven by global learning – connecting complementary existing programs and activities, providing support and resources, and cultivating a space for scholar-practitioners in global learning.

- The Alliance for African Partnership (AAP) is a collaborative and cross-disciplinary platform for addressing today's global challenges. AAP is developing new models of engagement for shared research while enhancing the resources and capacities of African universities, institutions, and scholars. Formally

launched in May 2016, AAP builds off MSU's longstanding work in Africa and serves as a model for Africa-led partnerships, cross-disciplinary research, and applying science and the humanities to development challenges. In 2023 the AAP celebrated its 5-year anniversary, renewing the partnership with a 5-year strategic plan.

- The Global Youth Advancement Network (GYAN) is a coordinating platform for research and engagement activities related to the education, mentorship, and leadership training of young people around the world. GYAN's three core objectives are convening youth around the world for thought leadership, capacitating youth-serving institutions, and content/knowledge development through action-oriented research. GYAN connects faculty at MSU with faculty in partner countries to engage in collaborative research and program development related to youth employment and entrepreneurship.

- MSU plays a leading role in the federal government's Feed the Future initiative to help fight global hunger and poverty and create sustainable and safe agricultural opportunities in developing countries. A few examples of MSU's work in this area include the Feed the Future Innovation Lab for Food Security Policy funded by the U.S. Agency for International Development (USAID). This is a partnership with the International Food Policy Research Institute in Washington, D.C., and South Africa's University of Pretoria; a $16.3 million federal grant from the Borlaug Higher Education Agricultural Research and Development program to train a new generation of agricultural scientists in developing countries; and a $13.6 million research and capacity building program funded by a USAID grant that focuses on grain legumes.

- The AsiaNexus program is redefining our concept of institutional partnerships and collaboration models in Asia. The program offers an enhanced platform for expanded faculty and student engagement in Asia by engaging key partners, exploring new strategies to co-fund and leverage investments, and facilitating collaborations to advance integrated research and novel academic programming. AsiaNexus partners and research teams create a synergistic network of networks within and across central Eurasia, East Asia, South Asia, Southeast Asia, and the world while building capacity among partners to address global challenges.

- MSU has created the MSU Water Alliance to utilize its vast water research expertise to address global water issues. The alliance will bridge faculty members across multiple disciplines and internationally to address immense challenges, including PFAS and wastewater pollution, pathogen risks, the circular water economy, and water and food shortages caused by climate change and weather instability.

- The MSU Global Health Studies Program, highlights the connections between health concerns of people, animals and the environment. The program, introduced in 2020, is a degree program within the College of Osteopathic Medicine that includes faculty from across the university and represents eight

different colleges in the curriculum, including the College of Osteopathic Medicine, College of Human Medicine, College of Communication Arts and Sciences, College of Arts and Letters, College of Veterinary Medicine, College of Agriculture and Natural Resources, College of Nursing and International Studies and Programs. Global health practitioners also participate as faculty, as do international colleagues. Students in the program can earn a Master of Science degree or a graduate certificate while participating in 17 different study abroad programs in 11 different countries.

Michigan State University is committed to providing world-class opportunities for success and to making those opportunities available to a broad spectrum of talented students from across Michigan and around the world. The strategic plan charges us to meet our students where they are, provide high-quality experiences for all of our students, and ensure that every student has the opportunity and support to learn, thrive, and graduate.

II. Instructional Programming

As one of 71 members of the prestigious Association of American Universities in the U.S. and Canada, a Carnegie Research University (highest research activity) institution, and Michigan's land-grant university, Michigan State is dedicated to reflecting its mission in its instructional offerings. MSU is uniquely positioned as a top-tier research intensive institution and land-grant university offering an accessible education to have a big impact on solving the world's toughest problems.

MSU continues to have an outstanding record of students earning prestigious national and international scholarships. MSU has produced 20 Rhodes Scholars, 55 Goldwater Scholars, 20 Marshall Scholars, 17 Truman Scholars, 18 Churchill Scholars, 14 Udall Scholars, 8 Presidential Fellows, 7 Hollings Scholars, 7 Gates Cambridge Scholars, 6 Mitchell Scholars, 5 Beinecke Scholars, and 3 Gaither Fellows.

Michigan State University offers more than 400 academic programs, with 33 programs and concentrations in the top 25 nationally, to meet the needs of Michigan citizens and students from across the country and around the world. MSU's undergraduate Supply Chain Management Program ranks #1 and the Broad College of Business is ranked 21st among public universities for undergraduate business programs according to the 2024 U.S. News & World Report. Elementary and Secondary education graduate programs have ranked 1st for 30 straight years. Three other MSU graduate programs: curriculum and instruction, educational administration, and higher education administration also rank number one. MSU's graduate supply chain/logistics program is also ranked #1 nationally for the eighth straight year by U.S. News & World Report. In its 2024 ranking for online graduate programs, U.S. News & World Report ranked seven of Michigan State University's participating online graduate programs in the top 25, all of which are in the top 10.

To ensure MSU remains a best value for students and other stakeholders, the university monitors its standing against relevant regional, national, and international peers. Areas

of importance include academic quality, efficiency and value, affordability and access, and economic impact. To remain competitive, MSU must be an effective steward of its resources. All colleges and administrative units undergo annual strategic planning reviews to encourage alignment with university strategic priorities and ensure university-wide effectiveness and efficiency. With resources focused on mission-centric areas of the institution, MSU continues to preserve its academic rigor with a competitive student-faculty ratio (17:1) that is consistent with the Big Ten public universities' average.

Recent programming initiatives

- The first class of physician assistants graduated from MSU's College of Osteopathic Medicine's new Physician Assistant Medicine Program in August 2024. The PA medicine program was launched in 2022, with 94% of its students from Michigan. The College of Osteopathic Medicine was recently named #1 by U.S. News and World Report for having the most graduates practicing in professional shortage areas. Seventy-six percent of the PA program graduates accepted positions to work in the state of Michigan, and 71% decided to work in medically underserved communities. Employment for PA's is projected to increase by 27% over the next decade according to the U.S. Bureau of Labor Statistics.

- In spring 2023, MSU's College of Communication Arts and Sciences launched a Master of Science in User Experience program. The program is online and asynchronous and will train graduate students for roles in UX design, research and project management. The program supports students seeking opportunities in the growing field, while allowing them to enjoy a rich curriculum at their own pace, provides opportunities for mentorships with accomplished industry professionals and to gain a network of colleagues.

- MSU's College of Law is opening a public defender clinic in the 2024 academic year that will be the first of its kind in the state. The clinic will train lawyers in preconviction appeals, a highly specialized area, with the goal of increasing the capabilities of local public defenders in Michigan. The clinic fills an immediate need for quality preconviction appellate representation, while also offering MSU law students rewarding work in a criminal law clinic, and a hands-on educational opportunity.

- The College of Engineering is introducing a new Bachelor of Science program in Technology Engineering in 2024. The program seamlessly integrates engineering and computer science curricula, offering an innovative educational experience, that will prepare students for modern engineering challenges in the multidisciplinary, interconnected world. The program responds to both industry and student demands, providing additional opportunities for students in the Engineering Sciences. Additionally, the program responds to the state of Michigan Economic Development goal to provide a more qualified workforce, in particular related to technology and engineering sectors. This degree program

fosters a pipeline of engineering talent to support the manufacturing industries that Michigan is actively working to attract.

- The College of Arts and Letters is collaborating with MSU Health Sciences to create an innovative Arts and Humanities Health and Well-being (AHHW) program that will launch for Fall 2025 emphasizing people, communities, partnerships and creativity, offering a new approach to pre-health education rooted in compassion, equity, social justice and well-being. The program will combine rigorous academic study with practical, real-world experiences to serve a diverse range of students that are interested in both provider and non-provider health careers.

- Michigan State University and Lansing Community College (LCC) have formalized a partnership that improves access to a four-year degree, increases student success, and helps build a pipeline of talent to meet the needs of the Mid-Michigan economy. The partnership, called Envision Green, also provides a seamless transition from LCC to MSU by embedding MSU advisors within LCC to guide students through their educational journey — a transition more than 5,500 LCC students have made over the last decade. With this partnership in place, prospective LCC students can consider MSU from the start of their higher education journey. The affordability of the LCC-to-MSU path means a four-year-degree is an option for more people in the region — crucial for building and retaining an educated workforce in Michigan.

State and Community Presence

- The Rx Kids public-private partnership launched in 2024, jointly led by MSU's College of Human Medicine. The program aims to eradicate deep poverty among families with infants in Flint, MI by providing $1500 in maternal support during pregnancy and $500 per month for the first year of the newborn's life. Research on the program will evaluate the impact on participant health and community-wide outcomes. Other potential impacts include community reinvestment, neighborhood safety, civic engagement, population stability and societal savings.

- The MSU College of Veterinary Medicine has partnered with the Michigan Department of Agriculture and Rural Development to launch a Community Medicine Program aimed at increasing veterinary services in underserved Michigan communities. Utilizing a mobile surgical unit, veterinary students will gain hands-on experience performing routine surgeries, enhancing their education while positively impacting local communities and patient outcomes.

- MSU's office of Outreach and Engagement successfully worked with The U.S. Department of Commerce to renew its grant for the MSU EDA University Center for Regional Economic Innovation (REI), which focuses on helping Michigan's economically vulnerable communities thrive. Since 2016, REI has facilitated 69 co-learning plans and 97 student-led projects, collaborating with community

partners across 15 colleges and universities to foster high-growth entrepreneurship and sustainable job creation.

Recent Programming and Facilities Updates

As we maintain and enhance the academic quality of our program offerings, we must also be vigilant about the quality, flexibility, functional alignment, utilization and expansion needed for our academic and instructional space. MSU must provide state-of-the-art facilities and infrastructure that will help attract and retain top-quality students, faculty, and researchers. This is vital to remain competitive in key fields, both nationally and internationally and to maintain our membership in the prestigious American Association of Universities. Through entrepreneurship and a systems approach, MSU research moves rapidly from classrooms and laboratories to create new products, new industries, and new jobs, providing the state with a talent pipeline, expertise and research outcomes and industry partnerships for a future Michigan. Examples of facilities that enable MSU to be competitive for talent, external grants and awards, and partnerships include:

- In September of 2024 MSU's board of trustees authorized construction for a new Plant and Environmental Sciences Building. The 200,000 square foot facility will provide critical laboratory space for approximately 40 principal investigators and their teams. MSU is a leader in food security and climate adaptation research and is ranked among the world's leading universities in plant sciences. Ten of MSU's 11 members of the prestigious National Academy of Sciences work in plant and environmental sciences. The new facility is an investment in MSU's current and future excellence in plant and environmental science.
- MSU broke ground on two facilities critical to agricultural research and food production in April 2024, a new Dairy Cattle Teaching and Research facility and renovations and additions to the Plant Science Greenhouse facilities. The State of Michigan provided $53 million for partial funding of each project. The facilities are vital to supporting Michigan's agricultural industry by developing the next generation of dairy industry and plant science leaders and creating cutting edge knowledge.
- The College of Communication Arts and Sciences partnered with Dell Technologies iconic gaming brand Alienware to open the university's first dedicated space for students engaged in esports, the MSU Esports Lounge, in January 2024. Esports is a rapidly growing industry centered around professional and semi-professional video game play. The esports lounge is open to all MSU students and complements the College of Communication Arts and Sciences top-ranked game design and development program. The lounge will host competitions and offer students not only a place to game, but a place to network with other future professionals, discover career opportunities, and build community.

- MSU's Multicultural Center is on track to be completed in early spring 2025. The new freestanding building will be situated in the center of campus and will serve as a gathering space dedicated to diversity, reflecting on activism and honoring a wide range of cultures. It will be a place where students can feel safe, build community, share ideas, gather around food and celebrate all the cultures that exist on MSU's campus. The building will consist of a wide variety of spaces where students can gather, hold events and programs, study, and access services.

- Over $23 million of renovations in the Chemistry building were recently completed to support new research-intensive faculty. Department of Chemistry laboratory upgrades will help support new wet and computational research teams, while consolidating and providing modern teaching laboratories. These measures will improve access, collaboration, and safety within the building. In conjunction, the radiochemistry labs in the Chemistry Building have also recently received upgrades in support of FRIB's isotope harvesting program. The renovations support the efforts of new faculty members to establish a world-class research and academic program in radiochemistry at MSU.

- A new Student Recreation and Wellness Center is under construction, anticipated to open the summer of 2026. The center will provide an opportunity for students and staff to engage in recreation, proactive wellness and well-being activities. The center comprises fitness spaces, various multipurpose rooms, gymnasiums, an indoor running track and multi-activity courts.

- In June 2024 the Facility for Rare Isotope Beams broke ground on an addition that will triple the current capacity of the FRIB Chip Testing Facility by providing two additional user vaults. The addition is anticipated to be completed in summer 2025. FRIB is one of three chip testing facilities in the nation. The facility will provide educational opportunities for students in chip design and testing in addition to providing user-team testing capacity.

- In June 2024 construction began on a new research facility in Detroit supporting the Henry Ford + Michigan State University Health Sciences 30-year partnership. The partnership between two of the state's leading education, research, and health care institutions, are poised to make Michigan a national leader in providing access to exceptional health care for all residents; scientific discovery; and education for providers, patients, and families. In a landmark partnership that will last for at least 30 years, both institutions are committed to aligning efforts across key departments and programs to achieve critical health care and educational goals, while addressing social issues that impact health outcomes for patients in Michigan and beyond.

Impactful Research in MSU Facilities – Illustrative

MSU's research is also in the upper tiers of U.S. universities. For the second year in a row, the National Academy of Investors (NAI) ranked MSU in the top 50 U.S.

universities granted patents last year. MSU was ranked 49 on the list, with 45 patents in 2023. MSU has been ranked in the top 100 universities every year since 2013, the first year the NAI began publishing the annual report. MSU's faculty bring in significant new grants for far-reaching projects. MSU reported a $87 million increase in federal research dollars and $850 million in total support for our research endeavors in 2024, the highest level of research investment in our history. Most grants have substantial implications for laboratory space, equipment, and facilities. Examples include:

- In 2009, MSU's National Superconducting Laboratory was awarded the Department of Energy federal science project in nuclear research titled: Facility for Rare Isotope Beams (FRIB). Officially opening its doors for discovery in 2022, FRIB is a new U.S. Department of Energy Office of Science national user facility for nuclear science research. The centerpiece of the new user facility is a superconducting linear accelerator that will increase dramatically the reach of rare isotope research in the United States. The accelerator produces isotopes that normally exist only in the most extreme environments in the universe and will expand the usefulness of isotopes in a broad range of applications, from modeling stars to understanding the workings of nanoscale electronic devices.

  FRIB is a critical project for American science and the state of Michigan. It will not only keep MSU on the cutting edge of nuclear science, but also ensure the training of the nuclear scientists of tomorrow while bolstering the economies of mid-Michigan and the entire state. FRIB cost $730 million to design and build. In FY14, Michigan made a commitment to bond and service the community cost share of $94.5 million. Construction began in 2014, with completion in early 2022. The project reached a significant milestone in 2020 with its designation by the U.S. Department of Energy as a DOE Office of Science user facility. The designation demonstrates a substantial commitment by the sponsoring program, which provides oversight and works with the facility to maximize scientific impact and productivity. The FRIB is projected to create hundreds of jobs in mid-Michigan while bringing in more than $1 billion of economic activity to Michigan through 2030.

  In 2023, the Department of Energy awarded $115 million for a high rigidity spectrometer project at the FRIB. The high rigidity spectrometer (HRS) instrument will enable FRIB scientists to characterize the properties of isotopes that are created in rare-isotope reactions produced at about 50 percent of the speed of light. With the ability to measure properties such as the mass, charge, and velocity of rare isotopes produced in those conditions, HRS will be a centerpiece experimental instrument of FRIB's fast-beam program that will substantially increase FRIB's scientific reach and productivity. This award is in addition to the 2023 announcement of $529 million DOE award distributed over 5 years to continue operations at the FRIB as a DOE-SC user facility, enabling unprecedented discovery opportunities envisioned by a user community of 1,800 scientists, supporting the mission of the DOE-SC Office of Nuclear Physics.

- MSU AgBioResearch encompasses the work of more than 300 scientists in six colleges with 3-year average annual grant expenditures of more than $89 million. These researchers, in both on-campus laboratories and at 15 outlying research centers across the state, investigate topics that range from agricultural production, alternative energy and biofuel production, food safety, and environmental stewardship to childhood obesity, community development, and the quality of life of Michigan families.
- MSU and the University of Wisconsin-Madison continue to partner in the Great Lakes Bioenergy Research Center (GLBRC). The GLBRC was established in 2007 and is funded by the Department of Energy to develop sustainable alternatives to transportation fuels and products currently derived from petroleum. Since its inception, MSU has produced 108 patent applications, 15 license and option agreements and one start-up company for the GLBRC.
- In late 2022, a highly specialized team of MSU researchers was awarded a 5-year $10.5 million Superfund Research Center (SRP) grant from the National Institute of Environment Health Sciences to increase understanding of the relationship between alterations in specific biochemical processes and toxic responses observed in animals or humans and how soil and enzymes in microorganisms could degrade dioxin-like compounds and limit their effects on living organisms.
- MSU's College of Osteopathic Medicine received a $25 million grant from Michigan Department of Health and Human Services that will address the state's critical shortage of direct care workers, or DCWs, by establishing a Direct Care Career Center that aims to increase pathways into the field and transform the public view to one that recognizes the workforce as a respected profession.

- In 2024 MSU's Industrial Assessment Center received an additional $5.0 million grant from the U.S. Department of Energy's Office of Manufacturing and Energy Supply Chains. This will allow the IAC to help companies, community colleges, trade schools and unions save money, improve energy efficiency, and shrink carbon footprints through cross-network support. There is also a focus on building the energy and manufacturing workforce through hands-on training and student-led assessments while also supporting advancements in manufacturing decarbonization.

- An MSU College of Education researcher was awarded the first-ever $3.5 million Transformative Research Grant from the Spencer Foundation. The grant funds a multidisciplinary team study to conduct a large-scale study on community-driven initiatives to teach Asian American Studies in K-12 classrooms. Their study will explore how communities advocate for curricular policies mandating the teaching of Asian American studies and how these policies get implemented in schools and impact student learning. Ultimately, the project aims to develop supports for families and communities to successfully

advocate for curricular changes and for policymakers, systems leaders, and educators to successfully implement ethnic studies courses in ways that increase learning and civic engagement.

- An MSU Department of Biochemistry & Molecular Biology researcher was awarded a $1.8 million NIH grant to focus on the computer modeling of fundamental molecular biological process to render simulations of what is going on inside plant cells. The interaction with enzymes and transport of plant-based products is directly relevant to the mission of the Plant Research Lab related to light capture and conversion by photosynthesis but is also applicable to drugs and proteins impacting human health.

- A researcher in MSU's Department of Plant, Soil and Microbial Sciences received a $3.95 million grant from the U.S. Department of Agriculture National Institute of Food and Agriculture to develop strategies for implementing and maintaining effective management practices for blueberry fruit rot. Michigan is a top producer of blueberries in the U.S. with more than 20,000 acres in production, according to the Michigan Ag Council. The industry also contributes roughly $132 million to the state's economy. While much is already known about these diseases through previously conducted studies, advances in technology and joint action among scientists from across the country will propel current knowledge forward and address stakeholder needs.

- MSU was awarded a $6.7 million National Institutes of Health (NIH) grant in 2021 that, in coordination with university contributions, is funding a new facility, through renovations, for the development of new imaging agents and treatments of diseases that afflict both humans and large animals. The new Large Animal Facility for Imaging and Image-guided Therapies will be one of only a few such medical diagnostic facilities in the world. The facility is expected to open in early 2025 and be located in the Clinical Center Building D.

- In 2022 the Charles Stewart Mott Foundation granted $25 million to expand MSU's College of Human Medicine public health presence in Flint, MI. The grant created an endowed fund to increase public health faculty, academic research, and community health collaborations. The grant expands Mott's support for the college's presence in Flint, including an addition currently in construction to the Flint Journal Building to support the public health program.

- MSU researchers received a five-year $3.7 million grant in 2022 from the National Institute on Deafness and Other Communication Disorders to study language in young children with autism. The project will provide greater understanding of how these children process the language they hear from adults. Research findings will impact theories of language development and clinical best practices and also contribute to evaluations of early language interventions.

- Researchers at Michigan State University are part of a team of more than 30 researchers and stakeholders nationwide who will use a five-year, $15 million

grant from NASA, awarded in 2022, to strengthen U.S. agriculture as it faces climate threats. The grant will enable researchers to use satellite imagery to trace variations in agricultural capital investment, mechanization, and labor intensity over the last 20 years. The results will be used to model the changing agricultural landscape and examine the relationship between crop field size and climate resilience.

- In 2023 the United States Army announced a $9 million initiative it is pursuing with Michigan State University to make electric autonomous vehicles safer, smarter, and more dependable. With support from the Army's Ground Vehicle Systems Center (GVSC), Spartan engineers are working to create advantages for vehicles that will serve our country's service members. These innovations will also benefit civilians. The engineering team will first demonstrate its new ideas, designs, and technologies on a commercially available passenger car before disseminating these advances to other vehicles.

- In 2023 the National Institutes of Health grant from the National Center for Complementary and Integrative Health totaling up to $5.8 million (based on meeting first year milestones) was awarded to a researcher in the College of Nursing. The grant will fund a program to increase behavioral well-being in preschool age children and address problem behaviors. The program aligns with the university's sustainable health mission – to reduce health disparities, expand access to health resources in underserved communities, and contribute to the sustainable health and well-being of communities.

- College of Engineering researchers received a $12 million four-year federal grant from the Intelligence Advanced Research Projects Activity (IARPA) under its Biometric Recognition and Identification at Altitude and Range (BRIAR) program. The IARPA BRIAR program is a 48-month effort to deliver end-to-end software systems capable of detecting individuals at severe imaging conditions, extracting biometric signatures from the whole-body (such as an individual's gait and/or body shape) and face, and fusing biometric information for robust multi-modal matching.

III. Staffing and Enrollment

The continuing high quality of MSU's educational offerings has led to a steady increase in demand from students in Michigan and around the world. Indicators of this increased demand include:

- MSU received 62,138 first-time undergraduate applications this year, well exceeding last year's 58,879. MSU's total enrollment for Fall 2024 is 52,089.
- MSU welcomed 10,978 new undergraduate students (first-time and transfers). Of the 9,652 first-time students, there were 2,744 students of color and 5,196 women. When added to MSU's returning students, for a total of 41,234, it is MSU's largest number of undergraduates to date.

- Total graduate enrollment, including graduate professional students, is 10,855, of which 1,914 are new graduate master and doctoral students, and 735 are new graduate-professional degree-seeking students.
- Michigan residents represent 72% of enrollments and 78% of the university's undergraduates. MSU students come from all 83 counties in the state.

Fall 2024 enrollment at Michigan State University represents careful and deliberate enrollment management to maintain academic quality and optimal classroom and laboratory environments for all students. A summary of enrollments for fall 2024 by college and level, as well as ten-year enrollment history can be found in Appendix D. Based on Michigan demographic data, enrollment management practices at the University, and current faculty/staff and physical infrastructure resources, enrollment patterns over the next five years are projected to maintain a flat but positive trend.

While the university currently offers bachelor's, or bachelor's completion programs, and master's programs off campus and intends to increase the number and diversity of learners we serve through an online learning strategy that provides wider access through targeted programs, it is important to note that the vast majority of students utilize the facilities of MSU's East Lansing campus to complete their degree programs. The university will continue to expand opportunities to offer instruction that complements more traditional academic programs, but the demand for on-campus experience remains high.

The preliminary full-time equivalent faculty and academic staff count for fall 2024 is approximately 5,580. Of that total, a significant percentage is engaged in instruction, with the rest distributed across research, public service, academic and student support services, and other institutional functions.

As of Fall 2024, the current average class size for lower division undergraduate classes is 48 students. The average class size is 36 for upper division undergraduate classes and 14 for graduate classes. The most recent calculation of the student/faculty ratio is 17:1, which is consistent with the Big 10 public average.

IV. Facilities Assessment

MSU recognizes that its physical infrastructure requires ongoing evaluation, maintenance, and renovation in a manner that is consistent with the scope, scale, and high quality of its personnel and programs. As one of MSU's most important assets, the built environment supports the institution's academic mission of teaching and learning, research and innovation, and outreach and engagement. University facilities create a sense of place for the campus and surrounding communities, and support the success of students, faculty, and staff.

The college and program units systematically provide annual programmatic facility reviews and forward space needs, including alteration and improvement requests, and major capital planning needs through the annual budget and planning process. This

process identifies high-priority programmatic needs and informs the development of the annual 5-Year Capital Plan.

Given the dynamic nature of higher education the planning horizon for academic and academic-support programs is typically five years. Examples of identified projects include comprehensive renovations of a research lab to support current research foci and sophisticated research equipment and modifications to office and dry research space for improved efficiency program functionality, and to align with modern teaching and learning and work modalities. The planning process informs broader capital needs by identifying programmatic areas that would benefit from new construction or major renovations.

- Based on the most recent planning cycle, approximately $20.0 million is needed in fiscal year 2025 to address high priority, selected programmatic improvements. It is anticipated that this magnitude of funding is needed on an annual basis to address these selected programmatic improvements of a smaller scale given the limited resources, age of the physical plant, strategic plan goals for growth in research over the next 5 years, and changes in curriculum and evolution of teaching and learning methods and student learning experiences. In addition, the impact of a recently expanded range of work modalities presents potential space resource challenges to align demand and functionality.
- This planning enables the university to coordinate projects and assemble the work scope to reduce overall project costs by coupling programmatic alteration needs with infrastructure improvements and the removal of maintenance items. As a result, limited building improvement funds are expended more effectively.

Vision 2050: An Integrated Facilities and Land Use Plan includes several goals that will impact space and facility needs, including work modalities, teaching, and learning modalities; increase in research expenditures; multi- and trans-disciplinary research projects; and student support services.

Academic Facilities

Our continued success in meeting our value proposition of high-quality programs with access to qualified students demands that we continue to provide high-quality, collaborative, flexible, technology-enabled, and expanded academic and instructional spaces. These teaching and learning environments need to support emerging pedagogies, including those that support curriculum revisions, student-centered, collaborative, and self-guided learning. The learning environments, coupled with the changing modalities and curriculums, provide opportunities for research on and leadership in instructional methods while fostering innovation through a technology-rich environment.

Approaches to teaching and learning have become more interactive across all disciplines, and the use of instructional technology has significantly changed what faculty and students accomplish in classrooms, teaching labs, and informal learning environments. All areas of research, instruction, and outreach incorporate technology and the underlying infrastructure that makes them possible.

Many of the university classrooms have received updates to support active learning principles and emerging technologies that are necessary to facilitate the exchange of ideas and collaborative interactions essential to engaged learning and facilitating student success. However, given the scope and scale of MSU, annual and on-going investment is necessary to provide quality instructional environments that keep pace with progress in technology and pedagogy including student-centered, collaborative, and self-guided learning.

