

The background of the slide features a photograph of a clock tower, likely the Old Main building at Missouri Western State University. The tower is a multi-story structure with a prominent clock face on its upper section. It is surrounded by lush green trees. A large, semi-transparent yellow rectangle covers the left side of the image, extending from the top to the bottom. The text "Missouri Western State University - Master Plan 2015" is overlaid on the bottom left of the yellow area.

Missouri Western State University - Master Plan 2015







Letter From the President

As Missouri Western State University celebrates its centennial anniversary, it seems an appropriate time to assess our institution's physical campus and consider our future capital needs. This campus master plan has evolved from our history, mission, vision and strategic plan, and establishes a framework for the physical growth and evolution anticipated over the next decade.

In addition to a thorough analysis of our campus infrastructure, this plan was developed by talking with students, faculty and staff members, community partners, alumni and friends who helped us understand our strengths, challenges and opportunities, as well as the improvements and assets necessary for moving our university forward. The resulting plan supports Missouri Western's campus environment, which fosters a sense of community, contributes to student learning and development, enhances pride in the university, and serves as an asset for Missouri Western's students and the greater region.

Please realize this document will evolve, for, after all, it is a plan not an edict. Many factors will come to bear, not the least of which is funding. However, we now have the framework in place to discuss priorities and outline possibilities while strategically considering our resources. The plan points out deficiencies and opportunities while offering comprehensive solutions. It will guide our decisions regarding new construction and renovation, vehicular and pedestrian circulation, accessibility, parking, signage, landscaping, safety and security, land development, space utilization, and other factors. An executive summary can be found on page 1.

We are extremely pleased with the professionalism and thoroughness of Clark|Huesemann LC, which led us through this important, thought-provoking, and detailed process. Special thanks go to Steve Clark and Jane Huesemann for their expert leadership and dedication to the initiative. We also greatly appreciate the guidance of the Master Plan Steering Committee members, whose names are listed on the following page. In addition, we recognize the University's Board of Governors and all campus and community members who provided input and encouragement. Thank you for being part of the process – we couldn't have been successful without you.

Robert A. Vartabedian
University President





MASTER PLAN STEERING COMMITTEE

Bob Vartabedian, University President
David Liechti, Board of Governors Member
Jeanne Daffron, Provost & VP for Academic Affairs
Cale Fessler, VP Financial Planning & Administration
Shana Meyer, VP for Student Affairs
Kurt McGuffin, Athletic Director
Jeff Ellison AIA, University Architect, Ellison-Auxier Architects, Inc.
Lonnie Johnson, Director of Facilities (Retired)
Jerry Gentry, Director of Facilities
Brian Harrah, Buildings Supervisor
Bruce Whitsell, Grounds Supervisor
Kevin Anderson, Immediate Past President of the Faculty Senate
Carol Hare, Immediate Past President of the Staff Association
Daniel Hager, Student Government Association President
Ann Pearce, Special Assistant to the President – Chair



A grayscale photograph of a person with a backpack walking away from the camera through a forest. The person is wearing a dark jacket and light-colored pants. The forest has many trees with dense foliage. The image is partially obscured by a yellow overlay on the right side.

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01 EXECUTIVE SUMMARY

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INTRODUCTION

Missouri Western State University is a comprehensive regional university providing a blend of traditional liberal arts and professional degree programs. The university has a statewide mission in applied learning, and offers undergraduate and graduate certificates and degrees. As the state's largest open-enrollment university, Missouri Western serves nearly 6,000 students, more than a quarter of whom are nontraditional. Nearly half of Missouri Western's students are first-generation college attendees.

Missouri's higher education system receives significantly less state fiscal support than any of its eight contiguous states. Missouri Western, more dramatically, has the lowest per-student funding among Missouri public universities. In addition, the discontinuation of annual state capital project funding has a direct and wide-ranging impact on the ability of the university to build, improve and maintain its physical plant. This condition impacts every master planning decision and makes every choice an important one.

The institutional opportunities and challenges at Missouri Western inspired this plan for the future of the campus. The 2015 Campus Master Plan will provide direction for physical growth and development of the institution over the next decade. This plan is designed to enable the university to realize the vision of its strategic plan and to continue to seek ways to best serve the students that will call this place home for these formative years.

PROCESS

Throughout the almost yearlong planning process, campus and community engagement was central to the effort and decision making. The process was guided by a steering committee established at the beginning. These individuals are listed by name in the acknowledgments. Outreach to students, faculty, staff, and the community provided a comprehensive view and understanding of the university and its facilities.

The master plan process included two main phases of work: analysis and design. In the analysis phase, all previous planning work, deferred maintenance lists, and other Missouri Western working data were reviewed and formed a significant portion of the basis of work. A series of meetings was held with multiple stakeholders, gathering departmental information, discussing planning issues, listening to impressions of the campus, and understanding functional limitations of facilities. Community members were interviewed and the steering committee was engaged in identifying the key issues the master plan should address. Open campus forums solicited input on items to address, and goals guiding the design of the master plan were created.

During the analysis phase nearly every room and space on campus was visited by the master planning team, guided by representatives of the users of that space. Ethnography was applied to investigating the specific use of computer labs, the library, and how students make their way through campus throughout a day. Parking, traffic, civil engineering, storm water, landscape

and signage experts visited the campus and prepared a specific analysis of each of the issues in those disciplines.

The findings of the analysis phase then shaped the planning principles for the master plan. In the design phase, alternative master plans were created for the purpose of generating discussion and receiving input. Alternatives were presented to the steering committee, at open campus forums, and to other organized committees on campus such as the Deans' Council, student government, and others. Many stakeholders had a hand in shaping the final master plan. Recommendations for implementation and cost information for budgeting supplement the master plan design.



GOALS

Strategic Plan

Achieving Excellence, Transforming Lives, the strategic plan for Missouri Western State University, is the institutional vision that inspired this master plan for the future of the campus. The strategic plan's goals and objectives were foundational in the creation of master plan goals to guide the plan's development and recommendations.

Strategic Plan Goals

Goal 1: Enhancing the Educational Experience

**Goal 2: Preparing Graduates for Careers,
Graduate Studies, and Life Opportunities**

Goal 3: Increasing and Managing Resources

Master Plan Goals

With MWSU's strategic plan in mind, the master plan sought to directly address six goals:

- 1. Address Basic and Urgent Needs**
- 2. Enhance the Educational Experience**
- 3. Strengthen Connections to the Community**
- 4. Develop a Cohesive University Community**
- 5. Build Financial Sustainability**
- 6. Create Pride of Place**



1 ADDRESS BASIC AND URGENT NEEDS

The master plan provides an analysis of the current campus and its facilities identifying basic and urgent maintenance and safety needs. Recommendations addressing fire and storm safety are included.



2 ENHANCE THE EDUCATIONAL EXPERIENCE

Additions to the campus are suggested to provide the appropriate facilities and programs that will bring the university into par with benchmark universities across the region and provide fully supported and well-rounded academic and student life experiences. The unique needs of the Missouri Western student population are also addressed.



3 **STRENGTHEN CONNECTIONS TO THE COMMUNITY**

Through the implementation of the master plan recommendations, the future Missouri Western State University campus will provide enhanced campus portals, additional and improved access for the community through athletics, arts, and recreation. Additions to these facilities will provide more and expanded opportunities for community engagement at Missouri Western.



4 **DEVELOP A COHESIVE UNIVERSITY COMMUNITY**

The creation of an academic home for all students and particularly for those not living on campus is included. Master plan ideas move the campus design and layout toward enhancing the experience of life on campus for students, faculty and staff as they travel easily from one building to the next and find many diverse places for gathering together, studying, eating, working together, or simply enjoying a program or presentation.



5 BUILD FINANCIAL SUSTAINABILITY

Guidelines for evolving to resource-efficient buildings and grounds created the foundation of the recommendations. Operational efficiency is seen as a high priority. Many land opportunities are identified for future development, enabling the university to leverage landholdings for revenue.



6 CREATE PRIDE OF PLACE

The master plan locates the placement of new facilities, and identifies landscape and signage changes to enhance the visitor experience and to create a great first impression. A focus on increased design quality builds pride, encourages upkeep, and is a successful path to sustainability and fiscal responsibility. Natural areas are preserved and enhanced. Campus places, interior and exterior, are included in the design for sense of community and gathering.

OBSERVATIONS AND NEEDS

BUILDING OBSERVATIONS

The campus facilities are aging, and the current funding and approach to maintenance is not keeping up. Overall, the buildings are showing wear, are falling behind in code compliance, lack serious energy efficiency, and aesthetically suffer from a system of “patching.”

The existing building conditions chart on page 46 is a good summary of the relative physical condition of the structures on campus. The specific building component analysis sheets can be found in the appendix starting on page 142, and a comprehensive description of each facility and its needs can be found in the Needs and Observations section of the full report.

In abbreviated form, 17 overall building observations will follow - in no particular order:

1. Agenstein/Remington Hall:

Corrections to the make up air systems to address code and energy efficiency issues.

2. Eder Hall:

Urgent deferred maintenance items: exterior envelope, mechanical, electrical, and plumbing systems.

3. Looney Complex:

Urgent deferred maintenance items include: code and ADA compliance, acoustics, exterior envelope, roof, fire protection, mechanical, electrical and plumbing systems, addition of air conditioning, major renovations to the pool. Expansion of gymnasium space is needed. Lack of student (non-varsity athlete) recreation space is highly problematic compared to peer institutions (see page 66).

4. Murphy Hall:

Replacement of deteriorated materials and systems with higher quality, durable finishes.

5. Popplewell Hall:

Urgent deferred maintenance items: exterior envelope, fire protection, mechanical, electrical and plumbing systems, and interior finishes and furnishings. A number of noncompliant code items exist, and the entry and way finding systems need to be improved.

6. Potter Hall:

A complete renovation is needed including additional space to support Art, Music, and Theatre/Dance. Urgent deferred maintenance items: exterior envelope, roof, fire protection, mechanical, electrical and plumbing systems,

and acoustics. A number of noncompliant code items exist including indoor air quality and safety systems. Lack of performance space is significant compared to peer institutions (see page 67).

7. Spratt Hall:

Typical maintenance needs. Some HVAC, fire protection, electrical and roof issues exist.

8. Griffon Indoor Sports Complex:

Typical maintenance required.

9. Wilson Hall:

A complete renovation is needed to bring the building systems up to the quality of a campus building. Urgent deferred maintenance items: exterior envelope, roof, fire protection, mechanical, electrical and plumbing systems. Differential settlement and ground water issues should be addressed.

10. Hearn Center:

Seek ways to improve the Hearn Center as a cultural facility and center of student activity on campus. Urgent deferred maintenance items: exterior envelope, roof, fire protection, mechanical, electrical and plumbing systems. A number of noncompliant code and ADA items exist.

11. Fulkerson Center:

Typical maintenance required. There are some roof leaks and some differential settlement.

12. Blum Union:

Seek to improve the Union and its ability to serve current student-life needs as well as create a great first impression for visitors and connection to campus. Additional space for dining is needed. Urgent deferred maintenance items: exterior envelope, roof, fire protection, mechanical, electrical and plumbing systems.

13. Baker Fitness Center:

The building is heavily used and needs expansion. Deferred maintenance items include plumbing systems.

14. Spratt Stadium:

This building should be replaced. A number of noncompliant code and ADA conditions exist in addition to significant water damage and deterioration throughout.

15. Kit Bond Science & Technology Incubator:

Typical maintenance required. Exterior envelope needs attention for energy efficiency.

16. Facility Services Area - West Campus:

Low quality metal buildings that will require siding and roofing repairs/replacement soon. Functionality improvements for shop activities and secure/climate controlled storage is needed.

17. Residence Hall System overall:

Fire protection systems are needed as a high priority. Deferred maintenance items: exterior envelope conditions, mechanical, electrical, and plumbing systems. A housing department office suite is lacking, and the system needs to offer more variety and amenities including program-specific space for freshmen, non-traditional students, and the possibility of an expanded greek community.

Logan, Beshears, Juda, Residence Halls

Need to be replaced or extensively renovated.

Leaverton and Vaselakos Residence Halls:

Typical maintenance. Finishes need to be upgraded.

Griffon and Scanlon Residence Halls, and Commons Building:

Typical maintenance required.

PROGRAM NEEDS

1. The campus is currently serving students with classrooms that are adequately outfitted with technology and furnishings and there is capacity for growth.
2. Space for students to gather before and after class, work on projects, and create an academic “home” is lacking.
3. Science labs and computer labs are fairly new and have capacity for growth.
4. The library should be transformed to serve as an anchor for student academic functions.
5. Office space varies in size but many are undersized, and there is no capacity for growth. Some departments lack a centralized office suite, and most lack shared space for collaboration.
6. Some programs such as Nursing and the School of Business are operating in space that lacks adequate support for the quantity of students graduating from these programs.
7. A performance venue with at least 1,000 seats is needed, and there is a lack of adequate rehearsal and support space to accommodate the number of students in this program.
8. A campus visitor’s center is needed to provide support for recruiting and for universitywide functions.
9. The stadium does not offer amenities or space for donors and reserved seating that is consistent with its peer institutions.
10. The space available at Baker Fitness Center is undersized and currently reaches an occupancy level that is over capacity.
11. Dedicated gymnasium space and outdoor fields for recreation should be provided.
12. A below average number of seats for dining is currently available, and would need to increase by 100.
13. To continue housing the same percentage of students on campus, an additional 120-240 beds should be added, with amenities and types to serve freshmen and nontraditional students.
14. Many campuses provide a president’s home used for entertaining guests and hosting events. Missouri Western previously had such a facility but it is no longer standing.



MASTER PLAN DESCRIPTION

The vision for the future Missouri Western University campus honors the foundational layout created in 1967. The 2015 Master Plan capitalizes on the current layout and resources in planning for the next decade of growth of the campus to 7,500 students. The campus design is one of a landscaped park inside a ring road. The academic core sits in a park-like setting on the main ridge of campus and embraces the campus iconic clock tower. A new east-west pedestrian spine connects the campus from the revitalized Potter and Looney halls to the west and the expanded student union and housing district to the east. Quadrangles on rolling hills frame the path of the landscaped spine, improving wayfinding, creating sense of community, and providing a great accessible route for all visitors.

A new business school building greets the visitor with an improved entrance experience, complete with landscaping and outdoor space development. A visitor's center at the entrance level of the business school establishes a great first and lasting impression. Improved and expanded parking enable the day-to-day activities of students, faculty, staff, and visitors on the campus. Pedestrians are provided safer access utilizing crosswalks with increased signage, lighting, markings, and visibility.

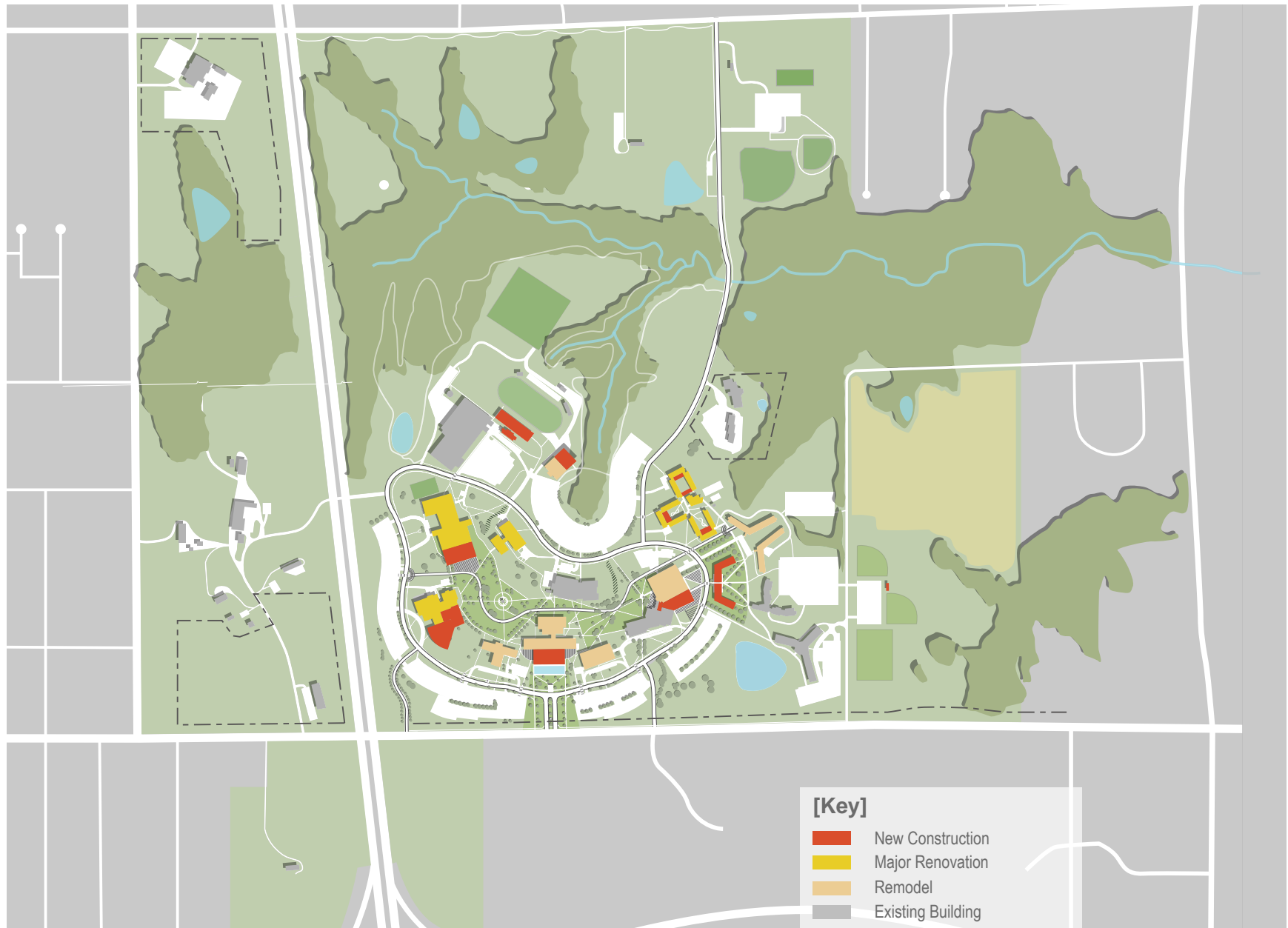
New landscape plans build on both the highly appreciated and admired park-like landscape that exists at Missouri Western today incorporating outdoor gathering spaces like the recent Kelley Commons along the pedestrian spine. Outdoor learning opportunities are identified throughout the campus while preserving and enhancing the natural setting used for research and learning.

FEATURES OF THE MASTER PLAN:

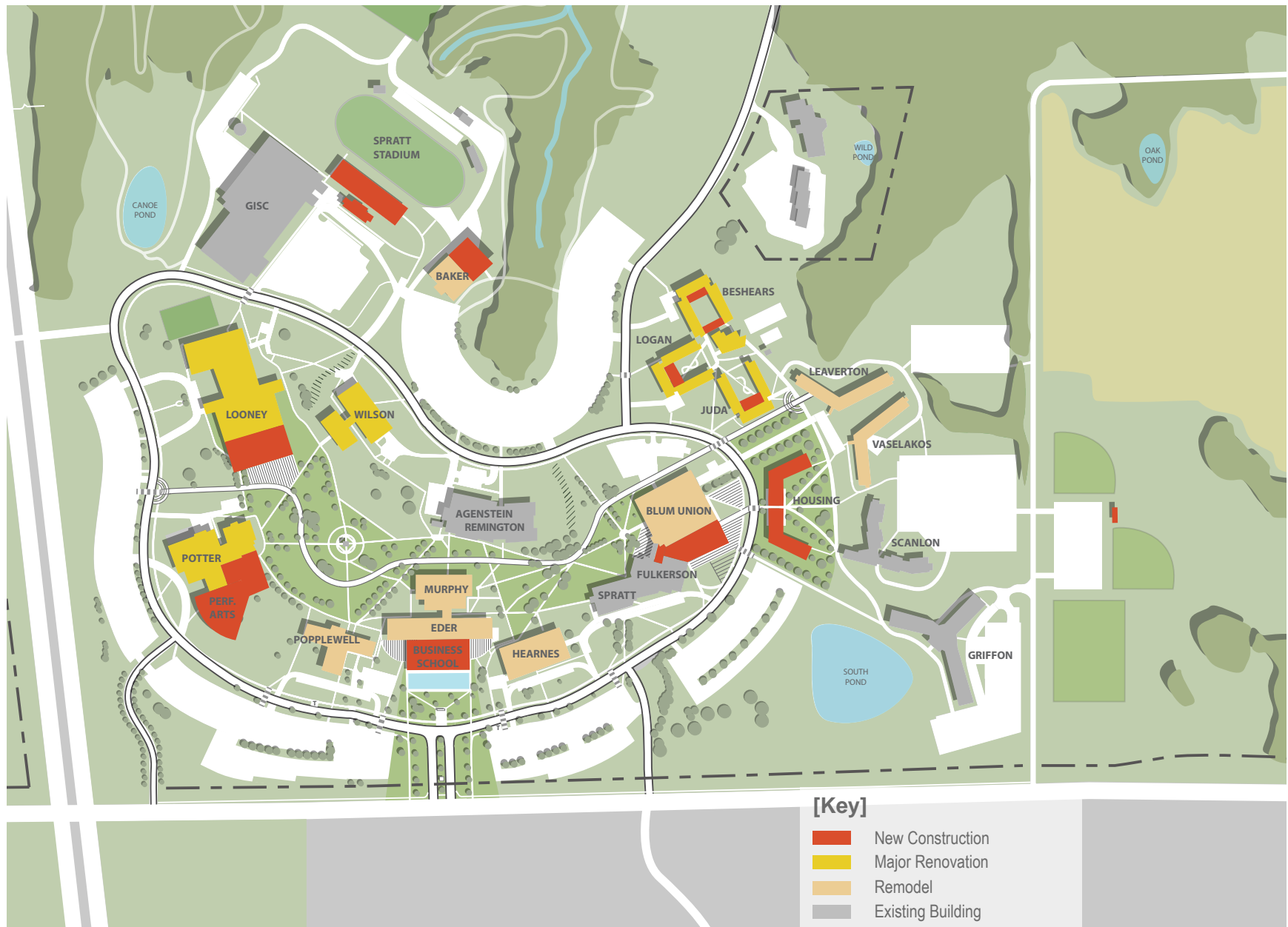
- Capitalizes on the current layout and resources
- East-west pedestrian spine
- Quadrangles on rolling hills
- Outdoor gathering spaces
- Outdoor learning opportunities
- Improved and expanded parking
- Safer access for pedestrians
- Improved entrance experience
- Expanded student union
- Expanded housing district
- New business school building
- New visitor's center
- New performance hall
- Additional recreation spaces
- Revitalized Potter and Looney halls



View from the Southwest



Campus Master Plan



Central Campus Master Plan





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CAMPUS CONTEXT

Campus Description

Missouri Western State University is a four-year institution located on over 700 acres in St. Joseph, Missouri. MWSU serves an enrollment of approximately 6,000 students, 91% of whom are Missouri residents. The student population is almost 50% first-generation college attendees, and more than 25% of the total students are nontraditional. Another 25% of the students are living in on-campus housing. MWSU is an open-enrollment university, and has a statewide mission of applied learning.

Unique assets of the campus include its extensive natural environment for outdoor recreation and academic study, the hosting of the Kansas City Chiefs training camp, and the Walter Cronkite Memorial. In combination with the campus athletic events and performing arts programs, these assets are portals for community interaction.

The campus has seen moderate growth in enrollment over the last decade, but many of the facilities are in original condition with only minor repairs and renovations since they were built in the late 1960s and early 1970s. There are several new facilities including the indoor sports facility, the science and math building, and the apartment residences. The facility needs on campus include accommodating future growth in enrollment, space needs for some areas currently beyond capacity, and a significant amount of deferred maintenance.

The campus development to date has provided a strong diagram for the creation of a core campus set in the natural landscape, with fairly clear zoning

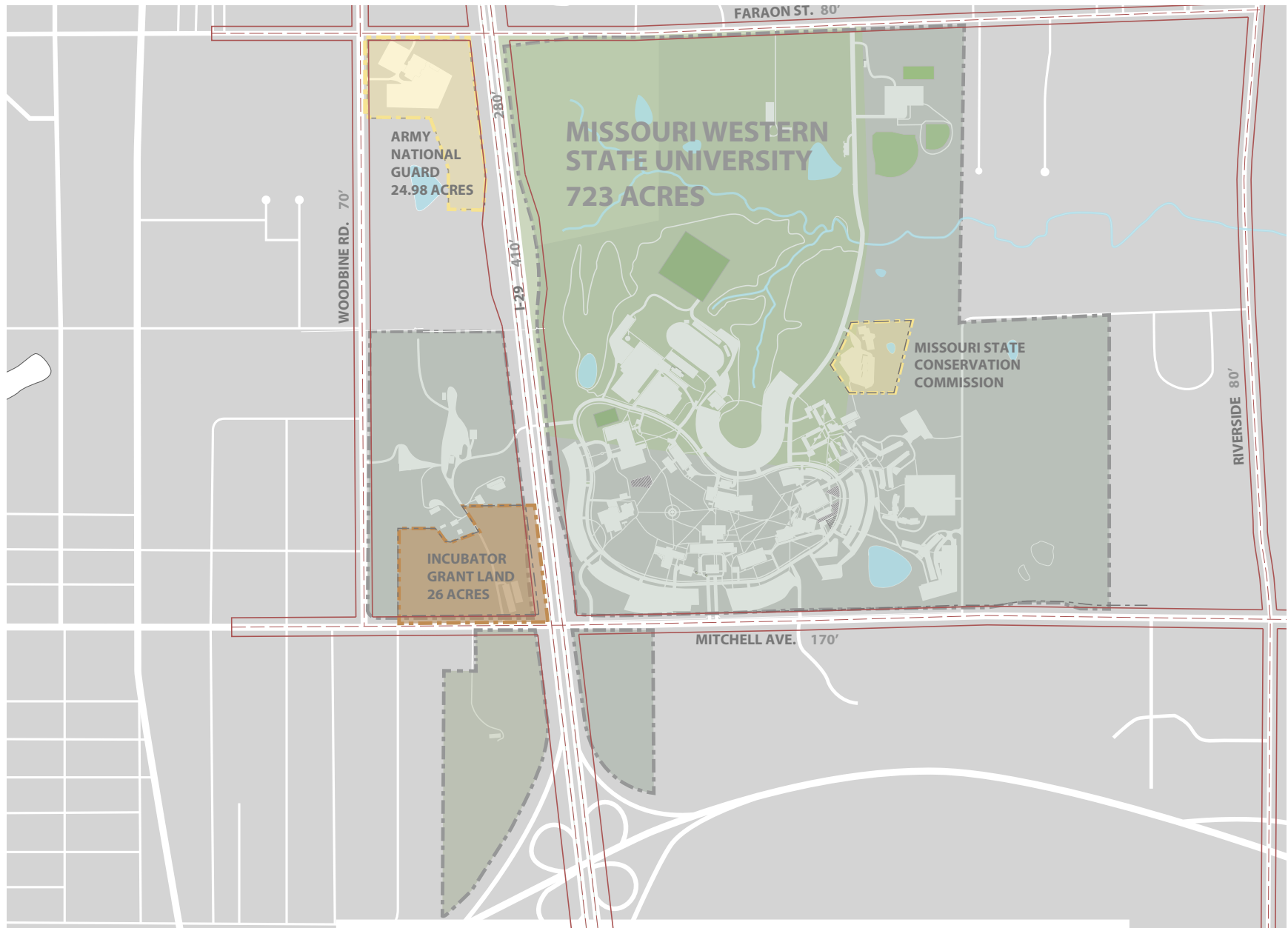
of uses and providing simple vehicular access. The elements of the forest edge, quiet iconic tower, and lower scaled buildings in the main academic area are effective in forming an internalized campus sense of place through pedestrian circulation patterns and character of landscape. It is, simply, a campus ringed by a road, edged by parking, and hugged by the adjacent landscape.