A comprehensive classroom renovation can range in cost from $250,000 for a small classroom to $1,000,000 for a lecture hall. An estimated $6 million annually is needed to support multi-year strategic planning for the over 330 university classrooms, including the potential to fund broad strategic instructional initiatives over time. Coupled with the necessary technological needs for the university's teaching and learning spaces, the total need is $12 million annually to keep pace with changing pedagogies and provide high quality instructional spaces on par with the educational experiences MSU is known for. While the university continues to make significant improvements, further investment is necessary to address aging spaces, in order to keep pace with the changes in learning methods and modality, to continue to add value, and remain competitive in the recruitment and retention of high-quality students and faculty and increase participation at both the undergraduate and graduate levels.

- The University maintains 330 centrally scheduled classrooms, lecture halls, and over 800 departmentally assigned instructional spaces. The instructional space at MSU is approximately 2.8 million assignable square feet.

  For fall semester 2023, utilization of these instructional spaces by scheduled instructional periods ranges as high as 89% of the available hours, and averages 75% for centrally scheduled classrooms, excluding events. The seat utilization ranges as high as 65% of the available capacity and averages 55% across all rooms. In a typical academic year, one-time events, such as help sessions, department and student organization meetings increase utilization by 6%.

  Departmentally scheduled class laboratory spaces that are scheduled regularly for courses average39% across all rooms and disciplines and range as high as 57% of the available hours. This utilization does not include prep or clean-up time, open lab time for tutoring, or student research use. The seat utilization ranges as high as 72% of the available capacity and averages 53% across all rooms and disciplines.

  40% of the instructional space is in fair condition, 10% in poor condition, with the remaining 50% in good to excellent condition. Rooms in need of upgrade require either comprehensive or selected renovation, and may include replacement of furniture, ceiling, and lighting, painting; upgrade of power and data; and replacement of lab benches and fume hoods. Rooms requiring upgrades are identified through a multiyear improvement plan that is informed by on-site reviews of each room, input from users, and analysis of room utilization, as well as the academic program planning process.

Quality support services, such as libraries, technology integration, specialized labs, field stations, clinics, informal learning areas, and state-of-the-art equipment also need to be sustained at a level commensurate with support of nationally competitive research and scholarship efforts that are consistent with instructional goals. The convergence of these factors calls for increased investment in the facilities and equipment that support these developments. It also calls for the creation of new learning environments that support the significant increase in STEM student credit hours and our commitment to educate, train, and graduate more students in STEM, as well as provide more opportunities for informal and self-guided learning.

Further, MSU's steady increase in enrollments, now in excess of 10,000 new undergraduate students annually creates additional demand for these physical resources. The STEM Teaching and Learning Facility that opened in 2021 begins, in a more significant way, to address this need. The Engineering and Digital Innovation Center, submitted as the MSU SFY2024, SFY2025 and SFY 2026 Capital Outlay request, would continue this trajectory and is a critical part of the future delivery of the MSU teaching and learning eco-system. State of Michigan support is critical.

As a result of these many factors, MSU has examined the capital assets necessary to support academic programs and identified needs that involve renovation, additions, new construction, comprehensive renewal, reprogramming of selected facilities, and renewal of major subsystems in other facilities.

Campus, Facilities, and Infrastructure

The institution's assessment of existing facilities shows that the infrastructure components of many campus buildings have aged significantly. Despite ongoing maintenance and repair, which in most cases has extended the expected usable life of components well beyond the industry standard, many buildings are now at a point where they require significant investment or may need to be replaced.[4]

The demands placed upon building systems by updated building codes and more sophisticated programs, many of which are equipment- and ventilation-intensive, have resulted in facilities that act as a barrier rather than a support to program success. For example, higher environmental protection and safety standards place pressure on day-to-day maintenance and in some cases exceed the capacity of particular systems.

The proliferation and advancements in technology across disciplines requires updating of data resources and distribution systems. The configuration of older building spaces limits the efficient use of the areas available to programs and can hinder collaboration, interactions, and interdisciplinary work which is increasingly important in today's learning, research, and work environments. Increasingly complicated and environmentally sensitive equipment places higher demands on power for operating and climate control for proper functioning.

[4] See Appendix C: Map of Campus Buildings by Age.

In summary, renovations and new construction are necessary to provide capacity, improve quality and utilization, and align infrastructure and programmatic needs for both instruction and research. This is especially true when current facilities are either too costly to renovate compared to the benefits realized and/or inadequate in the amount of space, and functional alignment provided.

The needs for existing facilities include repairing and replacing internal building systems, such as electrical, plumbing, mechanical, and structural renewal; reworking interiors to increase the utilization and functionality of the space; and attending to the building envelope in order to maintain the integrity of the building. In some cases, the improvements are needed for only selected aspects of a facility; in others, total renovation and/or replacement of the building is warranted.

In response to MSU's facilities assessments, reviews of programmatic needs, functional alignment and adjacencies, coupled with accelerating changes in work modalities and organizational changes, MSU began a Workplace Strategic Framework Planning Study in 2024. The study will provide a better, more detailed understanding of how campus buildings are used and will create updated space allocation guidelines and guiding principles. The goal is to provide a framework to ensure a physical environment that fits with current and future workplace requirements and the university's strategic goals of sustainability and resource stewardship.

Perceptions of the built environment are a significant component in the overall campus experience.

- The physical infrastructure of Michigan State University broadly encompasses buildings, the utility generation and distribution system, the electronic network, the security systems, and the campus grounds, including the natural and built landscape, sidewalks, roadways, and paved parking.
- The campus grounds, including the natural and built landscape, are a principal aspect of the campus infrastructure. The main East Lansing campus approximates 5,200 acres, or eight and a half square miles. The developed campus approximates 2,000 acres, and the experimental research farm area approximates 2,700 acres with the remaining supporting auxiliary activities. Off-campus MSU land covers approximately 21,000 acres for a total of 26,000 acres across the state.

  Despite this rich land area, the planning process recognizes that land resources are finite and should be conserved for future generations. As a result, the Vision 2050: An Integrated Facilities and Land Use Plan for Michigan State University adopted compact campus development. While allowing for some horizontal expansion across the campus, the Plan protects the capacity and contiguity of the farm areas, uses a strategy of carefully conceived "infill" in some portions of campus, and careful replacement of existing facilities that have reached the end of their useful lifespan to minimize net new development in other areas of campus.

- The developed campus, and the North Campus "Circle Area" in particular, is recognized as one of the nation's most beautiful campuses. The open space quality of this area, the Red Cedar River corridor, and the Sanford and Baker woodlots is highly regarded and reinforces the social and intellectual vitality of the campus. The campus arboretum grows over 1000 different taxa, represented by more than 19,400 individual trees, and innumerable shrubs and vines which serves as a collection for research, teaching, beautification and health and wellness.

  The developed landscape's estimated replacement value exceeds $447 million.

- MSU's transportation system encompasses 57 lane miles of university-owned roadways, with a replacement value of $52.8 million.

  The condition of the roads is estimated to be 1% poor, 18% fair, 59% good and 29% excellent. MSU prioritizes improving safety for vehicles, pedestrians, bicyclists, and other motorized transport as streets are rebuilt.

- The university owns seven bridges on campus; four are for pedestrians only and three are for both vehicles and pedestrians. The university is responsible for cosmetic maintenance of two train bridges. The bridges have a replacement value of $80 million. Three bridges are in good condition, and four are in excellent condition. Reconstruction of the Farm Lane bridge was completed in summer 2024. The bridge carries over 12,000 vehicles and 7,000 pedestrians in a typical class day. The reconstruction restored the bridge to its full capacity. The project also included the construction of a new pedestrian bridge to improve safety and address critical utility infrastructure needs.

- By MSU Board of Trustees policy, the parking system of approximately 29,400 spaces for students, faculty, staff, and visitors is self-supporting and has a replacement value of approximately $336.1 million: $175 million for seven parking structures and $161 million for surface parking. One parking structure is in poor-to-fair condition, three are in good condition, and four are in excellent condition. The condition of the approximately 24,500 surface parking spaces breaks down to 10% in poor condition, 32% fair condition, 26% good condition and 32% in excellent condition.

- There are 115 miles of walkways valued at $55.5 million.

- The All-University Traffic and Transportation Committee addresses the issues related to parking access, the associated cost implications, and ways to increase use of mass transit and non-motorized transportation. MSU continues its long-standing partnership with the Capital Area Transport Authority to provide service on-campus and for surrounding area routes.

- Main campus inter-building communications is comprised of an underground fiber optic distribution system that supports network data, VoIP telephone, contact center, cable television, cellular, two-way radio dispatch, and other specialized services. The fiber optic system interconnects 236 unique structures on campus. Wireless equipment provides connections for additional structures in the south-campus farm district, well water pump facilities and other critical infrastructure

with planning under way to replace this legacy service with direct fiber optic connections. After the upgrade MSU will have 297 unique structures with high-capacity underground fiber optic connections. In addition to the fiber optic distribution system, each building has internal cabling infrastructure and equipment with approximately 87% in need of significant infrastructure and equipment upgrades to keep up with operational demands. WiFi service is provided by over 13,600 wireless access points. Approximately 58% of main campus buildings have full WiFi coverage, 22% have partial WiFi coverage and 20% have little or no Wi-Fi coverage. All residence halls have WiFi service in student rooms, dining halls and related gathering places.

MSU IT is in the beginning phase of a multi-year campus-wide strategic initiative to modernize the network infrastructure, which is inclusive of both the wired and wireless networks. The initiative will focus on current network needs as well as forward planning to meet increasing network demand.

The estimated replacement value of campus data network infrastructure is over $94.5 million and annual maintenance costs exceed $13.5 million.

Off-campus sites in the Lansing metropolitan area are connected to the MSU data network via a 45-mile fiber optic ring operated by Zayo Enterprise Networks. Facilities across the state, those outside of Lansing, are connected via Merit Network, Inc., or other local service providers.

External data network connectivity from the main East Lansing campus is provided via redundant links to the commodity Internet and to the research focused Internet2 network via Merit Network, Inc.

- Cellular infrastructure from all four national cellular carriers is installed on main campus building rooftops and other structures. This carrier-owned equipment provides enhanced service coverage and capacity for the public, university employees, and large campus events.
- Michigan State University has over 25 million gross square feet of building space in 578 structures, including both general-fund and self-supporting facilities. The replacement cost of the buildings is calculated at $8.1 billion. University general-fund buildings account for approximately 14.3 million square feet representing $5.8 billion in replacement costs. Student Life and Engagement and other self-supporting facilities account for approximately 10.6 million square feet and the remaining $2.3 billion.

  Facility condition assessments, including the utility distribution system, are updated on an ongoing basis using input from university maintenance, custodial staff, users of the buildings, and external consultants. College and program units also provide programmatic facility reviews and identify needs through the annual budget and planning process.

  Building capital renewal needs are assessed on many campuses utilizing the “industry-expected useful life” of the significant building components. For MSU, this approach substantially overstates needs, since the effective maintenance

program typically results in building components lasting much longer than industry standards.

MSU manages and forecasts major maintenance needs through its capital renewal program. The program prioritizes facility needs that address life safety, accessibility, asset performance, resource efficiency, and renewal of critical building systems. This process considers the age of major building components adjusted to account for each component's maintenance history and current condition based on field observations. A Facility Condition Assessment is currently underway and is 95% complete.

- The utility generation and distribution systems are major components of the campus infrastructure. The generation system includes:

  The T. B. Simon Power Plant, a natural gas-fired Combined Heat & Power (CHP) power plant which generates up to 98.5 MW of electricity and 855 kpph steam to meet campus needs. The power plant consists of Units 1 & 2 (1965), Unit 3 (1975), Unit 4 (1993) and Units 5/6 (2006). The condition and replacement value of this facility is being assessed as part of the Utility Plan effort currently underway.

- A new RICE Plant (2022) which consists of three (3) x 9.4 MW natural gas engines capable of generating up to 27.9 MW of electricity to meet campus peak power demands allowing the CHP plant to operate more efficiently.
- A new natural gas-fired low pressure steam boiler (2023) supplying up to 200,000 pounds per hour of steam directly to campus for building heating and cooling to meet peak steam demands allowing the CHP plant to operate more efficiently.
- An interconnection to the local utility electrical distribution power grid through the 100 MW Spartan Substation (new in 2016).
- A 7-million gallon per day drinking water treatment plant (2020) and 2-million-gallon water storage tower (2020) which treats water produced from 17 water wells to provide drinking water to north campus and for power plant feedwater. This new plant enabled the decommissioning of a water reservoir on main campus.
- The utility distribution system includes 70.5 miles of water lines, 14 miles of steam lines in tunnels, 3.5 miles of direct buried steam lines, 168 miles electrical conduit and cable, 112 miles of communication cable and fiber, 154 miles of storm and sanitary sewers, and more than 7 miles of chilled water distribution. MSU made significant investment to update the north campus steam and electric tunnel and distribution systems. The south campus systems need repairs to provide reliable service and meet the service demands of the overall campus community. Additionally, most facilities south of Mt Hope receive untreated drinking water, have limited fire water flow and coverage, and use less reliable electric supply from local utilities. MSU is developing a Utility Plan to understand current conditions, projected growth, and utility demand requirements with targeted completion in Summer 2025.

In 2021, the Michigan State University Board of Trustees unanimously endorsed the MSU Strategic Plan 2030 – Empowering Excellence, Advancing Equity, Expanding Impact. Stewardship and sustainability is one of the six key themes in the 2030 Strategic Plan and supersedes the previous 2012 Energy Transition Plan and reinforces the university's commitment to reduce its carbon footprint. Goals for Stewardship and Sustainability include reducing Scope 1 and Scope 2 Greenhouse Gas (GHG) emissions 50% by 2030 from the 2010 baseline.

- The university completed the transition from solid fuel (coal and biomass) at the central Combined Heat & Power plant to 100% natural gas (April 2016) reducing GHG emissions by over 36% since 2010.
- The university entered into a Power Purchase Agreement (PPA) for Solar Carports covering 5 of the university's largest commuter parking lots covering 5,000 parking spots and capable of producing up to 10.5 MW peak power. The Carport Solar arrays were placed into service in December 2017 and now contribute from 7% to 11% of the annual campus power demand.

New energy generation systems now operational at Michigan State University's T.B. Simon Power Plant will greatly advance the university's efforts to cut its greenhouse gas emissions.

- A new $17.75 million, natural gas-fired steam boiler officially entered service at the plant in January 2023, supplying up to 200,000 pounds per hour of steam output to campus for building heating and cooling. The new boiler is physically smaller, more efficient, and flexible than the older boilers at the plant, giving it the capability to reduce emissions and expenses without compromising reliability.
- Three new natural gas-fired reciprocating internal combustion engines (RICE) that generate up to 27 megawatts of electricity at peak output help power most everything on campus from mobile phones to the heavy-ion accelerator at the Facility for Rare Isotope Beams. The new $47 million engine plant started producing electricity in February 2022, and unlike the old boiler and steam turbine systems, the engines can be started and stopped more readily to adjust quickly to changing campus power needs.
- MSU is committed to being a good steward of resources by reducing consumption, greenhouse gas (GHG) emissions and increasing recycling. The commitment to recycling is supported by the MSU Surplus Store and Recycling Center (SSRC). Due to the efforts of the SSCR, the amount of waste on campus has declined even as the Spartan community and campus grows. Since the MSU recycling services began in 1990, MSU has decreased its yearly landfill totals by 55%. MSU's SSRC plans to increase the rate of material collected that is diverted from the landfill from 44% to 60% by the end of FY 2027. Through waste management programs like vermicomposting and engagement programs like Spartan Upcycle, SSRC has highlighted the importance of sustainability both in education and in practice on campus. In fall 2023, MSU's SSRC received the 2023 NACUBO Excellence in

Sustainability Award. The award recognizes institutions for a specific campus innovation, process or program that advances environmental sustainability in higher education or progress toward a more environmentally sustainable future.

- University properties beyond the East Lansing campus cover approximately 21,000 acres and contribute to the built environment with 15 AgBioResearch research centers across the state (the Kellogg Biological Station and Saginaw Valley Research and Extension Center are examples). Other agricultural field research locations include the South Campus Farms teaching and research centers. Sites supporting other programs include the BioEconomy Institute in Holland, Tollgate Farm and Education Center in Novi, The Management Education Center in Troy, WaWaSum in Grayling, Hidden Lake Gardens in Tipton, and The Secchia Center and Grand Rapids Research Center in Grand Rapids. The replacement value for the facilities located at these sites is calculated at more than $388 million.

  Upgrades to existing research space to meet current technological, regulatory, and operational requirements of researchers and funding organizations are needed. Research maintenance items consist of both wet and dry lab upgrades and equipment replacement, and conference facilities upgrades to support extension and outreach activities. General maintenance and infrastructure improvements include exterior repair/replacement, technology and security upgrades, environmental enhancements for storm water and process water management, energy efficiencies, regulatory requirements and mechanical upgrades that include electrical, plumbing, and heating, ventilation, and air conditioning (HVAC). Other facility maintenance and repairs include well and septic systems, roadways, and parking areas. With more than 400 buildings located at various off-campus research, teaching, and extension facilities The replacement value for off-campus facilities is calculated at more than $1 billion.

The following university facilities received funding through the State Building Authority and have State Building Authority leases:

Facility Description	Expected Lease End Date
Animal Health Diagnostic Lab	10/31/2040
Bio-Physical Sciences Building	3/31/2037
Chemistry Building Renovations/Cooling Towers	10/31/2043
Bioengineering Facility	7/31/2051
STEM Teaching and Learning Facility	6/30/2056

MSU does not have any on-going projects financed with State Building Authority resources. However, MSU received state appropriations for the following projects that are currently in construction: Renovation and Addition of Greenhouses and Dairy Facilities with $53 million appropriated in Public Act No. 166 of 2022. The proposed Engineering and Digital Innovation Center was appropriated $30 million in the SFY 2024

Education budget with an additional request to the state for $70 million in SFY 2026 for a total state contribution of $100 million.

V. Implementation

Michigan State University's approach to capital planning employs a continuous process that integrates academic, support, human resources, fiscal, and facility infrastructure planning. Institutional participation in the planning process ensures that consideration is given to relevant issues and that decisions reflect the fundamental mission and direction of the university.

Capital needs are guided and informed by the Strategic Plans, the university's Capital Planning Framework, Campus Land Use Plan, and planning activities that occur within major components of the institution at regular cycles throughout the year. These components include the annual academic, administrative, and auxiliary budget and planning reviews combined with capital renewal, technology, utility systems, energy, and sustainability planning, as well as planning for transportation (roads and sidewalks), parking, and open space. Within this context, budgetary and fiscal analyses at the local, state, and federal levels are considered.

Within each component of planning, several more detailed issues are reviewed and examined relative to their impact on facilities over the short- and long-term. One approach used for this more detailed planning is the Executive Committee for Buildings Facilities and Space and the Campus Infrastructure Planning Work Group. These groups bring together a comprehensive cross section of university constituents, that evaluate projects on several dimensions to ensure thoroughness of planning, conformance with campus land use planning principles adopted by the MSU Board of Trustees, alignment with the strategic plan, and impact across the university.

As a matter of operating philosophy and practice, facility planning encompasses the following issues:

- Renovations, as well as maintenance of existing campus facilities, and new construction are focused to support programs that are central to the academic mission of the university.
- Planning is holistic and comprehensive. In addition to capital renewal of existing facilities, academic program needs are considered, including adjacencies, utilization, and work and learning modalities, and facility adaptation is planned accordingly. A premium is placed on reuse of existing facilities, on conservation of open space, energy conservation, and on health, safety, security, and regulatory requirements. Barrier-free modifications are given priority and needs related to technology are incorporated. Where appropriate, fixed building equipment, particularly for laboratories and instructional spaces, is included in the plans.
- New construction, additions and renovation of existing facilities are planned so a project's financial investment actively reflects the life cycle of the facility in relation to the needs of the program, while providing flexibility in the structure to

accommodate potential changes over the longer term. Through the least life cycle cost analysis, facilities are positioned to be responsive to immediate programmatic needs, as well as longer-term adaptation brought about by changes in programs, advances in technology, and related issues.

- The least life cycle cost analysis enables project development to focus on designs that reduce the ongoing maintenance cost of facilities. MSU's high-quality construction standards intentionally create plans and assemble materials that "design out" as much near and long-term maintenance as possible.

  In summary, the anticipated expenses of a facility over its life cycle are carefully considered in relation to the initial investment in design and materials.

Through facility-planning activities, MSU recognizes that campus programmatic and facility capital renewal issues are significant and constantly evolving. As a result, needs exist simultaneously in three major areas:

1. Renovations and Additions
2. New Construction
3. Major Systems Maintenance and Utilities

Many more needs exist than can be addressed at any one time. However, within this context and informed by the planning processes described above, the "Engineering and Digital Innovation Center" remains the institution's Capital Outlay project request, as noted in Section I of the following table.[5] Other projects included in Section I of the table reflect the institution's anticipated capital project needs for the 5-year planning framework. Projects listed in Section II are currently in active planning or in process, with funding primarily from institutional resources.

[5] See Appendix G for the State Fiscal Year 2025 Capital Outlay Project Request – "Engineering and Digital Information Center."

Capital Planning and Major Maintenance SFY26-31
Planning Timeframe: One to Five Years

Section I: MSU Capital Outlay SFY26 5-Year Planning	
	FY25 Est. (mil.)
Capital Outlay Priority – Renovation and Addition	
• Engineering and Digital Innovation Center (EDIC) - New Construction - Research Support and Expansion	$340.0M
MSU 5-Year Capital Planning (Alphabetical Order) **Renovations and Additions**	
• Akers Hall - Student room furniture/case goods replacement (312 rooms)	$1.0M - $1.4M
• Auditorium Building - Renovation of the main auditorium to support teaching, learning, outreach	$32.3M - $56.9M
• Bio-Engineering Facility (IQ) - Build-out 3rd & 4th Floor - Bio Design	TBD
• Biomedical Discovery	
○ Biomedical Animal Resources - Provision for Large Animal Housing & Surgery	$15.2M - $22.9M
○ Clinical Center A-Wing – Renovate for Research Expansion	$87.9M - $102.3M
○ Clinical Center B-Wing – Renovate for Research Expansion & Learning	$20.4M - $27.3M
• Breslin Center - Arena special event lighting control panel replacement (lifecycle)	$1.0M - $1.2M
• BSL-3 Research Expansion Multi-Species Flexible Housing/Procedure Space (Ph. 2 of 2)	$13.0M - $14.4M
• BSL-3 Research Expansion - Additional Labs	$18.1M - $21.7M
• Case Hall - 4 Passenger Elevators	$1.5M - $1.7M
• Chip Testing Facility	$400.0M - $500.0M
• College of Social Science - Office & Teaching Lab Renovations in Berkey Hall	$1.9M
• Core Aquatic Species Research Facility - Renovation and/or Addition Research Support & Expansion	$30.8M - $37.3M
• Engineering - Renovations - Research & Learning (New Construction Related Backfill)	$12.3M - $15.6M
• Grand Rapids Research Center (GRRC) 5th Floor Lab Fit-out	$9.3M - $9.7M
• HCI Hagadorn Renovations for Future Clinical Consolidation & Expansion	TBD
• Holmes Hall - New - Life Safety System (installation located in all areas of building)	$15.5M - $16.0M
• Holmes Hall - Living wings - vertical riser - domestic water supply piping lifecycle replacement	$7.0M - $7.5M
• Holmes Hall - Student room furniture/case goods replacement (664 rooms)	$1.4M - $1.5 M
• Hubbard Hall - Student room bed replacement (1250 beds)	$1.0M - $1.2M
• Kellogg Center - 4 Elevator Replacements	$1.0M - $1.1M
• Kellogg Center - tower roof replacement & chilled water loop replacement, masonry repairs on tower	$1.5M - $1.7M
• Kinesiology Space Improvements & Expansion at IM Circle	$30.0M - $35.0M
• Kresge Art Center - Comprehensive Renovations - Teaching & Learning, Research	$53.8M - $58.0M
• Learning Space Improvements - Annual Investment for Upgrades & Improvements ($6M annually)	$6.0M
• McDonel Hall - 4 Passenger Elevators	$1.5M - $1.7M
• McDonel Hall - New - Life Safety System (installation located in east & west living wings)	$10.7M - $11.0M
• McDonel Hall-Living wings-vertical riser-domestic water supply piping lifecycle replacement	$4.5M - $6.0M

• McDonel Hall - Student room furniture/case goods replacement (580 rooms)	$1.2M - $1.4M
• MSU Union - Back of House 1st Floor Renovation	TBD
• Munn Ice Arena LED replacement	$1.0M - $1.1M
• Old Botany - Comprehensive Renovation	$13.4M - $14.3M
• Olympic Sport/Multi-Purpose Arena	$95.0M
• Outdoor Track Relocation	$5.2M - $5.3M
• Owen Hall domestic water piping riser replacement	$4.5M - $6.0M
• Parking Lot 46 (Integrated Plant Sciences)	$1.7M - $1.8M
• Plant & Environmental Sciences - Renovate Existing Plant Biology Building Research, Teaching & Learning	$93.7M - $123.8M
• Spartan Stadium - Concession stands point of sale equipment & software	$1.4M - $1.5M
• Spartan Stadium deferred maintenance	$2.0M - $2.1M
• Spartan Stadium - Modernization	TBD
• Spartan Stadium Public Art	$1.0M - $1.1M
• Spartan Stadium Videoboard Replacement	$8.0M - $10.0M
• Spartan Village Apartment Buildings Decommissioning	$1.0M - $1.1M
• VanHoosen Hall - Apartment renovations, new life safety system installation, mechanical renewals	$1.8M - $2.0M
• Wilson Hall - Living wings - domestic water supply vertical riser piping lifecycle replacement	$4.5M - $6.0M
• Wilson Hall - New - Life Safety System (installation located in east and west living wings)	$10.7M - $11.0M
• Wilson Hall - Student room furniture/case goods replacement (579 rooms)	$1.2M - $1.4M
• Workplace Strategic Space Planning Modifications - Various Buildings	TBD
New Construction - New Building	
• Chemical Waste Facility - New Construction	$40.5M - $40.9M
Major Systems Maintenance & Utilities (Alphabetical Order)	
• Breslin Center Replace main arena roofs & masonry restoration	TBD
• Chemistry HVAC Renewal	$43.1M - $45.5M
• Chemistry Replace MBC lab controllers	$11.0M
• Communication Arts Replace controls on HVAC units 1-15	$1.1M
• Computer Center Replace dry cooler & pumps	TBD
• Computer Center Replace PCB transformers & related equipment	$3.0M
• Holden Hall Replace PCB transformers & related equipment	$1.5M
• Human Ecology Replace sub-basement sanitary mains	TBD
• Library Replace fire alarm system	$2.5M - $4.0M
• Life Science Building (A&B) HVAC replacement & related (phased approach)	$86.2M - $91.2M
• Life Science Building Replace PCB transformers & related equipment	$2.0M
• Mill & Re-pave Shaw Lane	$5.1M
• Packaging Building Replace PCB transformers & related equipment	$3.0M
• Public Safety Replace fire alarm system	$1.5M - $3.0M

• Utilities (5-year) - Infrastructure Renewal & Power Plant Modernization	
○ #2 SteamA50: A77 Turbine Generator Stator Rewind	$3.1M - $3.5M
○ Demolition - Unit 4 Boiler & Replacement with New High-Pressure Boiler	$30.0M - $40.0M
○ East Cooling Tower Replacement	$9.7M - $10.2M
○ Extend campus electrical service to wellhouses 21-24	$1.5M - $3.0M
○ Farm Lane Infrastructure Replacement & Extension (phase 1)	$10.0M - $12.0M
○ Farm Lane Infrastructure Replacement & Extension (phase 2)	$10.0M - $12.0M
○ Install 4th RICE Engine	$21.5M - $22.8M
○ Power Plant Substations Renewal & Expansion	$12.0M - $15.0M
○ Regional Chilled Water Plant - Convert to Electric Chillers	TBD
○ Replace combustion turbine rotating assembly	$3.5M - $4.5M
○ Replace Gas Compressor Building (0065R)	$1.5M
○ Replace Power Plant Motor Control Centers	$3.1M - $3.4M
○ Replace water main distribution - ($1.0M annually)	$1.0M
○ Replace wells/wellhouses (phase 1)	$2.0M - $3.0M
○ Replace wells/wellhouses (phase 2)	$2.0M - $3.0M
○ Replace wells/wellhouses (phase 3)	$2.0M - $3.0M
○ Service/Bogue Intersection & Utility Extension	$9.0M
○ Steam distribution renewal -- ($1.0M annually)	$1.0M
○ TB Simon automated load shedding system	TBD
○ Transition to off-site generation for demineralizer	$1.0M - $1.5M
• Vet Diagnostic Lab Replace chillers	TBD

Section II: Projects in Active Planning or In Process/Funding from Other Resources	
Projects Authorized by the Board of Trustees for Construction (Arranged Alphabetically)	
• Akers Hall - Convert existing (20) student apartments to student rooms (Phase 1 of 2)	$3.1M
• Akers Hall & Various Buildings - COVID HVAC & Classroom Precautions	$2.0M
• Akers Hall Replace PCB Transformers & related equipment	$3.0M
• Anerobic Digester Rehabilitation & Improvement	$2.5M
• Anthony Hall - Replace Elevators 1, 2, 3, & 5	$2.0M
• Anthony Hall Building Envelope, Water Infiltration & Site Improvements	$3.0M
• Barrier-Free Accessibility Projects - Single Occupant/ADA Restrooms - High Priority Buildings (Phase 1)	$2.3M
• Berkey Hall - First Floor renovations	$4.3M
• Berkey Hall Reno to Various Classrooms	$2.7M
• Berkey Hall Replace Chiller & Fan Coil Units	$1.3M
• Bessey Hall - Cooling Equipment replacement	$4.4M
• Biochemistry Replace Elevators 1 & 2	$1.3M

• Biomedical Animal Resources - Provision for Large Animal - Imaging	$11.2M
• Breslin Athletic Training room renovation	$3.0M
• Breslin Athletics Control Room	$3.3M
• Campbell Hall - Renovation	$38.0M
• Chemistry Renovations to Accommodate New Hires	$11.6M
• Clinical Center C132 - Remove and Replace Cage Wash	$1.7M
• College of Nursing - Granger Lab, Simulation Space Expansion/Update	$1.2M
• Combined Heat & Power Unit & Chilled Water Plant	$203.0M
• Consumers Energy Lighting Upgrades - Phase 5	$1.0M
• Dairy Facility - Research & Teaching & Learning - Accreditation - New Construction	$75.0M
• Data Center - Water Cooling to Icer Racks, Room 120	$2.8M
• Demolition of South Campus Farms Various Buildings	$1.5M-$3.0M
• Farm Lane Bridge Replacement, Pedestrian Bridge & Utility Upgrade	$44.0M
• Flint Journal Building - CHM Expansion (lease/build-out)	$32.0M
• Food Safety Toxicology Replace galvanized piping	$1.0M
• Food Stores Replace Electrical Substation	$2.8M
• FRIB 4th Floor Office Tower Renovations	$4.4M
• FRIB Chip Testing Facility - Building Addition	$17.0M
• FRIB Laser Laboratory - rooms 1344 & 1344A	$3.6M
• Greenhouses - Renovation of Existing & Addition, including new Headhouse - Research Expansion & Learning	$35.0M
• Hannah Administration - Upgrade PCB Transformers & Electrical Equipment	$3.0M
• Human Ecology Replace Roofs & Building Envelope Restoration	$1.6M
• IPF Welding Shop & Utility Distribution Crew Facility	$2.0M
• Library Improvements - Special Collections - Renovate Space on Third Floor	$13.8M
• Library West Wing HVAC Ph 2 & Hydronic Pump VFDs	$1.5M
• Management Education Center - Troy, MI Parking Lot Resurfacing and Lighting Project	$1.4M
• MSU Museum - Infrastructure Improvements - Accreditation	$28.0M
• MSU, Henry Ford Health System Partnership - New Research Building (Detroit)	$350.0M
• Multicultural Center - New Construction	$38.0M
• Munn Ice Arena audio system replacement	$1.0M - $1.1M
• Owen Hall - Convert to Living Space	$2.8M
• Plant & Environmental Sciences - Research, Teaching & Learning - New Construction	$200.0M
• Ramp 3 (Wharton) Elevator replacement	$1.2M
• Reconstruct Shaw Lane (Harrison to Chestnut/coordinated with Student Recreation Health & Wellness)	$5.1M - $5.3M
• Renovations to Building at 4660 Hagadorn	$6.5M
• Residence Halls - Wi-Fi Network deferred maintenance, infrastructure & equipment upgrades (multiple phases)	$7.5M
• Shaw Lane/Chestnut Road Reconstruction & Water Main	$3.9M

• Spartan Child Development - Replace Boilers & Ventilators	$2.0M
• Steam Distribution - Various Structural Repairs to Vaults & Tunnels	$1.6M
• Student Recreation & Wellness Center Phase I & II (IM West Replacement - New Construction at Cherry Ln. site)	$200.0M
• TB Simon Power Plant - Replace U3 Steam Turbine Steam Path	$3.0M
• TB Simon Power Plant - Unit 4 Steam Turbine Generator Rewind	$2.5M
• Upgrade Plant Control System	$5.6M
• Various Buildings - Building Envelope Restoration	$4.2M
• Veterinary Diagnostic Laboratory - Replace Phoenix Controls	$2.0M
• Veterinary Medical Center - Replace PCB Transformers & Related Equipment	$2.8M
• Veterinary Medicine Complex - Installation of new MRI Machine	$1.3
• Wharton Center Renovations	$3.2M
Projects Authorized for Planning (In Design, Arranged Alphabetically)	
• Anthony Hall Envelope Renewal	$10.3M
• Athletic IT Control Room upgrade	$2.8M - $2.9M
• Engineering and Digital Innovation Center (EDIC) - New Construction - Research Support and Expansion	$340.0M
○ Relocation of UPLA Occupants	$5.0M - $7.0M
• Farm Lane Duct bank Extension (Red Cedar to Wilson/Farm Lane)	$3.2M - $3.3M
• Health Education Building - Teaching & Learning & Academic Support - Renovations/New Construction (East Lansing)	$230.0M
• Install Second Condensate Line from Power Plant to Vault 206	$3.5M - $3.7M
• Kellogg Biological Station - Bird Sanctuary Renovation (on hold - pending fundraising)	$2.5M - $3.5M
• Kellogg Center - Fire Alarm System Replacement	$1.1M - $1.2M
• Management Education Center, Troy, MI - Parking Lot Resurfacing & Lighting	$1.29M
• MSU Safe Place - New Location	TBD
• One-Stop for Student Services & Controller	$3.4M
• P3 Planning Study for Mixed Use Development at Corner of Harrison and Trowbridge	TBD
• Packaging Addition 3	$32.0M - $35.0M
• Parking Lot 38 (Erickson)	$2.0M - $2.1M
• Psychology - Replace PCB Transformers, MVG & Related Equipment	$4.0M
• Renewable Natural Gas/Biodigester	TBD
• Spartan Stadium - Alumni & Donor Engagement Project	$1.5M
• Spartan Stadium - Renovations for University Advancement	$15.0M
• STEM Teaching and Learning Facility Fourth Floor Fire/Life-Safety Modifications	$1.5M - $2.0M
• TB Simon Power Plant - Install Reverse Osmosis	$1.0M
• Technology Engineering - Renovations at Wilson Hall	$27.0M
• Tennis courts – Outdoor Courts and Support Building	$10.0M
• Veterinary Medical Center - A Wing Water Mains	$1.0M

Addressing the above projects is extremely important to the effectiveness of the academic programs and to the operational efficiency of the institution. Funding these projects is consistent with the university's commitment to responsible stewardship of critical state resources. The investment ensures the capital infrastructure to carry out MSU's commitment to intellectual leadership in developing new knowledge for students and the public in measurable ways.

VI. Capital Outlay Planning

The capital planning priorities support programs that have strong national reputations, expanding research bases, and high enrollment demand that will sustain the university and increase its contributions to Michigan. Funding of these requests provides economic development in the state, now and in the long term.

Renovations and additions

Renovations and/or additions address extensive programmatic and maintenance improvements required by buildings previously funded by the state. The improvements are necessary to reconfigure and or expand space to support the work of the programs housed in those facilities, to create core/shared research support facilities and modern learning spaces; and in some instances, adaptive re-use or modernization of aging buildings including alignment with current codes and provisions for accessibility.

Major renovations include the plant sciences, biomedical and biological sciences, water and energy, and the arts.

New Construction

New construction is needed to support high-priority instructional and research programs. The facilities are necessary to support current and future programmatic initiatives in the STEM disciplines, including engineering sciences, computation and data sciences and data analytics, biomedical, and health sciences education.

Major systems replacement

In view of the extensive facility needs it faces, MSU has drawn upon an increasing amount of internal university resources to address the most critical facility maintenance and programmatic requirements. Self-funding these capital improvements is not sustainable without negative impacts on other programs. Examples of systems in need of repair or replacement include roofing, windows, electrical, mechanical, chiller, refrigeration, steam, fire, security, and barrier-free access.

VII. Conclusion

Michigan State University drives exploration and innovation while empowering excellence, advancing equity, and expanding impact. MSU uses its facilities to attract top talent across students, faculty and staff, and routinely receives more than $700 million in sponsored awards annually with research expenditures of $844 million in 2023. The university and its scholars excel in a breadth and depth of areas including nuclear physics, food security, plant sciences; sustainable health sciences; material sciences, basic sciences such as chemistry, microbiology, and molecular genetics; computational sciences, and population and the environment, including food, water, and energy. MSU's programmatic investments complement student success goals to provide an inclusive, equitable curriculum and environment with the academic, social, wellness and financial support that enables all students to learn, thrive, persist, graduate, and succeed after graduation.

More than 90% of MSU's graduates are employed or continuing their education within nine months of graduation. Among employed graduates in 2023, 63% remained in Michigan with an additional 15% employed in states in the region.

Michigan State University creates annual statewide economic impact of $6.8 billion and instills an entrepreneurial and high-performance mindset in its students, faculty, and staff.

MSU works collaboratively in the cities of Flint, Detroit, and Grand Rapids to provide expertise and a network of resources in education, food, water, health, and sustainability. MSU Extension's presence extends to all 83 Michigan counties, sharing resources and expertise to advance the state and its economy. Agribusiness is Michigan's second largest industry. MSU AgBioResearch and MSU Extension contribute research, educational programs, and expertise to boost economic development and growth in agriculture, natural resources, community vitality, entrepreneurship, and career preparation for young people.

MSU's strategic plan guides investment in areas of established and emerging excellence to address global challenges and to meet pressing communities needs in Michigan, in the United States and around the world. MSU advances equity and ethics, to improve the human condition. Our collaborative and interdisciplinary investments support an environment that is well positioned to address the grand challenges locally and globally. By 2030, we envision a Michigan State University that has significantly expanded opportunity and advanced equity, elevated its excellence in ways that attract vital talent and support, and has a vibrant, caring community.

Fall 2024

Appendices

Fiscal Year 2026 Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE UNIVERSITY

Fall 2024

Appendix A: Mission Statement

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MSU Mission Statement

The following statement was approved by the Board of Trustees on April 18, 2008

Michigan State University, a member of the Association of American Universities and one of the top 100 research universities in the world, was founded in 1855. We are an inclusive, academic community known for our traditionally strong academic disciplines and professional programs, and our liberal arts foundation. Our cross- and interdisciplinary enterprises connect the sciences, humanities, and professions in practical, sustainable, and innovative ways to address society's rapidly changing needs.

As a public, research-intensive, land-grant university, funded in part by the State of Michigan, our mission is to advance knowledge and transform lives by:

- providing outstanding undergraduate, graduate, and professional education to promising, qualified students in order to prepare them to contribute fully to society as globally engaged citizen leaders

- conducting research of the highest caliber that seeks to answer questions and create solutions in order to expand human understanding and make a positive difference, both locally and globally

- advancing outreach, engagement, and economic development activities that are innovative, research-driven, and lead to a better quality of life for individuals and communities, at home and around the world

Fall 2024

Appendix B: Vision 2050: Integrated Facilities and Land Use Plan

Update December 2023

Link to full plan:
https://campusplan.msu.edu/Report

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

Vision 2050

An Integrated Facilities and Land Use Plan for Michigan State University

December 2023

Content

Foreword

I am pleased to share with you *Vision 2050: An Integrated Facilities and Land Use Plan for Michigan State University*, and call upon us all to envision the future etched out in placemaking.

Over the past two years, our Spartan community visualized the physical requirements of our multi-location campus in serving our people and their purpose. *Vision 2050: An Integrated Facilities and Land Use Plan* is predicated on the pillars of the University Strategic Plan and with every future shovel in the ground and crane in the air, our campus will be molded by the vision of today for a new generation of Spartans. On December 15, 2023, the Board of Trustees ratified these bold goals enabling our work to begin.

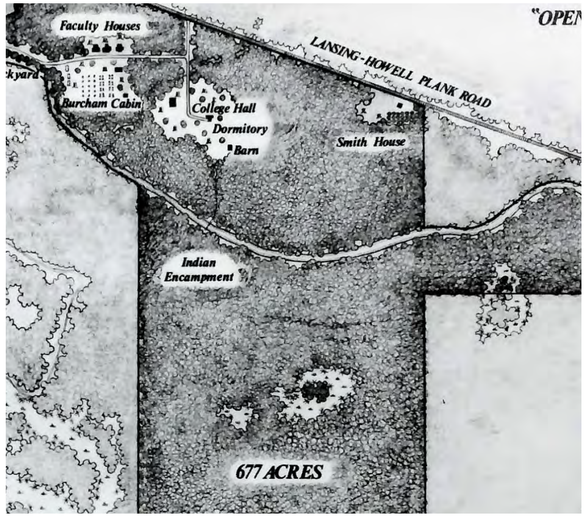
Join me in seeing excellence in the built as well as protected and unspoiled parts of our campus locations by paging through the attached plan. For this is a time when our people are redefining education, research and outreach by placemaking on a scale that will be transformative to our shared purpose.

I hope you see yourself and your work in this plan and look forward to your engagement as we take the next ambitious steps in the making of a great university.

Teresa K. Woodruff, Ph.D.
Interim President
Michigan State University

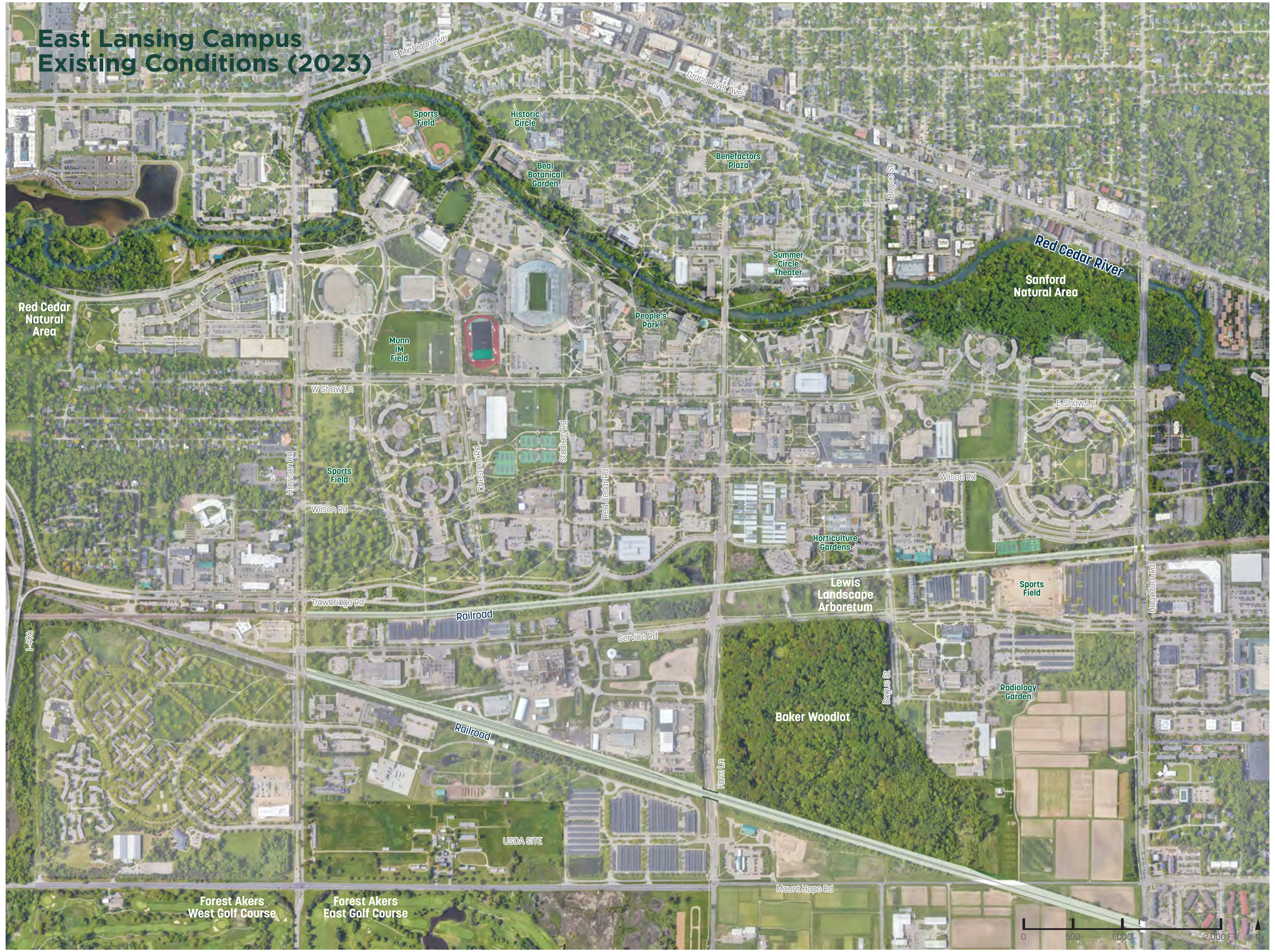
Land Acknowledgment

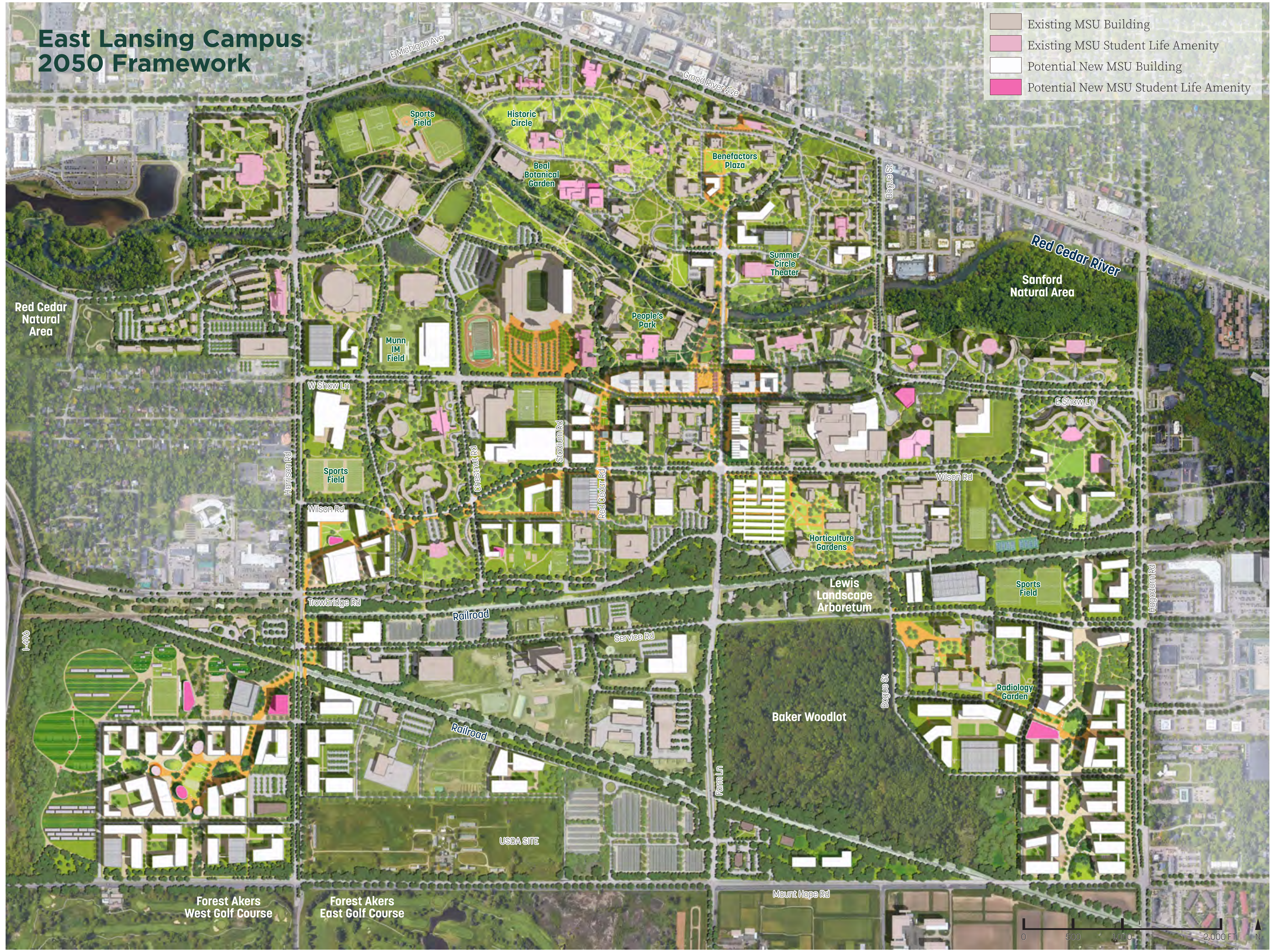
We collectively acknowledge that Michigan State University occupies the ancestral, traditional, and contemporary Lands of the Anishinaabeg – Three Fires Confederacy of Ojibwe, Odawa, and Potawatomi peoples. In particular, the University resides on Land ceded in the 1819 Treaty of Saginaw. We recognize, support, and advocate for the sovereignty of Michigan's twelve federally-recognized Indian nations, for historic Indigenous communities in Michigan, for Indigenous individuals and communities who live here now, and for those who were forcibly removed from their Homelands. By offering this Land Acknowledgement, we affirm Indigenous sovereignty and will work to hold Michigan State University more accountable to the needs of American Indian and Indigenous peoples.

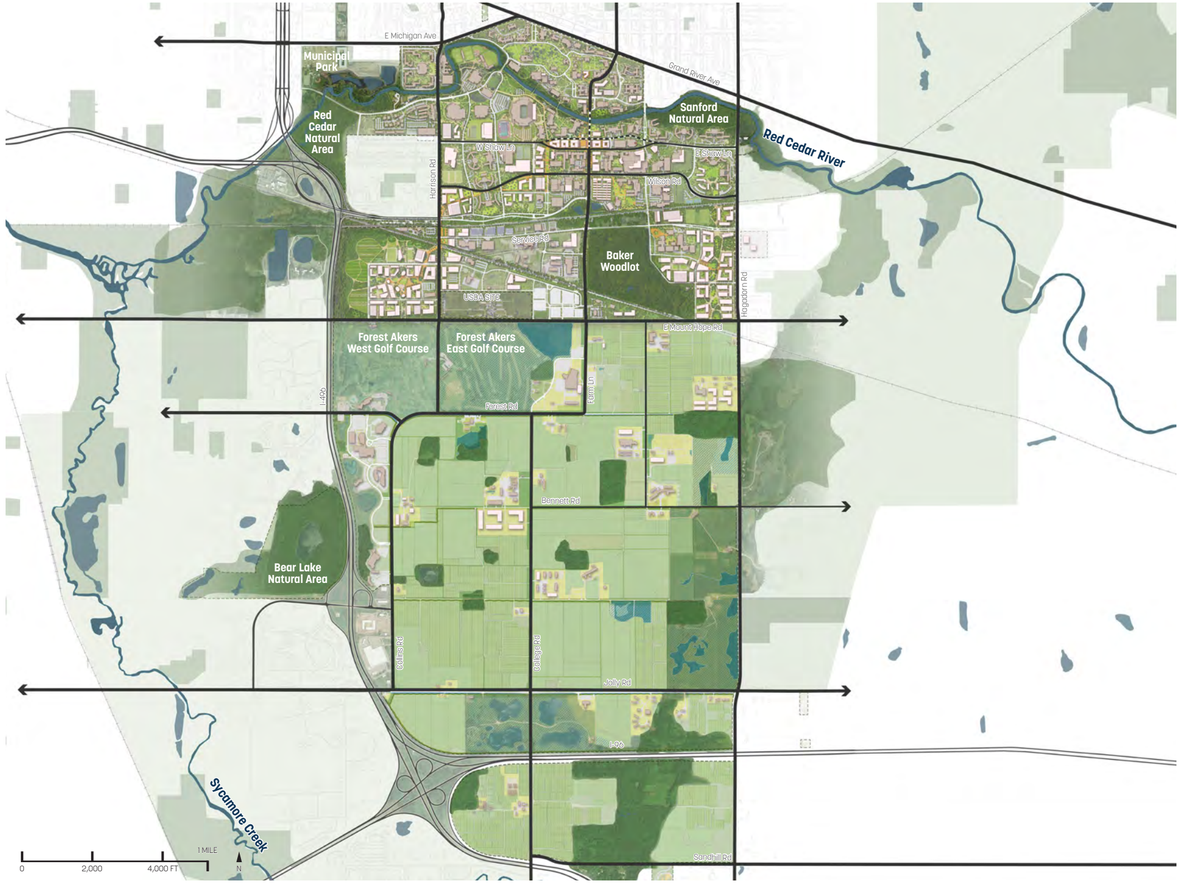


An 1857 map shows Indian Encampment areas on the site of The Agricultural College of the State of Michigan.