Landholdings

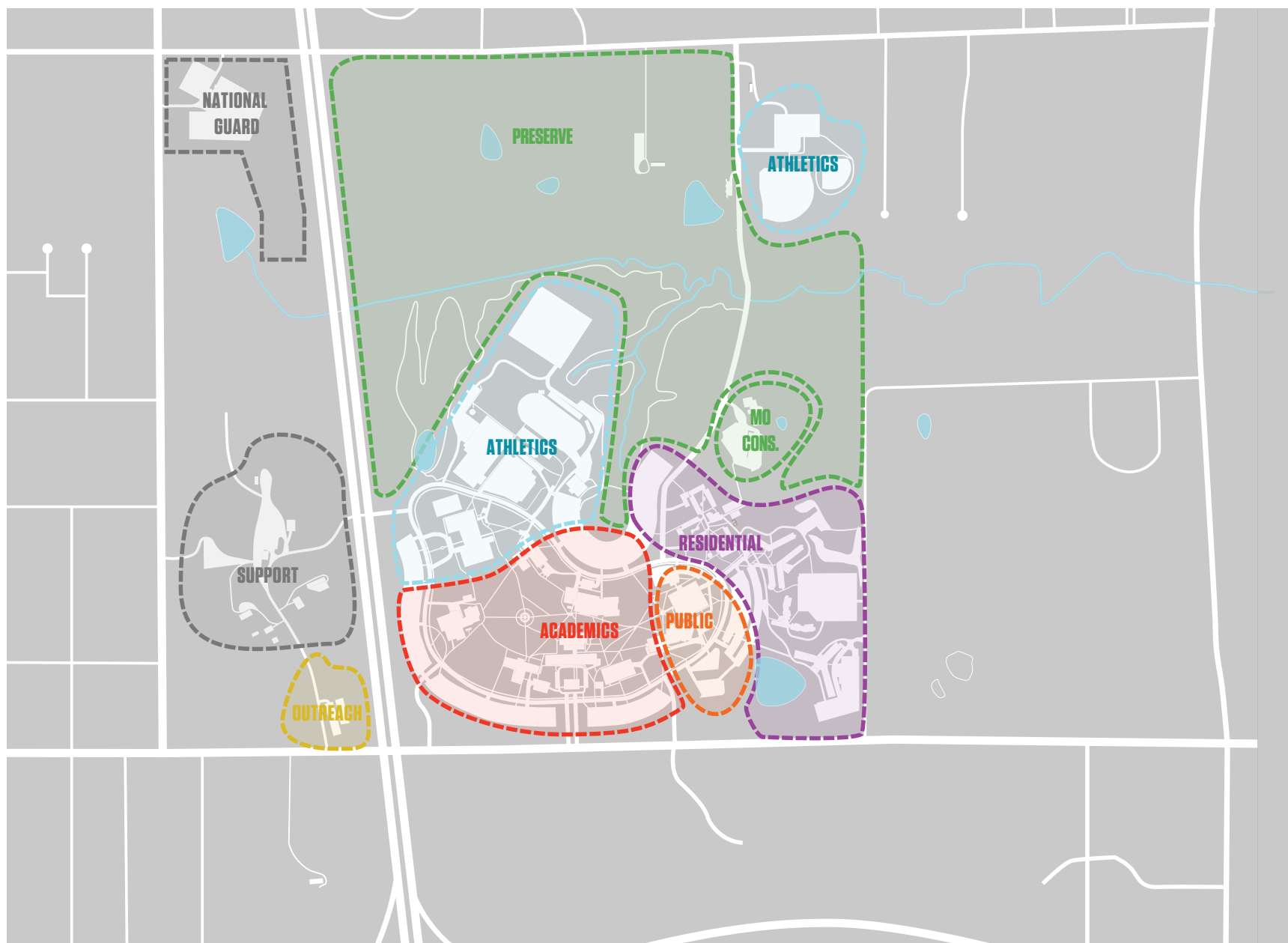
The areas indicated comprise the main campus of Missouri Western. Bounded by Woodbine Road on the west, Faraon Street on the north, and Mitchell Avenue on the south, the main body of campus sits to the east of Interstate 29. A portion of campus is south of Mitchell on each side of I-29. The amount of university land is significantly higher than most campuses serving a similar number of students. This is one of Missouri Western's most unique assets (*diagram on page 21*).

Usage Zone

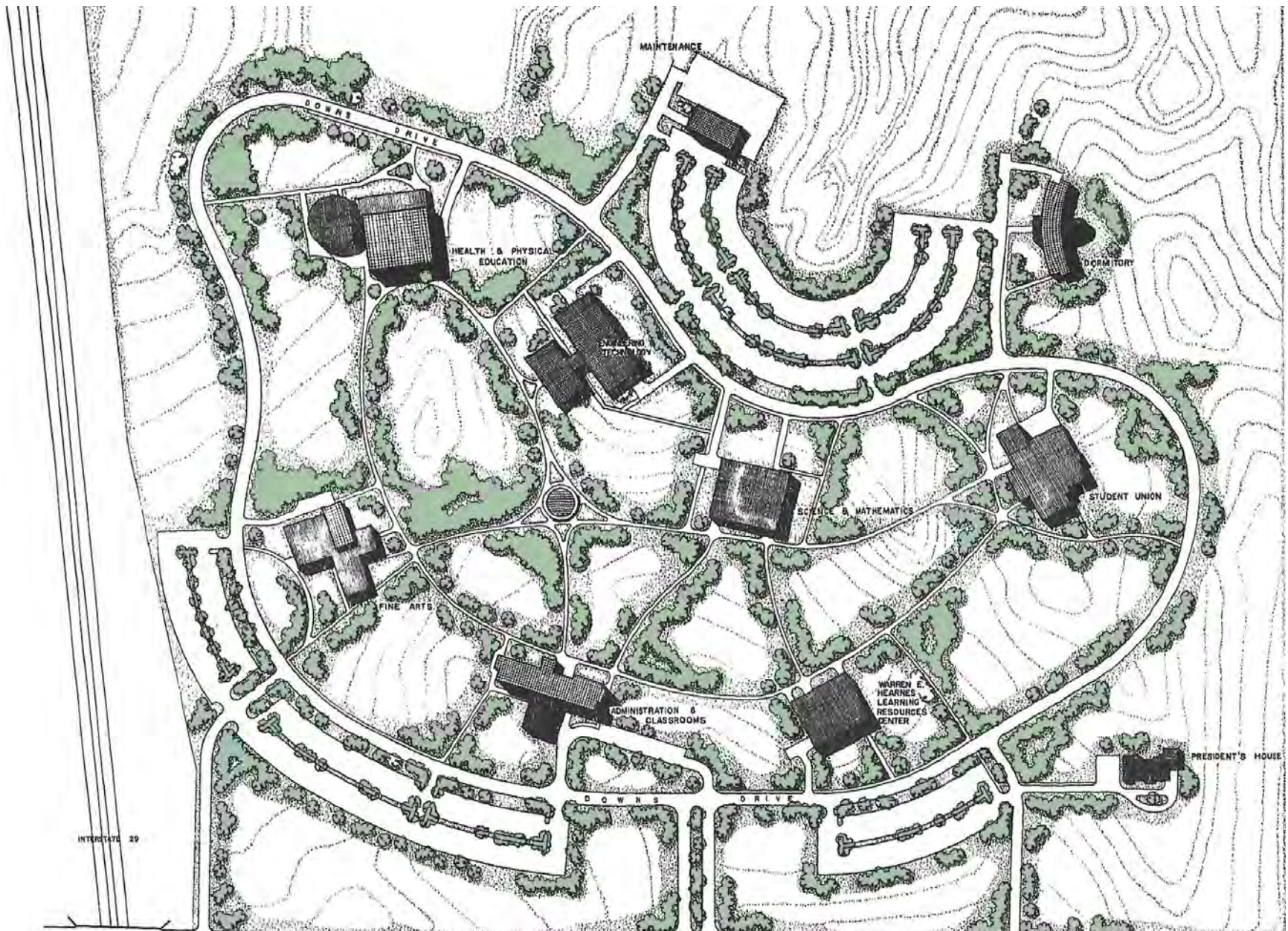
The campus currently has clearly developed usage zones defined by simple functional adjacencies. As growth is projected over time, these zones have the capacity to be expanded and accommodate modest changes while preserving the functional adjacencies that are currently in place (*diagram on page 22*).



Campus Landholdings



Usage Zones



Original Master Plan

HISTORY

1967 was the year that planners and architects created the foundational layout and design for the Missouri Western State University campus of today. Three hundred ninety acres of rolling farm and timberland were planned for the relocation of 1,000 students attending Missouri Western Junior College in downtown St. Joseph. This new campus would allow the college to evolve into a full four-year institution offering baccalaureate degrees, and the initial construction would provide for growth to 3,000 students. The design specifically anticipated an eventual and orderly expansion to 15,000 full-time students.

The original academic core was developed to fit on the main ridge of the western portion of campus with the eventual student housing district planned

for the eastern ridge. Large parking lots provided convenient vehicular access for this largely commuter student body. Uniformity of buildings was encouraged through the use of exposed concrete and masonry. The developed ridges were landscaped as open lawns. Creeks and ponds were left undeveloped as wooded areas.

Notably, the initial space between buildings was designed for the maximum distance still allowing for reasonable class change times. This was a purposeful design feature made to provide for periodic expansions of each building without altering the basic overall plan.



Groundbreaking



Surveying the campus



Examining campus plans



Original monument sign



EXISTING CAMPUS

Geographic Features

Geographic-feature mapping not only helps identify the most important cultural landscape features to preserve and extend, but also begins to determine the most “buildable sites” for new construction. Areas indicated in green illustrate the wooded portion of campus surrounding Otoe Creek and the former railroad bed, while the red areas indicate steeply sloping topography (*diagram on page 27*).

Floor Area Ratio

Floor area ratio is a measure of the density of the campus. Missouri Western is an open, park-like campus with a low density. Even the central area of campus is below the density of many regional campuses. The low density creates a particular character to the campus that is appreciated by most people, and seen as an amenity. It brings with it challenges in efficient infrastructure systems and manageable travel distances (*diagram on page 28*).

Daily Classroom and Class Lab Occupancy

Upon review of 2014 enrollment numbers, a significant amount of traffic is being driven to Popplewell and Murphy halls. These two buildings house the vast majority of general education classes, which creates a busy, active zone in this part of campus. As growth and change occur, this area will become more challenged for parking unless other adjustments are made in the parking or classroom distribution (*diagram on page 29*).

Walking Radius

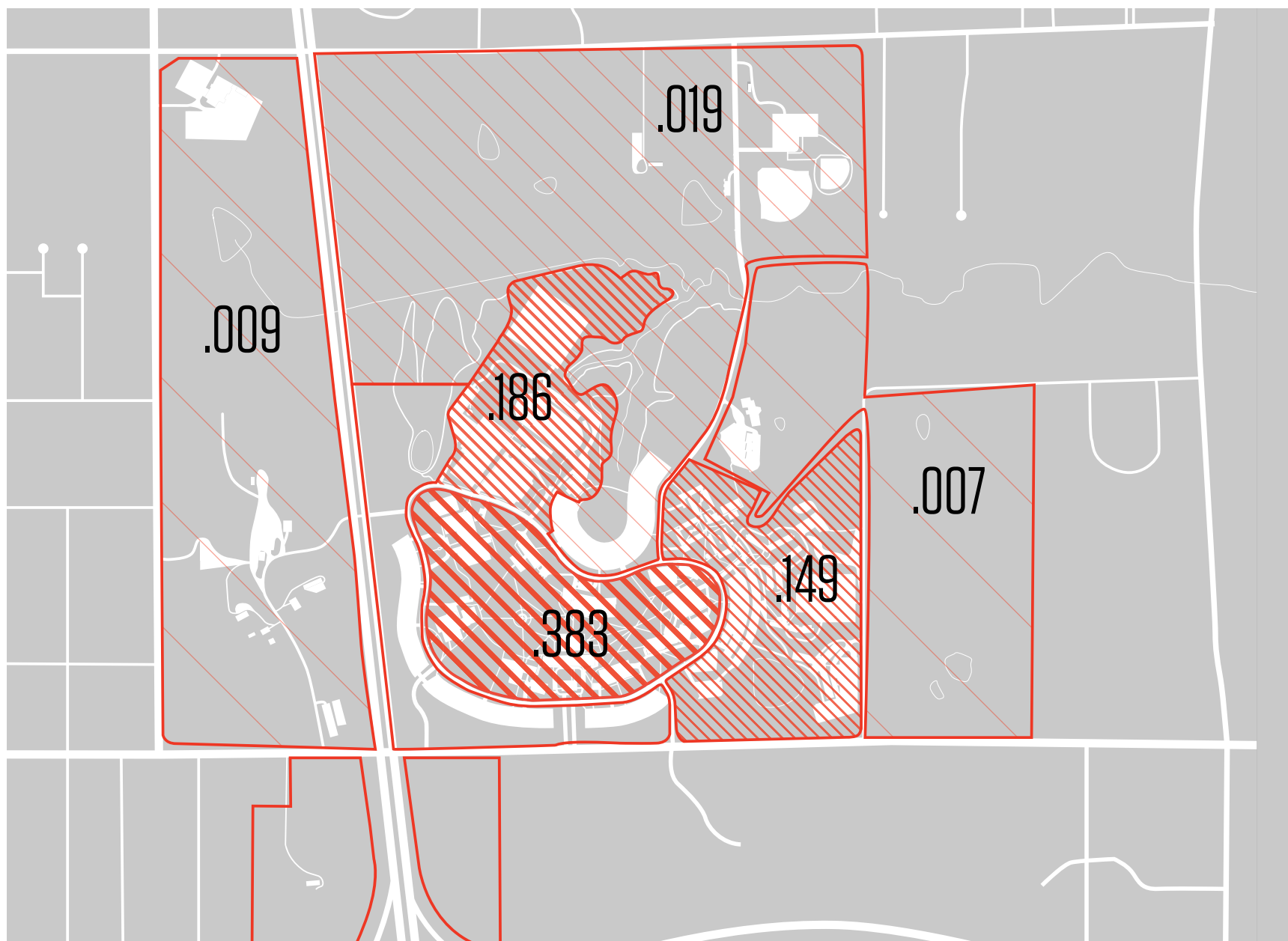
The current walking times are very good by campus standards and allow for development to focus on making stronger connections between districts, particularly the housing, public and academic paths to and through campus (*diagram on page 30*).

Paths By Use

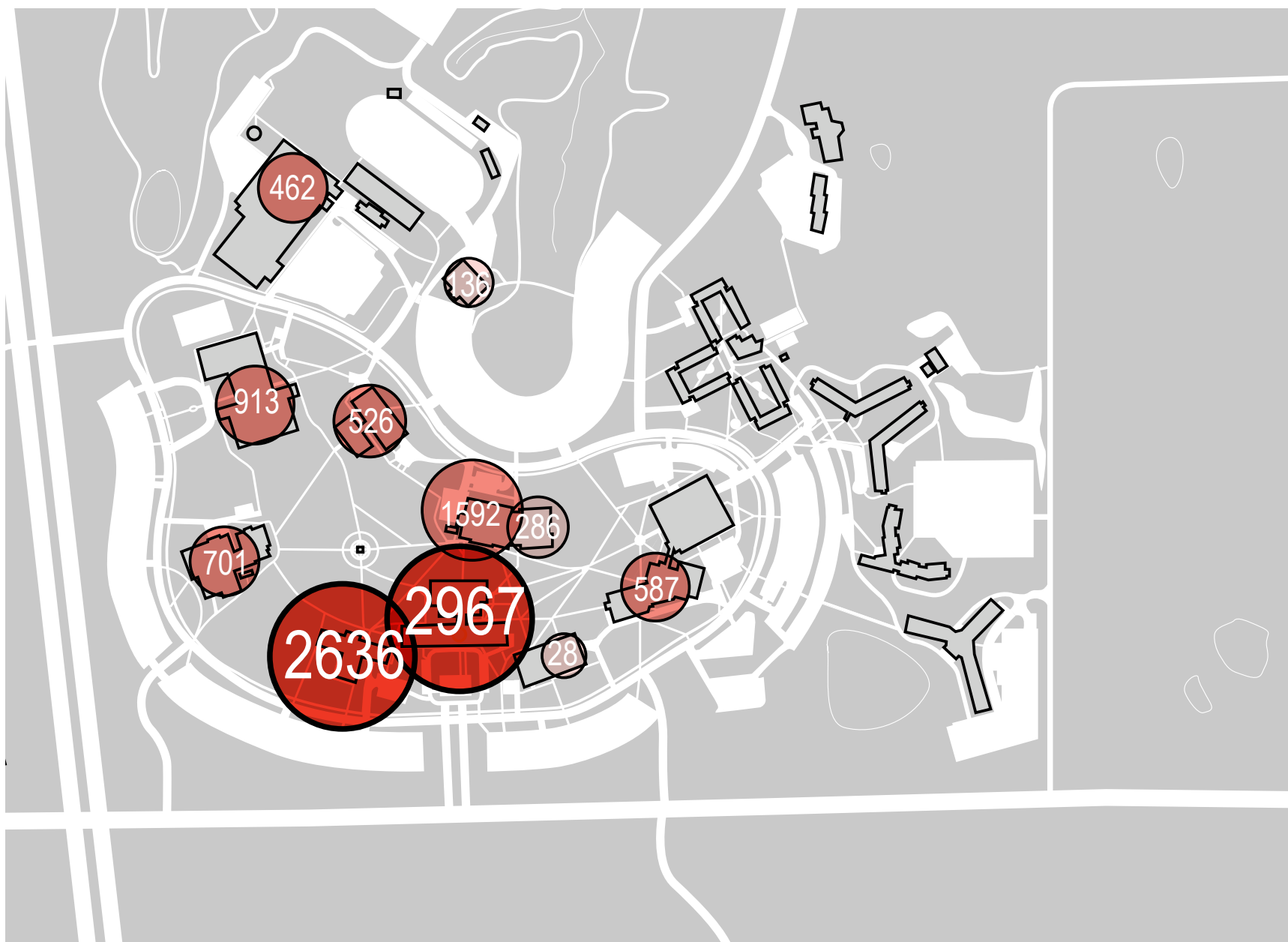
Paths attempt to moderate the rolling topography while providing ease of access, sense of distance, quality of the walk, etc. Enhanced universal accessibility through path and landscape improvements should be addressed with every landscape project opportunity (*diagram on page 31*).

Path Gaps

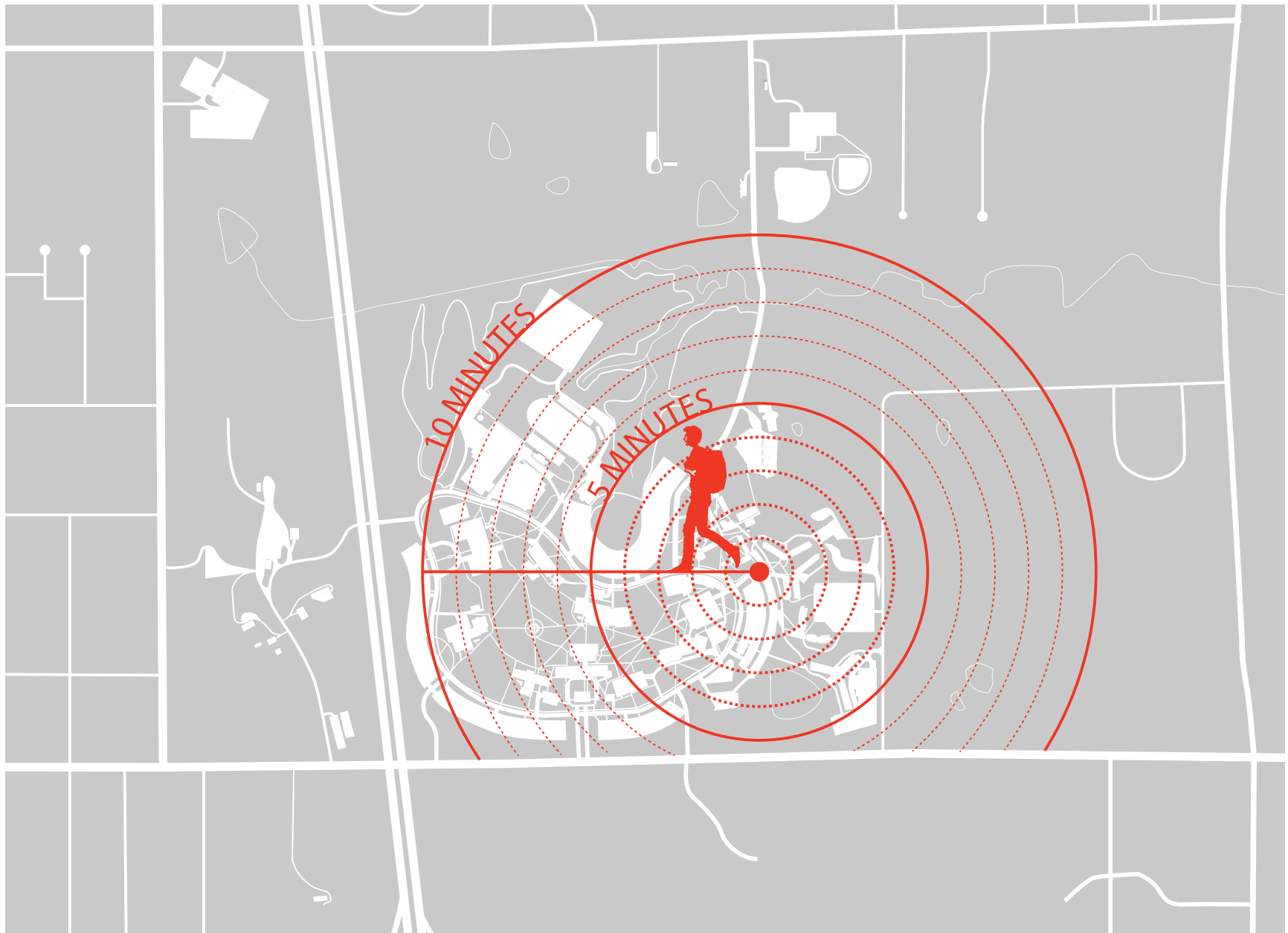
Analysis of pedestrian paths and walkways resulted in several areas identified with gaps. These gaps are sometimes creating conflicts with vehicles, or limiting direct access to facilities. Other paths are indicated as possibly confusing or simply unnecessary, and could be eliminated to reduce overall amount of maintenance (*diagram on page 32*).