1 Executive Summary


East Lansing Campus
Existing Conditions (2023)
Sports Field
Historic Circle
Beal Botanical Garden
Beneficiaries Plaza
Summer Circle Theater
Red Cedar River
Sanford Natural Area
Red Cedar Natural Area
People's Park
Munn IM Field
W Shaw Ln
E Shaw Ln
Sports Field
Wilson Rd
Horticulture Gardens
Lewis Landscape Arboretum
Sports Field
Trowbridge Rd
Railroad
Service Rd
Railroad
Radiology Garden
Baker Woodlot
USDA SITE
Mount Hope Rd
Forest Akers West Golf Course
Forest Akers East Golf Course


East Lansing Campus
2050 Framework
Existing MSU Building
Existing MSU Student Life Amenity
Potential New MSU Building
Potential New MSU Student Life Amenity
Sports Field
Historic Circle
Beal Botanical Garden
Beneficiaries Plaza
Summer Circle Theater
Red Cedar River
Sanford Natural Area
Red Cedar Natural Area
People's Park
Munn IM Field
W Shaw Ln
E Shaw Ln
Sports Field
Wilson Rd
Horticulture Gardens
Lewis Landscape Arboretum
Sports Field
Trowbridge Rd
Railroad
Service Rd
Railroad
Radiology Garden
Baker Woodlot
USDA SITE
Mount Hope Rd
Forest Akers West Golf Course
Forest Akers East Golf Course



Executive Summary

Vision 2050: An Integrated Facilities and Land Use Plan for Michigan State University provides a framework for future development on the university's campuses and landholdings. Guided by the MSU 2030 Strategic Plan, the plan was developed over approximately 24 months beginning in early 2022. It incorporates a diverse range of institutional goals into a set of near- and long-term recommendations guided by three strategic documents including the MSU 2030 Strategic Plan: Empowering Excellence, Advancing Equity and Expanding Impact, the Diversity, Equity and Inclusion Strategic Plan, and the Relationship Violence and Sexual Misconduct Strategic Plan.

The plan recommendations reflect over 80 stakeholder interviews involving over 660 participants, an interactive map-based survey with nearly 900 respondents, and multiple public forums, which provided the consultant team a detailed understanding of the university's facility needs, its strategic goals, and other contingent issues to future development.

As the consultant team formulated campus development scenarios, ideas were tested alongside university stakeholders through both in-person work sessions and virtual open houses, ensuring that the plan recommendations reflect the diverse, in-depth knowledge of the MSU community.

While flexible in nature, the plan recommendations affirm MSU's goals of academic excellence; student success; diversity, equity, and inclusion; novel partnership opportunities; resilient and sustainable land use; and a mission that advances the state-wide economy. These goals embedded themselves throughout state-wide facilities and across each of the East Lansing Campus's precincts,resulting in distinct recommendations around the buildings, mobility networks, open spaces, and utility systems that will support the university's next generation of development.

Strategic Plan Themes Inform Principles

Vision 2050 serves to guide changes to the built environment at MSU over time. Informed by the strategic plan, MSU 2030: Empowering Excellence, Advancing Equity and Expanding Impact, it will act as a bridge between ideas and physical implementation, strategically positioning the university to make decisions that optimize future investments across campuses while building incrementally toward a powerful, grander vision. The MSU 2030 themes serve as a basis for the seven guiding principles for Vision 2050.

STRATEGIC PLAN THEMES

- Student Success
- Staff and Faculty Success
- Innovation for Global Impact
- Sustainable Health
- Stewardship and Sustainability
- Diversity, Equity, and Inclusion

Empower a "Spartans United" Mindset

Ensure that the university mission drives the physical environment, integrating strategic, physical, and resource planning.

Advance Excellence in Teaching, Learning, and Research

Spark innovative specialized and multidisciplinary teaching and learning, research, and scholarship through the development of state-of-the-art facilities, leading to new knowledge, economic and technological development, and a workforce ready to meet the needs within Michigan and across the globe.

Foster a More Inclusive and Welcoming Campus Climate

Ensure equity in the physical environment, leveraging opportunities to create a more accessible and open-minded campus environment and one that is representative of the diversity of students, faculty, and staff.

Enhance Connectivity, Engagement, and Institutional Identity

Strengthen connections and identity across MSU's constellation of locations to advance physical, programmatic, and virtual collaboration regardless of where students, faculty, and staff reside.

Cultivate a Living-Learning Ecosystem

Spark innovative specialized and multidisciplinary teaching and learning, research, and scholarship through the development of state-of-the-art facilities, leading to new knowledge, economic and technological development, and a workforce ready to meet the needs within Michigan and across the globe.

Promote Stewardship of Our Resources

Prioritize fiscal and land use responsibility to maximize use of MSU's resources and promote projects that support the institutional mission.

Commit to a Sustainable and Resilient Future

Take action to reduce our global carbon footprint and contribute to building more resilient and sustainable communities. We will leverage our expansive infrastructure to create experiential learning opportunities as a living laboratory.

PLANNING PRINCIPLES

Interior Atrium in Central Campus

Support Academic Excellence

The university's mission is to advance knowledge and transform lives by providing outstanding undergraduate, graduate and professional education; conducting research of the highest caliber; and advancing outreach, engagement and economic activities. MSU is an inclusive academic community known for traditionally strong academic disciplines, professional programs, and liberal arts foundation. Its cross- and interdisciplinary enterprises connect the sciences, humanities, and professions in practical, sustainable, and innovative ways to address society's rapidly changing needs.

Vision 2050 builds on the university's academic success by providing compact, mixed-use academic districts, expanding opportunities for research and innovation, and preserving the campus park, agricultural lands, and natural areas for its academic mission. Improvements to the campus landscape and academic facilities bring together students, faculty, and staff to elevate core strengths while improving opportunities for interdisciplinarity.

Red Cedar Promenade looking South towards Wilson Road

Bolster Student Success

Michigan State University has set a benchmark for student success among peer institutions through its commitment to developing well-rounded citizen learners. Its “neighborhood” model integrates touch-down spaces for student services that allow career coaches, academic advisors, and counseling staff to be embedded within the residential neighborhoods. Recent and ongoing investments in new academic buildings and student-centered facilities, such as the STEM Building and the Multicultural Center, continue to provide a more balanced spectrum of spaces for students to collaborate.

Vision 2050 leverages the success of these initiatives. It provides hubs for student collaboration within each of the campus’s academic precincts through a mixture of new facilities that add density and walkability, renovation to strategic facilities, and demolition of poor quality buildings. Additionally, the plan expands on the “neighborhood” model, renewing and expanding housing capacity where necessary and continuing to embed key nodes for students to meet with faculty and support staff, providing services critical to their success.

Central Plaza looking North towards Pedestrianized North Shaw Lane

Foster Diversity, Equity, and Inclusion

As the university's global reach has expanded, so has the diversity of the campus community. Vision 2050 supports goals of diversity, equity, and inclusion by creating a campus that is more accessible and expands the range of spaces and amenities available. The plan protects and expands lands that have supported indigenous culture and rituals for generations prior to the university's founding. Its landscape recommendations complement the historic, park-like setting of the historic campus with a civic realm that provides a more diverse array of open spaces.

The plan reflects the need for interior spaces that meet the university's increasingly diverse population. Within each campus precinct, indoor gathering spaces anchor significant landscapes, enhancing the sense of community and belonging. The plan also recognizes that today's diverse population has broader needs for mental, physical, and social well-being and recommends that improvements to the built environment incorporate spaces to build identity, find solace, practice faith, and attend to other physical and mental health needs.

Reseach Plaza at South Academic Campus looking towards Center Green

Promote Research and New Partnerships

Michigan State University is renowned for impactful scholarship that addresses pressing global challenges, generating global leadership across a broad range of academic disciplines.

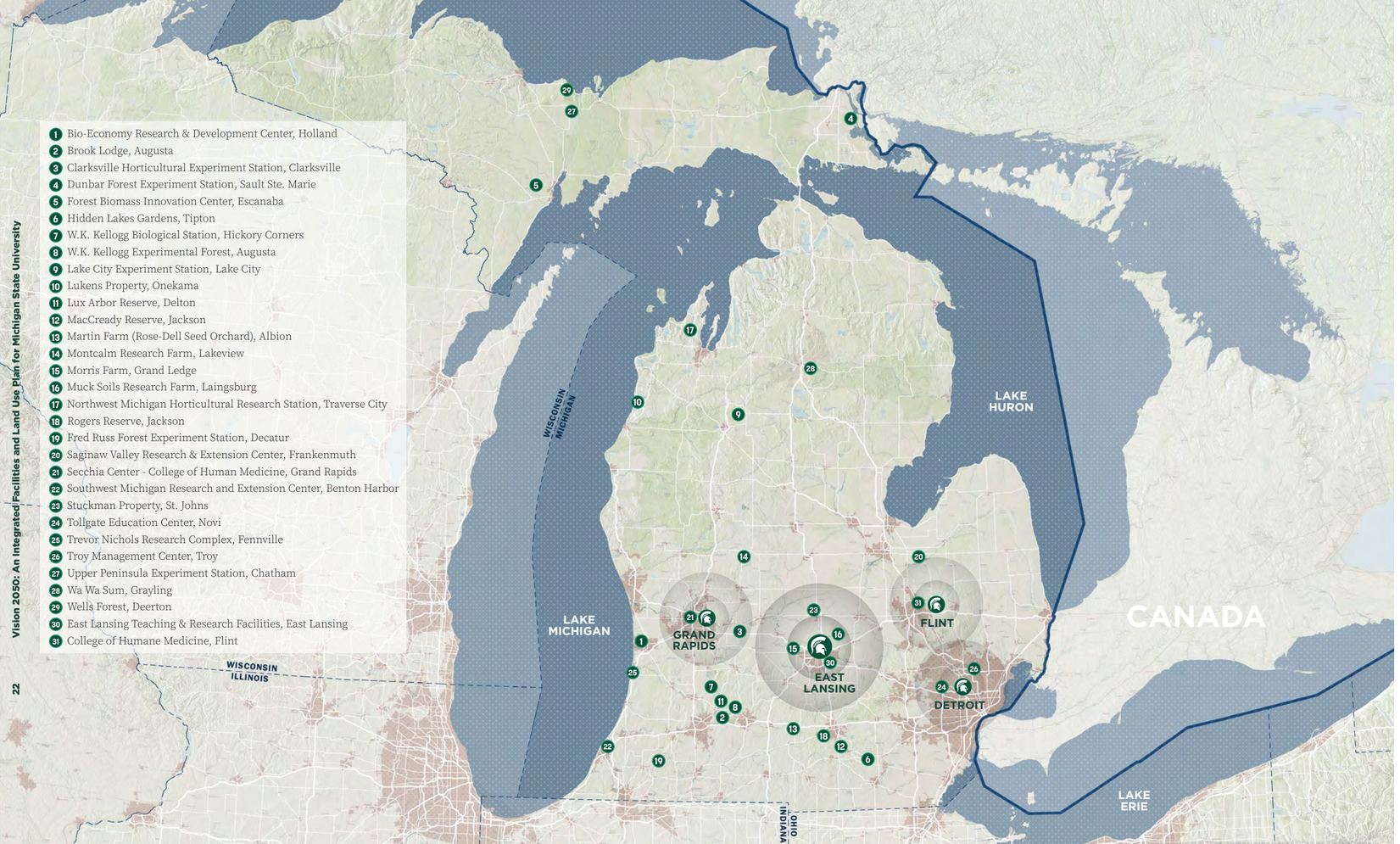
Vision 2050 recommends the preservation and, where necessary, expansion of the university's research land resources, ensuring future generations can sustain the region's food systems and ecological resources through research initiatives. The plan recommends space for potential expansion for biomedical research within Southeast Campus and potential capacity for affiliated partners to develop research facilities that translate MSU's expertise to the commercial realm.

On the former site of Spartan Village, the plan defines a long-term vision for a precinct with a diverse mix of uses, such as housing, research, and affiliated business partners, providing MSU with flexibility and capacity to meet evolving partnership needs.

North bank of Red Cedar River looking East

Model Holistic Water Management Strategies

Stormwater management and resilient land-use patterns unfold at a variety of scales across the MSU campus. At the individual site, implementing water treatment, retention, and detention strategies should reflect future development conditions. The treatment of runoff, infiltration into groundwater systems, and mitigation of peak flow should all work to reduce flood risks downstream of the campus. The campus-scale lens evaluates the inter-connectivity of the watershed, evaluating topography and storm drain outfalls to mitigate flooding and overwhelming the system. Finally, the river-scale lens considers the floodplain interactions with the campus facilities, looking to restore floodplain buffer to reduce the impact of fluctuations in flow that come with changing seasons and add programmable outdoor space that enhances teaching and learning.

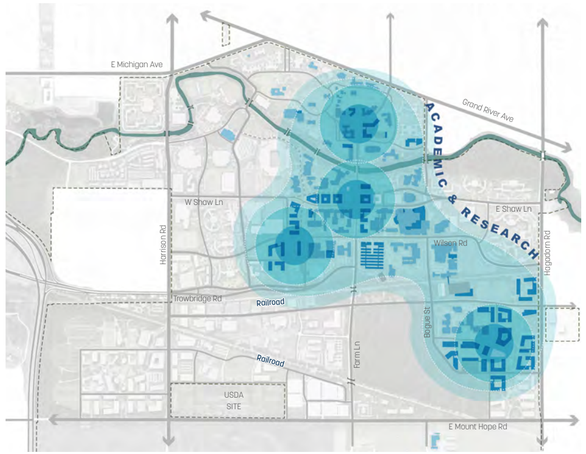


State-wide Integration

Michigan State's presence in regional hubs like Detroit, Flint, and Grand Rapids is essential to expanding its research, education, and outreach missions. Additionally, MSU maintains Extensions and AgBio Research stations throughout all 83 counties in the state. Collectively, these distributed hubs allow MSU to connect its research and academic initiatives with individuals and communities across the state.

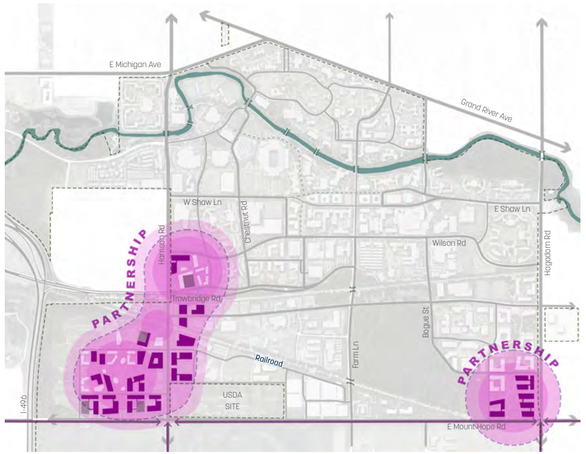
Vision 2050 includes findings from meetings with representatives from the university's academic and research units, identifying existing and potential programmatic needs across its statewide locations. It provides flexible recommendations for these facilities to ensure the university continues to connect its world-class research with the citizens of Michigan.

LAND USE FRAMEWORKS



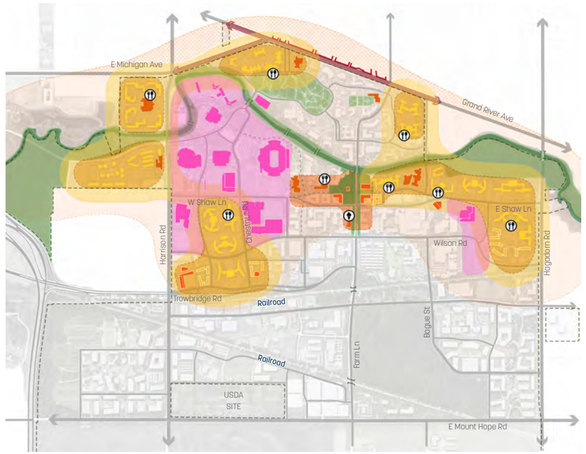
Academic Crescent

The plan intentionally concentrates academic and research facilities along a crescent that connects the former Spartan Village, the intersection of Farm and Shaw, and Southeast Campus. This focused development pattern maximizes programmatic synergies, utilizes the university's land to its highest and best potential, provides efficient accessibility to these resources, and minimizes costly extensions to supporting infrastructure. Proximity for class change and research collaboration is critical.



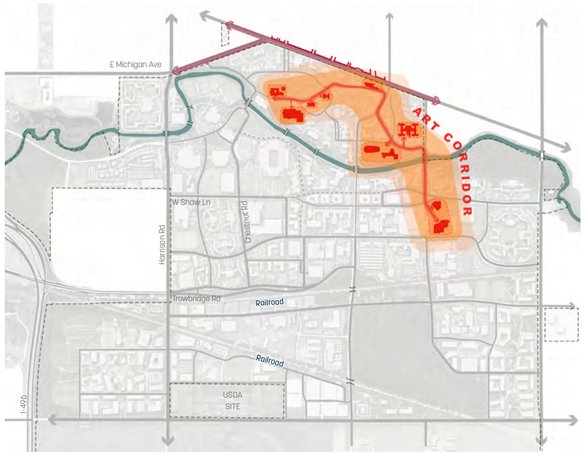
Research Gateways

In addition to university-sponsored research and academic growth, the plan anticipates sites for partnerships that advance its teaching, research, and outreach mission. These support new gateways to campus at its southeast, along Hagadorn Road, and its southwest, along Harrison Road.



Campus Life Nodes

The plan provides a flexible approach to the potential expansion or renewal of existing student housing and student life amenities. It concentrates improvements within or adjacent to MSU's existing residential neighborhoods, ensuring efficient access to academic resources and amenities that support the development of the whole student. Given the success of the residential neighborhoods, this same intention to support the whole student should be considered within academic districts to promote student health and wellbeing throughout the day.



Arts and Culture Corridor

Creative inquiry and the arts are fundamental to advancing knowledge and developing a vibrant campus community. The plan identifies a corridor that connects the Wharton Center for the Performing Arts north to Kresge Art Center, the Auditorium, and Broad Art Museum. This spine not only unifies the university's multiple facilities for visual and performing arts but also tie it to the vibrant retail and dining district along Grand River Avenue, thereby stitching the university's artistic mission with East Lansing's cultural context.

2 Introduction

Purpose

Vision 2050 provides a flexible framework to guide future decisions regarding land use, buildings, facilities, and mobility. It builds upon the physical framework established in the 2017 Campus Land Use Plan Update, incorporating recent efforts including precinct-level planning studies, unit and thematic planning and programming studies, feasibility studies, and anticipated capital projects. The plan identifies drivers for MSU's academic, research, and outreach mission, recommending improvements to the East Lansing campus and MSU's other state-wides presences to advance these drivers.

Process

The planning process unfolded over approximately 24 months, from project kickoff in January 2022 to Board of Trustees approval in December 2023, and was guided by a three-phase structure: Analysis and Listening, Preliminary Recommendations, and Final Recommendations and Documentation. A clear management hierarchy ensured regular engagement with university stakeholders at appropriate intervals.

A core team of representatives from Infrastructure Planning and Facilities (IPF) and Institutional Space Planning and Management (ISPM) met weekly with the consultant team to coordinate the planning process and ensure regular feedback on the advancement and messaging of the plan's findings. The consultant team met with a Project Management Team approximately once per month; this team provided strategic guidance on the master plan's recommendations. Additionally, the consultant team provided periodic updates to both the Executive Committee for Buildings, Facilities, and Space (ECBFS) and Campus Infrastructure Planning Work Group (CIPWG). Both groups provided input on the plan's development and recommendations.

In addition to these recurring meetings, the consultant team conducted over 80 stakeholder interviews that included over 660 participants with individual representatives or small groups to identify programmatic and facility needs. Additionally, technical working groups around key themes assisted in developing specific campus systems. Finally, throughout the planning process, the planning team provided opportunities for the public to give feedback on the findings and recommendations of Vision 2050.

Phase 1: Analysis & Listening

Phase 1 of Vision 2050 began with the consultant team developing a comprehensive understanding of MSU's East Lansing campus and other statewide locations. The team assimilated and analyzed a wealth of data provided by MSU to understand the institution's history and trajectory, its programs, and the buildings and landscapes that serve it. A series of over 80 stakeholder interviews that included over 660 participants and a community-wide CoMap survey provided a nuanced, qualitative overlay of the opportunities and challenges the plan would need to address. In combination, these resulted in a summative existing conditions analysis.

Phase 2: Preliminary Recommendations

The second phase of work tested two options for near-term (10-year) and long-term (30-year) development on the East Lansing campus. Each framework alternative examined the impacts on land use, parking and mobility, open space, and other functions at the scale of the 5,200-acre East Lansing campus and within each precinct. In consultation with the MSU project management and core teams, the team developed a preferred framework alternative that combined elements from the two framework scenarios. At the end of Phase 2, the preferred alternative was presented to the campus community through in-person and virtual open houses to provide feedback and ensure consensus for the final recommendations.

Phase 3: Final Recommendations & Documentation

Based on feedback on the preferred alternative, the consultant team advanced a cohesive set of campus- and precinct-level recommendations. Driven by the 5-year Capital Request Planning and Capital Outlay Request, the preferred alternative included an implementation strategy to flexibly anticipate the range of funding resources available to the university. The final recommendations delineate major and minor open spaces, provide schematic massings for campus buildings, identify strategies for parking and circulation, and recommend potential property acquisitions. The consultant team presented final recommendations to MSU leadership and the broader university community, and the Board of Trustees adopted Vision 2050 in December 2023.

Engagement

Building consensus around the findings and recommendations of any planning effort is critical to successful implementation. As Vision 2050 unfolded, the consultant team relied on a mix of in-person and virtual strategies to ensure a diverse set of constituencies informed the planning process.

Listening Sessions

The consultant team conducted over 80 listening sessions including over 660 participants sessions throughout the planning process. These included individual interviews with members of university leadership; conversations with deans, vice presidents, and other representatives from each academic and administrative unit; and thematic focus groups that included a spectrum of faculty, students, staff, and community members.

Open Houses

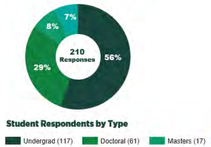
Within each phase of work, open houses provided opportunities for faculty, students, staff, alums, and community members to provide feedback. During the first phase of work, open houses were conducted virtually with both synchronous and asynchronous options available. As the process moved into preliminary and final recommendations, the consultant team leveraged a mixture of in-person and virtual open houses. In coordination with the MSU core team, the consultant team located in-person open houses in strategic locations over multiple days to engage as broad a range of constituents as possible.

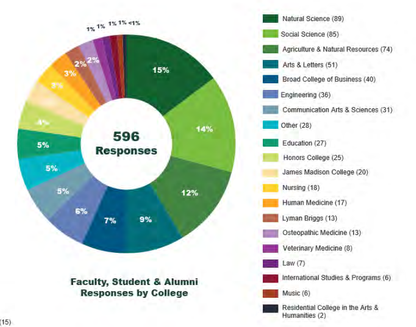
Virtual Input

As the planning process unfolded, the team provided a number of online formats for input to the planning process. As part of the project initiation, a digital survey allowed a broad base of constituents to identify opportunities and challenges within the university's campuses and facilities. In addition to in-person town hall meetings, the team conducted virtual work sessions to solicit feedback from as broad a base of constituents as possible.

Leadership Engagement

Throughout the planning process, the consultant team presented findings to university leadership including the Board of Trustees, ensuring recommendations aligned with strategic priorities. These meetings took various forms, including listening sessions to understand board priorities, focused meetings to present analysis and preliminary recommendations, and a campus tour where the trustees affirmed the plan's recommendations.





Fall 2024

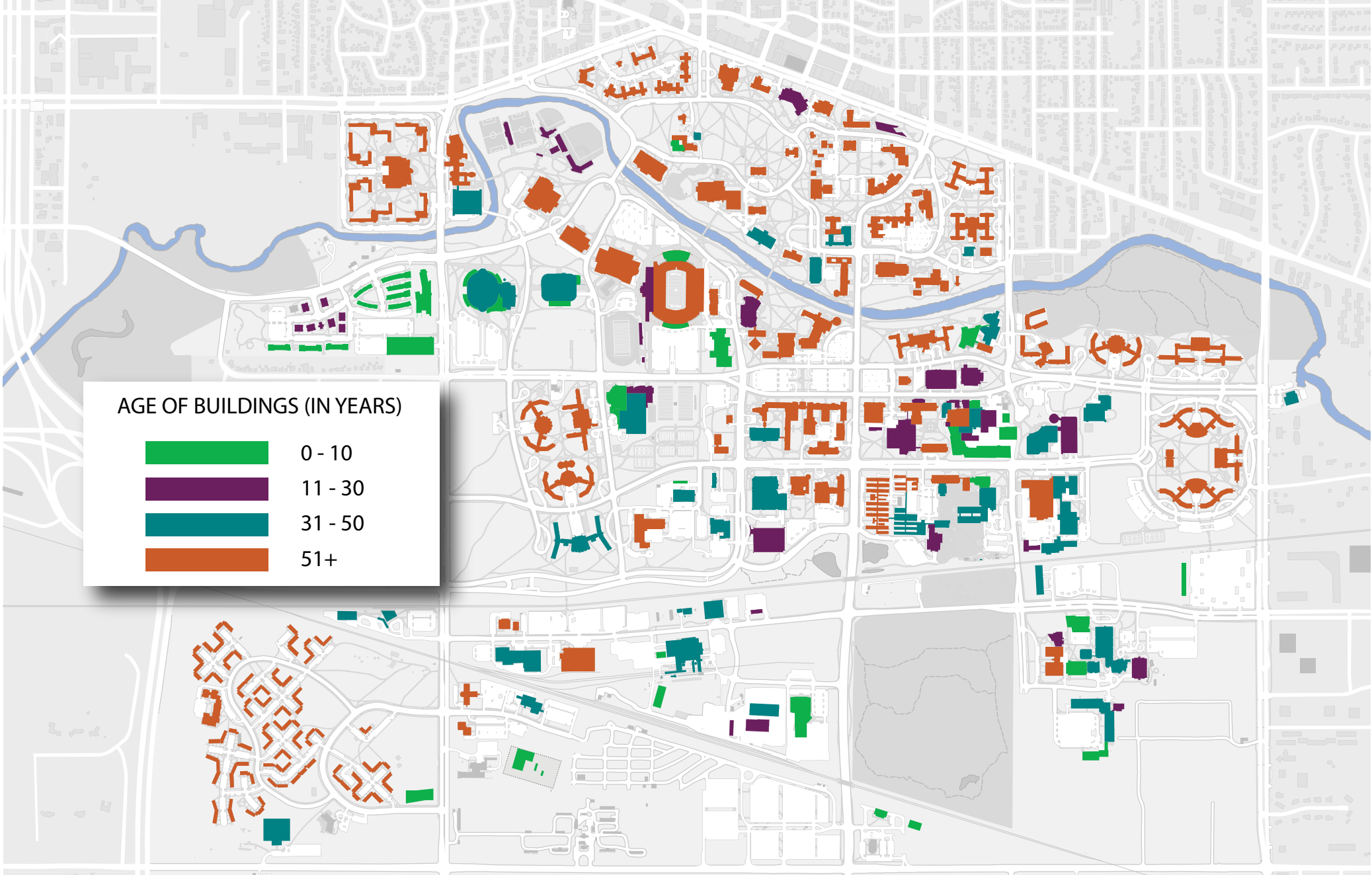
Appendix C: Buildings by Age

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY


AGE OF BUILDINGS (IN YEARS)
0 - 10
11 - 30
31 - 50
51+

Fall 2024

Appendix D: Student Enrollments Fall Semester 2024

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MICHIGAN STATE UNIVERSITY
Enrollment Report
September 20, 2024

This year's total enrollment for Fall 2024 is 52,089 students and it is the largest number of students ever attending Michigan State University. This fall we welcomed 10,978 new undergraduates (entering class and transfers). When added to our returning students, for a total of 41,234, it is our largest number of undergraduates to date. This includes 10,723 students of color. At 27.5% of the domestic class, it is also the most diverse undergraduate body to date.

Total enrollment includes international students from 138 countries, domestic students from all 50 states, and Michigan students from all 83 counties. Students of color make up 27.8% of the domestic class, making it MSU's most diverse student body.

New Undergraduates

- MSU received 62,138 applications for the entering class, exceeding last year's 58,879 by 5.5 percent.
- First time Honors College enrollment is 626 students, comprising 6.5 percent of the entering class.
- Domestic students from outside of Michigan total 1,908 and make up 19.8 percent of the entering class.
- New transfers total 1,326 students.
- Total entering class and new transfer enrollment, inclusive of summer admits, is 10,978 students, 78.1 percent of which are from Michigan.

Undergraduate and Graduate Students

- Total undergraduate enrollment is 41,234 students, up from 40,483 last year.
- Women make up 51.7 percent of the total undergraduate enrollment.
- There are 1,914 new degree-seeking graduate students at the master's and doctoral levels.
- New graduate professional enrollment totals 735 students.
- Total graduate enrollment, including graduate professional students, is 10,855 students.

University

- Total university enrollment for students of color is 13,262 students and accounts for 27.8 percent of the domestic student total. This is MSU's most diverse student body to date.

- The enrollment mix between undergraduate, graduate, and graduate professional students is 79.2 percent, 15.1 percent, and 5.8 percent, respectively.

The attachment provides detailed enrollment statistics.

Fall Semester 2024
Enrollment Report

Table of Contents

Preface

- This report provides historical enrollment related data for the latest term.
- Official enrollment counts for the Fall semester are taken at the quarter of the term.
- Residency in this report is by citizenship and geographic origin at the time of admission.
- MSU and the MSU College of Law fully integrated as of Fall 2020^. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

^ **Note: See https://msutoday.msu.edu/news/2020/college-of-law-completes-full-integration.**

Total University Enrollment Trend

Term	MSU
Fall 2014	50,977
Fall 2015	51,428
Fall 2016	51,195
Fall 2017	50,871
Fall 2018	51,127
Fall 2019	50,578
Fall 2020*	49,695
Fall 2021	49,659
Fall 2022	50,023
Fall 2023	51,316
Fall 2024	52,089

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

First Time Undergraduate Apps, Admits and Enrollments

Type	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Applications**	33,211	35,303	37,480	36,143	33,129	44,321	45,426	50,629	55,525	58,879	62,138
Admits	21,950	23,400	24,641	25,860	25,733	31,522	34,663	42,150	47,034	49,414	52,690
Enrollments***	7,842	7,929	7,911	8,066	8,395	8,527	8,192	9,028	9,620	9,335	9,625
Entering Class****	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065	9,676	9,371	9,652
Admit Ratio	66.1%	66.3%	65.7%	71.5%	77.7%	71.1%	76.3%	83.3%	84.7%	83.9%	84.8%
Yield	35.7%	33.9%	32.1%	31.2%	32.6%	27.1%	23.6%	21.4%	20.5%	18.9%	18.3%

** Note: Applications beginning in 2019 reflect first time use of the Common App (see https://www.commonapp.org).

*** Note: Enrollments are First Time in the Fall semester.

****Note: Entering Class are First Time in the Fall semester plus those that began in the preceding Summer session.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Honors College Enrollment

Degree-seeking Undergraduates***

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
New Honors	610	648	667	641	724	678	606	678	815	624	626
% of Entering Class	7.7%	8.1%	8.4%	7.9%	8.6%	7.9%	7.4%	7.5%	8.4%	6.7%	6.5%
Total Honors	3,174	3,639	3,686	3,757	4,002	3,947	4,230	4,363	4,458	4,700	4,369
% of Undergraduate	8.2%	9.3%	9.4%	9.6%	10.2%	10.1%	11.0%	11.5%	11.5%	11.8%	10.6%
New Academic Scholars**	198	199	186	94	148	176	159	147	152	182	165
% of Entering Class	2.5%	2.5%	2.3%	1.2%	1.8%	2.1%	1.9%	1.6%	1.6%	1.9%	1.7%
Entering Class	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065	9,676	9,371	9,652
Undergraduate	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,090	38,700	39,904	41,234

** Note: The criteria for inclusion in the Academic Scholars Program was changed in 2017 resulting in a short-term decrease in the number of new members.

*** Note: Data includes only degree-seeking Bachelor's students.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Entering Class** by Race/Ethnicity

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Hispanic/Latinx (of any race)	355	373	341	399	480	515	525	600	600	656	756
Two or more races	256	238	266	252	276	317	324	326	478	427	466
African American/Black	608	656	619	634	699	610	601	571	549	612	726
Asian	369	417	451	451	560	608	685	810	826	810	756
Hawaiian/Pacific Islander	9	3	7	4	3	3	3	7	4	6	10
American Indian/Alaska Native	16	18	16	11	14	14	17	14	29	26	30
Total Students of color	1,613	1,705	1,700	1,751	2,032	2,067	2,155	2,328	2,486	2,537	2,744
Other/Unknown/Blank	42	42	40	32	41	170	175	368	138	98	139
White	5,043	5,204	5,130	5,344	5,655	5,677	5,524	5,945	6,350	6,182	6,386
Domestic Total	6,698	6,951	6,870	7,127	7,728	7,914	7,854	8,641	8,974	8,817	9,269
International	1,185	1,016	1,080	981	714	656	374	424	702	554	383
Total	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065	9,676	9,371	9,652
PERCENT BY DOMESTIC											
Total Students of Color	24.1%	24.5%	24.7%	24.6%	26.3%	26.1%	27.4%	26.9%	27.7%	28.8%	29.6%
Other/Unknown/Blank	0.6%	0.6%	0.6%	0.4%	0.5%	2.1%	2.2%	4.3%	1.5%	1.1%	1.5%
White	75.3%	74.9%	74.7%	75.0%	73.2%	71.7%	70.3%	68.8%	70.8%	70.1%	68.9%
PERCENT BY TOTAL											
Total Students of Color	20.5%	21.4%	21.4%	21.6%	24.1%	24.1%	26.2%	25.7%	25.7%	27.1%	28.4%
Other/Unknown/Blank	0.5%	0.5%	0.5%	0.4%	0.5%	2.0%	2.1%	4.1%	1.4%	1.0%	1.4%
White	64.0%	65.3%	64.5%	65.9%	67.0%	66.2%	67.1%	65.6%	65.6%	66.0%	66.2%
International	15.0%	12.8%	13.6%	12.1%	8.5%	7.7%	4.5%	4.7%	7.3%	5.9%	4.0%

** Note: Entering Class are First Time in the Fall semester plus those that began in the preceding Summer session.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Entering Class** Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	4,148	4,265	4,179	4,195	4,415	4,428	4,453	4,852	5,036	4,874	5,196
% of Total	52.6%	53.5%	52.6%	51.7%	52.3%	51.7%	54.1%	53.5%	52.0%	52.0%	53.8%
Michigan	5,593	5,742	5,526	5,859	6,508	6,435	6,528	6,952	6,782	7,069	7,361
% of Total	71.0%	72.1%	69.5%	72.3%	77.1%	75.1%	79.3%	76.7%	70.1%	75.4%	76.3%
U.S. Non-Mich	1,105	1,209	1,344	1,268	1,220	1,479	1,326	1,689	2,192	1,748	1,908
% of Total	14.0%	15.2%	16.9%	15.6%	14.5%	17.3%	16.1%	18.6%	22.7%	18.7%	19.8%
International	1,185	1,016	1,080	981	714	656	374	424	702	554	383
% of Total	15.0%	12.8%	13.6%	12.1%	8.5%	7.7%	4.5%	4.7%	7.3%	5.9%	4.0%
Total	7,883	7,967	7,950	8,108	8,442	8,570	8,228	9,065	9,676	9,371	9,652

** Note: Entering Class are First Time in the Fall semester plus those that began in the preceding Summer session.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

New Transfer Enrollment

Group	2014**	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	777	818	801	821	766	597	632	634	714	737	666
% of Total	46.6%	49.0%	48.8%	49.2%	48.2%	47.2%	50.4%	49.7%	51.8%	47.7%	50.2%
Michigan	1,495	1,532	1,509	1,505	1,480	1,161	1,165	1,152	1,253	1,447	1,209
% of Total	89.6%	91.7%	92.0%	90.2%	93.1%	91.7%	93.0%	90.3%	90.9%	93.6%	91.2%
U.S. Non-Mich	66	77	70	67	81	78	62	107	99	72	90
% of Total	4.0%	4.6%	4.3%	4.0%	5.1%	6.2%	4.9%	8.4%	7.2%	4.7%	6.8%
International	107	61	61	97	29	27	26	17	26	27	27
% of Total	6.4%	3.7%	3.7%	5.8%	1.8%	2.1%	2.1%	1.3%	1.9%	1.7%	2.0%
Total	1,668	1,670	1,640	1,669	1,590	1,266	1,253	1,276	1,378	1,546	1,326

** Note: Beginning Fall, 2014, the methodology for counting transfer students changed to better align with IPEDS federal reporting. New transfer student headcounts will now include Fall semester plus the preceding Summer session.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Entering Undergraduate** Enrollment

Group	2014***	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	4,925	5,083	4,980	5,016	5,131	5,025	5,085	5,486	5,750	5,611	5,862
% of Total	51.6%	52.7%	51.9%	51.3%	51.1%	51.1%	53.6%	53.1%	52.0%	51.4%	53.4%
Michigan	7,088	7,274	7,035	7,364	7,988	7,596	7,693	8,104	8,035	8,516	8,570
% of Total	74.2%	75.5%	73.4%	75.3%	79.6%	77.2%	81.1%	78.4%	72.7%	78.0%	78.1%
U.S. Non-Mich	1,171	1,286	1,414	1,335	1,301	1,557	1,388	1,796	2,291	1,820	1,998
% of Total	12.3%	13.3%	14.7%	13.7%	13.0%	15.8%	14.6%	17.4%	20.7%	16.7%	18.2%
International	1,292	1,077	1,141	1,078	743	683	400	441	728	581	410
% of Total	13.5%	11.2%	11.9%	11.0%	7.4%	6.9%	4.2%	4.3%	6.6%	5.3%	3.7%
Total	9,551	9,637	9,590	9,777	10,032	9,836	9,481	10,341	11,054	10,917	10,978

** Note: Entering Undergraduates include the Entering Class (Summer and First-Time Fall) and Transfers.

*** Note: Beginning Fall, 2014, the methodology for counting transfer students changed to better align with IPEDS federal reporting. New transfer student headcounts will now include Fall semester plus the preceding Summer session.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Undergraduate Enrollment by Race/Ethnicity

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Hispanic/Latinx (of any race)	1,475	1,573	1,629	1,704	1,888	2,009	2,166	2,352	2,358	2,523	2,766
Two or more races	1,032	1,075	1,155	1,203	1,268	1,302	1,393	1,417	1,593	1,756	1,826
African American/Black	2,594	2,700	2,724	2,841	2,930	2,905	2,947	2,802	2,590	2,633	2,730
Asian	1,679	1,816	1,946	2,040	2,237	2,386	2,577	2,818	3,044	3,239	3,260
Hawaiian/Pacific Islander	31	30	36	32	32	27	19	23	26	25	29
American Indian/Alaska Native	80	87	88	75	71	71	75	67	93	109	112
Total Students of color	6,891	7,281	7,578	7,895	8,426	8,700	9,177	9,479	9,704	10,285	10,723
Other/Unknown/Blank	382	363	330	284	266	373	479	797	857	819	760
White	26,207	26,231	26,169	26,201	26,714	26,502	26,179	26,078	26,300	27,082	27,569
Domestic Total	33,480	33,875	34,077	34,380	35,406	35,575	35,835	36,354	36,861	38,186	39,052
International	5,306	5,268	5,008	4,616	4,017	3,601	2,656	2,220	2,340	2,297	2,182
Total	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,574	39,201	40,483	41,234
PERCENT BY DOMESTIC											
Total Students of Color	20.6%	21.5%	22.2%	23.0%	23.8%	24.5%	25.6%	26.1%	26.3%	26.9%	27.5%
Other/Unknown/Blank	1.1%	1.1%	1.0%	0.8%	0.8%	1.0%	1.3%	2.2%	2.3%	2.1%	1.9%
White	78.3%	77.4%	76.8%	76.2%	75.5%	74.5%	73.1%	71.7%	71.3%	70.9%	70.6%
PERCENT BY TOTAL											
Total Students of Color	17.8%	18.6%	19.4%	20.2%	21.4%	22.2%	23.8%	24.6%	24.8%	25.4%	26.0%
Other/Unknown/Blank	1.0%	0.9%	0.8%	0.7%	0.7%	1.0%	1.2%	2.1%	2.2%	2.0%	1.8%
White	67.6%	67.0%	67.0%	67.2%	67.8%	67.6%	68.0%	67.6%	67.1%	66.9%	66.9%
International	13.7%	13.5%	12.8%	11.8%	10.2%	9.2%	6.9%	5.8%	6.0%	5.7%	5.3%

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Undergraduate Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	19,468	19,728	19,778	19,704	19,985	19,824	19,760	19,906	20,257	20,794	21,313
% of Total	50.2%	50.4%	50.6%	50.5%	50.7%	50.6%	51.3%	51.6%	51.7%	51.4%	51.7%
Michigan	29,768	29,751	29,509	29,546	30,521	30,464	30,799	30,786	30,491	31,724	32,263
% of Total	76.7%	76.0%	75.5%	75.8%	77.4%	77.8%	80.0%	79.8%	77.8%	78.4%	78.2%
U.S. Non-Mich	3,712	4,124	4,568	4,834	4,885	5,111	5,036	5,568	6,370	6,462	6,789
% of Total	9.6%	10.5%	11.7%	12.4%	12.4%	13.0%	13.1%	14.4%	16.2%	16.0%	16.5%
International	5,306	5,268	5,008	4,616	4,017	3,601	2,656	2,220	2,340	2,297	2,182
% of Total	13.7%	13.5%	12.8%	11.8%	10.2%	9.2%	6.9%	5.8%	6.0%	5.7%	5.3%
Total	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,574	39,201	40,483	41,234

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

New Graduate** Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	945	978	976	1,005	954	1,010	1,019	1,017	984	991	1,108
% of Total	54.1%	54.9%	55.3%	54.2%	56.1%	54.7%	56.5%	55.4%	55.0%	53.7%	57.9%
Michigan	755	742	748	772	705	846	919	879	851	845	886
% of Total	43.2%	41.6%	42.4%	41.7%	41.4%	45.8%	51.0%	47.9%	47.6%	45.8%	46.3%
U.S. Non-Mich	540	579	550	603	582	581	607	551	487	497	529
% of Total	30.9%	32.5%	31.1%	32.5%	34.2%	31.4%	33.7%	30.0%	27.2%	27.0%	27.6%
International	451	461	468	478	414	421	277	406	451	502	499
% of Total	25.8%	25.9%	26.5%	25.8%	24.3%	22.8%	15.4%	22.1%	25.2%	27.2%	26.1%
Total	1,746	1,782	1,766	1,853	1,701	1,848	1,803	1,836	1,789	1,844	1,914

** Note: Data includes only new degree-seeking Master's and Doctoral students.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

New Graduate Professional Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	458	478	470	479	472	486	447	498	469	471	474
% of Total	51.2%	52.5%	53.5%	56.0%	57.6%	57.5%	56.3%	59.1%	60.7%	58.7%	64.5%
Michigan	660	617	627	600	591	613	590	537	521	519	507
% of Total	73.8%	67.7%	71.3%	70.1%	72.1%	72.5%	74.3%	63.8%	67.4%	64.7%	69.0%
U.S. Non-Mich	184	241	214	217	198	211	188	278	222	250	200
% of Total	20.6%	26.5%	24.3%	25.4%	24.1%	25.0%	23.7%	33.0%	28.7%	31.2%	27.2%
International	50	53	38	39	31	21	16	27	30	33	28
% of Total	5.6%	5.8%	4.3%	4.6%	3.8%	2.5%	2.0%	3.2%	3.9%	4.1%	3.8%
Total	894	911	879	856	820	845	794	842	773	802	735

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Graduate** Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	4,968	5,027	4,970	4,836	4,780	4,670	4,610	4,560	4,431	4,408	4,485
% of Total	56.4%	56.2%	56.5%	56.0%	56.4%	57.0%	56.9%	57.3%	57.0%	56.7%	57.1%
Michigan	4,119	4,026	3,858	3,766	3,577	3,498	3,561	3,506	3,351	3,305	3,355
% of Total	46.7%	45.0%	43.9%	43.6%	42.2%	42.7%	43.9%	44.1%	43.1%	42.5%	42.7%
U.S. Non-Mich	2,400	2,652	2,730	2,710	2,743	2,712	2,759	2,652	2,474	2,397	2,373
% of Total	27.2%	29.7%	31.1%	31.4%	32.3%	33.1%	34.0%	33.3%	31.9%	30.8%	30.2%
International	2,294	2,260	2,203	2,156	2,161	1,984	1,787	1,798	1,942	2,078	2,126
% of Total	26.0%	25.3%	25.1%	25.0%	25.5%	24.2%	22.0%	22.6%	25.0%	26.7%	27.1%
Total	8,813	8,938	8,791	8,632	8,481	8,194	8,107	7,956	7,767	7,780	7,854

**Note: Data includes students at all graduate levels, degree and non-degree-seeking.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Graduate Enrollment by Level

Degree-Seeking Graduate Students**

Group	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Master's	4,381	4,582	4,564	4,480	4,265	4,038	4,011	3,989	3,924	3,863	3,878
% of Total	56.0%	58.1%	58.1%	57.2%	55.3%	53.6%	53.8%	53.7%	53.8%	53.4%	52.9%
Doctoral	3,448	3,303	3,292	3,350	3,446	3,490	3,444	3,434	3,367	3,368	3,456
% of Total	44.0%	41.9%	41.9%	42.8%	44.7%	46.4%	46.2%	46.3%	46.2%	46.6%	47.1%
Total	7,829	7,885	7,856	7,830	7,711	7,528	7,455	7,423	7,291	7,231	7,334

** Note: Data includes only degree-seeking Master's and Doctoral students.

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Graduate Professional Enrollment

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Female	1,733	1,750	1,728	1,741	1,774	1,811	1,775	1,827	1,794	1,819	1,852
% of Total	51.3%	52.3%	52.1%	53.7%	55.0%	56.5%	57.3%	58.4%	58.7%	59.6%	61.7%
Michigan	2,537	2,482	2,460	2,364	2,356	2,360	2,300	2,231	2,134	2,077	2,028
% of Total	75.1%	74.2%	74.1%	72.9%	73.1%	73.6%	74.3%	71.3%	69.9%	68.0%	67.6%
U.S. Non-Mich	691	703	709	729	727	728	700	810	832	873	862
% of Total	20.5%	21.0%	21.4%	22.5%	22.6%	22.7%	22.6%	25.9%	27.2%	28.6%	28.7%
International	150	162	150	150	140	120	97	88	89	103	111
% of Total	4.4%	4.8%	4.5%	4.6%	4.3%	3.7%	3.1%	2.8%	2.9%	3.4%	3.7%
Total	3,378	3,347	3,319	3,243	3,223	3,208	3,097	3,129	3,055	3,053	3,001

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Total Enrollment by Race/Ethnicity

Group	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Hispanic/Latinx (of any race)	1,918	2,077	2,117	2,216	2,432	2,564	2,783	2,985	3,061	3,240	3,477
Two or more races	1,253	1,310	1,384	1,455	1,514	1,561	1,662	1,682	1,935	2,051	2,158
African American/Black	3,259	3,394	3,397	3,468	3,548	3,527	3,572	3,438	3,228	3,261	3,364
Asian	2,251	2,366	2,517	2,607	2,855	3,020	3,244	3,538	3,781	4,002	4,087
Hawaiian/Pacific Islander	47	47	58	55	52	42	28	28	30	30	32
American Indian/Alaska Native	144	129	136	123	116	125	125	113	130	144	144
Total Students of color	8,872	9,323	9,609	9,924	10,517	10,839	11,414	11,784	12,165	12,728	13,262
Other/Unknown/Blank	692	665	626	587	551	620	690	1,010	1,036	1,044	992
White	33,663	33,750	33,599	33,438	33,741	33,414	33,051	32,759	32,451	33,066	33,416
Domestic Total	43,227	43,738	43,834	43,949	44,809	44,873	45,155	45,553	45,652	46,838	47,670
International	7,750	7,690	7,361	6,922	6,318	5,705	4,540	4,106	4,371	4,478	4,419
Total	50,977	51,428	51,195	50,871	51,127	50,578	49,695	49,659	50,023	51,316	52,089
PERCENT BY DOMESTIC											
Total Students of Color	20.5%	21.3%	21.9%	22.6%	23.5%	24.2%	25.3%	25.9%	26.6%	27.2%	27.8%
Other/Unknown/Blank	1.6%	1.5%	1.4%	1.3%	1.2%	1.4%	1.5%	2.2%	2.3%	2.2%	2.1%
White	77.9%	77.2%	76.7%	76.1%	75.3%	74.5%	73.2%	71.9%	71.1%	70.6%	70.1%
PERCENT BY TOTAL											
Total Students of Color	17.4%	18.1%	18.8%	19.5%	20.6%	21.4%	23.0%	23.7%	24.3%	24.8%	25.5%
Other/Unknown/Blank	1.4%	1.3%	1.2%	1.2%	1.1%	1.2%	1.4%	2.0%	2.1%	2.0%	1.9%
White	66.0%	65.6%	65.6%	65.7%	66.0%	66.1%	66.5%	66.0%	64.9%	64.4%	64.2%
International	15.2%	15.0%	14.4%	13.6%	12.4%	11.3%	9.1%	8.3%	8.7%	8.7%	8.5%

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Enrollment by Student Level

Level	2014	2015	2016	2017	2018	2019	2020*	2021	2022	2023	2024
Undergraduate	38,786	39,143	39,085	38,996	39,423	39,176	38,491	38,574	39,201	40,483	41,234
% of Total	76.1%	76.1%	76.3%	76.7%	77.1%	77.5%	77.5%	77.7%	78.4%	78.9%	79.2%
Graduate	8,813	8,938	8,791	8,632	8,481	8,194	8,107	7,956	7,767	7,780	7,854
% of Total	17.3%	17.4%	17.2%	17.0%	16.6%	16.2%	16.3%	16.0%	15.5%	15.2%	15.1%
Graduate Professional	3,378	3,347	3,319	3,243	3,223	3,208	3,097	3,129	3,055	3,053	3,001
% of Total	6.6%	6.5%	6.5%	6.4%	6.3%	6.3%	6.2%	6.3%	6.1%	5.9%	5.8%
Total	50,977	51,428	51,195	50,871	51,127	50,578	49,695	49,659	50,023	51,316	52,089

*Note: MSU and the MSU College of Law fully integrated as of Fall 2020. Numbers in this report for terms prior to Fall 2020 were adjusted to reflect historical equivalents.

Undergraduate Enrollment, Faculty and Staff Count by Degree-Granting College

College	Undergraduate Enrollment Headcount Fall 2024	Faculty FTE 2023	Staff FTE 2023
Agriculture & Natural Resources	3116	280.4	21
Arts and Letters	1520	285.8	21
Broad College of Business	4839	100.2	19.8
Communication Arts and Sciences	4310	79.8	11
Education	2331	140.1	12
Engineering	6204	185.8	19
James Madison	904	40.5	5
Lyman Briggs	1979	26.3	4
Music	269	67.8	3
Natural Science	4985	343.9	22
Nursing	1140	51.9	8.3
Residential College in Arts & Humanities	139	10	3
Social Science	6184	326.5	26
Veterinary Medicine	325	107.9	8

*Note: this page is an addendum to published 2024 Enrollment Report.