Floor Area Ratio



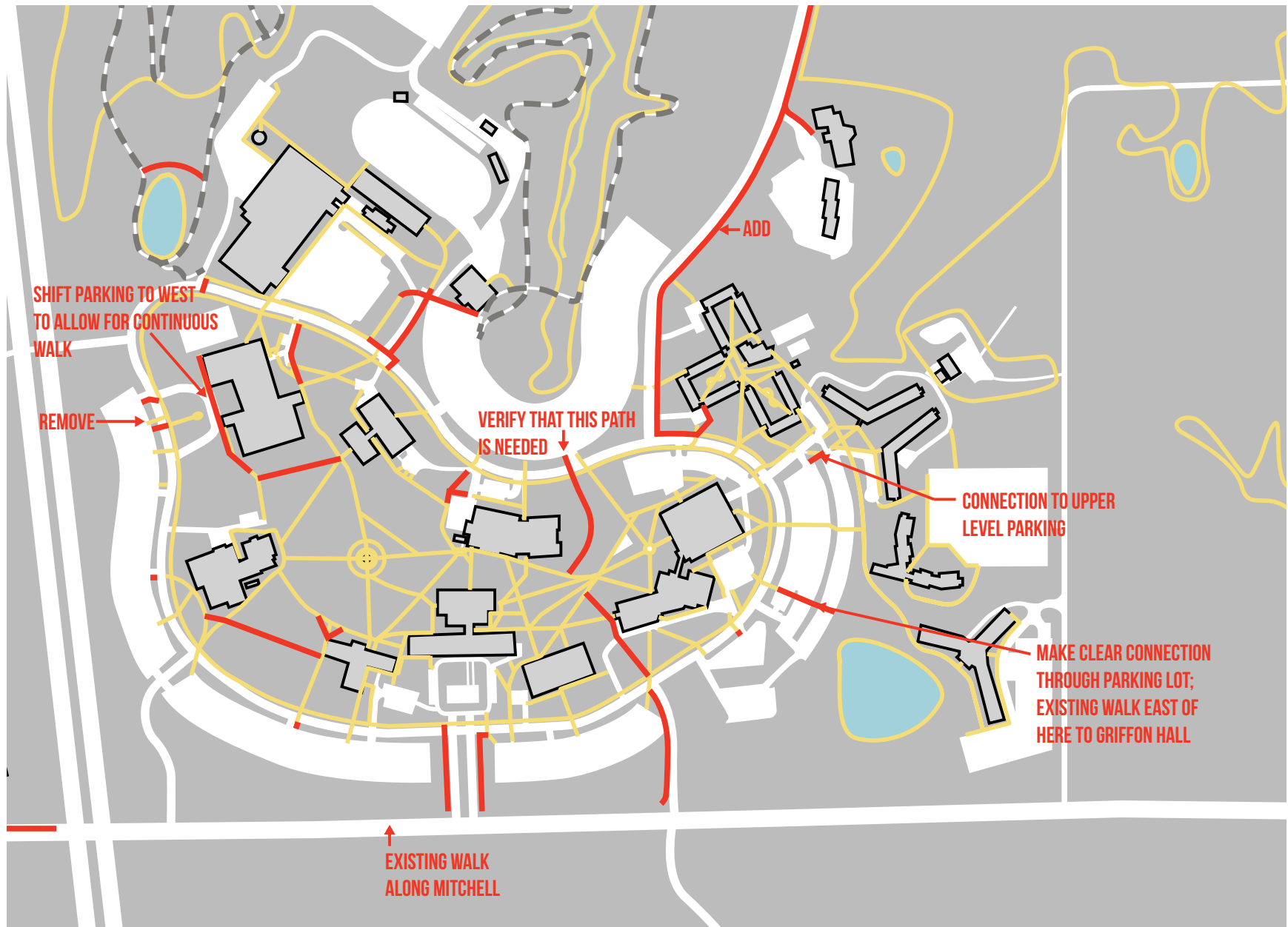
Daily Classroom and Class Lab Occupancy



Walking Radius



Paths By Use



Path Gaps



Highways and Streets

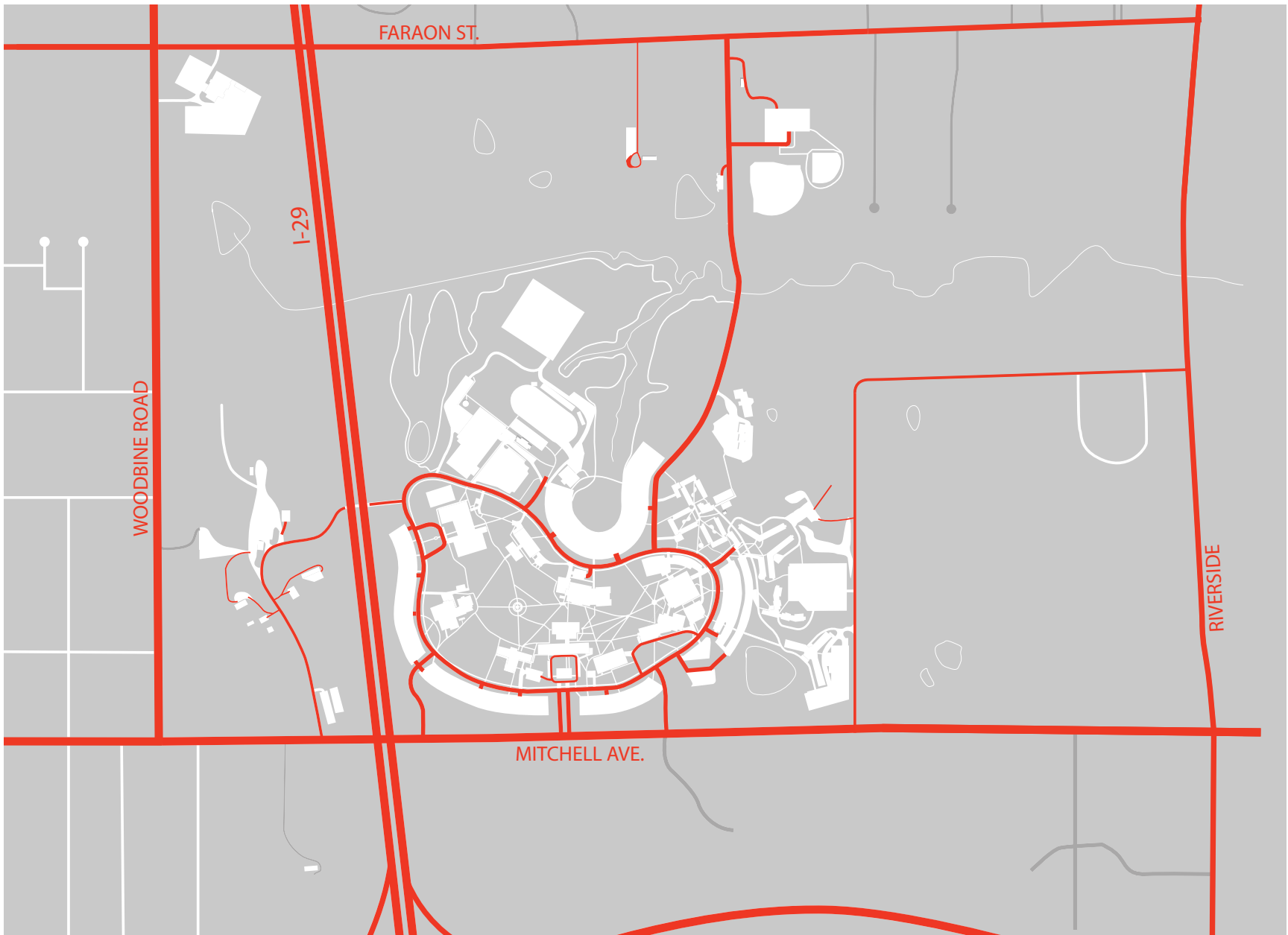
The campus is bisected by the interstate highway creating a clear and dramatic separation. Currently this west campus land is non-contiguous with the main campus, and requires vehicular transportation between the two. Access from I-29 is not provided at either Faraon or Mitchell, which creates challenges for visibility and way finding (*diagram on page 34*).

Service Access

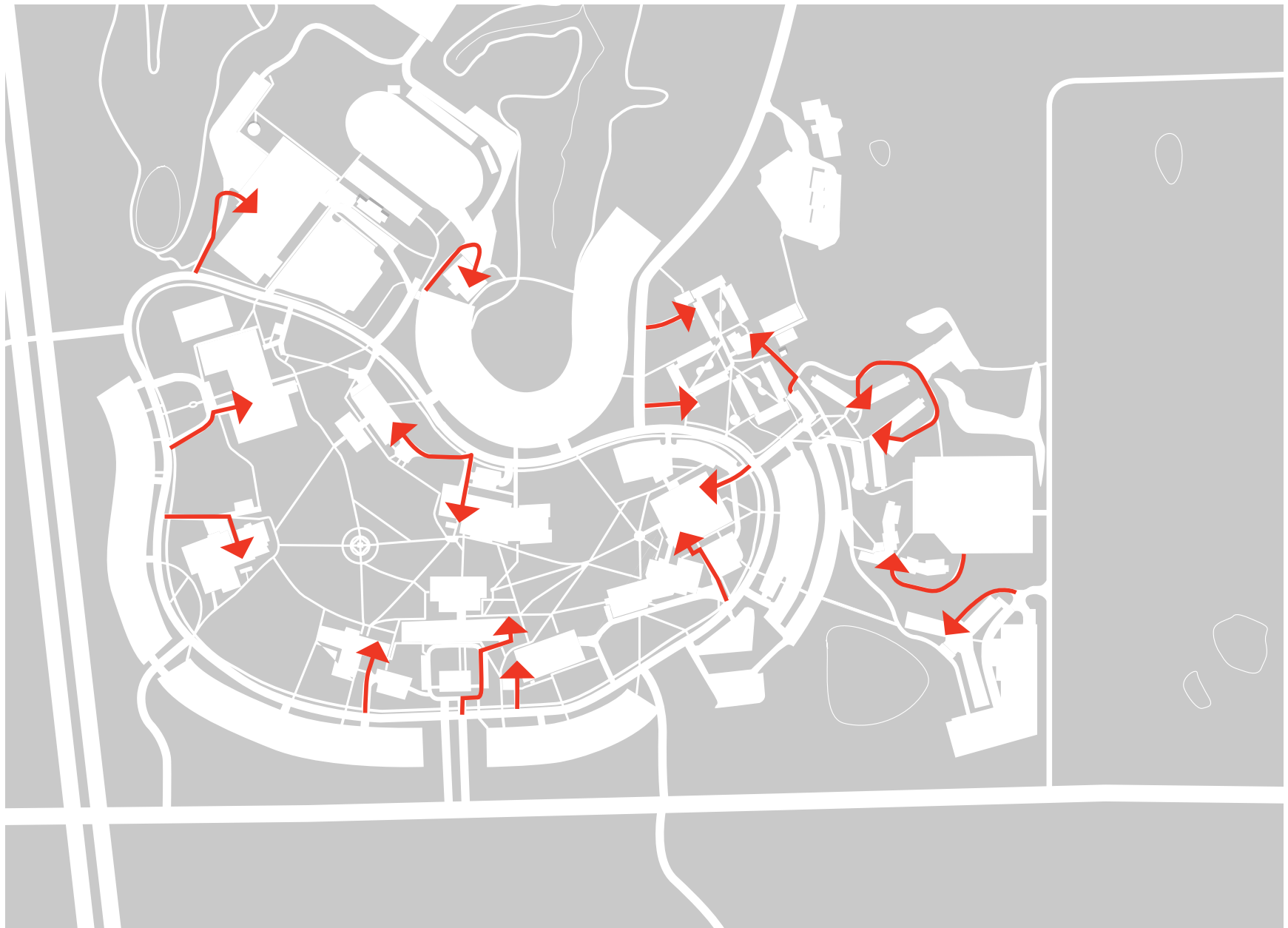
The current campus layout is not conducive to concealing the service points at each building, nor for providing centralized services that would allow for increased efficiency. Future design considerations for each building should include keeping the building support and service access infrastructure concealed and away from view and access (*diagram on page 35*).

Parking Capacity

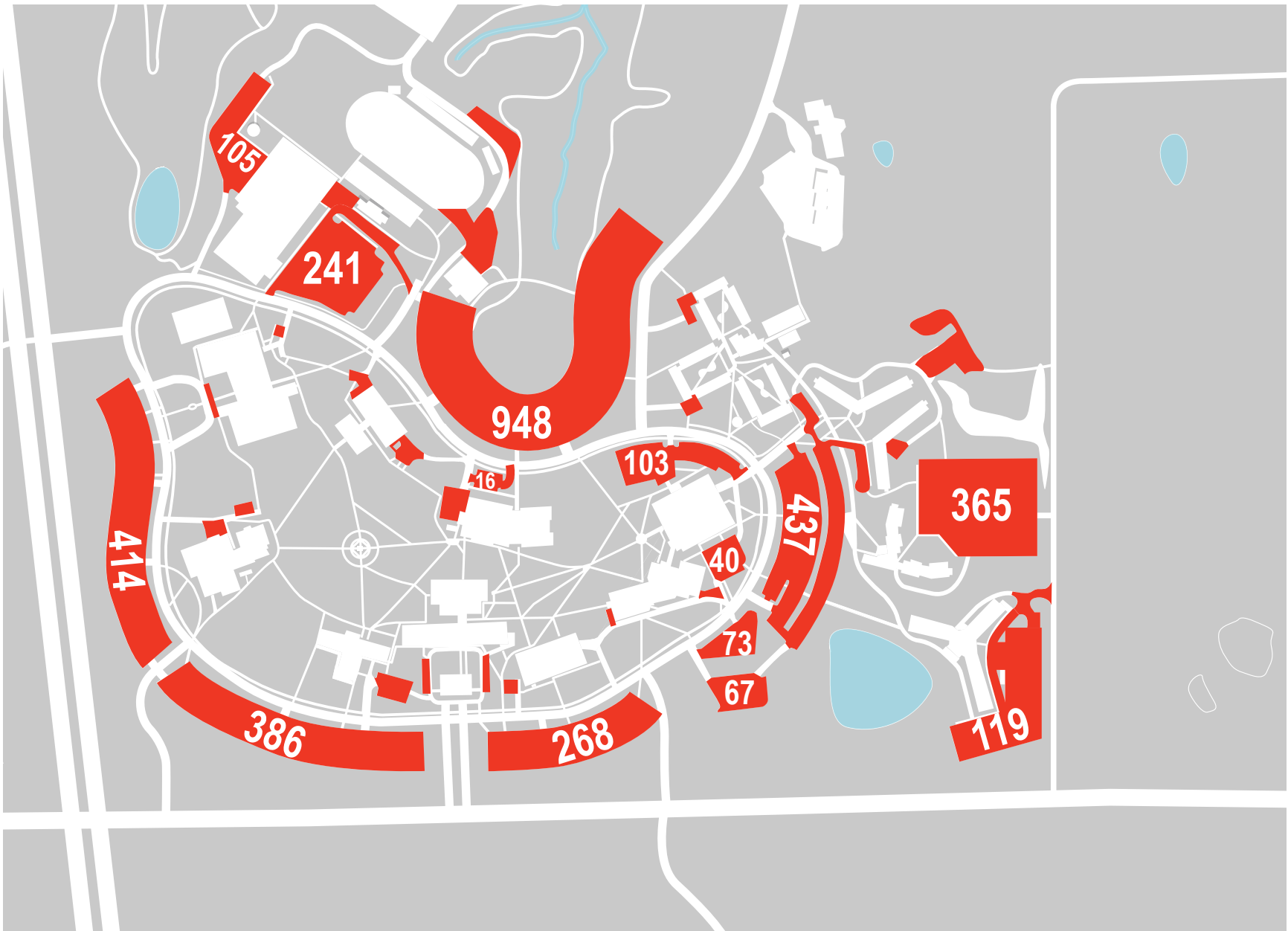
Total campus parking capacity exceeds most peer institutions, both in quantity and in spaces per enrolled student. Analysis and observations reveal that some lots are full to capacity, while the overall usage campuswide is only 68% full at the peak. Distribution of parking spaces does not currently align with the demand in the vicinity of Eder and Popplewell halls (*diagram on page 36*).



Highways and Streets

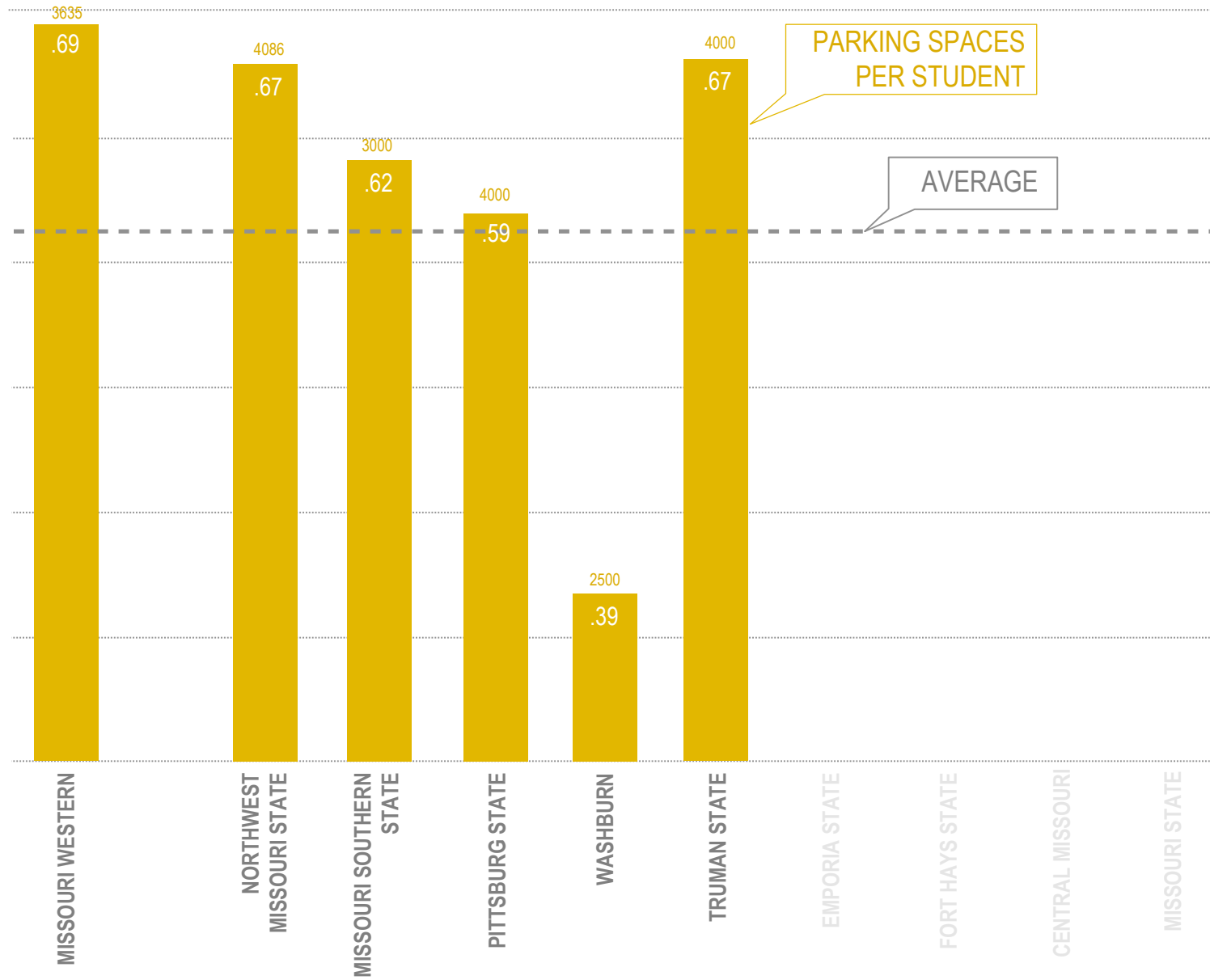


Service Access

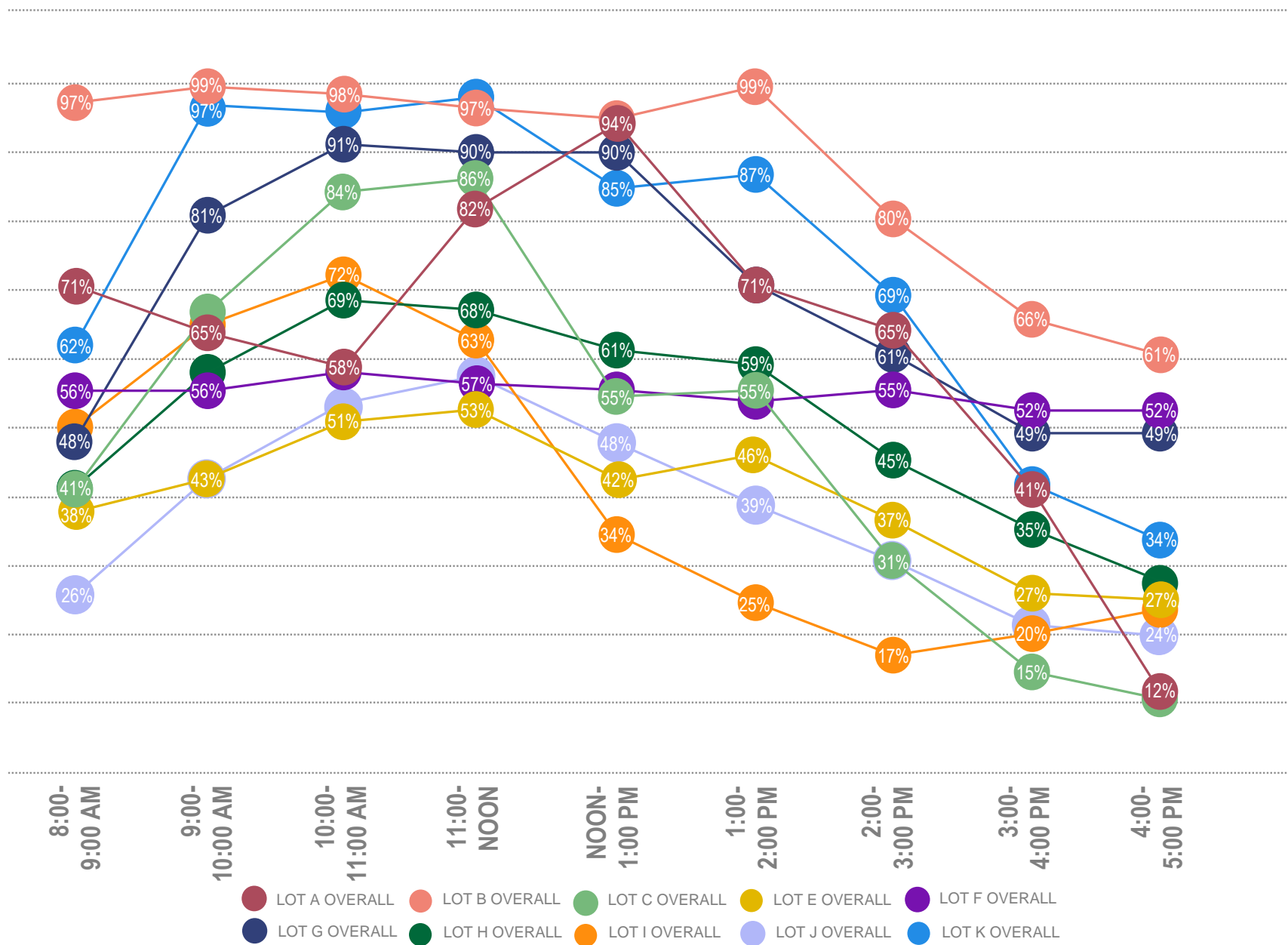


Parking Capacity

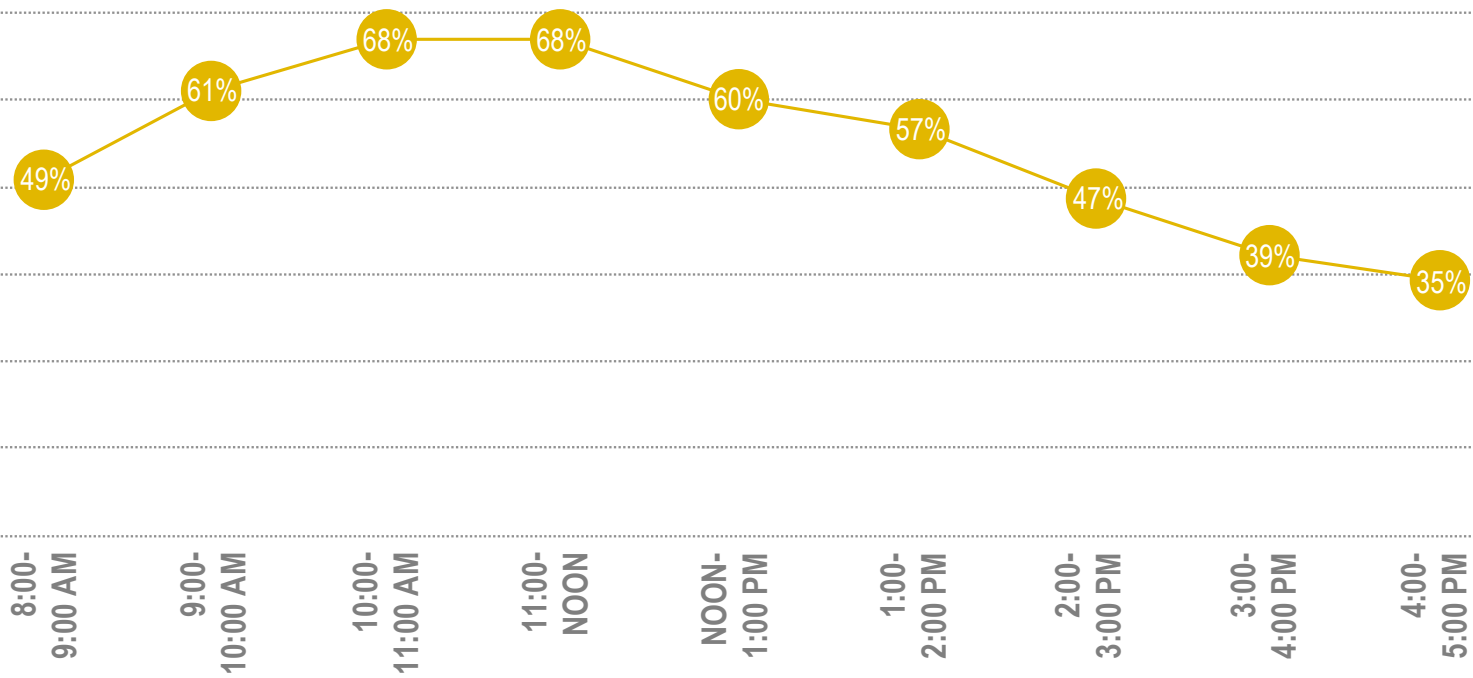




Parking Spaces Per Student



Parking Occupancy By Lot



Overall Parking Lot Occupancy - Monday

PEDESTRIAN AND VEHICULAR CIRCULATION

In general, overall traffic operations within the existing campus roadway network are functioning well based on site observations.

Field reviews of the campus were completed during typical peak class schedule and attendance days of the fall 2014 semester. The first observation took place on a Monday, while the second observation took place on a Tuesday. During the field reviews, on-site traffic operations were monitored to determine parking and pedestrian usage. Class schedules for both days observed began at 8:00 AM, and student activities were noted to increase steadily beginning at 7:30 AM.

Peak traffic and pedestrian activity was noted during the final 15 minutes before class from 7:45 AM until 8:00 AM. Vehicular traffic was noted to be spread nearly equally between the two full-access drives along Mitchell Avenue while heavy traffic was noted along James McCarthy Drive in the southbound direction. Southbound traffic on James McCarthy Drive must stop at the intersection with Downs Drive and yield to vehicles traveling along Downs Drive. Vehicles along Downs Drive were noted to be slowed by heavy pedestrian activity between Lots C and H as pedestrians crossed from the campus residence halls and parking lots outside of the ring road to campus class buildings located inside of Downs Drive. As a result, the queued vehicles along James McCarthy Drive were noted to exceed 16 vehicles for a short period during the AM peak-hour period.

Parking lots continue to fill in order of lots closest to main campus buildings. Lots B, K, and H were noted to be the most heavily utilized lots for commuter traffic. Student housing lots such as Lots O, Q, P, and portions of E, F, and H are consistently occupied throughout most of the morning with little traffic arriving and departing throughout school time periods. Peak lot occupancy occurs between 9:00 AM and Noon. Campus activities begin to slow down after 1:00 PM.

Pedestrian Conflicts

Due to increased parking density in lots B and K, several areas of the ring road are experiencing higher than expected pedestrian/vehicle conflicts. A significant area of conflict also exists where residence hall pedestrian traffic flow is routed through parking lot E. These areas of increased conflict are identified in the graphic on page 42. In addition to conflicts due to parking lot density, there are two main areas where visibility for vehicular traffic is limited by road topography. The northeast and northwest corners of the ring road both exhibit limited visibility for crossing pedestrians due to tightly curving and sloping road placement.

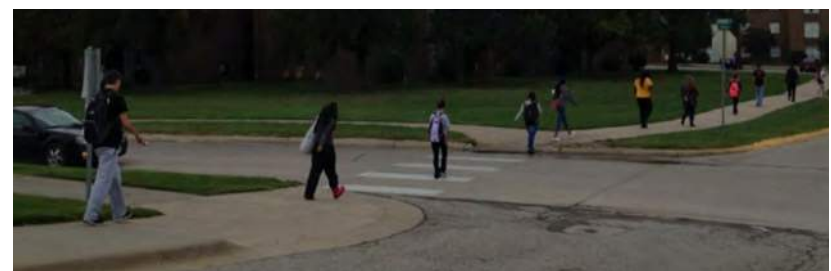
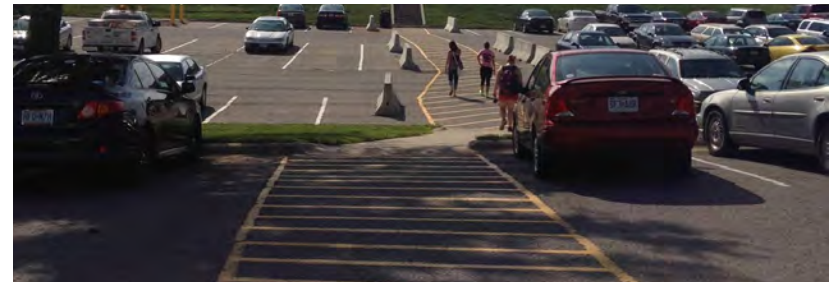
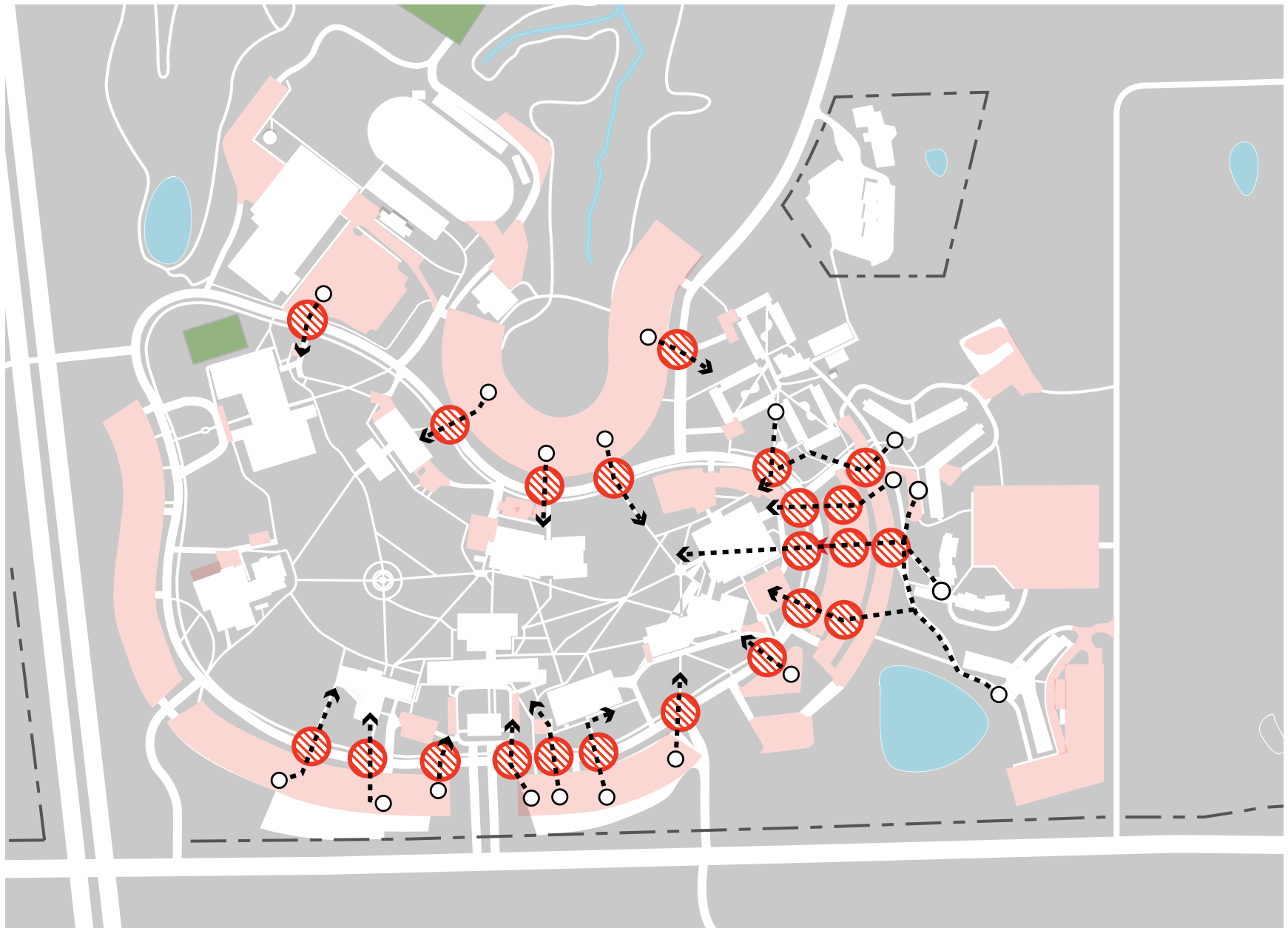


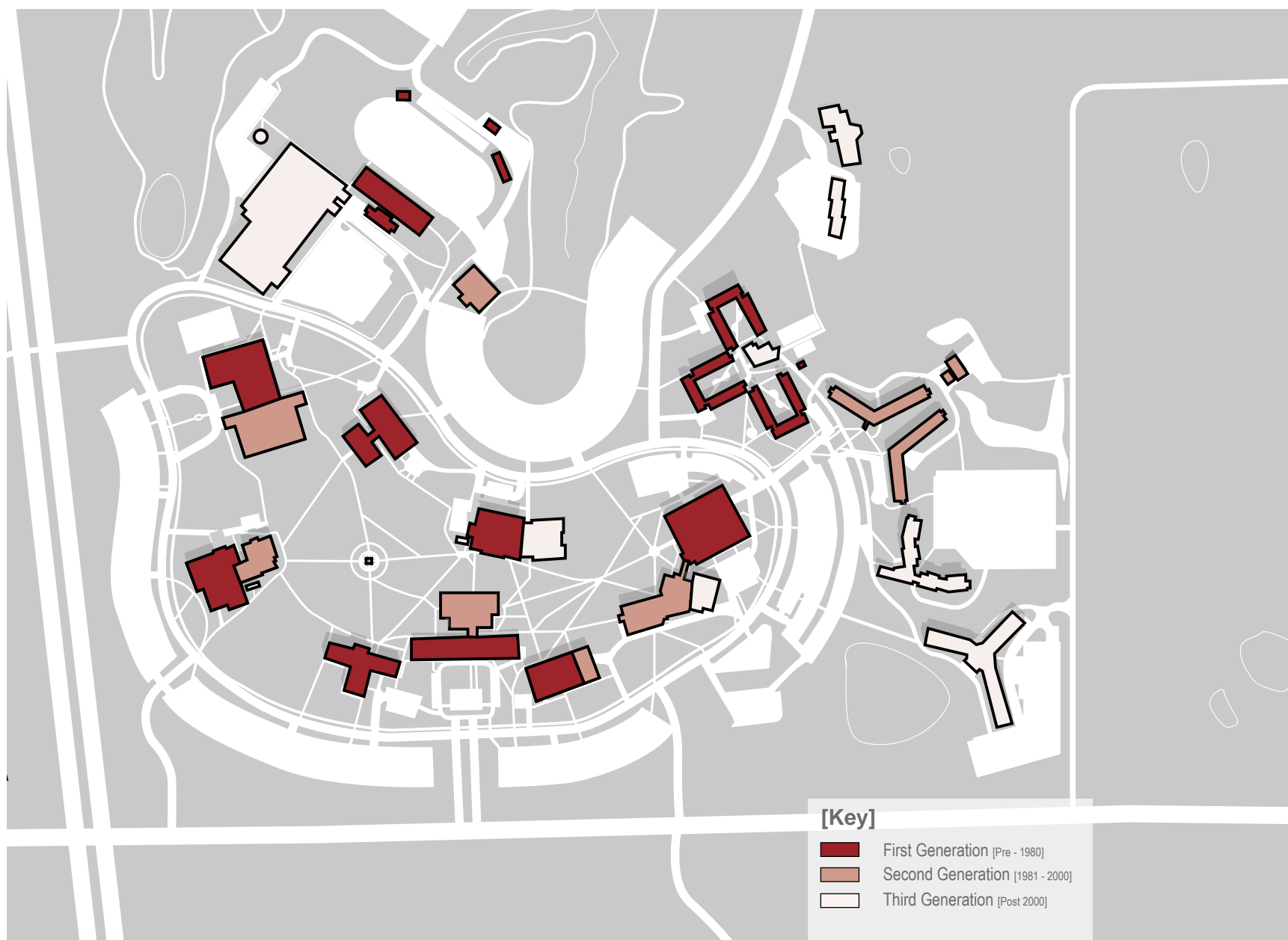
Photo Documentation On-site



Pedestrian Conflicts

EXISTING BUILDING CONDITIONS

Three generations of buildings currently exist on campus. The original campus facilities were constructed in the years from 1968 to 1972. A handful of buildings were added in the 1990s representing the second generation of buildings, with the final grouping coming online post 2000. Each generation represents an approach to building that was prevalent in its time. This means each group shares a similar set of construction types, building code requirements, and HVAC approaches, including energy efficiency that naturally differs from the buildings in the other generations.



Age of Facilities

BUILDING COMPONENT ANALYSIS

A comprehensive building condition review of each primary building on campus was conducted. This section includes a summary table showing all buildings. The Appendix of this document contains a component analysis for each building. A building component analysis describes each building's condition in representative numeric values.

The cost of each primary system (as a percentage of the total cost) is shown. These percentages vary based on the function, size, and configuration of the facility. For example, classroom buildings will require different types of construction systems than gymnasiums; and multistory buildings must allocate cost to stairs and elevators that single story buildings do not.

Each item's condition is evaluated and given a ranking from excellent to unsalvageable. Excellent systems are new or near new as a result of recent installation, repair and/or replacement. Good means no obvious deficiencies in condition or performance, and serviceable with basic maintenance. Fair indicates a need for minor repair and limited replacement of components based on age and/or performance. Poor means failure of primary components and multiple systems is evident, and major repair or replacement is required. Unsalvageable means the components or systems are unusable, code deficient and/or not suited for current use and complete replacement is necessary.

The total resultant value shown at the bottom of the form illustrates the inherent value of the existing building as compared to the cost of a new facility of the same size and type. The evaluation of a building's useful life can be accomplished by comparing this resultant total percentage to the original rankings of excellent to unsalvageable. The component analysis itemizes primary systems in the building as follows:

COMPONENT ANALYSIS PRIMARY SYSTEMS:

1. Exterior Building Components

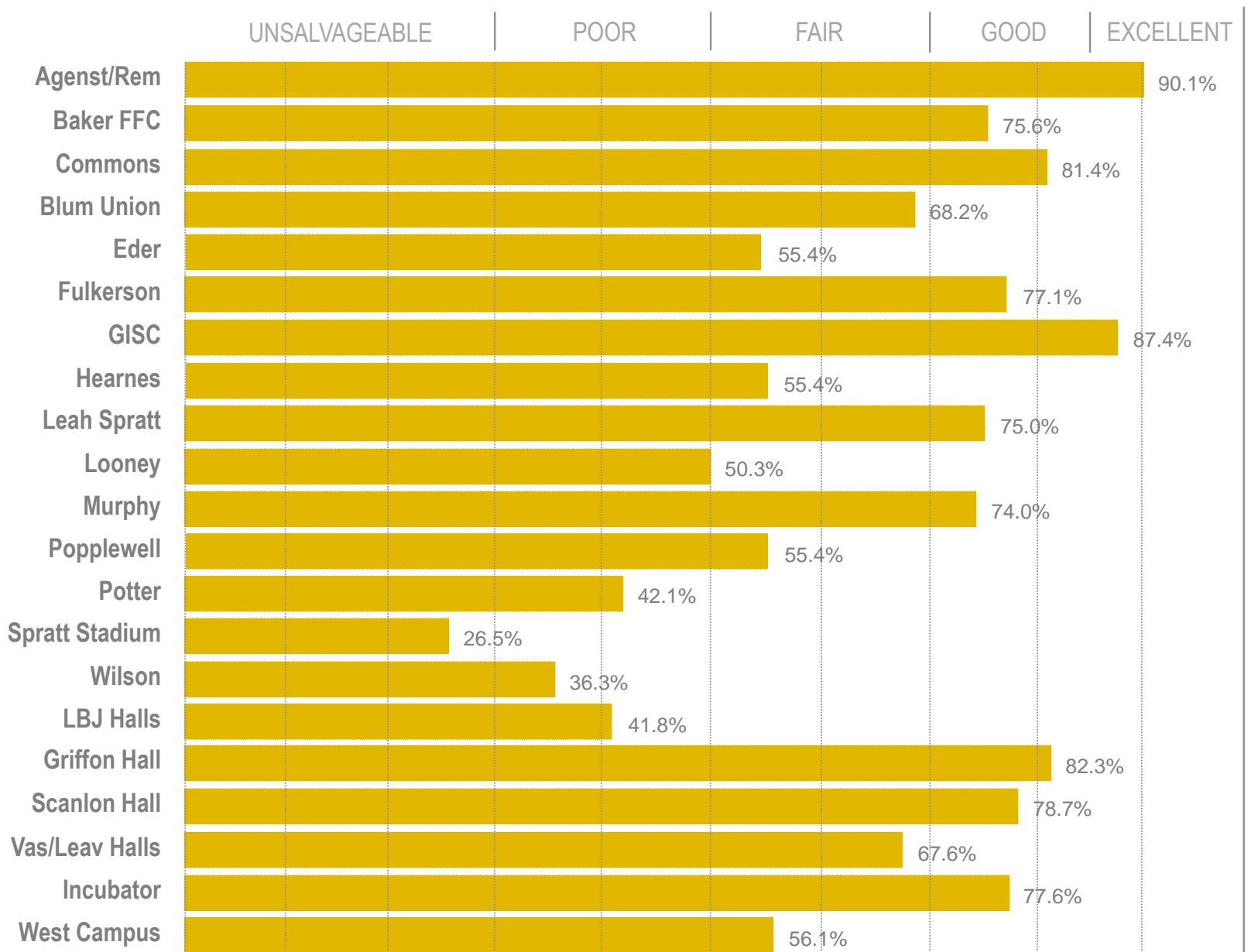
- a. Substructure
 - i. Standard Foundations
 - ii. Special Foundations
 - iii. Slab on Grade
 - iv. Basement Excavation
 - v. Basement Walls
- b. Superstructure
 - i. Floor Construction
 - ii. Roof Construction
- c. Exterior Enclosure – Walls
- d. Exterior Enclosure – Doors and Windows
- e. Roofing
 - i. Roof Coverings
 - ii. Roof Openings

2. Interior Building

- a. Walls, Partitions and Doors
- b. Floors
- c. Ceilings
- d. Finishes, Fittings and Trim
- e. Stairs

3. Engineered Systems

- a. Vertical Conveyance
- b. Plumbing
- c. Heating/Ventilation/AC
- d. Fire Protection and Life Safety
- e. Electrical and Lighting



Campus: Building Component Analysis

SPACE UTILIZATION

Introduction

The purpose of this section is to provide an analysis of space use across the campus within the academic and academic-administrative areas, and through that analysis prepare recommendations that could guide space use, strategy and policy on campus for the next 10 years. This study is necessary to help align the facilities with the academic mission and to reflect shifting trends in enrollment and pedagogy. The base data utilized in our analysis is from the 2013 fall semester. As such, this report represents a point in time and utilizes data that can change from year to year.

Facilities data, course offerings, enrollment numbers, and room capacity data were collected. For additional information, meetings were held with scheduling staff, deans, department heads, faculty, and staff of the schools and colleges. Almost every space within each academic unit on the campus was visited, photographed, and evaluated.

Utilization for classrooms, science labs, and faculty/staff and departmental offices was assessed independently for each building on campus, as well as for the campus as a whole. Targets have been established as a metric by which to measure the needs of each system. Targets established in working with the university representatives as well as typical public university targets are referenced.

Utilization

Campuswide, for academic classroom space, Missouri Western State University's average space utilization falls below targets commonly set for public universities. Classroom utilization is very consistent from building to building and current centralized scheduling policies and processes are very effective in maximizing classroom usage.

Comparison to Standards

Department, Classroom, Building, Campus: There is no set national standard for classroom utilization. Many states have minimum thresholds for utilization, and measure performance by two criteria. The first criterion is number of hours per week that a classroom is in use for course instruction. The second criterion measures the percent of seats filled in scheduled courses. For universities not subject to state standards, these reference statistics can be useful in determining individual goals for utilization. As the state standards are continually being updated and/or changed it is helpful to note that the trend is toward increasing the minimum thresholds to encourage higher utilization. For comparison purposes, we have included a brief summary of these two measures nationwide.

Classroom Utilization - Hours Per Week

Utilization of General Purpose Academic Classroom Comparisons to Typical Public University Practice: Campuswide, the classrooms at Missouri Western State University were scheduled an average of 22.8 hours per week. This compares to the national targets for public universities that range from 30-35 hours per week. All buildings have availability in hours to increase utilization.

Classroom Utilization - Seats Filled per Class

This analysis looks at department, building and campuswide utilization for classrooms. Utilization is assessed for both seats filled as a fraction of the course capacity, as well as seats filled as a fraction of the total seats available. All buildings when averaged together are slightly underutilized relative to current capacities.

The average student station occupancy or percentage of seats filled when classrooms were in use averaged 54.3%. This compares to national guidelines for public universities of 60-70%.



CLASSROOM HOURS PER WEEK
BY CLASSROOM

AGENSTEIN

119	18
123	45
124	20
126	29
127	15
224	25
323	6
324	23
325	6
326	19
328	26
330	27

EDER

208	6
209	26
216	16
222U	28
222V	28
223	30

GISC

113	11
134	9

HEARNES

102	12
103	4

LOONEY

114	21
212	29.5
215	17
216	17
226	18.5
227	11

MURPHY

103	42
104	43
105	32
108	34
109	29
110	28
112	29
113	26
120	23.5
201	24
205	33
206	25
218	10.5
219	21
220	21
224	24
302	22
306	10
310	12
311	20

POPPLEWELL

101	21
102	33.5
104	36
105	18
108	7.5
109	45
111	30
201	33
202	15
204	33
205	21
206	27
301	33
302	28.5
304	19
308	27

POTTER

107	19
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REMINGTON

117	22
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SPRATT

109	15
110	6
201	1
203	23.5
205	21
208	38
211	56

WILSON

105	25
123	9.5
130	30
155	22
170	20.5
188	11
200A	5
205	21

AVERAGE CLASSROOM HOURS PER WEEK BY BUILDING

Agenstein	19.9
Eder	22.3
GISC	10
Hearnes	8
Looney	19
Murphy	25.5
Popplewell	26.4
Potter	19
Remington	22
Spratt	26.6
Wilson	18

TOTAL CLASSROOM HOURS PER WEEK BY DEPARTMENT

Art	30
Biology	76
Chemistry	42
Communication & Journalism	75
Computer Science, Math & Physics	155
Business	144.5
Legal Studies	89
Economics, Political Science & Sociology	99
Education	59
English & Modern Languages	475
Health, Physical Ed & Recreation	309.5
History & Geography	73
Music	24.5
Nursing	75.5
Philosophy & Religion	45
Psychology	51
Theatre, Cinema & Dance	9
Honors	14
University 101	81

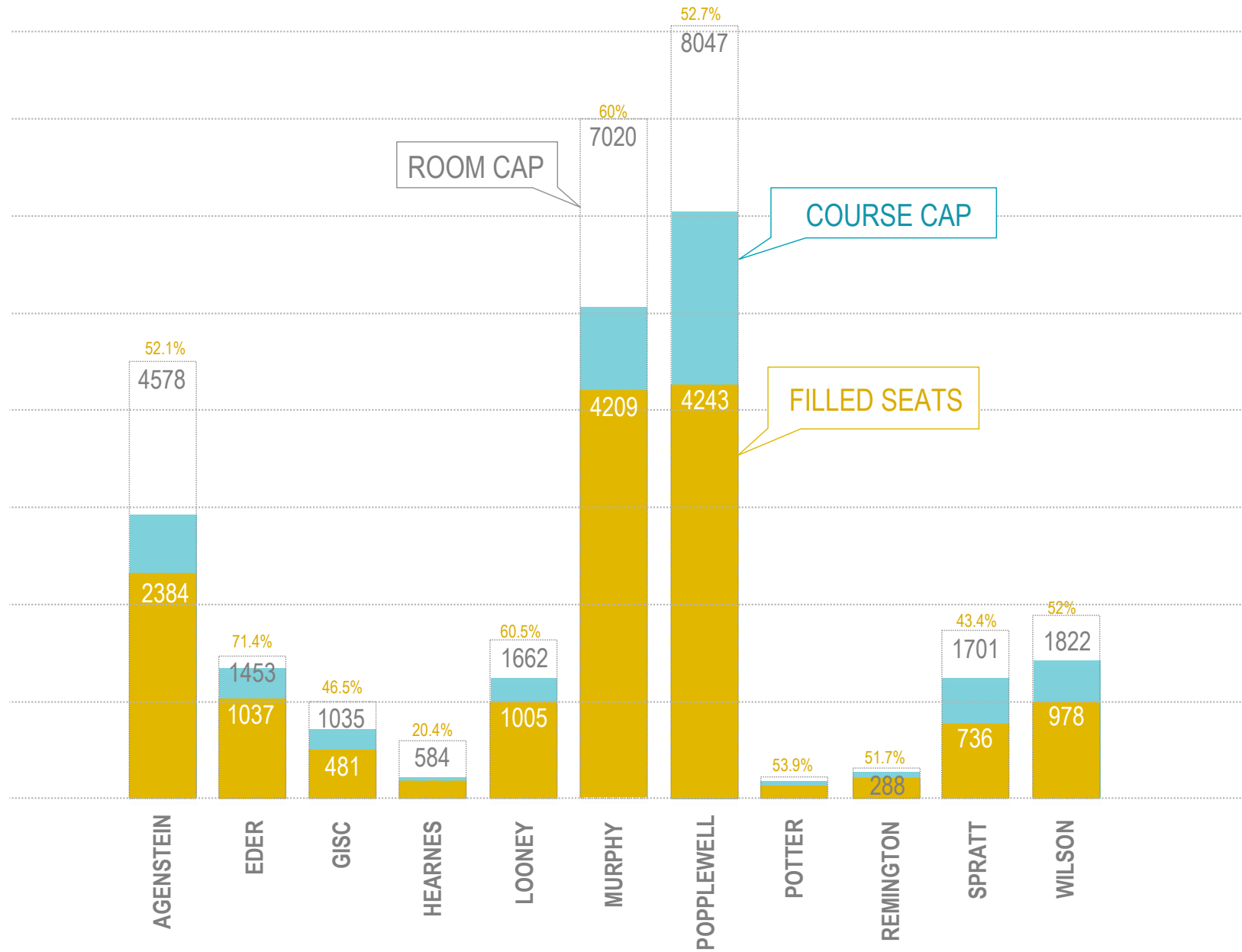
30-35 HRS/WK

NATIONAL GUIDELINE FOR HRS/WEEK
CLASSROOMS

22.8 HRS/WK

EXISTING AVERAGE HR/WEEK
CLASSROOMS

CLASSROOM UTILIZATION BY WEEK WHEN SCHEDULED BY BUILDING



AVERAGE SEATS FILLED PER CLASS IN CLASSROOMS BY BUILDING

Agenstein	52.1%
Eder	71.4%
GISC	46.5%
Hearnes	20.4%
Looney	60.5%
Murphy	60%
Popplewell	52.7%
Potter	53.9%
Remington	51.7%
Spratt	43.4%
Wilson	52%

AVERAGE SEATS FILLED PER CLASS IN CLASSROOMS BY DEPARTMENT

Art	41.7%
Biology	66.6%
Chemistry	49.7%
Communication & Journalism	56.5%
Computer Science, Math & Physics	36.8%
Business	46.1%
Legal Studies	59.1%
Economics, Political Science & Sociology	49%
Education	56.3%
English & Modern Languages	45.4%
Health, Physical Ed & Recreation	55.5%
History & Geography	55.4%
Music	47.1%
Nursing	59.6%
Philosophy & Religion	54.9%
Psychology	81.5%
Theatre, Cinema & Dance	59.9%
Honors	55.4%
University 101	47.4%