Fall 2024

Appendix E: Building Condition Assessment

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MICHIGAN STATE UNIVERSITY
Facility Condition Assessment
9/10/2024

5-YEAR RENEWAL NEEDS BY ASSET AND YEAR

						NONRECURRING NEEDS			RECURRING NEEDS								
ASSET CODE	ASSET NAME	TYPE	BUILT	GSF	CRV	HIGH	MEDIUM	LOW	DEFERRED	2026	2027	2028	2029	2030	TOTAL NEEDS	FCNI	FCI
0002	BERKEY HALL	Classroom / Academic	1947	152,169	$84,680,718	$0	$495,988	$5,035,642	$24,629,944	$0	$7,395	$368,161	$0	$477,756	$31,014,886	0.43	0.29
0003	OLIN MEMORIAL HEALTH CENTER	Medical / Clinic	1939	105,750	$67,903,358	$0	$1,319,477	$9,837,264	$16,703,029	$250,091	$3,339	$235,480	$1,500,118	$207,290	$30,056,087	0.46	0.21
0005	HUMAN ECOLOGY	Classroom / Academic	1924	78,459	$45,003,478	$62	$311,073	$1,642,314	$15,940,109	$0	$72,346	$341,162	$0	$608,866	$18,915,932	0.42	0.32
0006	UNION BUILDING	Student Union	1924	208,531	$119,338,151	$0	$428,082	$3,829,428	$33,529,678	$0	$1,670,775	$551,594	$0	$551,795	$40,561,351	0.38	0.25
0008	WILLS HOUSE	Residential / Sgl. Family	1927	7,878	$4,142,498	$0	$126,782	$540,809	$267,742	$0	$0	$2,695	$93,541	$79,363	$1,110,932	0.27	0.06
0009	COWLES HOUSE	Residential / Sgl. Family	1857	16,876	$8,486,311	$28	$109,183	$234,804	$506,595	$0	$0	$3,475	$3,856	$0	$857,941	0.13	0.05
0011	MUSIC BUILDING	Classroom / Academic	1940	99,687	$56,277,630	$0	$509,133	$439,967	$10,477,758	$0	$226,998	$0	$42,488	$68,909	$11,765,254	0.27	0.17
0013	MUSEUM	Office / Administrative	1922	54,998	$35,367,292	$0	$307,701	$5,326,213	$6,860,720	$244,137	$0	$39,238	$579,336	$0	$13,357,346	0.39	0.17
0014	LINTON HALL	Office / Administrative	1881	39,839	$25,989,051	$0	$239,697	$4,462,547	$4,873,307	$299,473	$121,816	$0	$50,096	$111,517	$10,158,453	0.40	0.16
0015	EUSTACE-COLE HALL	Office / Administrative	1888	11,432	$8,173,784	$0	$26,832	$120,292	$1,542,772	$0	$0	$27,012	$0	$24,842	$1,741,750	0.23	0.18
0016	MARSHALL-ADAMS HALL	Office / Administrative	1902	20,189	$13,727,008	$0	$31,789	$346,529	$1,036,381	$0	$193,137	$45,209	$65,429	$541,486	$2,259,961	0.17	0.04
0017	OLD BOTANY	Classroom / Academic	1892	14,051	$9,829,256	$0	$638,820	$1,099,847	$938,364	$0	$0	$0	$75,879	$26,336	$2,779,245	0.34	0.09
0019	CHITTENDEN HALL	Classroom / Academic	1901	16,809	$11,320,952	$0	$10,612	$56,801	$47,164	$200,966	$0	$0	$96,916	$34,734	$447,192	0.05	0.00
0020	COOK-SEEVERS HALL	Office / Administrative	1889	13,689	$9,787,658	$0	$57,156	$37,924	$0	$0	$0	$24,232	$2,042	$30,387	$151,742	0.04	0.00
0021	MUSIC PRACTICE	Office / Administrative	1968	35,964	$23,571,423	$0	$365,363	$1,112,307	$4,774,243	$150,815	$382,183	$508,309	$0	$20,380	$7,313,600	0.37	0.20
0022	MORRILL HALL OF AGRICULTURE	Office / Administrative	1909	133,979	$71,480,966	$12,670	$966,287	$7,556,019	$11,808,925	$212,948	$0	$239,932	$181,895	$1,108,631	$22,087,306	0.31	0.13
0024	NATURAL SCIENCE	Laboratory	1948	193,313	$154,859,268	$0	$852,675	$7,860,343	$73,447,245	$465,196	$43,805	$199,923	$84,178	$3,646,441	$86,599,807	0.56	0.46
0025	OLD HORTICULTURE	Classroom / Academic	1924	44,475	$26,497,670	$0	$98,119	$1,428,536	$1,626,390	$414,027	$72,445	$197,122	$0	$1,409,624	$5,246,262	0.21	0.04
0027	PSYCHOLOGY	Classroom / Academic	1949	113,316	$63,467,695	$0	$321,105	$2,269,434	$22,524,123	$306,876	$0	$683,478	$175,374	$1,941,447	$28,221,838	0.46	0.34
0028	GILTNER HALL	Laboratory	1913	253,356	$167,418,553	$5,306	$7,139,491	$31,839,829	$35,008,544	$1,520,468	$11,395,140	$836,681	$20,751	$987,358	$88,753,567	0.57	0.21
0029	KEDZIE HALL	Office / Administrative	1927	159,383	$84,547,848	$7,869	$662,269	$13,295,424	$12,672,595	$1,131,107	$34,022	$782,840	$9,429,861	$3,157,033	$41,173,020	0.52	0.12
0030	ALUMNI CHAPEL	Religious Facility	1952	8,678	$6,968,485	$0	$239,414	$681,051	$1,213,401	$0	$0	$0	$0	$81,017	$2,214,884	0.32	0.15
0031	AUDITORIUM	Theater / Auditorium	1940	161,113	$111,151,883	$0	$840,954	$861,273	$22,546,278	$689,475	$93,101	$0	$81,177	$363,830	$25,476,090	0.25	0.19
0035	COMPUTER CENTER	Classroom / Academic	1948	78,933	$45,274,727	$0	$323,498	$2,238,082	$19,867,961	$115,449	$512,576	$0	$72,481	$974,561	$24,104,608	0.55	0.41
0047	OLDS HALL	Office / Administrative	1916	73,319	$47,149,493	$0	$644,934	$6,232,269	$7,114,385	$47,227	$402,191	$38,472	$0	$10,252	$14,489,730	0.32	0.13
0049	LIBRARY	Library	1955	458,913	$301,771,603	$0	$1,573,754	$9,861,335	$60,977,816	$95,107	$1,042,633	$2,548,582	$153,315	$1,181,271	$77,433,814	0.29	0.20
0051	IM CIRCLE	Gymnasium / Athletics	1916	163,483	$89,671,961	$9,309	$714,330	$4,048,314	$28,920,731	$636,884	$0	$1,609,219	$9,137	$0	$35,947,923	0.44	0.31
0055	KELLOGG CENTER	Hotel / Conference	1951	232,100	$100,975,474	$2,457	$718,146	$708,876	$9,055,035	$38,703	$13,752,701	$239,421	$2,159,293	$304,046	$26,978,678	0.42	0.01
0056	JENISON FIELD HOUSE	Gymnasium / Athletics	1940	207,803	$71,405,893	$0	$270,469	$2,305,548	$11,253,635	$1,931,950	$30,535	$634,810	$174,055	$267,830	$16,868,831	0.25	0.16
0057	DEMONSTRATION HALL	Gymnasium / Athletics	1928	96,208	$43,203,109	$0	$535,170	$8,922,348	$7,421,981	$0	$0	$55,702	$46,694	$0	$16,981,896	0.39	0.17
0058	SPARTAN STADIUM	Football Stadium	1923	488,295	$247,279,105	$2,073,549	$15,968,698	$1,193,044	$31,032,759	$18,157,923	$382,397	$353,260	$1,369,912	$6,148,141	$76,679,683	0.33	0.10
0059	MUNN ICE ARENA	Gymnasium / Athletics	1974	123,191	$78,786,327	$0	$154,949	$8,247,161	$17,115,678	$632,686	$0	$10,394	$22,841	$384,260	$26,567,969	0.35	0.15
0060	CENTRAL SERVICES	Warehouse/Storage/Utility	1948	70,035	$22,798,269	$7,075	$1,226,704	$1,330,622	$5,847,687	$44,041	$2,079	$300,288	$55,887	$0	$8,814,384	0.40	0.22
0067	HANNAH ADMINISTRATION	Office / Administrative	1968	170,216	$109,459,971	$0	$805,858	$3,895,637	$42,741,478	$1,731,366	$141,715	$5,476,062	$2,051,743	$54,433	$56,898,293	0.55	0.39
0068	LINEN SERVICES	Shops / Trade	1968	72,412	$38,409,428	$0	$88,786	$236,193	$7,439,445	$680,749	$139,689	$974,490	$35,450	$198,503	$9,793,306	0.26	0.17
0069	BRESLIN STUDENT EVENTS CENTER	Gymnasium / Athletics	1989	243,612	$153,896,675	$0	$663,041	$440,613	$11,699,100	$0	$140,789	$3,002,297	$11,444,321	$0	$27,390,162	0.18	0.06
0069A	ALFRED BERKOWITZ BASKETBALL COMPLEX	Gymnasium / Athletics	2001	29,915	$21,733,579	$0	$0	$18,725	$1,203,532	$160,351	$529,612	$67,833	$24,315	$15,385	$2,019,753	0.12	0.05
0069B	GILBERT PAVILION	Gymnasium / Athletics	2017	55,502	$37,616,656	$0	$0	$0	$0	$0	$77,178	$9,015	$276,945	$0	$363,137	0.01	0.00
0077	DUFFY DAUGHERTY FOOTBALL BLDG - SAAC	Gymnasium / Athletics	1980	210,071	$84,551,401	$0	$7,684	$233,845	$10,316,137	$1,860,843	$879,764	$674,994	$77,356	$2,395,805	$16,446,427	0.22	0.08
0078	WELLS HALL	Office / Administrative	1967	315,886	$168,457,087	$0	$1,281,607	$3,644,789	$34,120,511	$813,034	$2,486,208	$730,750	$7,997,040	$3,595,818	$54,669,757	0.38	0.13
0079	BESSEY HALL	Classroom / Academic	1961	150,663	$69,159,008	$0	$512,325	$2,709,591	$30,872,986	$903,536	$219,089	$32,112	$503,215	$17,697	$35,770,552	0.52	0.41
0080	BUSINESS COLLEGE COMPLEX - EPPLEY	Office / Administrative	1961	58,199	$37,426,726	$0	$168,482	$97,646	$4,166,660	$0	$0	$0	$7,195	$823,816	$5,263,798	0.14	0.10
0080A	BUSINESS COLLEGE COMPLEX - ELI BROAD	Office / Administrative	1993	125,114	$80,458,070	$0	$129,549	$276,040	$4,962,059	$2,851	$0	$1,104,805	$6,898	$1,320,536	$7,802,738	0.12	0.02
0080B	BUSINESS COLLEGE COMPLEX - GRAD PAVILION	Classroom / Academic	2019	104,593	$58,801,271	$0	$0	$148,891	$0	$1,277	$0	$0	$0	$3,039	$153,206	0.02	0.00
0081	ENGINEERING	Laboratory	1962	433,899	$350,903,444	$0	$596,953	$10,745,031	$59,037,177	$3,532,409	$546,292	$213,764	$5,366,795	$2,454,375	$82,492,796	0.24	0.14
0082	URBAN PLANNING LANDSCAPE ARCH-IMC	Classroom / Academic	1966	47,013	$28,009,922	$0	$726,281	$3,637,386	$6,948,260	$1,171,988	$24,773	$0	$0	$4,219	$12,512,906	0.45	0.24
0083	MSU COLLEGE OF LAW	Classroom / Academic	1997	186,558	$103,816,697	$0	$602,987	$383,166	$8,010,067	$0	$403,718	$0	$0	$1,802,931	$11,202,870	0.16	0.04
0084	COMMUNICATION ARTS	Classroom / Academic	1981	263,316	$146,533,132	$0	$243,818	$4,989,084	$24,861,579	$19,978,571	$2,563	$205,031	$371,911	$134,818	$50,787,374	0.48	0.16
0085	WHARTON CENTER FOR PERFORMING ARTS	Theater / Auditorium	1982	187,505	$128,059,273	$0	$492,108	$538,482	$13,690,516	$1,164,294	$11,617,810	$0	$1,019,821	$67,780	$28,590,812	0.28	0.10
0086	PLANT AND SOIL SCIENCE	Classroom / Academic	1986	364,678	$292,137,298	$0	$83,181	$175,484	$34,995,836	$2,692,657	$2,336,624	$171,350	$2,241,150	$4,567,534	$47,263,816	0.31	0.12
0087	PUBLIC SAFETY	Police Station	1975	36,941	$19,743,280	$142	$158,274	$1,787,746	$3,327,778	$31,690	$422,328	$131,284	$0	$1,152,518	$7,011,760	0.37	0.08
0088	UNIVERSITY SERVICES	Office / Administrative	1969	5,510	$4,288,814	$0	$104,334	$344,015	$858,515	$0	$0	$0	$50,241	$207,629	$1,564,734	0.36	0.17
0089	OYER SPEECH AND HEARING CENTER	Office / Administrative	1968	19,896	$13,697,732	$0	$229,199	$504,812	$3,780,535	$143,578	$0	$132,340	$15,435	$625,868	$5,431,766	0.41	0.27
0091	FARRALL HALL	Laboratory	1948	76,620	$63,589,991	$0	$664,254	$9,280,263	$17,274,587	$0	$81,405	$12,191	$2,599	$114,089	$27,429,387	0.44	0.26
0128	1407 S HARRISON	Office / Administrative	1973	56,695	$36,459,590	$0	$263,245	$1,777,398	$11,281,326	$0	$614,085	$649,604	$2,012,300	$141,097	$16,739,055	0.49	0.31
0131	FIRE STATION	Fire Station	1955	9,433	$4,213,062	$0	$118,558	$744,459	$1,652,496	$6,761	$0	$9,590	$0	$0	$2,531,865	0.61	0.39
0132	ANTHONY HALL	Laboratory	1955	319,754	$257,412,504	$0	$539,779	$1,049,352	$82,145,251	$1,563,217	$950,037	$5,511,285	$206,626	$981,664	$92,947,211	0.42	0.30

						NONRECURRING NEEDS			RECURRING NEEDS								
ASSET CODE	ASSET NAME	TYPE	BUILT	GSF	CRV	HIGH	MEDIUM	LOW	DEFERRED	2026	2027	2028	2029	2030	TOTAL NEEDS	FCNI	FCI
0133	ANGELL UNIVERSITY SERVICES	Office / Administrative	1988	82,546	$38,781,962	$0	$47,959	$333,075	$4,083,238	$462,792	$1,162,816	$643,308	$0	$0	$6,733,189	0.22	0.10
0142	STUDENT SERVICES	Office / Administrative	1957	121,938	$78,414,403	$0	$646,617	$2,851,977	$18,788,743	$3,499	$1,352,188	$37,514	$2,848,399	$414,593	$26,943,529	0.35	0.23
0144	ERICKSON HALL	Office / Administrative	1957	219,249	$116,304,393	$0	$483,252	$3,739,416	$31,006,508	$1,574,789	$227,308	$624,157	$1,573	$1,778,967	$39,435,970	0.36	0.25
0150	KRESGE ART CENTER	Classroom / Academic	1958	96,980	$54,748,014	$0	$418,634	$2,300,278	$12,970,011	$87,396	$199,676	$1,728,357	$0	$279,967	$17,984,320	0.33	0.24
0150A	KRESGE ART-SCULPTURE STUDIO	Shops / Trade	1966	7,695	$5,068,127	$0	$62,367	$208,525	$524,331	$114,580	$10,303	$0	$1,519	$26,096	$947,720	0.19	0.09
0151	IM SPORTS WEST	Gymnasium / Athletics	1958	235,573	$132,670,827	$0	$950,409	$9,928,737	$24,931,820	$6,717,282	$95,829	$1,250,192	$0	$4,152	$43,878,420	0.37	0.18
0154	MANLY MILES	Office / Administrative	1959	58,519	$37,632,191	$0	$334,097	$2,648,611	$13,525,377	$391,052	$194,235	$424,414	$2,129,597	$392,156	$20,039,539	0.53	0.30
0158	LANDSCAPE SERVICES	Shops / Trade	1959	32,445	$19,800,354	$0	$49,073	$676,501	$4,157,333	$0	$11,481	$205,568	$0	$12,062	$5,112,018	0.26	0.20
0160	BIOMEDICAL PHYSICAL SCIENCES	Laboratory	2001	377,230	$302,192,657	$0	$0	$1,006,050	$13,265,607	$10,606,032	$856,093	$2,089,970	$1,573	$0	$27,825,325	0.10	0.03
0163	CHEMISTRY	Laboratory	1963	317,295	$249,438,931	$0	$3,684,374	$8,509,914	$116,922,644	$1,001,153	$1,500,389	$1,323,726	$27,903	$998,754	$133,968,856	0.54	0.46
0165	ABRAMS PLANETARIUM	Laboratory	1963	17,465	$16,057,057	$0	$108,503	$663,887	$5,905,701	$9,015	$173,816	$24,186	$0	$10,470	$6,895,578	0.45	0.32
0167	IPF	Shops / Trade	1963	95,249	$41,155,433	$0	$363,694	$1,912,930	$8,042,043	$158,384	$132,933	$233,642	$166,896	$1,056,244	$12,066,765	0.34	0.18
0168	BIOCHEMISTRY	Laboratory	1964	157,744	$126,365,639	$0	$1,841,765	$6,042,637	$44,617,671	$925,025	$3,057,221	$103,256	$30,672	$21,317	$56,639,565	0.45	0.27
0169	INTERNATIONAL CENTER	Office / Administrative	1964	133,524	$74,144,733	$0	$286,165	$1,608,371	$19,115,274	$348,283	$101,879	$1,352,760	$97,339	$299,426	$23,209,497	0.41	0.22
0170	VETERINARY MEDICAL CENTER	Laboratory	1965	383,657	$256,028,059	$0	$693,465	$3,045,733	$103,163,306	$5,187,781	$143,456	$133,332	$134,153	$10,437,926	$122,939,152	0.51	0.32
0170A	VETERINARY MEDICAL CENTER-EQUINE	Laboratory	1989	34,305	$21,812,535	$0	$33,671	$133,760	$2,066,087	$85,332	$0	$0	$838,709	$712,084	$3,869,643	0.19	0.08
0170B	VETERINARY MEDICAL CENTER-PEGASUS	Laboratory	2005	8,818	$6,295,761	$0	$0	$30,685	$727,854	$0	$0	$239,978	$0	$481,651	$1,480,168	0.24	0.03
0171	FOOD STORES	Food Service / Dining	1964	93,457	$70,274,082	$0	$138,594	$1,107,775	$17,139,569	$1,947,955	$15,595	$153,555	$2,076,275	$248,704	$22,828,023	0.35	0.22
0175	IM SPORTS EAST	Gymnasium / Athletics	1988	75,237	$41,476,614	$0	$117,904	$730,716	$2,727,149	$0	$11,493	$1,036,785	$269,706	$0	$4,893,753	0.30	0.06
0176	GEOGRAPHY	Classroom / Academic	1965	31,221	$19,317,686	$0	$286,959	$791,079	$8,068,459	$19,655	$194,938	$0	$0	$464,512	$9,825,601	0.52	0.32
0177	PACKAGING	Classroom / Academic	1964	50,462	$27,510,324	$0	$264,724	$425,809	$10,713,820	$328,900	$195,652	$0	$0	$19,042	$11,947,946	0.44	0.25
0178	PLANT BIOLOGY	Laboratory	1966	189,515	$154,091,545	$0	$1,080,603	$4,275,198	$60,656,487	$12,245,455	$0	$316,537	$805,385	$0	$79,379,665	0.66	0.22
0179	FOOD SCIENCE	Laboratory	1966	120,101	$106,203,141	$0	$1,077,557	$4,121,049	$22,821,438	$7,206,720	$203,227	$1,327,197	$1,416,435	$0	$38,173,623	0.39	0.20
0180	NATURAL RESOURCES	Classroom / Academic	1966	149,972	$83,458,975	$0	$1,645,993	$3,884,255	$32,489,101	$3,886,094	$573,966	$454,065	$554,750	$37,146	$43,525,371	0.53	0.36
0181A	CENTER INTEGRATIVE PLANT SYS-LAB (CIPS)	Laboratory	1967	97,563	$71,708,773	$0	$557,387	$2,388,345	$34,568,122	$0	$2,349,680	$435,739	$1,779,003	$446,624	$42,524,900	0.60	0.47
0182	BAKER HALL	Office / Administrative	1967	60,298	$38,776,103	$0	$500,246	$3,416,558	$10,718,095	$0	$707,483	$52,850	$637,802	$1,408,505	$17,441,537	0.45	0.25
0183	LIFE SCIENCE	Laboratory	1971	228,471	$142,577,508	$0	$3,020,416	$591,558	$77,772,957	$854,516	$998,608	$0	$88,908	$579,402	$83,906,365	0.69	0.53
0186	FOOD SAFETY TOXICOLOGY	Laboratory	1997	115,133	$92,230,654	$0	$108,761	$309,450	$9,383,104	$0	$875,615	$1,208,458	$0	$9,441	$11,894,829	0.18	0.10
0200	CLINICAL CENTER-CLINIC	Medical / Clinic	1976	214,661	$167,095,307	$0	$527,668	$5,642,260	$31,011,265	$16,639,646	$842,278	$153,157	$476,553	$205,934	$55,498,761	0.33	0.18
0201	CLINICAL CENTER-OFFICE/LAB	Office / Administrative	1976	77,530	$49,857,311	$0	$415,664	$2,101,318	$13,827,519	$3,314,063	$22,826	$0	$569,624	$44,898	$20,295,911	0.41	0.28
0202	CLINICAL CENTER-ANIMAL	Laboratory	1976	45,308	$38,374,067	$0	$215,328	$251,300	$2,371,345	$3,933,349	$1,573	$3,147	$244,233	$48,782	$7,069,058	0.19	0.05
0203A	ENGINEERING RESEARCH COMPLEX	Laboratory	1986	128,050	$74,769,352	$0	$158,762	$4,530,800	$17,511,173	$12,086,125	$4,522,726	$76,638	$21,099	$749,539	$39,656,862	0.59	0.21
0204	CENTRAL SCHOOL	School / K - 12	1916	24,239	$16,113,406	$0	$116,898	$236,536	$1,502,390	$748,803	$11,693	$0	$72,929	$224,734	$2,913,983	0.21	0.07
0206	ENG RESEARCH-JOLLY RD	Shops / Trade	1982	10,215	$6,433,740	$0	$53,916	$339,221	$1,308,781	$0	$674,022	$20,638	$0	$42,497	$2,439,075	0.43	0.20
0206A	ENG RESEARCH - JOLLY RD CONCRETE LAB	Shops / Trade	2001	13,700	$8,629,513	$0	$33,631	$355,235	$583,971	$305,718	$42,715	$46,591	$0	$0	$1,367,861	0.24	0.04
0208	TENNIS FACILITY	Gymnasium / Athletics	1985	67,091	$37,341,635	$0	$34,878	$6,652,453	$827,670	$18,877	$13,994	$380,376	$118,438	$69,047	$8,115,733	0.23	0.02
0209	IPF STORAGE #1 (NORTH)	Warehouse/Storage/Utility	1993	36,110	$3,735,720	$0	$20,358	$25,369	$63,655	$98,149	$0	$183,714	$0	$337,783	$729,028	0.32	0.01
0210	IPF STORAGE #2 (SOUTH)	Warehouse/Storage/Utility	1994	23,839	$2,466,613	$0	$18,433	$40,230	$126,077	$0	$97,289	$90,456	$0	$257,574	$630,060	0.40	0.03
0211	UNIVERSITY RESEARCH CONTAINMENT	Laboratory	1993	89,201	$72,490,609	$0	$0	$237,156	$7,182,326	$38,059	$183,095	$1,325,588	$19,655	$688,398	$9,674,277	0.16	0.09
0212	PAVILION AG LIVESTOCK	Gymnasium / Athletics	1996	204,594	$108,709,452	$0	$4,149	$287,844	$2,196,779	$1,440,697	$4,308,787	$31,191	$199,883	$1,559,674	$10,029,005	0.13	0.02
0213	CROP SCIENCE (AGRONOMY FARM) - FIELD LAB	Laboratory	1954	53,108	$28,676,840	$0	$56,449	$351,659	$1,905,024	$897,728	$120,724	$0	$57,625	$666,449	$4,055,658	0.22	0.05
0214	RADIOLOGY	Office / Administrative	1998	64,773	$41,653,089	$0	$58,484	$168,382	$2,425,680	$3,300	$418,596	$337,072	$290,003	$597,615	$4,299,132	0.20	0.06
0214A	RADIOLOGY GREENHOUSE	Warehouse/Storage/Utility	2006	1,499	$610,678	$0	$2,585	$0	$9,560	$11,626	$0	$0	$0	$0	$23,771	0.04	0.02
0214B	RADIOLOGY STORAGE SHED	Warehouse/Storage/Utility	2000	198	$22,000	$0	$0	$0	$1,377	$0	$0	$0	$0	$0	$1,377	0.81	0.06
0215	VETERINARY DIAGNOSTIC LABORATORY	Laboratory	2003	158,471	$128,423,286	$0	$103,519	$1,303,638	$11,295,601	$413,668	$99,228	$11,996,731	$1,833,399	$26,762	$27,072,546	0.29	0.09
0217	SPARTAN CHILD DEVELOPMENT	School / K - 12	2002	16,076	$10,687,272	$0	$0	$119,933	$818,448	$0	$225,779	$388,556	$0	$0	$1,552,716	0.21	0.05
0218	EXECUTIVE DEVELOPMENT	Office / Administrative	2001	98,257	$63,186,591	$0	$325,381	$185,134	$5,656,757	$1,722,957	$0	$123,947	$0	$0	$8,014,176	0.15	0.08
0223	SURPLUS AND RECYCLING	Shops / Trade	2008	73,194	$42,227,126	$0	$6,120	$194,599	$68,288	$542,034	$177,988	$1,611,105	$0	$134,013	$2,734,147	0.08	0.00
0224	DEMMER SPORTS EDUCATION	Shops / Trade	2009	25,776	$14,914,862	$0	$2,457	$67,230	$156,101	$0	$164,017	$0	$381,594	$38,313	$809,711	0.06	0.01
0228	BROAD ART MUSEUM	Theater / Auditorium	2012	46,237	$38,245,471	$0	$16,051	$4,115	$332,861	$0	$20,755	$109,440	$0	$245,830	$729,051	0.03	0.00
0300	SNYDER PHILLIPS HALL	Residence Halls	1947	301,133	$184,795,590	$983,688	$1,708,725	$787,332	$32,101,542	$3,211,124	$104,769	$217,336	$801,312	$41,455	$39,957,284	0.27	0.17
0302	MASON ABBOT HALL	Residence Halls	1938	189,167	$109,995,743	$990,133	$4,099,931	$877,017	$15,327,628	$3,697	$0	$624,348	$414,864	$470,947	$22,808,566	0.30	0.14
0304	CAMPBELL HALL	Residence Halls	1939	81,143	$50,001,989	$0	$2,210,771	$1,484,351	$11,138,955	$990	$0	$243,132	$398,264	$2,009,431	$17,485,895	0.37	0.22
0305	LANDON HALL	Residence Halls	1947	84,510	$57,561,197	$0	$771,084	$21,216	$683,717	$0	$0	$90,640	$118,171	$0	$1,684,828	0.08	0.01
0306	YAKELEY GILCHRIST HALL	Residence Halls	1948	134,442	$79,757,642	$0	$3,995,499	$2,263,275	$18,042,387	$79,250	$666,587	$0	$96,667	$3,503,638	$28,647,303	0.38	0.22
0308	WILLIAMS HALL	Residence Halls	1937	67,415	$42,209,175	$0	$2,141,730	$1,147,947	$8,425,404	$0	$0	$18,367	$392,003	$1,631,086	$13,756,538	0.37	0.20
0309	MARY MAYO HALL	Residence Halls	1931	64,319	$40,270,493	$0	$734,433	$10,529	$1,823,713	$0	$523,828	$0	$617,554	$123,126	$3,833,183	0.15	0.04
0310	BUTTERFIELD HALL	Residence Halls	1954	104,276	$62,868,132	$0	$638,707	$10,465	$6,565,483	$1,144,349	$0	$84,519	$607,307	$0	$9,050,831	0.18	0.10
0311	RATHER HALL	Residence Halls	1954	117,409	$70,113,748	$0	$411,697	$14,737	$6,803,675	$2,299	$1,071,398	$0	$1,355,864	$771,839	$10,431,508	0.19	0.10
0312	BRYAN HALL	Residence Halls	1954	117,837	$70,370,208	$0	$446,079	$19,351	$4,427,356	$38,975	$1,378,598	$554,374	$0	$755,617	$7,620,349	0.18	0.06
0313	BRODY HALL	Food Service / Dining	1954	166,046	$124,805,645	$0	$101,625	$55,054	$3,084,486	$1,715,824	$190,650	$69,686	$75,934	$1,827,405	$7,120,663	0.10	0.01
0314	EMMONS HALL	Residence Halls	1955	113,078	$67,527,570	$0	$496,691	$21,535	$9,109,104	$1,260,456	$90,557	$744,855	$486,820	$702,152	$12,912,169	0.21	0.12
0315	BAILEY HALL	Residence Halls	1955	115,380	$68,902,548	$0	$411,697	$18,274	$4,055,759	$0	$1,086,840	$1,226,306	$804,430	$0	$7,603,306	0.16	0.06