60-70%

NATIONAL GUIDELINE FOR SEATS FILLED
CLASSROOMS

54.3%

EXISTING SEATS FILLED
CLASSROOMS

CLASS LAB HOURS PER WEEK
BY CLASS LAB

AGENSTEIN

222	8
227	14
339	9

BAKER

102A	26
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EDER

220	7
221	4

GISC

122	3
FLD	43

LOONEY

129	8
ARENA	23
E. BAL.	8
GYM	14
HBC	12
POOL	9.5
WB	11.5

MURPHY

106	30
107	17
119	24
208	6
209	6
211	7.5
216	15
217	1

POTTER

101	18
104	30
106	8
108	22.5
108A	3
112	27
200	52
202	14
204	25
205	6
207	24
208	12
209	24
210	42
PERC.	2
THR.	3

POPPLEWELL

307	15
308A	12

REMINGTON

105	12
108	3
109	18
111	10
201	18
205	18
208	9
209	36
211	12
217	9
301	12
305	18
308	24
311	18
317	18

SPRATT

101	8
103	30
212	18

WILSON

110	20
140	5
150	21
160	27
184	63
186	6
206	12

AVERAGE CLASS LAB HOURS PER WEEK BY BUILDING

Agenstein	10.3
Eder	6.6
GISC	23
Looney	12.3
Murphy	15.5
Popplewell	13.5
Potter	19.8
Remington	15.7
Spratt	18.7
Wilson	22

AVERAGE CLASS LAB HOURS PER WEEK BY DEPARTMENT

Art	197
Biology	124
Chemistry	99
Communication & Journalism	46
Computer Science, Math & Physics	80
Business	36
Legal Studies	87
Economics, Political Science & Sociology	48
Education	9
English & Modern Language	73
Health, Physical Ed & Recreation	158
Music	88.5
Nursing	30
Psychology	22.9
Theatre, Cinema & Dance	29

18-20 HRS/WK

NATIONAL GUIDELINE FOR HRS/WEEK
CLASS LABS

17.1 HRS/WK

EXISTING AVERAGE FOR HRS/WEEK
CLASS LABS



AVERAGE SEATS FILLED PER CLASS IN CLASS LABS BY BUILDING

AGENSTEIN	72.3%
EDER	24.2%
GISC	67.9%
LOONEY	70.9%
MURPHY	67.2%
POPPLEWELL	72.2%
POTTER	33%
REMINGTON	84.7%
SPRATT	48.8%
WILSON	60.9%

AVERAGE SEATS FILLED PER CLASS IN CLASS LABS BY DEPARTMENT

Art	56.8%
Biology	89.2%
Chemistry	89.2%
Communication & Journalism	49.8%
Computer Science, Math & Physics	61.1%
Business	72.3%
Legal Studies	47.6%
Economics, Political Science & Sociology	70%
Education	62.5%
English & Modern Language	66.6%
Health, Physical Ed & Recreation	67.1%
Music	26.3%
Nursing	93.4%
Psychology	47.1%
Theatre, Cinema & Dance	22%

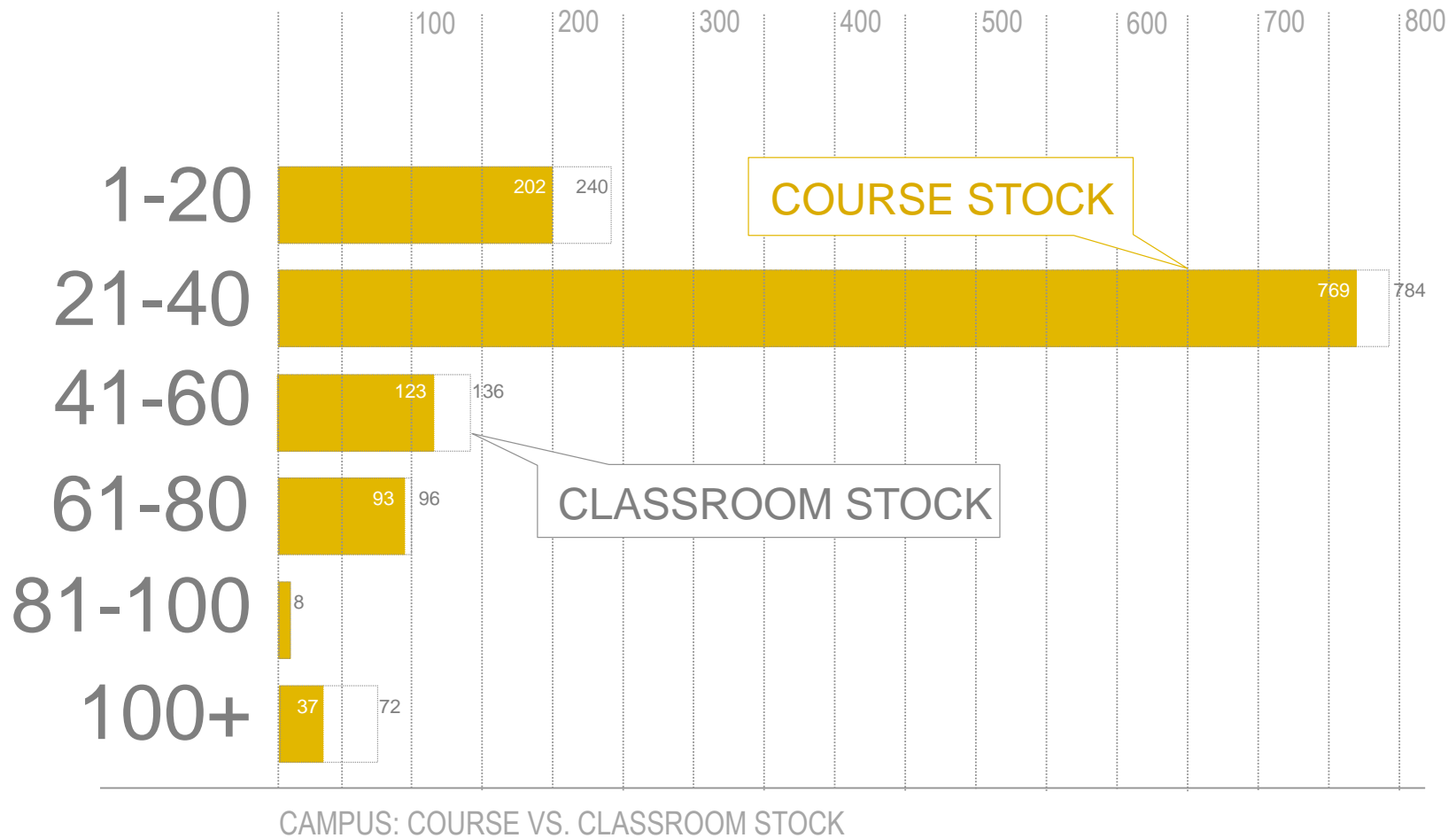
75-80%

NATIONAL GUIDELINE FOR SEATS FILLED
CLASS LABS

58.5%

EXISTING SEATS FILLED
CLASS LABS

CLASSROOM AVAILABILITY CAMPUSWIDE BY BUILDING



Classroom Availability

The analysis above looks at course demand vs. classroom supply. For simplicity, classroom supply has been reduced to (6) groups, classrooms having 1-20, 21-40, 41-60, 61-80, 81-100 and 100+ available seats. The results of this exercise indicate that for all classroom sizes supply is slightly

greater than demand. The key finding is that university classroom stock is well matched to serve the current sizes of classes offered.

AVERAGE AREA SQUARE FOOT PER STUDENT STATION IN GENERAL PURPOSE CLASSROOMS

BY BUILDING

Agenstein	25.5
Eder	20
Looney	24.4
Murphy	22.2
Popplewell	18.2
Potter	37.2
Remington	30.1
Spratt	27.3
Wilson	22

18-23

NATIONAL GUIDELINE FOR SQUARE FOOT/STUDENT
CLASSROOMS

25.2

EXISTING SQUARE FOOT/STUDENT
CLASSROOMS

OBSERVATIONS AND NEEDS

BUILDING OBSERVATIONS

The campus facilities are aging, and the current funding and approach to maintenance is not keeping up. Overall, the buildings are showing wear, are falling behind in code compliance, lack serious energy efficiency, and aesthetically suffer from a system of “patching.”

The existing building conditions chart on page 46 is a good summary of the relative physical condition of the structures on campus. The specific building condition analysis sheets can be found in the appendix starting on page 142. The following building-by-building list annotates both the building conditions along with the programmatic needs of that facility thereby providing a more comprehensive description of potential projects that would address both sets of needs.

It should be noted that the master plan identifies major capital projects, additions and renovations as well as significant deferred maintenance projects by building. There will be other projects that represent an ongoing series of deferred maintenance and other improvements that will be managed by the university beyond the ones listed here. These will likely be generated out of available funds and/or responses to changes in staff, degree programs, enrollment, etc. In other words, the master plan identifies major priorities and expects day-to-day operations and other timely projects to continue within the master plan context. Examples of these types of projects are included below. Others might include the addition of a residence for future presidents,

further development of the natural areas on campus and possible additions of athletic facilities.

Following then, is a building-by-building set of observations, needs and recommended solutions:

Academic

Agenstein/Remington Hall:

Construction Date: 1968/2009

Houses: Biology Dept.; Chemistry Dept.; Computer Science, Mathematics & Physics Dept.; Labs; Classrooms.

GSF: 66,561

This science facility is a top-of-class building compared to the other benchmark universities. The new addition and renovation matches the departmental and academic needs well. The biology office suite, for example, is very open to students and is a good model for this kind of departmental layout for future remodels and additions on campus. The building provides a good academic home with the comfortable lobby and accessibility to food service. There are few facility issues, but the fresh air makeup design needs to be addressed from a code and energy efficiency standpoint.

Eder Hall:

Construction Date: 1975

Houses: Business Office; Financial Aid; Registrar; Admissions; Career Development; Nontraditional Student Center; English & Modern Languages Dept.; Student Success: Counseling & Testing Dept.

GSF: 54,288

Isolated renovations throughout the building create an uneven interior environment. Many urgent deferred maintenance items exist with this facility: exterior envelope, mechanical, electrical and plumbing issues are evident.

Looney Complex:

Construction Date: 1969

Houses: Athletics Dept.; Health, Physical Education & Recreation Dept.; Gyms; Recreation Services; Pool; Classrooms

GSF: 108,124

An addition of three gymnasiums is recommended for student recreational use. This will bring the university up to level with benchmark universities, will improve the student experience on campus, and follows the university's goal of improving health and wellness. Adding this space also addresses the needs of the growing programs in health, physical education, recreation, athletics, continuing education programs, and increased community involvement.

Many urgent deferred maintenance items exist with this facility: code issues, exterior envelope, roof, fire protection, mechanical, electrical and plumbing items are evident. Cooling should be added when upgrades to the HVAC occur. The university pool in particular is very expensive to maintain and is in need of major renovations and upgrades to be economically viable on campus.

A renovation should address the system of entries around the building to make them more accessible and more securable. Existing acoustical

issues should and can be addressed through renovation to allow for more efficient and successful use of classrooms. Storage, particularly for supporting equipment, should be evaluated, organized and provided for in any work to the building.

Murphy Hall:

Construction Date: 2000

Houses: Psychology Dept.; Education Dept.; Communication & Journalism; Nursing and Allied Health Dept.; Classrooms.

GSF: 69,648

Initial inexpensive construction lends a worn out and uncared-for feel to a relatively new building. Some examples include rusty fan coil units, paint torn off walls, carpet "bubbling" up and furniture scattered in hallways and exit paths. Renovation work and deferred maintenance efforts here should focus on replacement of old, inexpensive systems with higher quality materials and solutions.

Popplewell Hall:

Construction Date: 1968

Houses: Administrative Offices; Craig School of Business; Economics, Political Science & Sociology Dept.; History & Geography Dept.; Philosophy & Religion Dept.; Classrooms.

GSF: 68,561

One of the oldest buildings on campus, this facility needs attention. Entry sequence and way finding should be improved. Interior classrooms, furnishings and office space need to be upgraded. Numerous isolated renovations create an uneven interior environment.

Many urgent deferred maintenance items exist with this facility: exterior envelope, fire protection, mechanical, electrical and plumbing needs are evident. A number of noncompliant code items exist.

Potter Hall:

Construction Date: 1968

Houses: Music Dept.; Art Dept.; Theatre, Cinema & Dance Dept.; School of Fine Arts; Theatre; Classrooms.

GSF: 82,552

Ranked as the fourth worst building on campus in terms of its deferred maintenance needs, this facility deserves a complete renovation. Interior classrooms, labs, equipment, furnishings and office space need to be upgraded. Minor and isolated renovations are good but have left much of the building untouched. Many urgent deferred maintenance items exist: exterior envelope, roof, fire protection, mechanical, electrical and plumbing needs are evident. A number of noncompliant code items exist.

In addition, the materials handling concerns with these kinds of labs combined with the environmental and indoor air quality challenges raise an urgent need for renovation to address the safety of the occupants. Art, music and theatre programs have evolved over the last 47 years to the point that program fit in Potter is challenging to the achievement of academic success. The master plan recommends the renovation of Potter Hall, music and art wings, including: classrooms, stage, fire protection, restrooms, wall coverings, lighting, sound system, elevator, teaching studios, rehearsal and production facilities, acoustical and sound proofing treatments, conversion of technical areas for instructional use, and HVAC systems.

Spratt Hall:

Construction Date: 1997

Houses: Western Institute; Conferences & Special Programs; University Advancement and Foundation Offices; Walter Cronkite Memorial; Classrooms

GSF: 65,000

Typical maintenance needs. Some HVAC, fire protection, electrical and roof issues exist.

Wilson Hall:

Construction Date: 1972

Houses: Engineering Technology Dept.; Criminal Justice, Legal Studies & Social Work Dept.; Military Science Dept.; Campus Printing and Design; Law Enforcement Academy; Y's Kids World; Classrooms

GSF: 44,333

Interior construction is not of a high quality and needs to be brought up to institutional facility quality through renovations. Many urgent deferred maintenance items exist with this facility: exterior envelope, roof, fire protection, mechanical, electrical and plumbing needs are evident. Differential settlement is evident at the SE corner where the exterior wall is cracking diagonally. Ground water issues are visible in this area as well.

Hearnes Center:

Construction Date: 1968

Houses: Library; IT Services; Instructional Media Center; Center for Academic Support.

GSF: 80,629

The library should undertake a master plan/branding study to explore how to maximize the space and services made available to the student population. Such a study would explore ways to incorporate more collaboration and student engagement places; to seek ways to improve the Hearnes Center as a cultural facility and center of student activity on campus. The outcome would benefit all students and academic programs campuswide as well as the community and business organizations.

A master plan would: evaluate the advantage and synergy of incorporating the writing center/tutoring center in the building and having it visible and accessed through the library, explore what functions should use the space available as the computer center downsizes equipment, specifically address improvements to access and egress for all users and especially those with disabilities.

Many urgent deferred maintenance items exist with this facility: exterior envelope, roof, fire protection, mechanical, electrical and plumbing needs are evident. A number of noncompliant code items exist.

Fulkerson Center:

Construction Date: 2004

Houses: Training and conference meeting facilities; Ballroom (500 seat capacity); Alumni gathering room.

GSF: 11,860

Typical maintenance required. There are some roof leaks and some differential settlement.

Blum Union:

Construction Date: 1969

Houses: Cafeteria; Bookstore; Food Court; Campus Police; Parking Services; Student Affairs; Health Center; Student Government; Student Services; Meeting Rooms

GSF: 86,672

Dining space will need to expand within the next 10 years. An addition along the south side of the facility achieves this and also creates a connection through the building to the main campus for residential students while improving the “main entry.” A main plaza creates a great first impression for visitors and provides a gathering and community space for students, faculty and staff.

A union master plan should be undertaken to determine the long-term services and use of the union. The study would determine if for example:

- Renovation would allow for services inside the union to have increased visibility to the student population
- Consideration should be given to accommodating increased nontraditional student services
- Reevaluating the health center is an opportunity in partnering and/or fulfilling the campus wellness goals

- Renovation to this building should take into consideration the relocation of Police and Parking services to the first level and located together
- The cafeteria entrance should be relocated
- Use of the existing basement would be beneficial in serving expanding needs of the university

Many urgent deferred maintenance items exist with this facility: exterior envelope, roof, fire protection, mechanical, electrical and plumbing.

Residence Halls

The most pressing need here, system-wide, is addressing fire protection. This should be completed as a first priority.

Deferred maintenance items exist with these facilities overall. Exterior envelope conditions should be addressed, especially relative to energy efficiency. Mechanical, electrical and plumbing systems are challenged due to the inexpensive nature of the systems.

Logan, Beshears, and Juda Residence Halls, and Leaverton and Vaselakos Residence Halls:

Logan, Beshears, and Juda Residence Halls

Construction Date: 1971

Leaverton and Vaselakos Residence Halls

Construction Date: 1992

Total GSF: 270,385

Logan, Beshears, and Juda Residence Halls are first-generation housing and need to be replaced or renovated. The solid structure and large amount of space available make these halls good candidates for renovation and additions. These halls could make a good location for non-traditional students, international students, graduate students and families. Amenities are lacking.

Leaverton and Vaselakos Residence Halls require typical maintenance. Finishes need to be upgraded.

Griffon Residence Hall:

Construction Date: 2010

GSF: 92,393

Typical maintenance required.

Scanlon Residence Hall:

Construction Date: 2004

GSF: 95,632

Typical maintenance required.

Commons Building:

Construction Date: 2004

Houses: Residential Life Offices; Meeting Rooms; Snack Bar and C-Store

GSF: 7,300

Typical maintenance required. When this building is remodeled the housing department offices should be either accommodated here or moved to the first floor of the new residence halls.

Athletics**Baker Fitness Center:**

Construction Date: 1996/2012

Houses: Weight Room; Recreation Services; Locker Rooms

GSF: 17,300

The master plan recommends an addition that would more than double the size of the facility.

There have been recent renovations and improvements. The building is heavily used and the master plan recommends an addition. There exists remaining plumbing deferred maintenance.

Spratt Stadium:

Construction Date: 1978

Houses: Athletic Events

GSF: 17,920 (Spratt Stadium Club)

This building should be replaced. Economically, this makes the most sense and there are no overriding factors, such as historical importance, that would suggest an extraordinary effort to save the structure. A number of noncompliant code conditions exist in combination with the only exit stair being in disrepair. There are many ADA issues. Water damage in the exterior envelope is evident in many locations.

When replaced, one design issue should be the existing site groundwater. Measures should be taken to address this in both the building structure and the associated seating.

Griffon Indoor Sports Complex:

Construction Date: 2004

Houses: Athletics; Indoor Sports Field; Lecture Hall; Offices; Classrooms

GSF: 118,000

Typical maintenance required.

Future President's Home

Many campuses provide a president's home used for entertaining guests and hosting events. Missouri Western previously had such a facility but it is no longer standing. Several locations for a future president's home have been identified, with a location west of South Pond being the preference for easy access to the center of campus, and to visitor events held at the home. This location affords adjacencies to Spratt and Fulkerson halls, where many events are held, and can provide easy access to shared parking. A landscape buffer is recommended along Mitchell, and views to South Pond can be capitalized upon with the design. Other locations considered include West Campus, just north of the incubator site, east campus accessed off South 50th Street, and center campus north of parking lot H.

Support

Kit Bond Science & Technology Incubator:

Construction Date: 2008

Houses: Laboratory; Conference Room; Operation Offices; Tenant Space

GSF: 25,000

Typical maintenance required. There is concern about the level of insulation relative to thermal comfort and energy efficiency.

Campus Facility Services

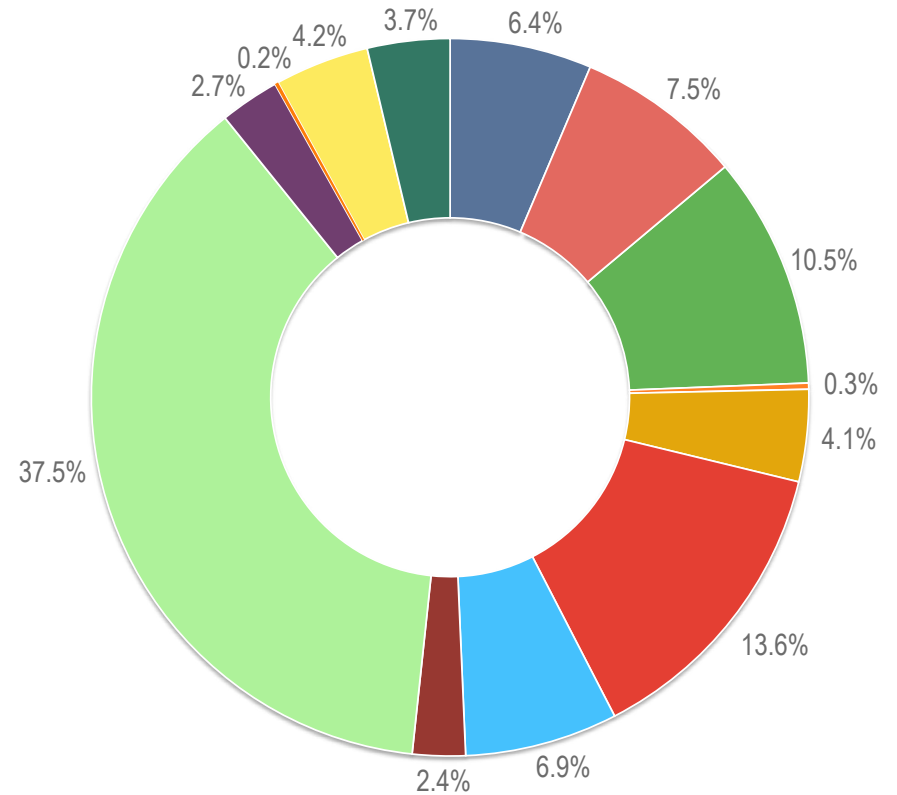
Facility Services Area - West Campus:

Construction Date: multiple facilities, various years

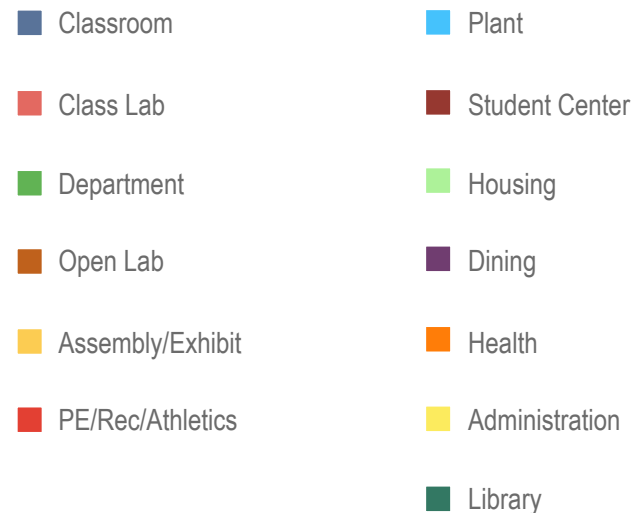
Houses: Grounds shops, maintenance shops, equipment storage, mail room, campuswide storage, facilities offices

These are lower quality often pre-engineered metal buildings but generally in good shape for their purpose. They will require siding and roofing repairs/replacement soon.

Space is adequate. The facilities could benefit from some upgrades such as the addition of a spray booth for specialized painting. Some areas where storage is located are challenged by current facility condition issues. This could be handled with reorganizing and relocating the storage or by improving the buildings.



Existing Program Allocation



PROGRAM NEEDS

Campus Capacity / Space Needs

The campus is currently serving students with classrooms that are adequately outfitted with technology and furnishings – a step above many of the comparison schools. The elimination of tablet-arm chairs and integration of standardized technology for instruction has been accomplished, the space per student station allows for group-based instruction, and the campus can now turn its attention to planning ahead for future changes in technology, and more closely matching space assignments and room configurations to pedagogy.

Space for students to gather before and after class, work on projects, and create an academic “home” within their departments is lacking. Small lounge spaces in some departments serve students, and a few spaces for gathering have been carved out of lobbies, but overall the quantity and quality of these spaces to serve students is poor.

Science labs and computer labs are fairly new and have capacity for growth.

Overall, the university’s existing office space for faculty and staff varies widely in the size, configuration, and quality provided. Some office spaces are quite spacious, but many others are around 120 square feet or less. These smaller offices do not meet modern office standards. In a few departments there appear to be spaces that have been subdivided over time to allow for additional faculty or staff. A few departments have one or two unused offices, but the total amount of square footage is still below what would be needed for the department if each individual office was of sufficient size.

Relative to office suites, most departments have suites that are grouped together with a reception and work area, conference space, and a series of offices. Again, there exists a wide variety of suites provided. Adequate office sizes and/or support spaces such as reception, work areas, mailboxes, and conference space are not provided generally in Popplewell, Murphy, Potter,

Eder, Wilson, and Looney. In addition, there is no designated area for faculty to gather for collaboration or fellowship either within their departments or campuswide.

Some program areas such as nursing and the School of Business are operating in space that lacks adequate support for the quantity of students graduating each year from these programs. In addition, the stadium does not offer amenities and space for donors and reserved seating that is consistent with its peer institutions.

Campus Comparisons

The Master Plan Steering Committee identified the following campuses as a benchmarking group for the purposes of this master plan: Northwest Missouri State University, Missouri Southern State University, Pittsburg State University, Washburn University, Truman State University, Emporia State University, Fort Hays State University, University of Central Missouri, and Missouri State University. Where available, the consultants have gathered comparison data for use in master planning discussions. As a whole, these campuses represent regional universities that are frequently seen in college choice comparisons and/or competitive athletic events for Missouri Western.

In addition to the items identified in the introduction and in comparison to the benchmark universities, there are a number of major deficiencies in the facilities that MWSU offers its students. These deficiencies are amplified once potential growth is considered. The immediate needs are represented in three areas: student recreation, performance venues, and dining capacity.

Student Recreation

Fitness and wellness for the students and staff are goals clearly expressed in the university’s strategic plan. The space available at Baker Fitness Center is undersized and currently reaches an occupancy level that is over capacity. Most of the comparison universities have a recently constructed student recreation center that offers a wider array of amenities, and more

space for them to occur. Of significant note, athletics and student recreation currently share gym space. Students have no access to gymnasium space from 2 PM well into the evening. This is not a situation that exists at any of the benchmark universities.

While Missouri Western's students have no access to indoor courts, students at the following Universities have access to:

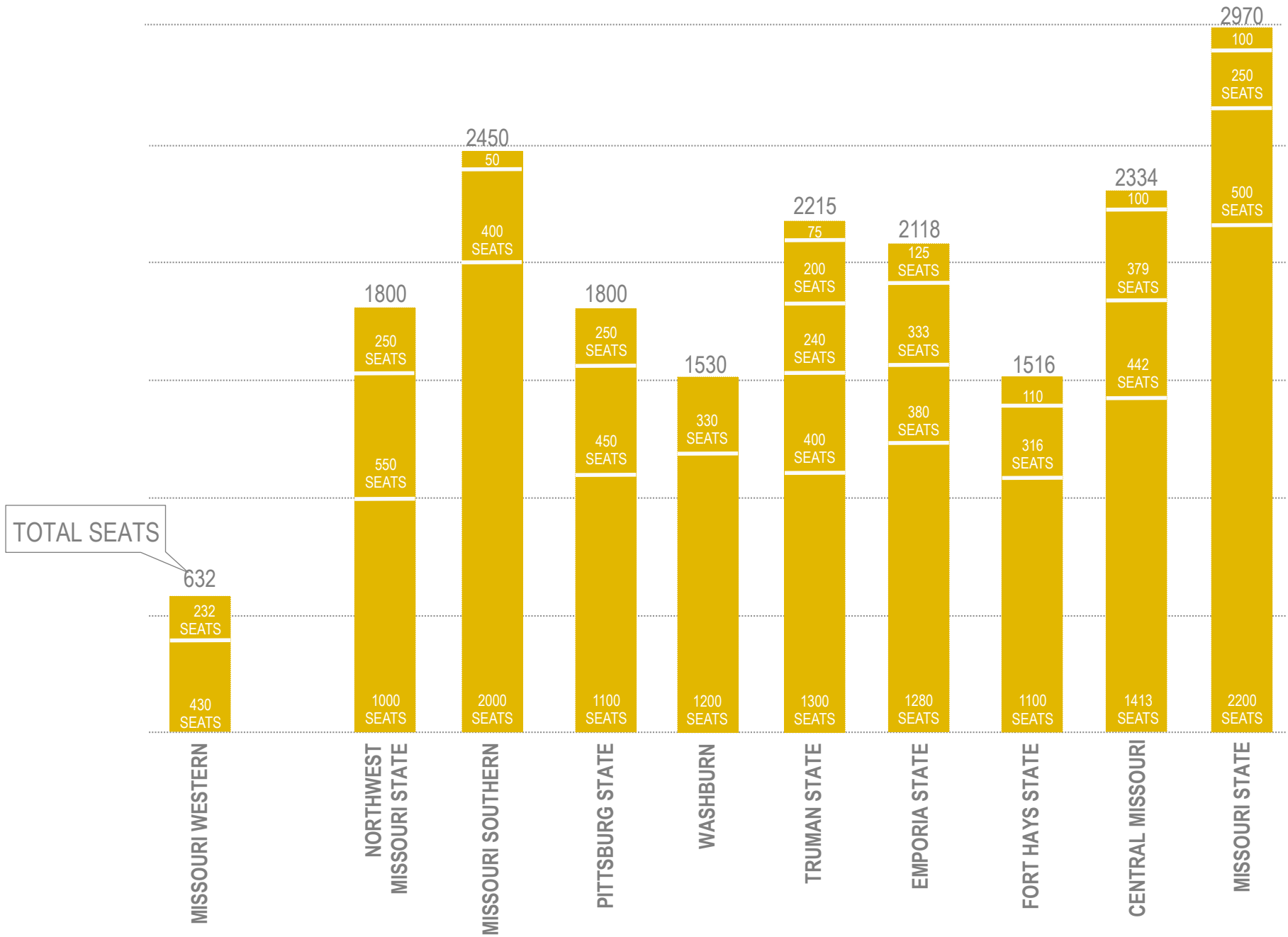
Washburn	3 courts
Pittsburg State	3 courts
Emporia State	3 courts
Fort Hays State	4 courts
Truman State	4 courts
Northwest Missouri	3 courts
Missouri Southern	3 courts
Missouri State	3 courts
Central Missouri	6 courts

Performance Venues

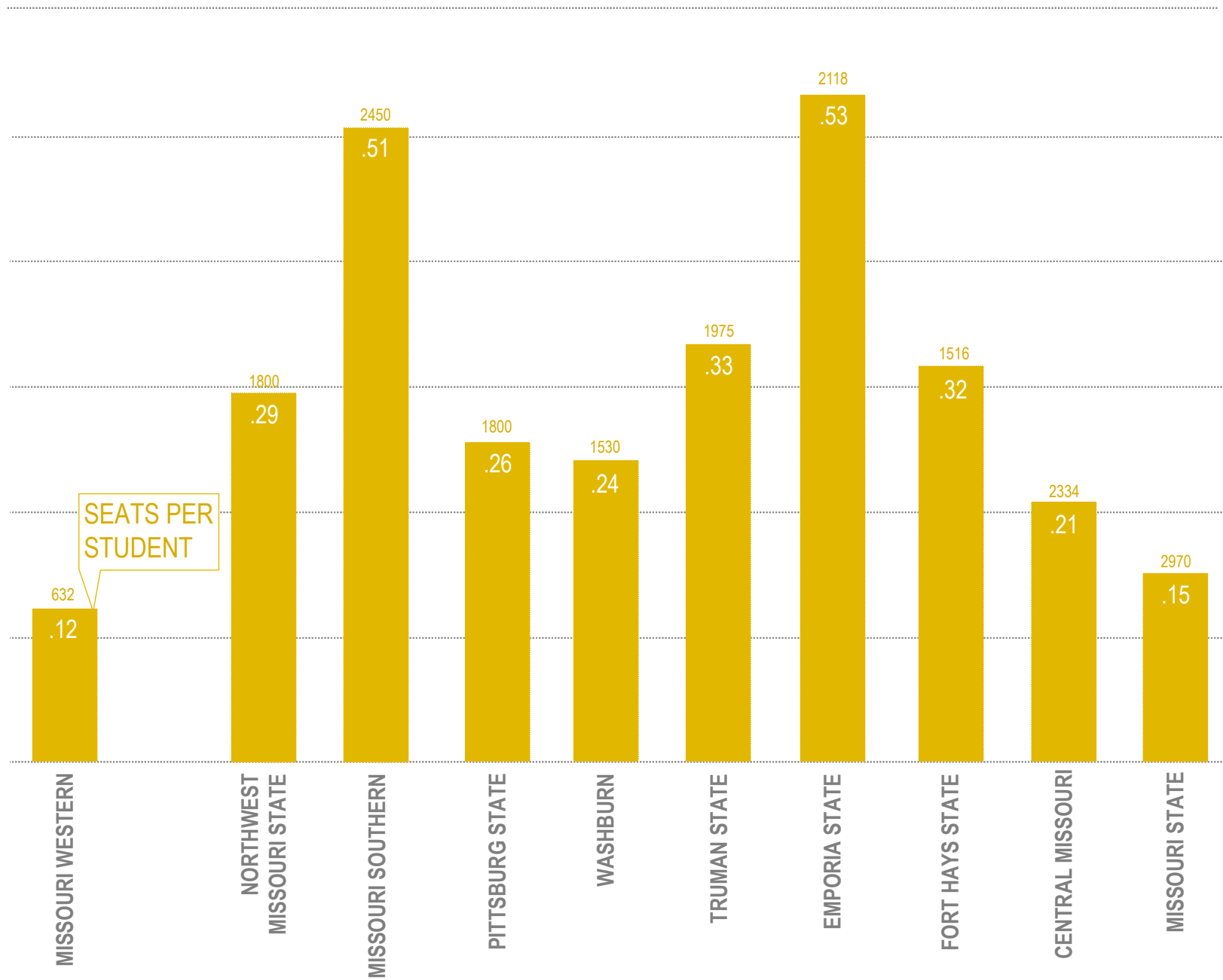
Benchmark universities in the region typically provide three performance venues on campus. They include one large facility seating between 1,000-2,200, one medium venue seating around 400 and at least one small venue between 100-250 seats. Missouri Western is the only university of the 10 compared universities to lack a large performance hall of at least 1,000 seats. Along with this need for performance space, there is a lack of adequate rehearsal and support space to accommodate the number of students in this program. Missouri Western also provides the lowest number of total performance seating per student enrollment than any of the benchmark universities.

Dining Capacity

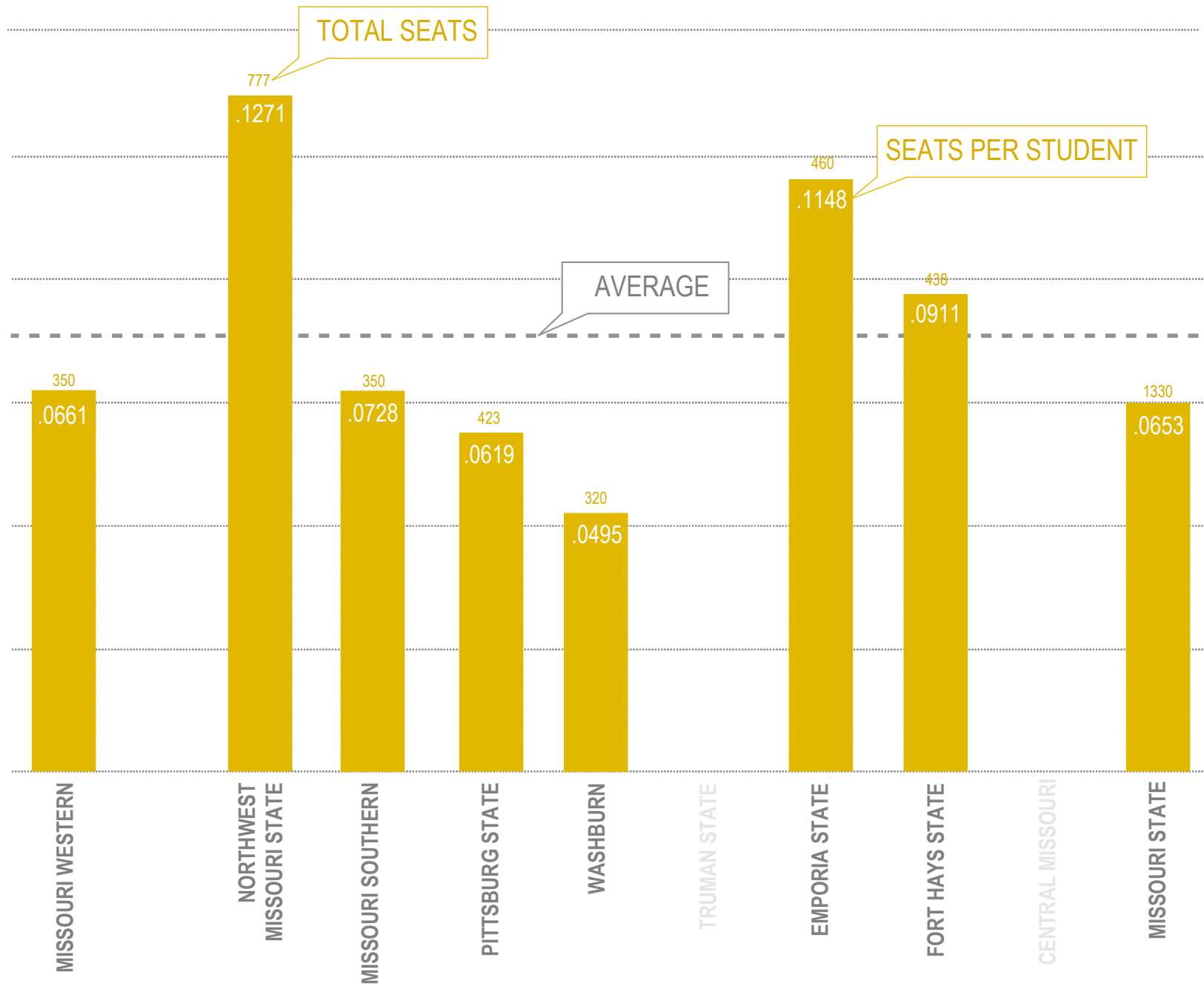
Available seating for dining is one measure of the quality of student life on campus. Reports of crowding in the dining areas of Blum Union are common. Many factors are in play in comparing dining seating among benchmark universities. And the numbers vary greatly from one to the other. Missouri Western provides a below average number of seats and would need to add around 100 seats to the dining capacity to meet the average.



Performance Seats Per Campus Venue



Performance Seats Per Student



Dining Seats Per Student

GROWTH

Accommodating Growth to 2025

The campus currently serves an enrollment of 5,926. The master plan projects the need to serve a total campus enrollment of 7,500 by 2025. In looking at the capacity of the campus to serve this number, and assuming the deficiencies mentioned in recreation space, performance venues and dining seating are corrected, we look next to classrooms, class labs, science laboratories, and offices to gauge capacity.

Classrooms and class labs, based on typical utilization standards, can accommodate a modest growth in students with no additional classroom-specific space added. This can be accomplished through slightly increasing utilization of these spaces, along with the addition of the few institutional spaces that will be associated with the new and renovated facilities identified in the master plan. However, it is acknowledged that additional space in buildings such as Potter and Murphy would improve and enhance the education that can be offered in the related degree programs.

The need for science labs to accommodate growth, given how well the new science facilities in Agenstein/Remington were planned, can be met within the current facility. The current on-campus housing stock is at capacity, and houses approximately 25% of the campus headcount. To continue housing this percentage of students on campus, or to increase the availability of housing, additional capacity of at least 120 beds should be added.

Office space will need to be increased. A careful look at most buildings would indicate that this incremental growth could be accommodated if any number of changes came to fruition: a handful of underutilized drop-in computer labs are converted to offices and/or space becomes available with the construction of a new business school building and/or classrooms are added as part of the addition of student recreation space.

Campus Average Seats Filled for General Purpose Classrooms Per Class - Entire Campus

54.3%

SEATS FILLED IN
CLASSROOMS

Serving:
6,877 students

60-70%

NATIONAL GUIDELINE FOR
SEATS FILLED IN CLASSROOMS

Capacity of:
7,599 - 8,856 students

Average Classroom Hours per Week - Entire Campus

22.8HRS/WK

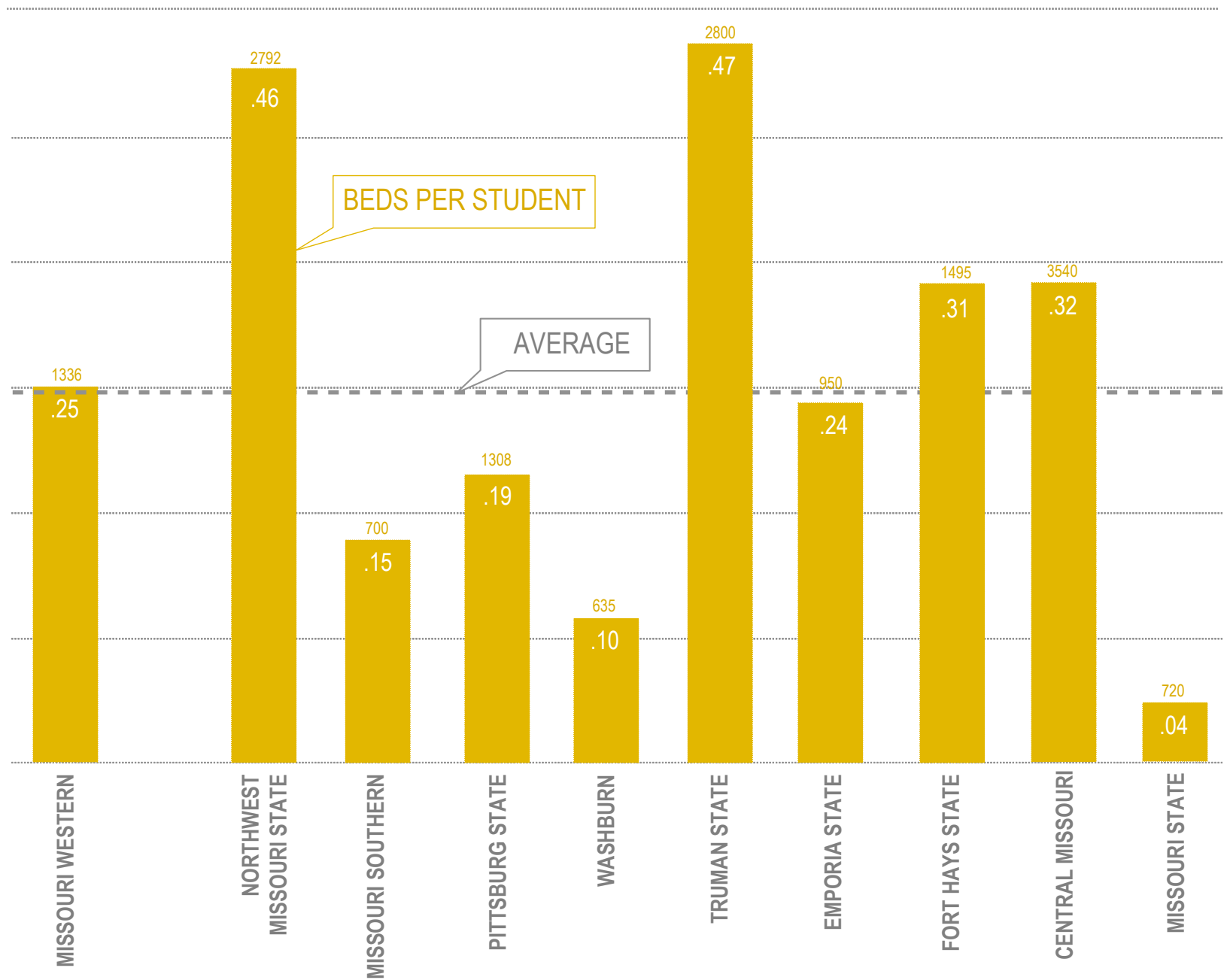
AVERAGE HRS/WEEK IN
CLASSROOMS

Serving:
6,877 students

30-35HRS/WK

NATIONAL GUIDELINE FOR
HRS/WEEK IN CLASSROOMS

Capacity of:
9,048 - 10,556 students



Resident Hall Beds Per Student

SIGNIFICANT FACILITY NEEDS

Based on current space deficiencies, existing building conditions, and the need to accommodate future growth, the following facility needs have been identified below. The space opportunities - places where space is available for future growth - is also found below.

FACILITY NEEDS

- Spratt Stadium building replacement
- Student recreation space gyms/ fields/ fitness with additions/renovations to Baker Fitness Center and Looney Complex
- A large performance venue of 1,000-1,400 seats with additions/renovations to Potter Hall
- Additional dining capacity of 120-150 seats with additions/renovations to Blum Union
- Additional 120-240 beds with a new residential hall and quadrangle
- Replacement or renovation of Logan, Beshears, and Juda Halls for non-traditional and/or freshman students
- Renovation of Wilson Hall
- New school of business building
- New campus visitors center
- Enlarged and reorganized office spaces - overall
- Academic home spaces - overall
- Renovated library

SPACE OPPORTUNITIES

- Agenstein/Remington
- Blum Union basement
- School of Business current space in Popplewell (if new facility is built)
- Classroom/Lab efficiencies





03 THE PLAN

- 77** Master Plan
- 85** Systems
- 106** Safety, Security and Accessibility
- 112** Standards and Implementation

MASTER PLAN

The vision for the future Missouri Western State University campus honors the foundational layout created in 1967. The 2015 Master Plan capitalizes on the current layout and resources in planning for the next decade of campus growth to 7,500 students. The campus design is one of a “landscaped green inside a ring road.” The academic core sits in a park-like setting on the main ridge of campus and embraces the campus iconic clock tower.

A new east-west pedestrian spine connects the campus from the revitalized Potter and Looney halls to the west and the expanded student union and housing district to the east. This spine provides for a universally accessible route and, through design, conceals the safety feature that the path can be used as emergency vehicle access to parts of the campus previously unserved. Quadrangles on rolling hills frame the path of the landscaped spine improving wayfinding, creating sense of community, and providing a great accessible route for all visitors.

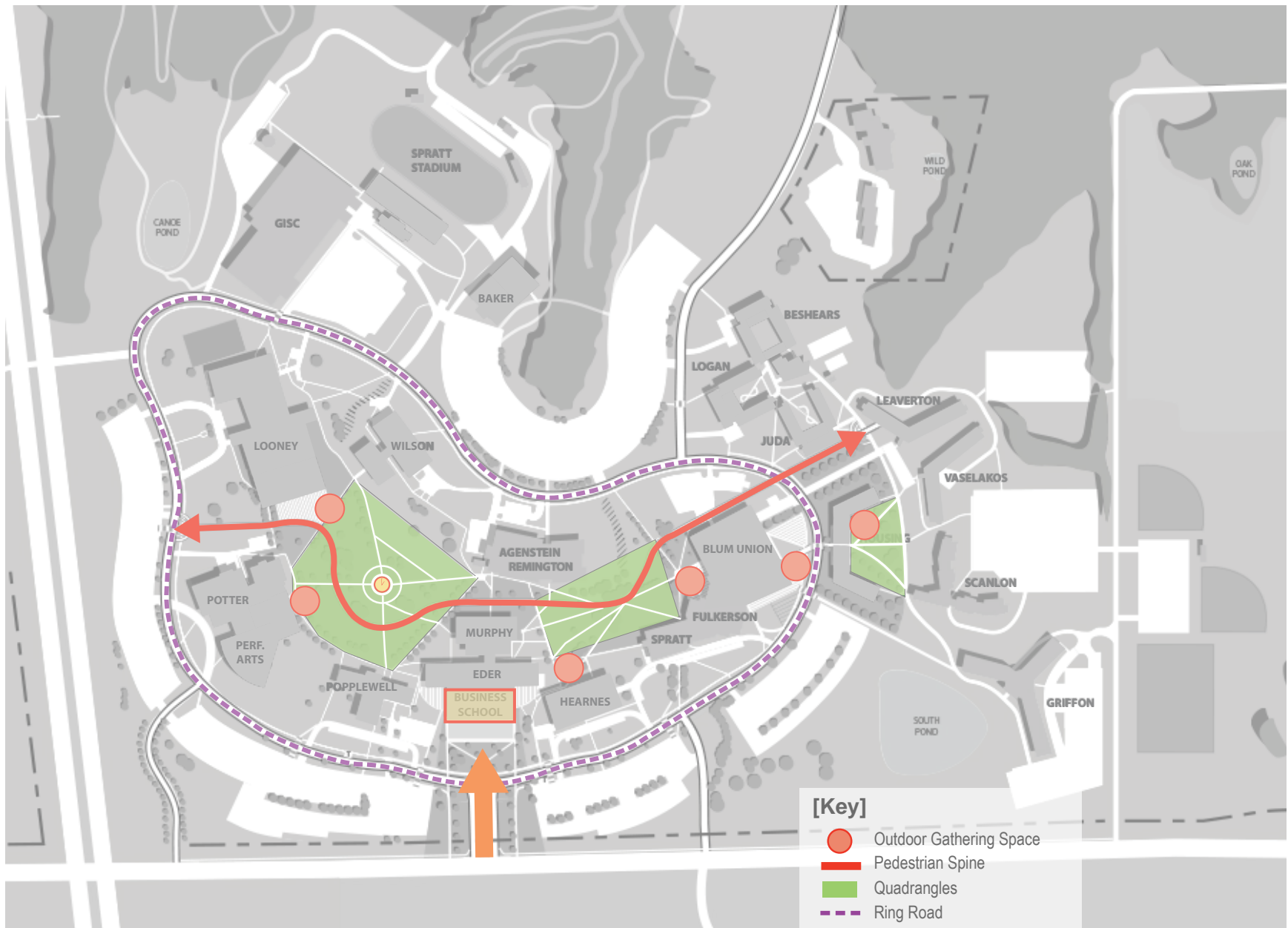
The master plan depicts a campus with strategic and important additions of space. A new business school building greets the visitor with a new entrance experience complete with landscaping and outdoor space development. A new visitor’s center at the entrance level of the business building establishes a great first and lasting impression. The addition of a large performance venue, new gymnasiums to support student, faculty and staff wellness, and additional dining space bring the university up to par with other regional benchmark universities. Additional student housing expands the existing housing district

and provides for the growing on-campus population for the next 10 years. Recommended renovations across the campus address serious deferred maintenance needs and bring the facilities up to contemporary standards for institutional buildings. Office suites and their supporting spaces can be improved, and standardized as these renovations occur.

New landscape plans build on both the highly appreciated and admired park-like landscape that exists at Missouri Western today, incorporating outdoor gathering spaces like the recent Kelley Commons along the pedestrian spine. Outdoor learning opportunities are identified throughout the campus while preserving and enhancing the natural setting used for research and learning.

Parking and circulation enable the day-to-day activities of students, faculty, staff and visitors on the campus. Particularly for a campus whose majority of students are “commuters,” providing convenient and safe access to university facilities is paramount. The proposed circulation relies on the existing infrastructure. Existing parking is expanded in areas of the campus where parking is currently constricted. The automobile traffic at the north intersection of James McCarthy Drive and Downs Drive becomes improved with the addition of a new turn lane.