						NONRECURRING NEEDS			RECURRING NEEDS								
ASSET CODE	ASSET NAME	TYPE	BUILT	GSF	CRV	HIGH	MEDIUM	LOW	DEFERRED	2026	2027	2028	2029	2030	TOTAL NEEDS	FCNI	FCI
0316	ARMSTRONG HALL	Residence Halls	1955	118,115	$70,535,256	$0	$447,522	$20,772	$2,293,806	$0	$63,848	$1,270,440	$622,095	$776,238	$5,494,722	0.11	0.03
0317	SHAW HALL	Residence Halls	1950	277,198	$139,927,182	$279,765	$2,619,481	$5,626,978	$47,558,631	$1,578,962	$251,550	$82,611	$10,919,788	$486,102	$69,403,869	0.52	0.23
0319	VAN HOOSEN HALL	Residence Halls	1957	32,834	$21,688,767	$6,989	$253,614	$1,730,667	$2,271,137	$32,352	$226,989	$0	$0	$34,951	$4,556,698	0.28	0.09
0320	OWEN GRADUATE HALL	Residence Halls	1961	292,899	$168,582,858	$68,259	$3,936,994	$10,427,709	$46,020,331	$313,026	$62,089	$2,807,149	$1,780,395	$453,617	$65,869,569	0.40	0.14
0321	CASE HALL	Residence Halls	1961	302,508	$174,115,668	$0	$1,125,226	$12,252,679	$51,228,027	$2,981,926	$557,134	$57,174	$0	$2,174,228	$70,376,394	0.42	0.24
0322	WILSON HALL	Residence Halls	1962	343,928	$163,289,837	$0	$3,794,061	$8,668,016	$78,566,423	$150,887	$22,931	$0	$196,356	$54,082	$91,452,755	0.57	0.43
0323	WONDERS HALL	Residence Halls	1963	343,543	$197,734,748	$0	$769,400	$1,001,447	$44,802,195	$15,738	$0	$177,739	$967,804	$187,503	$47,921,826	0.29	0.20
0324	MCDONEL HALL	Residence Halls	1963	348,498	$200,584,562	$5,316	$3,561,481	$13,229,975	$48,237,569	$1,315,772	$17,216,024	$2,817,052	$623,801	$134,770	$87,141,759	0.46	0.22
0325	RHS SERVICES	Office / Administrative	1962	12,080	$8,637,815	$0	$9,722	$256,603	$886,422	$0	$356,765	$3,039	$21,014	$43,081	$1,576,645	0.27	0.07
0326	AKERS HALL	Residence Halls	1964	385,797	$222,052,257	$0	$2,176,013	$12,766,976	$65,838,835	$0	$144,948	$18,058,074	$806,052	$4,275,299	$104,066,197	0.51	0.27
0327	FEE HALL	Office / Administrative	1964	388,116	$249,583,360	$0	$2,788,504	$9,278,653	$65,585,592	$33,050,553	$3,582,074	$40,319	$2,544,181	$3,672,174	$120,542,048	0.53	0.24
0328	CONRAD HALL	Office / Administrative	1964	23,096	$15,557,698	$0	$112,288	$557,793	$3,337,690	$7,591	$10,131	$904,960	$13,160	$9,828	$4,953,441	0.33	0.20
0330	HOLMES HALL	Residence Halls	1965	399,755	$230,085,781	$0	$3,640,857	$19,583,122	$79,583,967	$118,406	$895,675	$397,476	$21,355,750	$4,223,158	$129,798,411	0.58	0.10
0331	HUBBARD HALL	Residence Halls	1966	351,373	$205,461,368	$0	$2,789,898	$1,401,934	$57,534,862	$14,244,908	$1,979,954	$12,060	$0	$1,741,764	$79,705,380	0.40	0.27
0332	HOLDEN HALL	Residence Halls	1967	357,199	$205,591,664	$0	$4,096,516	$1,526,543	$63,894,684	$2,127,567	$8,251,531	$56,719	$208,709	$97,880	$80,260,148	0.48	0.31
0442E	CROP SCIENCE (AGRONOMY FARM) - STORAGE 1	Warehouse/Storage/Utility	1985	16,266	$1,093,736	$0	$9,829	$0	$255,953	$0	$0	$0	$2,984	$69,340	$338,107	0.49	0.06
0442F	CROP SCI (AGRO FARM)-PESTICIDE/HERBICIDE	Warehouse/Storage/Utility	1992	3,222	$1,318,917	$0	$19,633	$0	$326,123	$0	$24,107	$0	$2,387	$0	$372,251	0.32	0.24
0442G	CROP SCIENCE (AGRONOMY FARM) - RESEARCH	Warehouse/Storage/Utility	1992	1,406	$575,924	$0	$10,831	$0	$109,066	$0	$10,430	$0	$4,357	$0	$134,684	0.36	0.16
0442J	CROP SCI (AGRO FARM) - FERTILIZER STG	Warehouse/Storage/Utility	2011	2,414	$444,136	$0	$2,030	$0	$28,049	$0	$0	$2,689	$2,984	$2,934	$38,687	0.11	0.06
0442K	CROP SCI (AGRO FARM) - STORAGE 2	Warehouse/Storage/Utility	2015	14,121	$949,496	$0	$4,059	$0	$0	$2,279	$0	$0	$0	$4,401	$10,739	0.04	0.00
0452	BOTANY FIELD LAB	Shops / Trade	1969	12,442	$2,188,509	$0	$58,611	$36,495	$578,795	$0	$0	$18,499	$138,272	$2,378	$833,051	0.43	0.26
0452A	BOTANY FIELD LAB - PESTICIDE STORAGE	Warehouse/Storage/Utility	2001	3,520	$1,441,365	$0	$2,030	$37,494	$76,545	$20,608	$0	$0	$0	$0	$136,677	0.21	0.05
0453D	UNIV FARMS SVC CTR - COMMUNITY STORAGE	Warehouse/Storage/Utility	1961	11,040	$741,956	$0	$44,331	$0	$63,803	$0	$0	$23,038	$0	$107,804	$238,976	0.32	0.09
0453E	UNIV FARMS SVC CTR - S EQUIP STG BARN 1	Warehouse/Storage/Utility	1984	4,988	$667,241	$0	$5,526	$0	$197,154	$0	$0	$10,409	$0	$0	$213,089	0.32	0.19
0453F	UNIV FARMS SVC CTR - S EQUIP STG BARN 2	Warehouse/Storage/Utility	1984	4,920	$657,902	$0	$5,526	$0	$190,923	$0	$0	$10,267	$0	$0	$206,717	0.31	0.19
0453G	UNIV FARMS SVC CTR - 4-H	Warehouse/Storage/Utility	1986	14,374	$966,099	$0	$9,927	$0	$97,779	$202,802	$0	$31,398	$6,819	$0	$348,725	0.36	0.10
0453H	UNIV FARMS SVC CTR - MAINTENANCE	Warehouse/Storage/Utility	1989	11,698	$3,032,159	$0	$40,615	$160,179	$454,905	$0	$0	$0	$128,536	$166,864	$951,098	0.32	0.14
0453I	UNIV FARMS SVC CTR - NORTH MORTON	Warehouse/Storage/Utility	1990	10,408	$699,410	$0	$8,460	$239,629	$68,635	$0	$0	$0	$0	$122,179	$438,903	0.63	0.10
0453J	UNIV FARMS SVC CTR - MTRL AND PESTICIDE	Warehouse/Storage/Utility	1990	4,894	$654,789	$0	$4,059	$627	$120,942	$0	$0	$10,213	$0	$60,487	$196,328	0.30	0.18
0453K	UNIV FARMS SVC CTR - EQUIP STORAGE	Warehouse/Storage/Utility	1996	10,278	$691,108	$0	$6,993	$200,812	$8,888	$127,933	$0	$8,094	$0	$0	$352,721	0.51	0.01
0476	HANCOCK TURFGRASS - FIELD LAB	Shops / Trade	1980	7,530	$4,960,206	$0	$75,448	$120,127	$316,743	$69,977	$7,718	$0	$0	$0	$590,013	0.18	0.06
0476B	HANCOCK TURFGRASS - PESTICIDE STORAGE	Warehouse/Storage/Utility	1985	326	$133,863	$0	$0	$0	$13,561	$0	$0	$0	$0	$0	$13,561	0.10	0.10
0476C	HANCOCK TURFGRASS - PUMP HOUSE	Warehouse/Storage/Utility	1985	39	$86,129	$0	$0	$0	$0	$0	$1,079	$53,752	$0	$0	$54,830	0.64	0.00
0476D	HANCOCK TURFGRASS - COLD STORAGE	Warehouse/Storage/Utility	1996	6,027	$622,620	$0	$2,030	$2,934	$38,064	$139,879	$0	$0	$0	$65,096	$248,003	0.40	0.06
0519	OLD COLLEGE FIELD	Gymnasium / Athletics	2002	21,795	$4,751,591	$0	$12,867	$39,604	$428,882	$11,172	$0	$6,335	$310,464	$0	$809,325	0.25	0.08
0606	MSU FCU (195 CRESCENT)	Office / Administrative	1970	60,047	$40,894,719	$0	$0	$201,929	$5,332,812	$0	$0	$0	$650	$317,436	$5,852,826	0.18	0.12
0638	MSU COMMUNITY MUSIC SCHOOL	Classroom / Academic	1975	20,842	$13,310,578	$0	$90,229	$61,580	$486,766	$492,589	$374,401	$27,184	$42,437	$290,321	$1,865,509	0.14	0.03
0900	4700 HAGADORN	Office / Administrative	1985	62,961	$40,488,979	$0	$183,820	$203,321	$6,206,570	$436,992	$0	$19,180	$66,402	$388,046	$7,504,331	0.19	0.07
0900A	4660 HAGADORN	Office / Administrative	1986	144,000	$92,603,310	$0	$277,265	$485,721	$6,718,856	$9,585,103	$208,235	$71,388	$128,327	$3,107,377	$20,582,272	0.35	0.04
0940	MICHIGAN BIOTECH INSTITUTE	Laboratory	1987	131,797	$105,580,500	$0	$283,953	$166,355	$19,141,788	$72,031	$6,587,905	$37,288	$54,757	$16,437,646	$42,781,723	0.47	0.13
1027	OFFICE COMPLEX	Office / Administrative	1983	64,159	$41,258,952	$0	$9,362	$170,578	$1,138,009	$7,475,460	$0	$20,283	$1,395,976	$0	$10,209,668	0.25	0.03
1028	OFFICE COMPLEX ANNEX	Office / Administrative	1996	13,084	$12,685,883	$0	$0	$16,187	$510,394	$122,436	$0	$0	$138,719	$36,844	$824,579	0.07	0.04
1701	UNIVERSITY VILLAGE - 1701	Residence Halls	2007	17,860	$8,980,256	$0	$9,627	$13,462	$382,344	$0	$782,509	$0	$1,791	$0	$1,189,732	0.23	0.03
1702	UNIVERSITY VILLAGE - 1702	Residence Halls	2007	11,999	$6,309,216	$0	$0	$10,517	$246,240	$0	$526,615	$0	$3,581	$0	$786,953	0.24	0.03
1703	UNIVERSITY VILLAGE - 1703	Residence Halls	2007	11,999	$6,309,216	$0	$0	$10,517	$247,135	$0	$532,065	$0	$4,477	$0	$794,194	0.24	0.03
1704	UNIVERSITY VILLAGE - 1704	Residence Halls	2007	11,999	$6,309,216	$0	$0	$10,517	$244,151	$0	$513,898	$0	$1,492	$0	$770,058	0.24	0.03
1705	UNIVERSITY VILLAGE COMMUNITY CENTER	Office / Administrative	2007	2,640	$2,149,077	$0	$0	$40,997	$134,317	$0	$90,571	$0	$8,619	$4,640	$279,144	0.21	0.05
1706	UNIVERSITY VILLAGE - 1706	Residence Halls	2007	11,999	$6,309,216	$0	$0	$10,517	$244,449	$0	$515,715	$0	$1,791	$0	$772,472	0.24	0.03
1707	UNIVERSITY VILLAGE - 1707	Residence Halls	2007	11,902	$6,258,369	$0	$0	$10,517	$244,898	$0	$522,792	$0	$3,581	$0	$781,788	0.24	0.03
1708	UNIVERSITY VILLAGE - 1708	Residence Halls	2007	17,969	$9,035,254	$0	$0	$10,027	$381,891	$0	$769,076	$0	$1,492	$0	$1,162,486	0.23	0.03
1709	UNIVERSITY VILLAGE - 1709	Residence Halls	2007	17,967	$9,034,216	$0	$0	$13,462	$379,727	$0	$769,925	$0	$1,194	$0	$1,164,309	0.23	0.03
		TOTALS:		**18,952,030**	**11,683,144,536**	**4,452,617**	**119,150,182**	**390,773,195**	**2,553,667,839**	**242,555,123**	**130,321,166**	**93,171,772**	**117,129,930**	**122,891,199**	**3,774,113,024**	**0.36**	**0.19**

Fall 2024

Appendix F: Utility System Distribution

Fiscal Year 2026
Budget Information

5-Year Capital Plan

Submitted By:

MICHIGAN STATE
UNIVERSITY

MICHIGAN STATE UNIVERSITY

FY26 - FY30 Capital Renewal Utilities (Including Deferred)

Building Name	Deferred	2026	2027	2028	2029	2030	Grand Total
BRIDGES	$ 10,734,880.00	$ -	$ -	$ -	$ -	$ -	$ 10,734,880.00
COMMUNICATION DISTRIBUTION	$ 2,493,920.00	$ -	$ -	$ -	$ -	$ -	$ 2,493,920.00
ELECTRICAL DISTRIBUTION	$ 12,099,360.00	$ 7,679,360.00	$ 6,639,360.00	$ -	$ -	$ -	$ 26,418,080.00
REGIONAL CHILLED WATER PLANT	$ -	$ -	$ -	$ -	$ 162,240.00	$ -	$ 162,240.00
ROADS	$ 20,495,280.00	$ 11,618,880.00	$ 5,809,440.00	$ -	$ -	$ -	$ 37,923,600.00
SEWER DISTRIBUTION	$ 834,080.00	$ -	$ -	$ -	$ 219,440.00	$ -	$ 1,053,520.00
STEAM DISTRIBUTION	$ 3,319,680.00	$ 5,510,960.00	$ 3,319,680.00	$ -	$ -	$ -	$ 12,150,320.00
STREET LIGHT DISTRIBUTION	$ -	$ 487,760.00	$ 487,760.00	$ 487,760.00	$ -	$ -	$ 1,463,280.00
TB SIMON POWER PLANT	$ -	$ 14,298,960.00	$ 10,338,640.00	$ 4,296,240.00	$ 51,688,000.00	$ 37,440,000.00	$ 118,061,840.00
WATER DISTRIBUTION	$ 6,639,360.00	$ 9,959,040.00	$ 4,149,600.00	$ -	$ -	$ -	$ 20,748,000.00
Grand Total	$ 56,616,560.00	$ 49,554,960.00	$ 30,744,480.00	$ 4,784,000.00	$ 52,069,680.00	$ 37,440,000.00	$ 231,209,680.00

Fall 2024

Appendix G: SFY2026 Capital Outlay Request

Fiscal Year 2026

Budget Information

5 -Year Capital Request Planning and C apital Outlay Request

Submitted By:

MICHIGAN STATE UNIVERSITY

STATE FISCAL YEAR 2026
CAPITAL OUTLAY PROJECT REQUEST

Institution Name:	Michigan State University		
Capital Outlay Code:			
Project Title:	Engineering and Digital Innovation Center		
Project Focus:	☒ Academic	☒ Research	☐ Administrative/Support
Type of Project:	☐ Renovation	☐ Addition	☒ New Construction

Program Focus of Occupants:	Undergraduate teaching and learning, and research focused on the convergence of digital and physical technologies.
Approximate Square Footage:	Approximately 270,000 gross square feet
Total Estimated Cost:	$340 million
Estimated Duration of Project:	Estimated construction duration 24 to 30 months
Is the Five-Year Plan posted on the institution's public internet site?	☒ Yes ☐ No
Is the requested project the top priority in the Five-Year Capital Outlay Plan?	☒ Yes ☐ No

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Project Purpose

The Engineering and Digital Innovation Center (EDIC) is critical to MSU's vision for meeting the grand challenges in the State of Michigan and beyond. This vision simply cannot be met with a business-as-usual approach. MSU's strategy is to go bold to accomplish its vision by creating its first **multi-college, interdisciplinary ecosystem** of teaching and learning and research solving the issues facing the world today and educating the difference makers of tomorrow. This **continuum of research and learning activity under one roof** centered at the heart of the East Lansing campus will provide an unprecedented ability for the State of Michigan to make its mark on the new frontiers of the digital future.

The center will exemplify a new way of thinking about interdisciplinary space, where using **Digital Innovation** as the umbrella creates the common thread through disciplines conventionally viewed as unconnected. For **students**, this creates possibilities where **their missions, not majors**, become the primary drivers for career possibilities. For **researchers**, this creates the potential for **sparking new ideas at the intersection of diverse perspectives**. The center will provide the catalyst for **value-added synergies** on which students and researchers can capitalize, allowing them to reach **new heights in their careers** and make **significant impacts on the world**.

Through an **interdisciplinary initiative** made possible by the EDIC, these six colleges initially lead the effort: Engineering, Natural Science, Broad College of Business, Arts and Letters, Communication Arts and Sciences, and Social Science. This collaboration will bring **substantial value to the State of Michigan**. The collective education and research focus of these colleges reflect the stated priorities of the State of Michigan's workforce and economic development strategic plan, growing Michigan's economy, attracting and retaining talent and business, and investing in research and development for future technologies. By focusing on the State of Michigan's economic priorities, the EDIC will produce **long-lasting positive impacts on the state's economy** in high-demand, high-growth industries, such as technology, healthcare, and manufacturing.

Scope of the Project

EDIC, at approximately 270,000 gross square feet, will support the emergence of a strong and transformative ecosystem focused on the convergence of digital and physical technologies and will become the epicenter of academic and research excellence. Below is a description of the high-impact research, teaching and learning, collaborative and administrative spaces critical to MSU's vision for maximum impact on the Michigan economy.

Research Space

The research labs will support interdisciplinary research in high-demand, industry-driven fields, such as **advanced manufacturing, materials science, microelectronics, and artificial intelligence**.

- **Materials Science and Manufacturing (MSM) research labs and office space** for 50 researchers and their teams. These labs will be grouped to foster collaboration and innovation across fields with highly varied and cost-intensive lab space requirements.
    - Fume-hood intensive labs: For chemical-heavy research in **Materials Science Engineering** and **semiconductor-related Chemistry** research.
    - Field-sensitive labs: To meet strict vibration and air filtration requirements for **Quantum Optics** and **Space Electronics** research.
    - High-bay labs: For fabrication and testing of **large-scale devices or apparatus**.
    - Controlled conditions labs: To meet extremely strict vibration and air filtration requirements for **Ultrafast Science / Quantum Computing** research.
- **Materials Science Core Facilities**
    - Composite Materials & Structures Center: A continuum of lab space from prep to analysis to manufacturing.
    - Diamond Deposition Space: A clean environment (ISO 6) for Ultrafast Science applications.
- **Digital Innovation and Computational Science assigned research labs** for 25 researchers and their teams studying in fields such as artificial intelligence, machine learning, and data science.

Teaching and Learning Space

EDIC is designed to be a flexible, active-learning environment with a mix of classrooms and specialized learning spaces to support instruction in topics across the **Digital Futures** spectrum. The learning spaces will serve nearly 6,700 students weekly for scheduled courses alone. MSU intentionally determined the learning space types and capacities through careful data analysis.

- **Active Learning**
    - 250-seat Lecture Hall: Used for a **broad range of courses**, maximizing the number of students interacting within an environment designed around innovative thinking.
    - 150-seat Classroom: Following the success of a **similar learning space in the STEM Teaching and Learning Facility**, MSU will replicate the model here; will double as an **Esports** competition stage and spectator area and will be front-and-center for the purpose of maximizing the student draw to EDIC.
    - Three 90-seat Technology-rich Classrooms: Designed using the latest iteration of MSU's REAL Room model, will deliver the **critical growth space** needed to accommodate the increasing student demand for **Computer Science courses**.
    - Two 30-seat Classrooms: Purpose-designed to meet the pedagogical needs of the College of Arts and Letters' interactive **Experience Architecture** instruction.

- **Specialized Instruction**
    - 50-seat Cybersecurity and Digital Investigations Teaching Laboratory: For College of Social Science, School of Criminal Justice instruction in **digital forensics evidence analysis**, part of a top ten-ranked MSU program.
    - 50-seat Game Design Teaching Laboratory: For College of Communication Arts and Sciences hands-on, interdisciplinary learning integrating technology, creativity, and collaboration for **real-world gaming solutions**, impacting society well beyond the gaming industry.
    - 48-seat Apple Design Lab: for interdisciplinary instruction focused on addressing and solving **community-focused issues** using the Apple ecosystem.

The Entrepreneurship and Innovation Hub

A dynamic, interdisciplinary space that will provide all the resources for students to **take their ideas from concept to market**. The E&I Hub will support idea generation, prototyping, networking, and business planning.

- **The Burgess Institute for Entrepreneurship and Innovation**: This well-established center is built on leveraging a network of dedicated experts to empower students to discover and find tomorrow's solutions. The institute will relocate from off-campus leased space, thus improving student access and allowing entrepreneurship and innovation to be integrated into student learning.
- **Prototyping Studio**: For fast-paced conceptualizing and iterating, this low-tech workspace (e.g. for creating quick mock-ups using paper and ink or basic software and a printer) will be an early stop for a student developing an idea.
- **Mixed Reality Laboratory**: For detailed idea development, this experientially immersive space will be critical to creating virtual experiences, pioneering new hardware solutions, and studying the impacts of **Extended Reality** (XR).
- **White Box Theater**: For innovations requiring **accurate usability testing**, this space can mimic any real-world environment and facilitate meticulous experimental evaluations requiring the ability to isolate variables.

Collaborative and Administrative Spaces

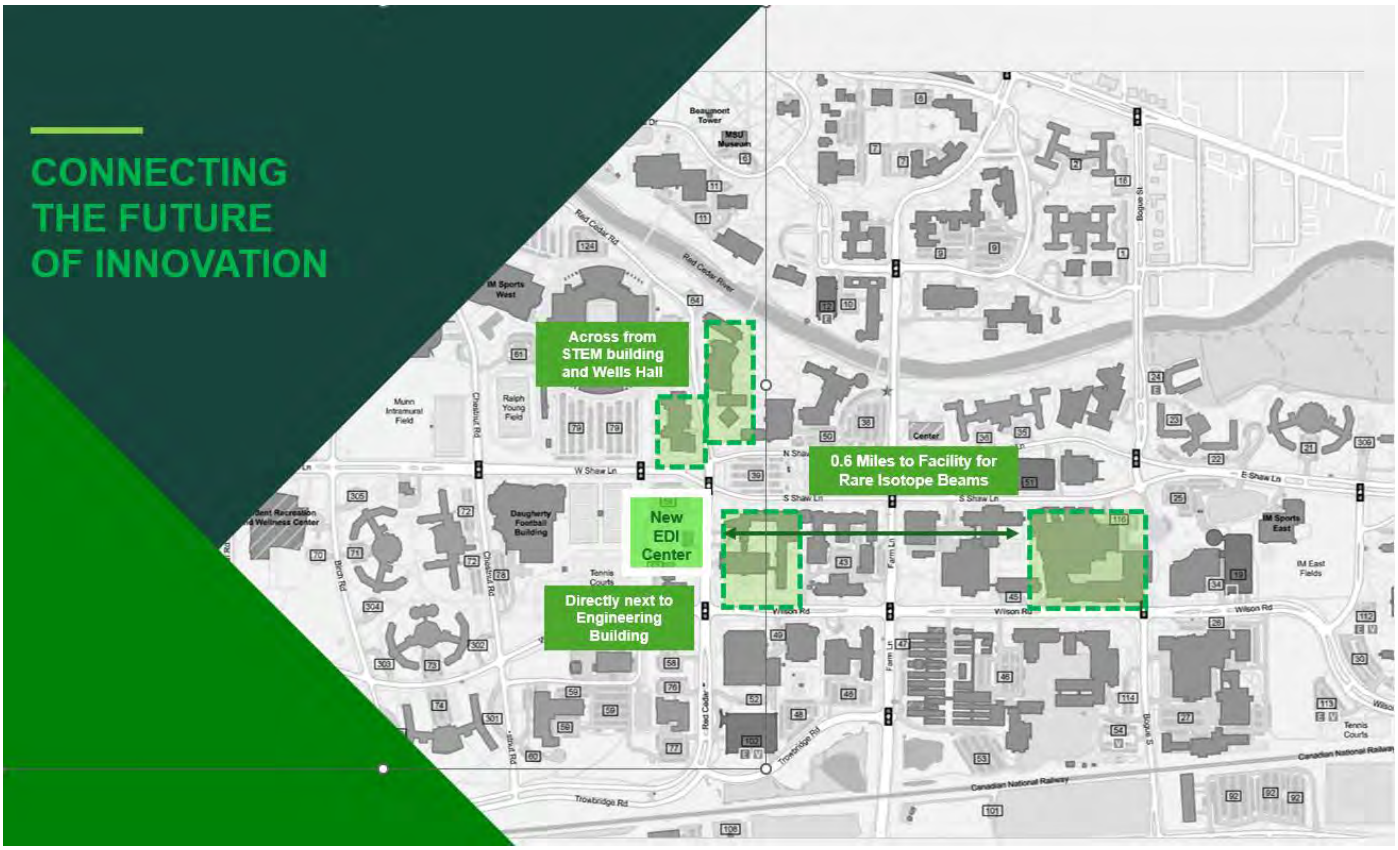
Collaboration will be infused into every activity occurring within EDIC. The heart of the EDIC will be the entry commons area designed to set **a tone of welcomeness and inspiration** for all who enter and around which all other activities revolve. Staff offices will be positioned for easy access by students, and students will experience several space options for studying and collaborating.

- **Open Study/Collaboration Space**: MSU experiences an insatiable demand from students for space to use between classes and for group study. Open seating will be located throughout EDIC, building on **the successful concept applied in the STEM Teaching and Learning Facility**.
- **Collaboration Rooms**: Bookable enclosed spaces will be located throughout EDIC and available for teams of students and researchers to use.
- **Program Offices**: At the heart of the EDIC's mission is access to the interdisciplinary resources required to participate in innovation; researchers, experts, and the relocated Entrepreneurship and Innovation Hub.