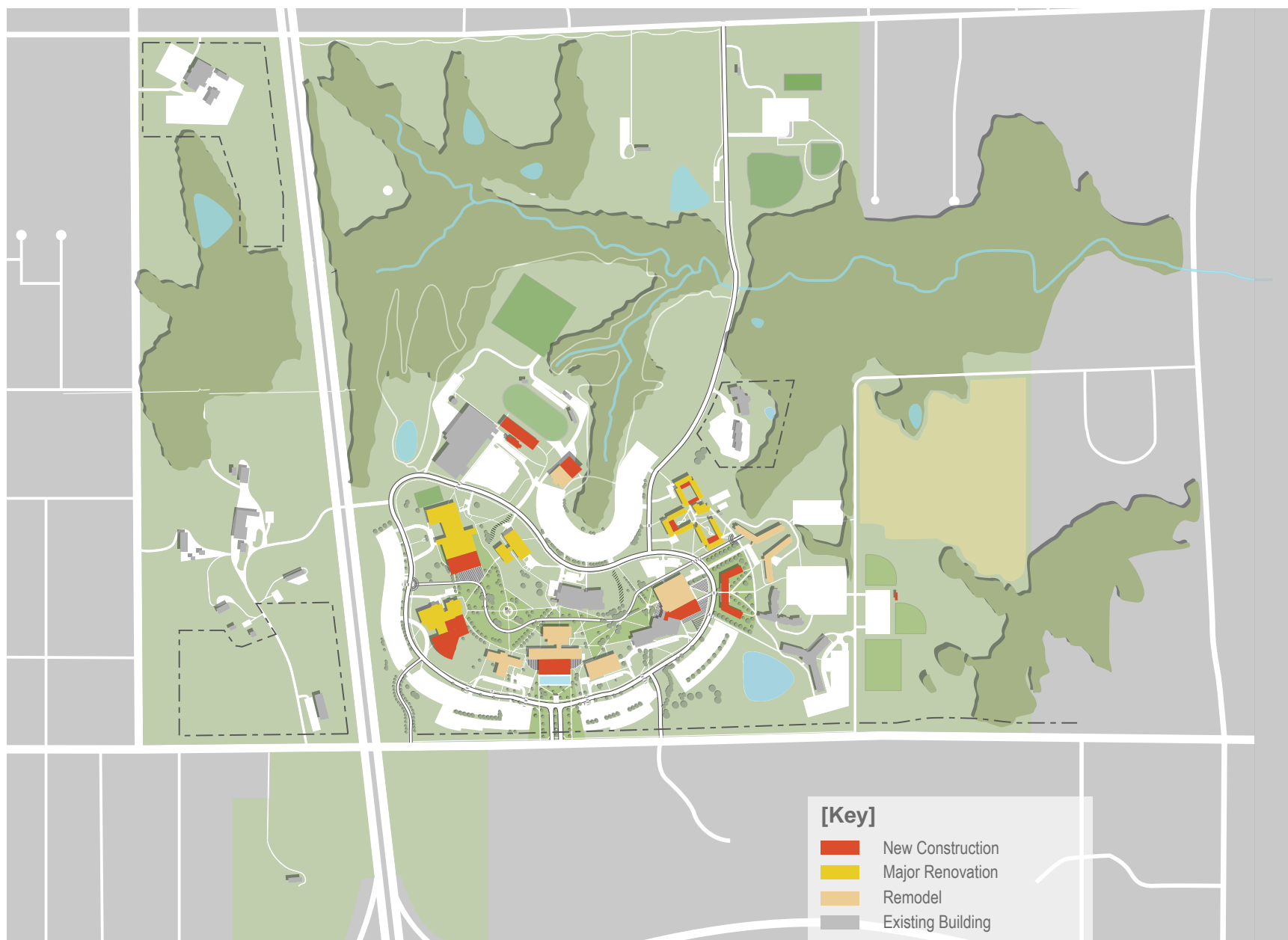
Safety for pedestrians is addressed with the improvements to existing “secondary” crosswalks and the designation of a selected group of existing and new crosswalks to “primary.” These primary crosswalks are designed with increased signage, lighting, markings and visibility.



Concept Diagram



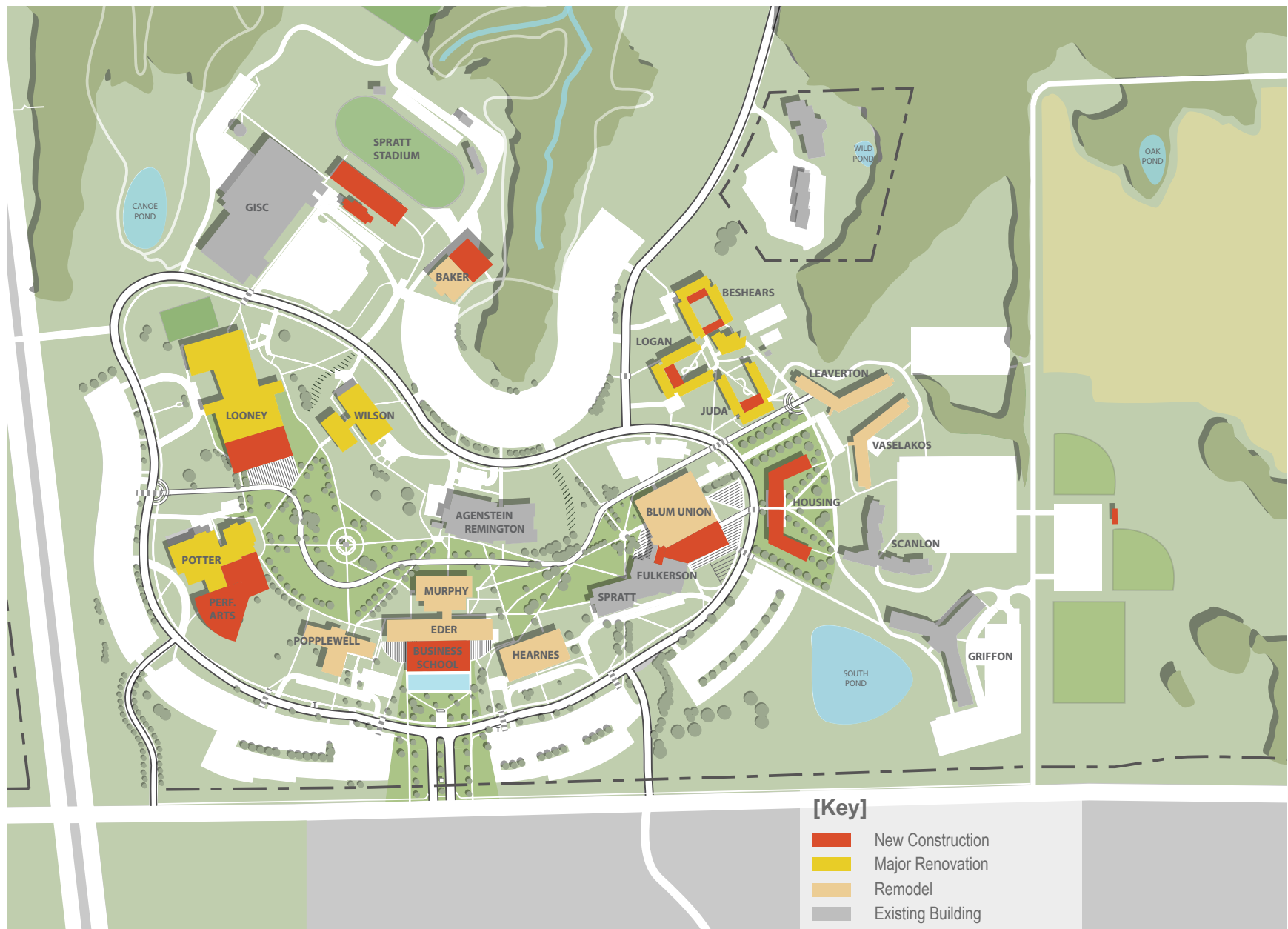
View from the Southwest



Campus Master Plan



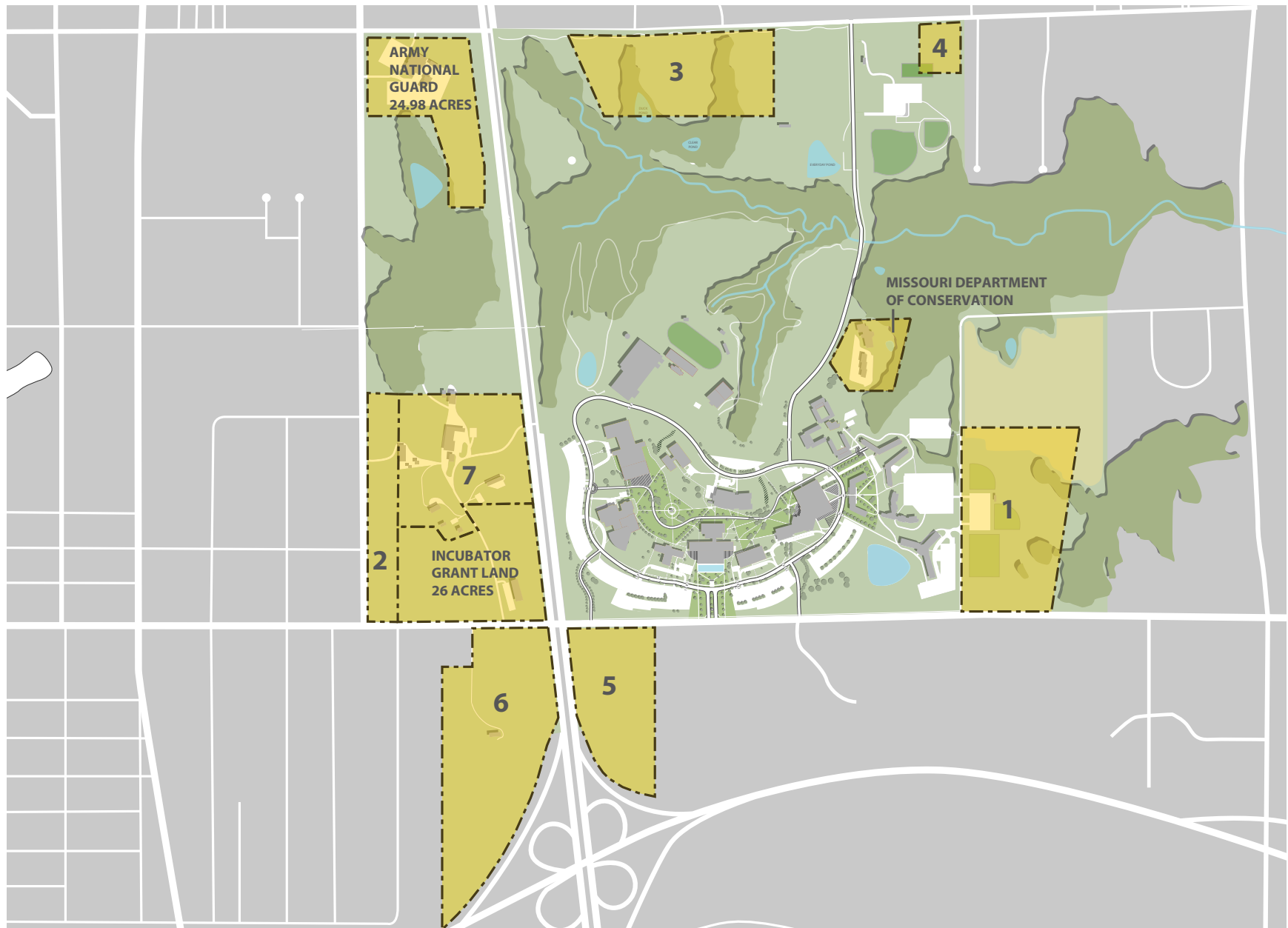
View from the South



Central Campus Master Plan



View from the East



Land Development

SYSTEMS

Traffic Improvements:

Traffic analysis performed as part of the master plan identified one primary and consistent need on campus, at the intersection of James McCarthy Drive and Downs Drive. This need was observed as an almost daily congestion issue experienced by students, faculty and staff. The analysis did not find that special event traffic, which causes periodic congestion on campus, needed to be addressed with major improvements. Dynamic parking devices could be considered if special event issues are seen as paramount.

Capacity analysis was performed on the intersection of James McCarthy Drive and Downs Drive using Synchro, Version 8.0, to evaluate both traffic control and geometric improvements that could be implemented. The intersection was first evaluated to see if it could be treated like many new “shopping centers” where the entering traffic on James McCarthy Drive is free to enter and traffic along the circulatory road (Downs Drive) is required to stop. This resulted in larger delays and queuing due in the westbound direction and is thus not recommended.

Further evaluations of the current traffic control indicated that the addition of a southbound right-turn lane at the intersection could reduce intersection delay and queue lengths for southbound traffic up to 50%. As a result, it is recommended to add a southbound right-turn lane along James McCarthy Drive that could include approximately 100 feet of vehicular storage (excluding taper) at its intersection with Downs Drive.

Queuing and delay is expected to reduce as vehicles that want to make a southbound right turn are not blocked by one or two vehicles that are trying to make a left turn and are waiting for a gap in traffic. Additional forms of traffic control such as a single lane roundabout were evaluated and would be expected to operate adequately, but costs would be considerably more for no significant increase in operations compared to the current traffic control with the addition of a short southbound right turn lane.

Parking Capacity

Parking capacity analysis shows that the campus does not have a parking space quantity shortage but that parking space distribution is not balanced for peak parking demand times. A perception of a lack of parking availability exists primarily in the southern parking lots on either side of the entrance drive. The addition of the new business school building in this area could increase these frustrations.

The master plan recommends an addition of parking in both lots expanding out to the right-of-way on Mitchell Avenue. In addition, revised entry drives in front of Popplewell, Hearnese and Spratt show added parking on one side of the drive for specialized and short-term parking.

Other areas of added parking include a revised and expanded visitor’s parking lot to the south of Blum, Fulkerson and Spratt. Some residence hall spaces

may occupy this lot as well. Parking is also planned for the new recreation fields on the east side of campus. Supplemental parking is suggested for the area behind Leaverton and Vaselakos though the exact configuration will need to address the slopes in this area. Adding this amount of parking would increase the total number of spaces provided on campus by 285-400 spaces.

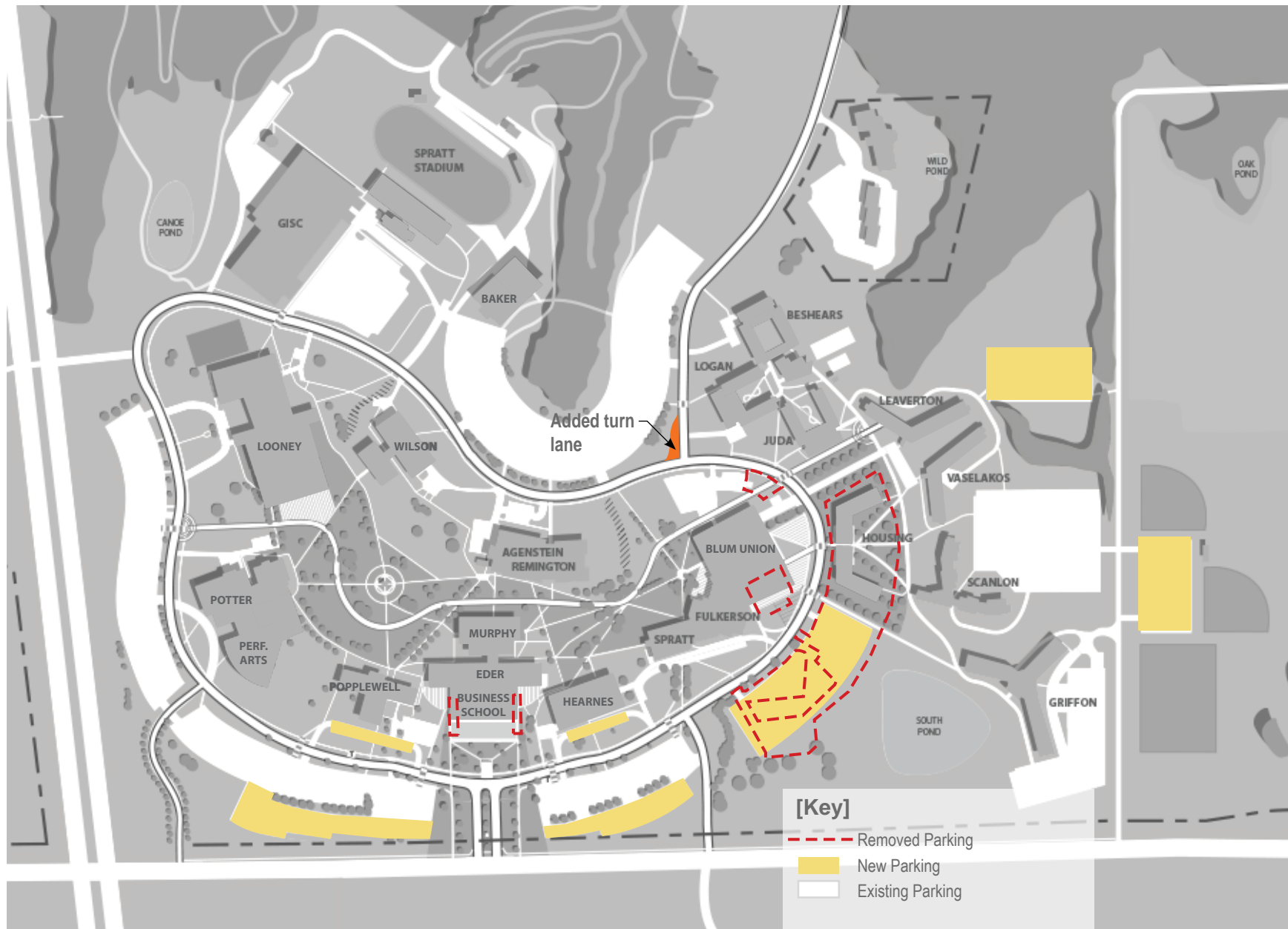
It should be noted that with the maximum of 68% of spaces utilized on the campus at any one point, the university should be very judicious in the addition of parking spaces. Every space added brings with it associated ongoing cost in maintenance and repair, snow plowing, need for additional signage, storm water management, and staff to monitor parking controls.

Crosswalk Recommendations

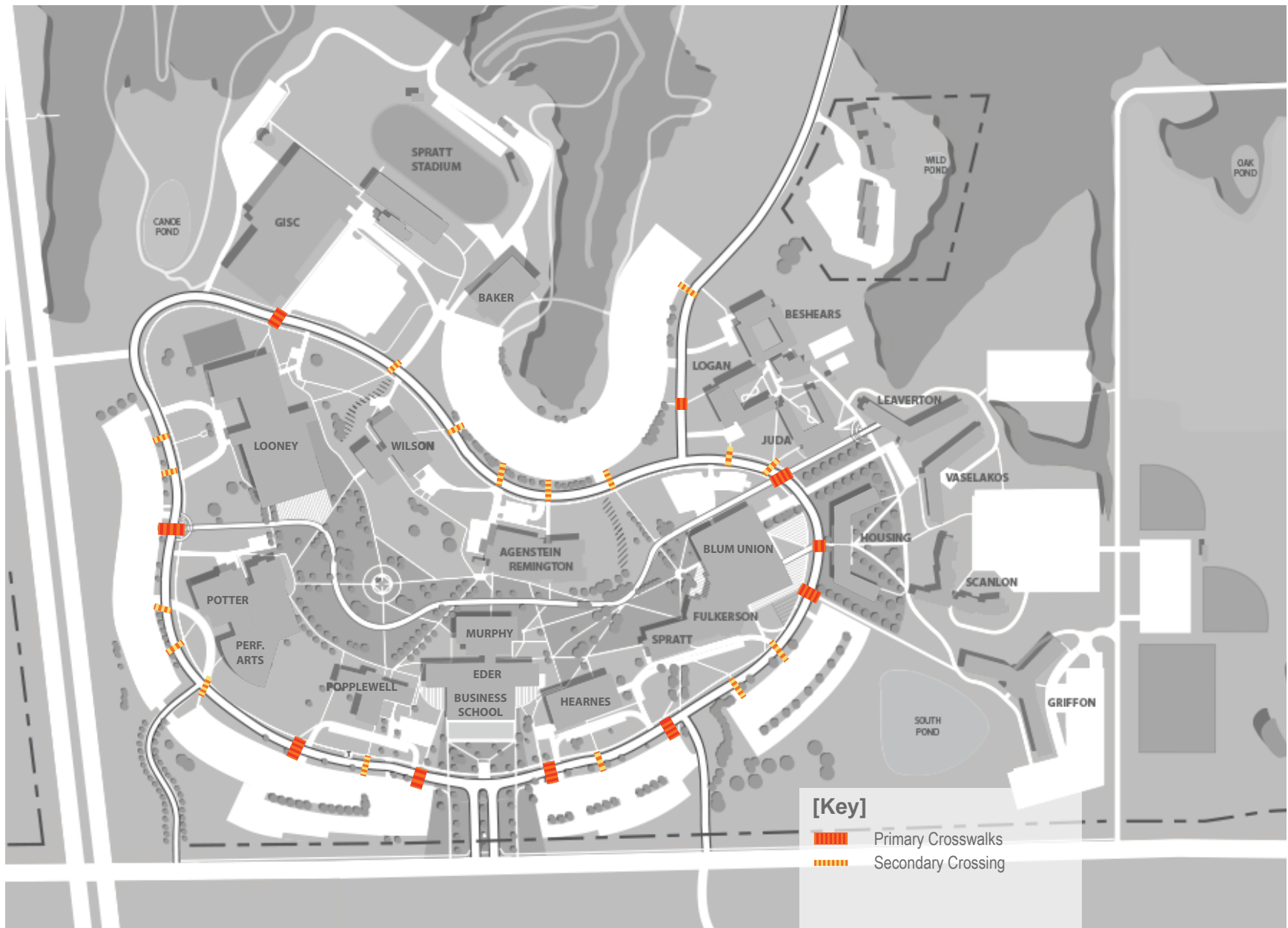
To improve safety, visibility, and compliance at pedestrian crosswalks throughout campus, it is recommended to make improvements at several “key” locations across campus. Pedestrian crossing locations are categorized into two areas: primary and secondary crossings. Primary crossings are considered to include areas which experience larger pedestrian traffic such as locations between the internal campus and the sporting complex, residential campus housing, and highly utilized parking areas. The following map depicts locations recommended to be upgraded to “primary” crossing status.

Potential improvements recommended to be completed with primary crossings include:

- Provide patterned markings to increase crosswalk visibility and aesthetics. As an alternative: crosswalk markings could be specially designed around the surrounding school buildings (example you could stripe musical notes or keyboard striping at crossings to the music/art building at Potter Hall, or stripe athletic balls such as a football, or soccer ball across from Spratt Stadium etc.)
- Pedestrian specific street light poles for improved visibility at night, specifically at locations where existing roadway street lights are located far from marked crossing location.
- Increased signing at primary crosswalk locations to designate right-of-way and encourage motorists to yield to pedestrians
- At secondary crosswalk locations, it is recommended to maintain existing piano-key style markings.



Traffic & Parking Improvements



Primary Crosswalks

Landscape Vision

The vision for the Missouri Western State University landscape is not one vision but several that can enrich the users' experience, enhance the beauty of the campus, and benefit existing natural resources. They may be applied in layers, or piece by piece, each complementing the other to improve campuswide continuity.

Vision 1 - Midwestern Comfort

This vision for the enhancement of the Missouri Western State University landscape is to apply or reinforce a "midwestern" landscape treatment to the entire campus. To many this is a nostalgic landscape defined by mown, well-manicured lawns, shade trees dappled throughout the "yard," and accent plantings at building entries...just like home. Heading off to college can be a stressful and scary time, but this landscape provides warmth and comfort. While a goal of the master plan may be to reduce mowing campuswide, a sufficient amount of mown lawn would remain in highly visible areas to maintain this vernacular.



Area West of Pond at Griffon Hall



Area West of Kit Bond Incubator



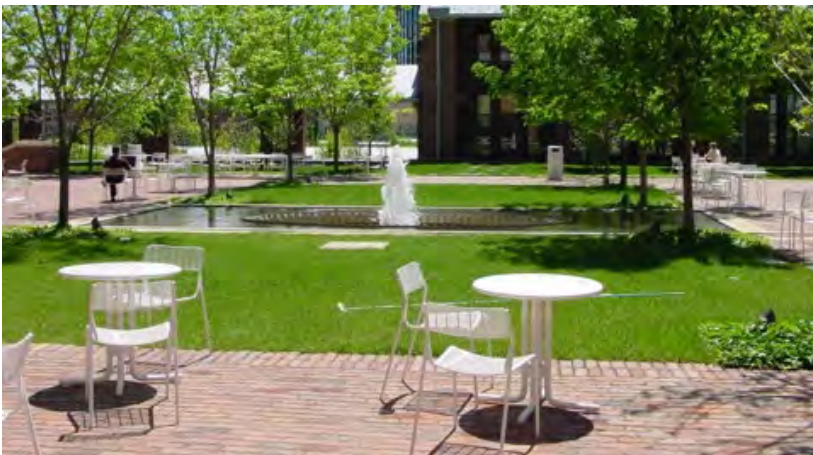
South Entry to Leah Spratt Hall

Vision 2 - Gathering

Places for gathering include adding and extending internal classroom and gathering spaces beyond building walls and existing boundaries, such as Kelley Commons at Blum Union. These spaces can be plazas, squares, and courts which enhance the unity and spirit of the student body and faculty. They can provide sun, shade, landscaping, fountains, a place to sit and the chance to converse, debate and make friends.



Example of Gathering Space or Outdoor Classroom
(Kansas City Art Institute)



Example of Gathering Space or Outdoor Classroom
(Sprint Campus, Kansas City)

Example of Gathering Space or Outdoor Classroom



Example of Gathering Space (Kelley Commons)

Vision 3 - Learning Landscape

The vision of a learning landscape would obviously complement the applied learning mission of a university and can preserve and grow existing environments that offer outdoor laboratories for research and learning. Environments that are currently utilized for these purposes include the high-quality riparian forests associated with Otoe Creek, grasslands and meadows, numerous ponds and the western side of I-29 used for forensic science research.

Learning opportunities, however, exist throughout the 723-acre campus and should only be limited by financial feasibility and maintenance intensity. Before the implementation of any new outdoor laboratory or classroom this must be considered. These opportunities could include a prairie restoration to study conservation practices, turf management, sports turf performance, or an arboretum displaying collections of trees for study and aesthetics.