Location and Future Planning

The Center will be located in MSU's central academic district proximate to the Engineering Building, the STEM Teaching and Learning Facility and Wells Hall**.** This location is along a major path of

travel through which thousands travel each day, creating opportunities for engagement and serendipitous encounters. **This strategic placement will enhance collaboration between academic units, and across students, faculty, staff and visitors** and leverage existing infrastructure.



Program Focus of Occupants

EDIC will allow MSU to take a bold, comprehensive, and long-range approach to addressing the digital future. There will be an intentionally created ecosystem built around different disciplines and across a continuum of teaching, learning and research initiatives: researchers tackling today's issues and Michigan's future workforce preparing to become our problem-solvers of tomorrow.

<u>Student Impact</u>
EDIC, as an interdisciplinary hub for digital learning, will include these thematic areas:

- Materials Science and Manufacturing
- Computational and Data Science
- Artificial Intelligence
- Entrepreneurship and Innovation
- Cybersecurity
- User Experience
- Esports and Game Design

The addition of EDIC strengthens MSU's ability to attract and retain students **actively seeking** experiences and opportunities in digital innovation and entrepreneurship, such as those interested in:

- **Developing their entrepreneurial skills** – Burgess Institute and Hub
- **Building careers in the digital future space** – specialized learning spaces purpose built for program focus (computer science, game design, cybersecurity)
- **Engaging with a digitally-focused community** – Esports, club activities

MSU also plans to draw students who may not be aware of these opportunities by creating welcoming commons areas, open and bookable study and collaboration spaces. University classrooms, accommodating **nearly 6,700 students weekly**, will intentionally hold a broad range of courses outside of disciplines considered digitally focused. The goal is to reach every student on campus and invite them to consider the vast array of career opportunities available in digitally innovative fields and how those opportunities interact with the major each has chosen. EDIC will provide the right landscape and community to prepare students with a multifaceted skillset for resilience in tomorrow's job market.

Researcher Impact

Focus areas will include:

- Materials Science and Advanced Manufacturing
- Ultrafast Science and Quantum Computing
- Computer Science and Data Science
- Artificial Intelligence and Machine Learning
- Game Design and User Experience
- Cybersecurity

Solutions in Materials Science & Manufacturing and Digital Innovation research require interdisciplinary teams working closely together. Where typically, researchers' space assignments fall within their specific department's portfolio, EDIC research space will be designed using a thematic neighborhood model. Each neighborhood will provide a variety of space types, allowing researchers from different disciplines to work in close proximity to each other. This model will allow researchers to form effective and efficient interdisciplinary teams, generate ideas with high funding potential, and, ultimately, arrive at high-impact interdisciplinary solutions critical to solving today's grand challenges and providing real and lasting impact to Michigan's economic future. MSU has successfully employed this thematic model across the research enterprise for over 10years.

MSU's Successful Partnership with the State of Michigan

MSU is resubmitting the EDIC for consideration for capital outlay funding for SFY2026, after previous submissions in SFY2025 and SFY2024. MSU's board of trustees authorized planning for the center in June 2022. The SFY 2026 updated estimate is $340 million, updated from $250 million following the recent completion of schematic design. The planning process has further evidenced the critical nature of the project as a key piece in fast-tracking innovation, research and growing an educated workforce. MSU acknowledges and sincerely appreciates the initial $30 million appropriation for this project through the July 2023 Higher Education Bill. MSU has a history of successful partnership with the state of Michigan:

- Facility for Rare Isotope Beams (2022)
    - **SoM Allocation:** $94.5M (2014) to bond and service the community cost share

    - **Impact:** The FRIB, a Department of Energy User facility advancing nuclear physics and providing research opportunities for scientists and students from around the globe, is projected to create hundreds of jobs in mid-Michigan while bringing in more than $1 billion of economic activity to Michigan through 2030. Home page | Facility for Rare Isotope Beams (msu.edu)
- STEM Teaching and Learning Facility (2021)
    - **SoM Allocation:** $30M (2017)
    - **Impact:** 300 scheduled course sections primarily in STEM gateway courses, reaching 10,0000 undergraduate students weekly; positively impacting student persistence to meet demand for STEM related careers. Host courses, meetings, and events reaching every MSU college and the broader community. Mass timber used in construction sparked the establishment of Mass Timber at MSU program and collaborations with Michigan's Department of Natural Resources as well as external research opportunities and state economic development. Mass Timber (msu.edu)
- BioEngineering Facility (2015)
    - **SoM Allocation:** $30M (2012)
    - **Impact:** Supporting 40 faculty and their teams working at the intersection of engineering, human medicine, and natural science. The research in the building contributes significantly to MSU's overall research growth. IQ – The Institute for Quantitative Health Science & Engineering

Please provide detailed, yet appropriately concise responses to the following questions that will enhance our understanding of the requested project:

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

MSU's impact on the Michigan workforce is significant. With **one out of every five students enrolled at a public 4-year college in Michigan attending MSU**, it educates more of Michigan's undergraduates than any other state university. Further, MSU's impact on the Michigan economy continues to grow as evidenced by its upward trend in enrollment with Fall 2024 representing the **largest undergraduate enrollment of Michigan students at 32,263**. In addition, **64% of MSU graduates remain in Michigan** after graduation, making them a substantial driver of the Michigan economy.

MSU takes its responsibility to the state of Michigan's economy seriously and is constantly seeking to improve its delivery of **high-quality education to prepare practice-ready talent** for careers today and to be resilient and adaptable to meet the challenges of tomorrow. EDIC is a critical investment in Michigan's future workforce because it will **address statewide needs for innovation and entrepreneurship** in high-growth industries like automotive, AI, and digital technology. It will also strengthen MSU's position at the forefront of meeting Michigan's evolving economic needs and progressing the goals of **Michigan's Statewide Workforce Plan**.

Positioning Michigan for Success

- EDIC focus areas—**engineering, computational and data science, entrepreneurship and innovation**—represent fields of expertise for over half of the 50 jobs in the 2024 "Michigan's 50 Hot Job Outlook through 2032" report.
- The Bureau of Labor Statistics forecasts 682,000 new jobs in computer science over the

next decade. MSU students and families are clearly aware of these career opportunities as reflected by a **43.3% increase in demand for computer science degrees** over the past five years. MSU is rising to the challenge but is space and resource-limited in fully meeting the demand. EDIC will provide the **much-needed instructional space** to deliver on both the student-driven and economic demand for computer science courses.

- Currently, MSU has a **94% job placement rate** for engineering graduates with 59% remaining in Michigan. EDIC will provide enough growth space to **support a nearly 15% increase in engineering graduates over the next five years**, filling critical positions in Michigan's technology and manufacturing industries.
- High-demand industries built around engineering and technology require **innovative design thinkers** from other fields as well. As an example, the automotive industry has studied the ethical considerations of connected vehicles using game design software. A game design graduate is integral to a well-equipped team in this example. EDIC will create **the interdisciplinary ecosystem necessary** so students in fields such as **digital storytelling, user experience, game design** are empowered with the skills and confidence to build careers in Michigan's high-demand industries, creating career paths to the full suite of jobs needed to support industry growth.
- EDIC's Entrepreneurship and Innovation Hub will help students take their ideas from spark to market, strengthening the pipeline for contributing to the state of Michigan's initiatives establishing and **investing in scalable startups**, launching new Michigan-based companies, and helping the state of Michigan achieve its goal of **creating thousands of new jobs**.

<u>Industry Alignment to Drive Innovation</u>

- EDIC will produce graduates equipped to meet Michigan's workforce needs in fields like **materials science, semiconductor research, and additive manufacturing**, enabling the state to attract and retain **transformational investments** in clean energy, semiconductors, and mobility industries and will illustrate that the talent and infrastructure required in these sectors exists in the state of Michigan.
- EDIC will provide the interdisciplinary environment critical to equipping graduates with the ability to adapt to the rapidly evolving nature of many growth industries. For example, Michigan's automotive industry is actively seeking graduates trained in **emerging fields such as AI integration and data analytics**, on which the EDIC will uniquely allow MSU to deliver.
- EDIC will support **strong partnerships with leading Michigan-based tech and manufacturing companies**, ensuring graduates are well-prepared for the specific needs of the state's industries. Collaborative programs with these partners will enhance job placement rates and create clear pathways for students to build their careers in Michigan.

EDIC will generate **long-term economic benefits for Michigan**. It will strengthen MSU's ability to produce highly skilled graduates accustomed to working in interdisciplinary environments and **bolstering the state's position to achieve its "Sixty by 30" goal**. These graduates will be **positioned to lead in Michigan's priority industries**, such as materials science, automotive, computational and data science, and cybersecurity. On a more holistic level, however, EDIC's environment will **support a systems-based way of approaching problems**, which will, in turn, produce thinkers who are resilient and can adapt to what is sure to be a **rapidly changing career landscape** over the course of their lives.

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

Central to Michigan State University's mission are the tenets of 1) **providing outstanding educational opportunities** to prepare students to contribute fully to society and 2) **conducting research of the highest caliber** to make a positive difference, both locally and globally. EDIC will play a crucial role in advancing MSU's mission by providing the space necessary to teach, learn, and conduct research of the highest caliber. EDIC will create a unique environment by **co-locating research and teaching and learning**, thereby generating opportunities for a diverse cross-section of MSU's undergraduate population. As a foundation for initiatives initially led by six colleges, EDIC will enhance MSU's commitment to interdisciplinary collaboration, providing rich educational experiences and accessibility to topics in engineering, social sciences, communications, technology, arts and humanities, and entrepreneurship.

EDIC enhances the **teaching and learning** and the **research** pillars of MSU's mission in these ways:

Teaching and Learning

Provide capacity for growth in enrollment

- EDIC will provide growth space critical to supporting MSU's decade-long pattern of growth. In Fall 2024, MSU welcomed its **largest number of undergraduates to date at 41,234 students**.
- The **College of Engineering's enrollment has grown 35%** over the last decade. Enrollment is projected to continue to increase by **1,000+ new undergraduate engineering students over four years**, including students in computational sciences and digital literacy disciplines, and in graduate-related programs.
- EDIC will provide **much-needed classroom space**, including a 250-seat lecture hall, a 150-seat classroom, and 30-, 50-, and 90-seat active learning classrooms and classlabs. An analysis of current classroom utilization, coupled with the known demand for **modern teaching environments** aligning with **best practices in teaching and learning**, guided the decisions to include these instructional spaces. Additionally, MSU determined that renovations alone are not sufficient to address capacity, functional alignment, and creation of a teaching and learning ecosystem.

Bring disciplines together for transformative and innovative programming

- EDIC will capitalize on **established collaborations** between the colleges of Business, Engineering, and Natural Science on large projects **centered around data science, machine learning, and quantitative methods**.
- State-of-the-art instructional space will be provided for even **wider-ranging collaborations** with the colleges of Arts and Letters, Communication Arts and Sciences, and Social Science. This ambitious and purpose-built center **for interdisciplinary learning** will provide students with opportunities **to build strong, critical skills** for high-demand fields.
- Intentionally conceived as **a center** reaching beyond the walls of the structure, EDIC will be **open to students and disciplines beyond the initial six colleges**. Spaces within the building, such as classrooms, commons, and collaborative areas will be **welcoming to the broader campus community**.

Research

Alignment with MSU's 2030 Strategic Plan Goal to Grow Research

MSU is on track to reach its Strategic Plan goal of $1 billion in research expenditures by 2030. In alignment with that goal and **MSU's decade-long trend of research growth**, EDIC begins to provide the **space necessary to foster interdisciplinary collaboration** for the innovative research needed **to create solutions and make a positive difference**, as called out in MSU's mission statement.

- MSU continues to attract new faculty and increase research productivity that has culminated in **research expenditures increasing approximately 60% over the last decade**.
- The College of Engineering alone has **grown its faculty and increased research expenditures 21% over the last decade to $63 million** in 2023.

EDIC will **align modern building infrastructure and space functionality** with the industry needs of today and well into the future, becoming MSU's center for excellence in **advanced manufacturing, materials science, artificial intelligence and computational research and quantum computing**. The center will provide:

- **Modern, flexible and modular research environments** that can evolve to meet future research and allow for collaborative shifts.
- The space to **co-locate interdisciplinary faculty** engaged in common research themes, creating opportunities **for spontaneous collaboration, sharing of ideas, and resources**, thereby integrating research development at the basic, applied and production levels.

3. Describe how the project will address, incorporate, or enhance any equity efforts, policies, or goals for the academic programs within the scope of the project or as a component of your institution and campus at large?

In 2021 the university adopted three interconnected strategic plans: 1.) MSU 2030: Empowering Excellence, Advancing Equity, and Expanding Impact; 2.) Diversity, Equity, and Inclusion Diversity, Equity and Inclusion Plan | Michigan State University (msu.edu); and 3.) Relationship Violence and Sexual Misconduct. These strategic plans guide the planning and decision making across the institution. The MSU 2030 Strategic Plan establishes Equity; defined as eliminating barriers to access and success, challenging bias and discrimination, and addressing past and present inequalities; as one of the main tenets guiding actions and decisions moving forward. The plan emphasizes a **comprehensive and people-centered approach**. EDIC specifically addresses two objectives within the Diversity, Equity, and Inclusion theme:

Objective 1. Increasing proactive engagement with historically underrepresented and underserved populations.

At its core, EDIC is a **hub for fostering new and innovative ideas** to tackle the grand challenges impacting economic development in Michigan and beyond. To achieve big and important goals, MSU knows it takes all hands on deck. This means creating a space where **all students are thriving** and not just surviving. EDIC aspires to create a welcoming environment for MSU students to learn, study, and collaborate by **leveraging and strengthening established initiatives** occurring at both college and university levels. Bringing 6+ colleges together under one roof will provide opportunities to scale these and thus magnify their impact. Three examples are:

- **College of Engineering**: established efforts investing in **K-12 outreach** (Women in Engineering K-12 programs and camps), **first-generation student initiatives** (Student Success Coaching), and **multi-cultural initiatives** (Engineering and Science Success Academy).
- **College of Arts and Letters**: **Excel Network**, supporting a holistic approach to charting successful paths to meaningful careers, demystifies the vast suite of career possibilities by providing access to career education, advising, and alumni networking.
- **Burgess Institute**: Through the belief that community is the cornerstone of successful entrepreneurship, the Burgess Institute partners with student-run organizations. The **MSU Entrepreneurship Association** focuses on building a diverse membership and connecting with established entrepreneurs.

Objective 2. Providing a world-class academic environment that integrates DEI in teaching, research, and service.

EDIC design will align with the **principles of universal design**, reflecting the importance of infusing equity and inclusion into all aspects of the physical environment. The goal is to **raise the standard** for how spaces communicate a sense of belonging for all. To inform the ways in which EDIC can meet a new standard, a **project-specific committee** was convened, consisting of leaders across the six colleges and university-level units focusing on accessibility and inclusion. At future points in the design process, **student input** will be gathered for additional insights. Facility features highlighting MSU's commitment to equity include:

- **Barrier-free accessibility**: Every space from classrooms to research labs is designed to be fully barrier-free and align with the 7 Principles of Universal Design.
- **Furniture**: From classrooms to commons areas, all furniture will be flexible and adaptable for ease of use across a range of body types and functions.
- **Personal Health Spaces**: Allowing each individual to bring their whole self to campus, EDIC will include private Personal Health Rooms (complying with federal lactation space requirements), Reflection Rooms, and Single Occupant Restrooms. These spaces are all parts of campus-wide Personal Health initiatives.

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

Yes, the requested project is focused on a single, stand-alone facility of approximately 270,000 gross square feet to create an interdisciplinary hub for the digital futures, spanning teaching and learning and research.

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

While the Engineering and Digital Innovation Center represents new construction, it plays a critical role in strategically repurposing existing facilities and infrastructure. Through the relocation of functions from older buildings, this project will free up space, allowing it to be reallocated, improving function and infrastructure alignment, so MSU can maximize its existing infrastructure. The site selection leverages access to proximate utility systems and connections.

- **Strategic repurposing of vacated space to support new research needs:** As programs relocate to EDIC, MSU will repurpose vacated spaces to better align with current academic and research demands. Existing spaces, unable to support hood-intensive experimental research, will be renovated to accommodate growing demands for less infrastructure-intensive research in science, technology, engineering, and mathematics (STEM) fields, maximizing the potential of these spaces.

- **Leveraging existing campus infrastructure:** The EDIC will utilize existing utility infrastructure on central campus to the greatest extent possible, minimizing disruption and maximizing the use of current resources.

By constructing EDIC, MSU is creating a holistic solution: not only a cutting-edge facility for emerging digital and manufacturing fields, but also an opportunity to revitalize existing infrastructure. This strategic approach enables MSU to address the limitations of older buildings while still adapting to the evolving needs of its academic and research programs.

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

The majority of the instructional and research functions that will be placed in the new building are currently located in buildings that do not have adequate or functionally appropriate square footage and/or infrastructure, such as the capability to add additional fume hoods and air exchanges in the research laboratory(s) to meet the needs of the programs. While there have been renovations to selected rooms and infrastructure, they come with inherent infrastructure challenges commensurate with the age of the buildings. The new construction will address ongoing challenges to optimal student and researcher health and safety, such as infrastructure obsolescence and room configurations that do not support active, collaborative and interdisciplinary learning and research. Renovation of the vacated spaces as a subsequent set of projects will bring the existing spaces into compliance with current codes and re-use will be aligned with infrastructure and functional capacity of the space.

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

Michigan State University (MSU) employs a **comprehensive and data-driven approach** to measure the utilization of its facilities, ensuring that space is used efficiently and aligned with institutional goals.

Benchmarking and Metrics:
MSU recently completed a **strategic space and facilities framework** for the College of Engineering, benchmarking against Big 10 peers. Key findings include:

- **Lowest space per student:** 47 assignable square feet, below peer institutions.
- **Space per faculty:** 1,468 assignable square feet, the second lowest in the peer group.
- **Academic lab space per student:** 9 assignable square feet, also the second lowest.
- **Research space per faculty:** 668 assignable square feet, below both the median and average in the peer group.

By building EDIC, MSU is targeting much needed improvements in space available to students and faculty according to benchmarking studies. The center addresses the most critical need for fume hood capacity and accommodates research not currently possible due to research space and infrastructure limitations, while also creating new academic lab space for students. The planning for EDIC has been informed by peer benchmarking studies providing MSU with targets for space per researcher and student, as well as research studies guiding the planning of lab space needs.

Improving Utilization:

- The planned demolition of the Urban Planning and Landscape Architecture building will eliminate 56,000 gross square feet of obsolete space, removing the need for over $20 million in capital renewal for HVAC and ADA compliance.
- Functions previously housed in this building will be relocated to more efficient and aligned spaces, further optimizing MSU's space utilization and functional alignment.

Space Utilization Process:
MSU uses **quantitative metrics** to measure the productivity and utilization of research labs and academic office space. These include:

- Research expenditures per square foot of research space and office space.
- Net square feet per full-time equivalent employee (FTE).
- Workplace strategic framework provides updated guiding principles and space allocation guidelines for office, office support, conference and related space types. Research space phenotypes developed as part of a strategic research space framework guiding the space allocations for dedicated and shared resources.

Since implementing these metrics, MSU has achieved a **20% improvement** in research productivity, measured by research expenditures per square foot.

Continuous Monitoring and Peer Comparisons:
MSU regularly benchmarks space utilization against **peer institutions** using data from the National Science Foundation and the Higher Education Facilities Management Alliance. This data-driven approach to space utilization ensures that MSU makes the most of its existing resources while planning for the future needs of its growing programs.

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

The Engineering and Digital Innovation Center is designed to integrate innovative sustainability principles that enhance operational efficiency, reduce environmental impact, and contribute to MSU's long-term climate neutrality goals. EDIC's **key sustainability features** will be:

LEED Gold: The center will exceed MSU's baseline of LEED Silver by aiming for LEED Gold certification, demonstrating a strong commitment to sustainability in line with the university's 2030 Strategic Plan and its 2050 climate neutrality targets. This will ensure the facility incorporates energy-efficient systems, sustainable materials, and innovative design elements.

Commitment to Sustainable Health:

As part of the 2030 Strategic Plan, the center will support MSU's goal of sustainable health in its physical environment, ensuring that spaces promote health and wellness for students, faculty, and the wider campus community.

The facility will emphasize occupant well-being by aiming for Fitwel certification, a research-based healthy design certification that prioritizes human health in the built environment. This certification will ensure the center promotes safety, comfort, and overall wellness, contributing to a productive and inspiring environment.

Teaching Sustainability by Design: The EDIC will act as a living example of sustainable practices, using its design and operations as educational tools for students across various disciplines. From materials science to entrepreneurship, students will experience how innovative thinking can address grand challenges like the climate crisis.

Energy Efficiency and Environmental Impact: The center will integrate advanced energy management systems, water conservation technologies, and sustainable landscaping to minimize its environmental footprint while optimizing operational efficiency. These systems align with MSU's broader goals of reducing energy consumption and promoting environmental stewardship.

By adopting sustainability principles beyond current standards, the Engineering and Digital Innovation Center will stand as a symbol of MSU's commitment to sustainable health, environmental responsibility, and climate action, while providing a healthy and vibrant space for its community.

9. 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?

Yes, Michigan State University commits resources in the amount of $240 million (70.5%) of the $340 million estimated project cost. The university match will be from MSU capital and/or bonding paid for from university general fund revenue and philanthropic gifts.

10. If authorized for construction, the state typically provides a maximum of 75% of the total cost for 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?

We respectfully request state consideration for $70 million cost participation of the total estimated project cost of $340 million. The state of Michigan recently appropriated $30 million via the higher education bill in July 2023. This request is for an additional $70 million, for a total state contribution of $100 million.

11. 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.

Building operating costs for utilities, custodial, maintenance, and staffing for the facility is estimated at approximately $2,500,000 annually or $12,500,000 over a 5-year period, based on current dollars and gross square footage. Additional operating costs will be funded by general fund revenues.

The operating costs will be partially offset by the removal of 56,000 gross square feet of space with annual operating expenses for utilities, custodial, and maintenance services of approximately $400,000 annually or $2,000,000 over a 5-year period based on current dollars

and gross square footage, and the cost avoidance of over $20 million in future infrastructure reinvestment as a result of demolition of the UPLA Building and the defunct water reservoir.

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

This project will not have any direct impact on tuition costs.

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

If EDIC is not authorized, the impacts on MSU and its students will be significant, affecting enrollment growth, faculty hiring and research growth, and Michigan's economic and workforce development.

Key Impacts:

- **Diminished Reputation**: Without investment in EDIC, MSU's reputation as a leader in innovative and top-quality education will suffer. MSU's infrastructure is aging and with growing enrollment, MSU faces capacity limitations. The institution needs state support for the EDIC to continue to provide Michigan students with an education consistent with MSU's reputation as a top-tier educational and research institution.
- **Faculty Hiring Limitations:** MSU will be unable to hire additional faculty to teach and conduct research in critical fields such as engineering, computational science, cybersecurity, and digital innovation. This will hinder the university's ability to meet the growing demand for expertise in these areas, and limit talent development and state economic impact.
- **Enrollment Restrictions:** The university will be unable to increase enrollment by 1,000+ undergraduate and 400+ graduate students in high-demand fields, such as Computer and Computational Sciences in the College of Engineering, limiting the state's talent pipeline in sectors essential to Michigan's future economic growth.

Negative Consequences for Michigan's Future Workforce:

- **Talent Pipeline:** MSU will struggle to produce enough graduates to meet industry demand in advanced manufacturing, materials science, chip development, and artificial intelligence, weakening Michigan's competitive position in these rapidly evolving fields.
- **Workforce and Economic Impact:** A lack of capacity to grow enrollment in key areas will negatively impact workforce development. This, in turn, will affect the lifetime earnings potential of Michigan students, as they will lack access to the cutting-edge education and training needed for high-demand, high-paying careers.
- **Reduced Research Growth:** Without the capacity to expand critical areas of research, such as Materials Science and Manufacturing in the College of Engineering, MSU's ability to serve as the epicenter for academic and research excellence supporting industry and Michigan's economic needs will be greatly diminished.

Diminished Leadership in Innovation:

- MSU's ability to lead in teaching, learning, and innovation will be significantly diminished, affecting its reputation as a forward-thinking institution. Without the EDIC, MSU will not be able to provide the 21st-century learning environment needed to prepare students for the digital futures industries seek.

Partnership and Industry Development:

- MSU will risk losing opportunities to be a strong partner with the state of Michigan, as well as regionally, in attracting and retaining talent and fostering industry partnerships. The

inability to expand these relationships will limit Michigan's ability to capitalize on high-tech industry investment and talent development in fields like AI, cybersecurity, and advanced manufacturing.

Without this facility, MSU will be unable to respond to the critical demands of 21st-century education and industry, ultimately impacting Michigan's economic growth and the future success of its students.

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

Several alternatives to the Engineering and Digital Innovation Center were considered, including the renovation of existing facilities. However, after a thorough evaluation as part of the **strategic space and facilities framework plan**, it became clear that new construction is the only viable option to meet the university's long-term needs.

Why Renovation is Insufficient:

- **Limited Impact:** Renovations of aging facilities would yield only minor improvements and would not address the specialized needs of emerging fields like **materials science, heterogeneous micro-electronic technologies, and semiconductor research**. These disciplines require state-of-the-art labs and robust infrastructure, which cannot be provided in the current facilities.

- **Capacity Constraints:** Existing spaces, even with upgrades, would not be able to accommodate the current and **projected growth in student enrollment** or meet the demands for **modern teaching and learning environments**. The outdated infrastructure cannot support the space-per-student requirements, or the advanced technologies needed for **experiential learning** and **digital futures programs**.

Challenges with Current Renovation Efforts:

- Over the past decade, MSU has made extensive efforts to renovate existing instructional spaces, upgrading classrooms and teaching laboratories with new technology and finishes. However, these updates have not been able to keep pace with the shift toward active learning and interdisciplinary approaches.

- **Functional misalignment**: Simply replacing furniture and technology does not solve the core issues of functional alignment or provide the **infrastructure needed** for the evolving curricula. The current facilities are now **sub-optimal** for modern educational needs, limiting student learning outcomes.

Why New Construction is Necessary:

The Engineering and Digital Innovation Center will provide the **capacity, flexibility, and technology infrastructure** necessary to support a range of learning modalities and cutting-edge research. This facility will bring together programs from multiple colleges, creating an interdisciplinary ecosystem that reflects how future graduates will engage in the workforce.

- A new building allows MSU to plan strategically for the future, offering the **functional**

alignment and **high-tech environments** required to remain competitive and to **foster innovation** in digital futures and related fields.

Ultimately, new construction is the only solution that can adequately meet the **demands of enrollment growth, research expansion**, and the need for **state-of-the-art teaching and learning environments**. It provides a long-term, scalable solution that will position MSU at the forefront of education and research in Michigan and beyond.