Refer to ArbNet.org for the ArbNet Arboretum Accreditation Program developed by the Morton Arboretum. This is just one great tool for understanding the industry standards for arboreta. The four levels of accreditation are as follows:

***Level I:** minimum of 25 species of woody plants, one or a few employees or volunteers, a governing body, and an arboretum plan.*

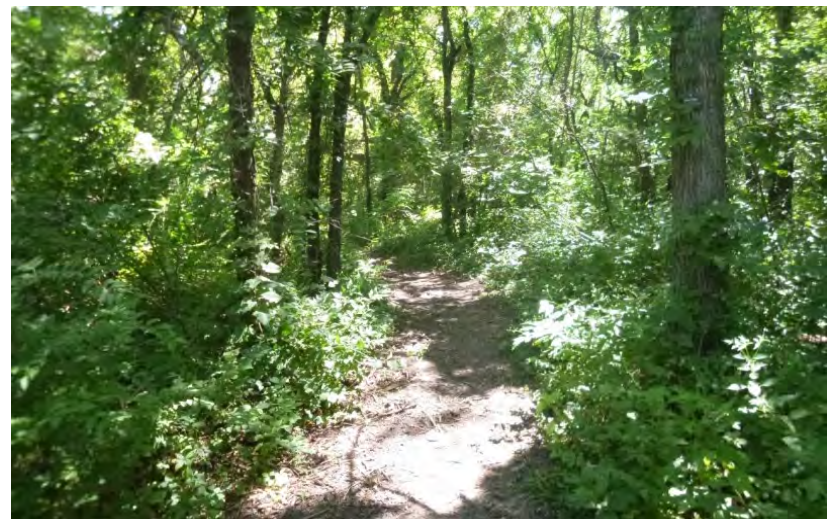
***Level II:** minimum of 100 species of woody plants, employ paid staff, and have enhanced public education programs and a documented collections policy.*

***Level III:** minimum of 500 species of woody plants, employ a collections curator, have substantial educational programming, collaborate with other arboreta, publicize their collections, and actively participate in tree science and conservation.*

***Level IV:** employ well-qualified tree scientists engaged in publishing sophisticated research, manage living tree collections for the purpose of conservation, and take an active role in supporting tree conservation through the Global Trees Campaign. Level IV arboreta are world-renowned tree-focused institutions.*



Example of Meadow



Nature Trail at Otoe Creek

Pond West of Griffon Hall



Landscape Typologies

The following define the landscape typologies that are graphically depicted in the master plan:

Learning Landscapes

Missouri Department of Conservation: Land maintained by MDC which cannot be modified.

Treatment: None.

Hay Field: Areas include 12 leased tracts primarily on the north and west sides of campus totaling 220 acres and generating \$100/acre/year.

Treatment: Johnson Grass and other noxious weeds should be managed appropriately in these areas and campuswide.

Missouri Department of Conservation



Hay Field West of Kit Bond Incubator

Example of Prairie

Tallgrass Prairie: An ecosystem consisting primarily of native grasses and forbs as the dominant vegetation types.

With the input of two consultants, the Biology Department at MWSU has identified two potential sites for the future development of a tallgrass prairie. The first site is located in the southeast corner of S 50th Street and Messanie Street. This site was deemed by the consultants to be ideal because of its topography and soil structure and its proximity to the Missouri Department of Conservation Northwest Regional Office. Since fire is an essential component of the management of a tallgrass prairie, this site was preferred over others because the prevailing winds would prevent smoke from traveling over residential areas. A second possible site for development of a tallgrass prairie is located on the north side of campus along Faraon Street, west of James McCarthy Drive. This site does have suitable topography and soil structure characteristics, but the proximity to residential areas may prevent prescribed burning, making management more challenging. Staff members also suggested that native species were preferred over newer varieties of plant species.

The success of a prairie restoration project at either of the two sites depends on careful planning by representatives of the Biology Department in cooperation with MDC, the community, and on the designation of a dedicated tallgrass prairie manager.

Treatment: Plant, establish and maintain native grass and forb species.

Pastoral / Savanna: These areas are primarily near the stadium, north of the Downs Drive loop road, and consist of grasslands with shade trees spotted throughout.

Treatment: With the exception of reduced mowing, the areas should remain mostly unchanged. Additional trees may be planted.



Area North of Spratt Stadium

Riparian Forest: These forested areas associated with Otoe Creek cover nearly 1/4 of the campus and provide diverse vegetation and migration corridors for wildlife.

Treatment: A 50-foot buffer should be implemented at the perimeter of each forested area as protection from adjacent impacts. Otherwise they should remain untouched.

Pond: 9 ponds of varying size and quality are located on campus and used for stormwater control, research, lab exercises and aesthetics.

Treatment: A minimum 25-foot grassed buffer (preferably native grasses) should be implemented at the perimeter of each pond to provide protection from adjacent impacts, filter stormwater run-off, and to act as a deterrent for the resident Canada goose population. Long-term management of the ponds should include creation and/or planting of a wetland bench within the inner edge (littoral) of the pond perimeter. The wetland bench should be 5 to 10 feet in width with a variety of wetland plant species. The wetland bench will assist with filtration of sediment and pollutants from stormwater runoff, eliminate bank erosion due to wave action, deter resident geese, and provide habitat for wildlife. Enhancement of the shoreline will also provide an aesthetic amenity for the students and public.



Pond West of Spratt Stadium

Learning and Gathering

Academic Landscape: Areas within or near Downs Drive used for educational purposes.

Treatment: These areas should be more refined and structured using plants that provide year-round interest. This may include shade and ornamental trees, shrubs, ornamental plantings, groundcovers, and the strategic use of annuals for visual impact.

Athletic Landscape: Areas within and around athletic areas such as the baseball, softball and football fields and recreation fields.

Treatment: These areas should be simple and low-maintenance utilizing turf, shade trees and screens to block prevailing winds. Screens may consist of fences, walls, evergreen trees, deciduous trees, shrubs and/or a combination of these.

East End of Remington Hall



Griffon Spring Sports Complex

Parking and Support: Areas used for vehicular parking and movement and for campus maintenance areas.

Treatment: Shade trees and green space should be added to large paved areas to reduce urban heat islands and improve aesthetics. Support areas, at a minimum, should include groundcovers to prevent soil loss.



Parking Lot Along Mitchell Avenue



Looking West Toward Maintenance Complex

Housing: Areas around student housing that act as residential “yards” and convey the vision of “Midwestern Comfort.”

Treatment: These areas should include manicured lawns, shade trees and accent plantings (shrubs, ornamentals and groundcovers) at building entries.



South Side of Scanlon Hall



East Side of Griffon Hall

Visible Edge: Areas adjacent to I-29 where the campus is visible from people passing by and the Missouri Western brand can begin to be presented.

Treatment: These areas should remain primarily open, allowing views into campus from fast-moving vehicles. Views may be framed by deciduous trees.



Looking Southeast from I-29

Identity Edge: Areas along Mitchell Avenue and Faraon Street that are directly adjacent to campus where campus features can begin to be identified.

Treatment: These edges should consist of well-manicured turf and can be moderately planted with trees allowing filtered views to parking areas and buildings. Accent plantings such as shrubs and ornamentals should be used to highlight entry points and signage.



Looking East Along Mitchell Avenue

Campus Core Edge: Areas within the loop road, Downs Drive, that allow views into the campus core where buildings and other destinations can be clearly identified.

Treatment: Landscaping in these areas should begin to introduce pedestrian scale plant materials such as shrubs and reinforce academic landscapes.



Looking Northwest at Popplewell Hall

Green Spine: Area located within and bound by academic buildings used for the circulation of students to classes. This area also includes the clock tower.

Treatment: This area should consist of shade trees and well-manicured turf. Accent plantings may be used at selective locations such as the clock tower and university plaza.



Within Green Spine

Plaza: Open-air space offering a safe and welcoming place to socialize, study and relax.

Treatment: Plazas should feature sun and shade, walkways, seating, lighting, landscaping and other amenities.



Example of Plaza

Arrival Plaza: Open-air spaces near buildings or other destinations offering a safe and welcoming place for dropping off, picking up and gathering.

Treatment: These spaces should feature sun and shade, walkways, seating, lighting, landscaping, and other amenities.



Example of Arrival Plaza (Creighton University, Omaha, NE)

Residential Court: These open-air spaces are enclosed by buildings and are more private than plaza spaces. They should be safe and welcoming and provide areas to relax.

Treatment: These spaces should offer sun and shade, gathering spaces, seating, landscaping and other amenities.



Example of Courtyard (Posty Cards, Kansas City)



Example of Residential Courtyard

Pedestrian Concourse: The pedestrian concourse is the primary path through campus conveying high volumes of traffic and also acts as a fire lane. Although serving a functional purpose, the concourse should not detract from the aesthetic of the green spine.

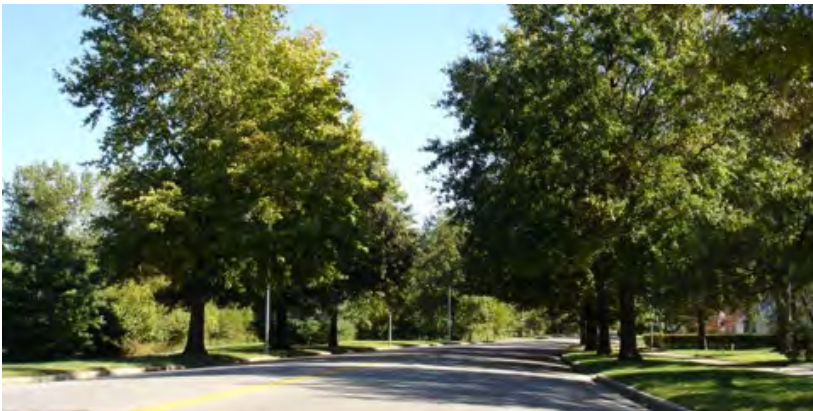
Treatment: The pedestrian concourse should feature a clearly defined walkway, shade trees providing a respite from sun or rain, and site furnishing amenities. If feasible, the walkway should be constructed or accented with specialty pavements.



Example of Pedestrian Concourse

Street Trees: Street trees along the south and west portions of Downs Drive. Additional trees, consisting of new plantings and/or replacement plantings, should be planted along Downs Drive and James McCarthy Drive to reduce the heat island effect, calm traffic and enhance motorists experience.

Treatment: Plant street tree species along both sides of Downs Drive on a formal spacing. Species shall be native and/or adapted to the region, low-maintenance, and ascending in habit to avoid damage from large vehicles.



Example of Street Trees



Example of Street Trees

Stormwater Best Management Practices (bmp's): Various bmp's throughout campus that capture stormwater and reduce erosion and soil loss. Rather, this stormwater can be used to water plants, with excess infiltrating on site.

Treatment: Install bmp's such as rain gardens, bioretention basins, detention facilities and pervious pavements wherever stormwater is collecting and erosion taking place.



Example of Vegetated Swale and Ledgerock Weirs
(18th & Broadway, Kansas City)

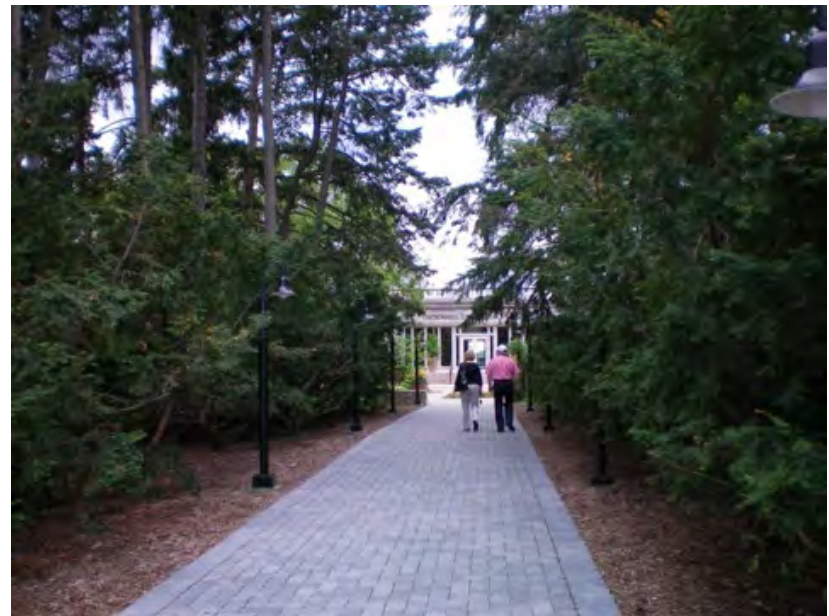
Example of Rain Garden (Black & Veatch, Kansas City)



Example of Bioswales



Example of Rain Garden (Hallmark, Kansas City)



Example of Pervious Sidewalk (Morton Arboretum)

Landscape Master Plan Recommendations

The recommendations below are intended to improve campus function, safety, and aesthetics and to reduce maintenance.

1. Sense of Arrival: Use signage, plant materials and other site features to develop a clear campus entry hierarchy and enhance the arrival experience.

2. Areas of Emphasis: Develop plazas, arrival plazas, and residential courts that offer safe and welcoming places to socialize, study and relax. Refer to the Landscape Master Plan.

3. Signage and Wayfinding: Develop and implement a unified sign guide to promote the MWSU identity and direct vehicular and pedestrian movement. Enforce from one administration to the next in order to maintain a unified system.

4. Plant Street Trees: Replace dying Ash species and plant new street trees along the entirety of Downs Drive to improve aesthetics, provide shade and reduce heat islands, and calm traffic. Refer to the Landscape Master Plan.

5. Provide Shade along Pedestrian Concourse: Plant shade trees along the pedestrian concourse to improve aesthetics, provide shade and reduce heat islands, and provide shelter. Refer to the Landscape Master Plan.

6. Improve Pedestrian Safety: Better define circulation patterns and crosswalks from parking lots to the campus core. This may be accomplished by directing foot traffic with the use of fencing, walls, plant material or a combination of these materials.

7. Enhance Parking Lots: Analyze parking needs and reduce parking spaces if possible. With gained space add landscape islands, including shade trees, to soften and improve the appearance of existing parking lots. Reducing pavement will also help to reduce the heat island effect of parking lots.

8. Unify Site Furnishings and Materials: Utilize the same manufacturers, styles and colors for furnishings such as planters, benches, and trash receptacles. Also be consistent with the selection of planting bed edging and mulch to improve aesthetics.

9. Update Landscaping: Replace tree, shrub, ornamental, and groundcover plantings that are dated or declining with new native or adapted species that are hardy, drought resistant and not susceptible to disease. Refine and/or reduce planting beds that contain annuals to reduce labor costs. Use fewer species and larger massings for visual impact.

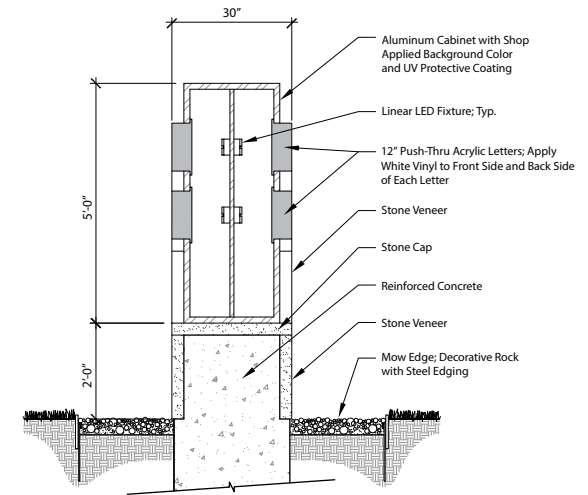
10. Improve Turf Maintenance: Investigate methods of improving turf maintenance campuswide such as reduced mowing, yearly aeration, using organic fertilizers, and developing healthy soil. The cost and time savings of reduced mowing, for example, may be directed to enhance landscaping campuswide. Refer to “Analysis of Turf Maintenance Practices.”

11. Control Stormwater: Implement erosion and sediment control techniques and devices and stormwater best management practices to capture stormwater, reduce erosion and limit soil loss.

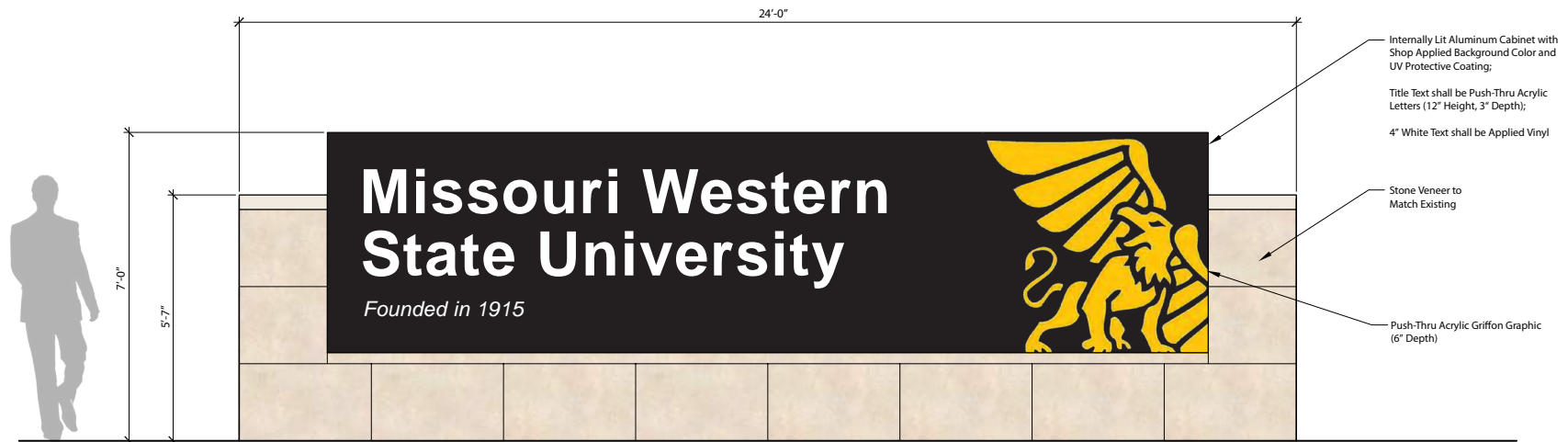
Signage and Wayfinding

A complete analysis of signage and wayfinding can be found in the appendix of the master plan. An additional signage package was also prepared as part of the master plan and is included as a separate large format document.

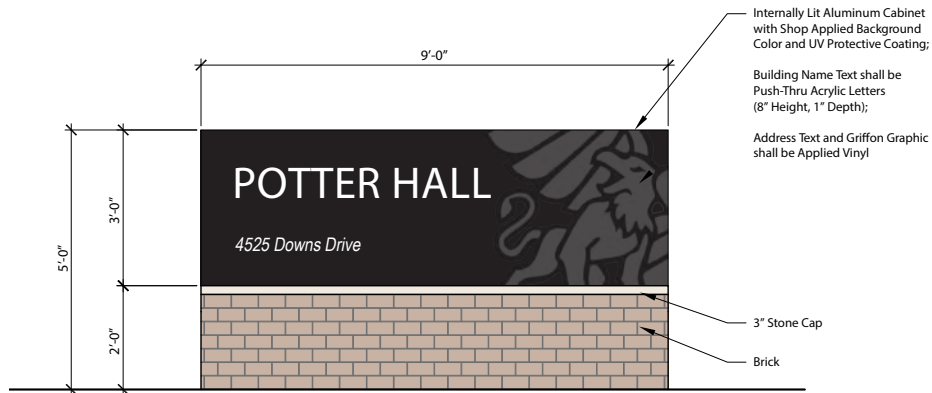
The team studied the vehicular arrival sequence, pedestrian flow, and the location and condition of existing signage, and proposed a comprehensive signage system including campus identity signs, vehicular wayfinding signs and facility identity signs. The result of this system is improved unity, regulation, simplified wayfinding in the form of a clear progression of signage. While no overhaul of the current signage system is possible at this time, unity of design and more permanence in sign selection moving forward will deliver more cohesive wayfinding over time. This will be most successful if the university takes on an active “weeding” program initially to eliminate the visual clutter and wayfinding confusion that exists today.



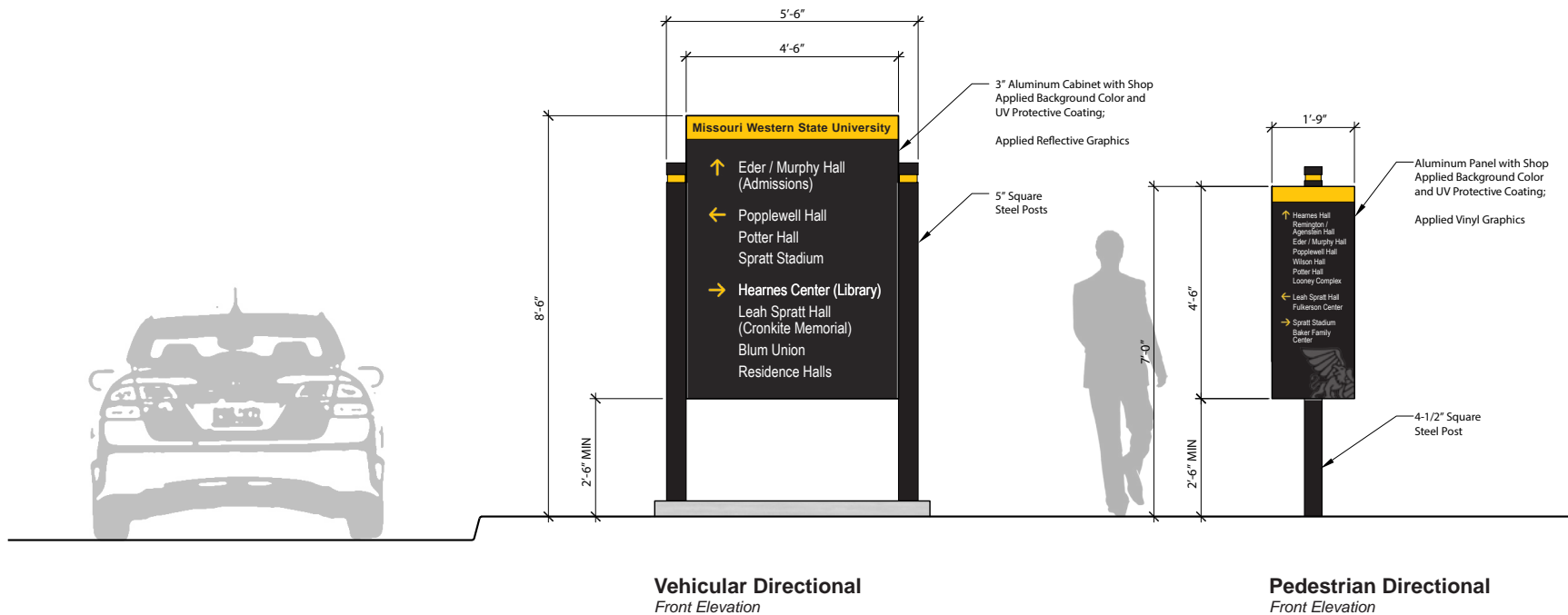
Main Entry
Section

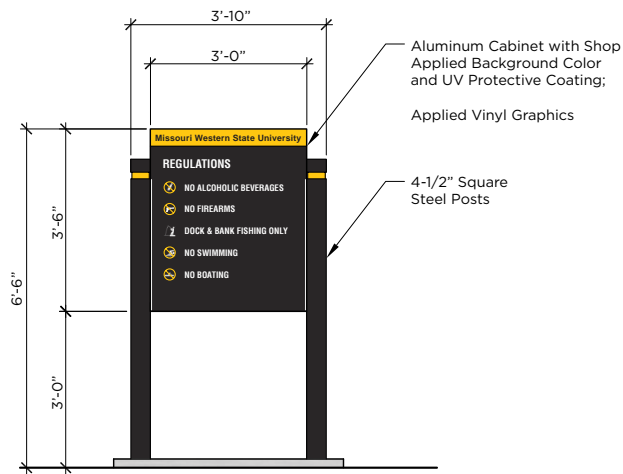


Main Entry
(2-Sided)
Elevation

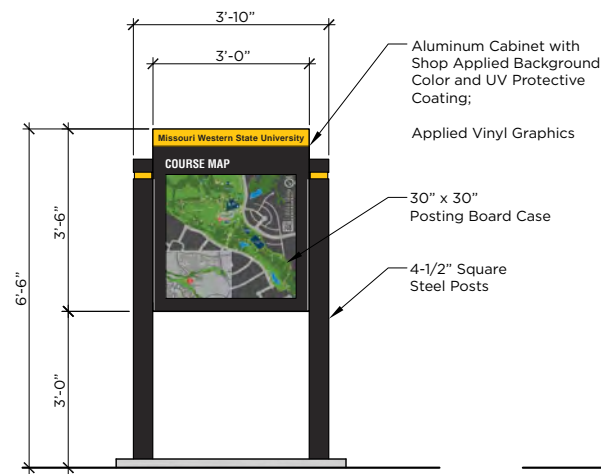


**Facility Identification
(2-Sided)**

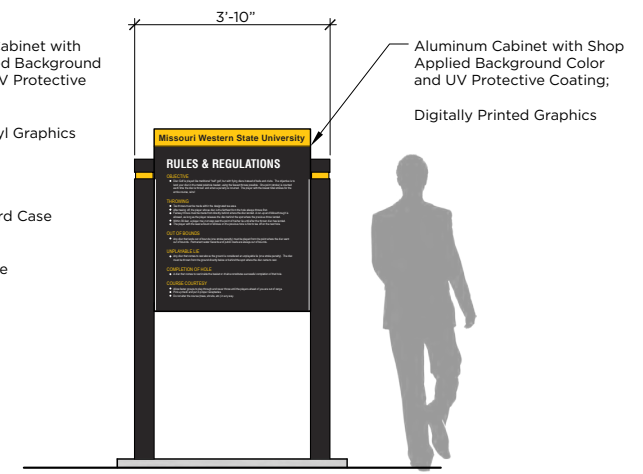




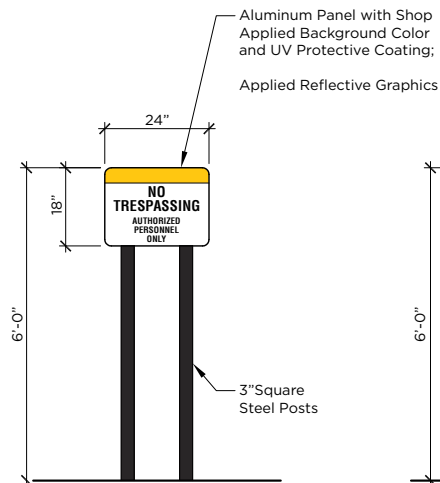
Regulatory / Informational Kiosk
(1-Sided or 2-Sided with Posting Board Case)
Elevation



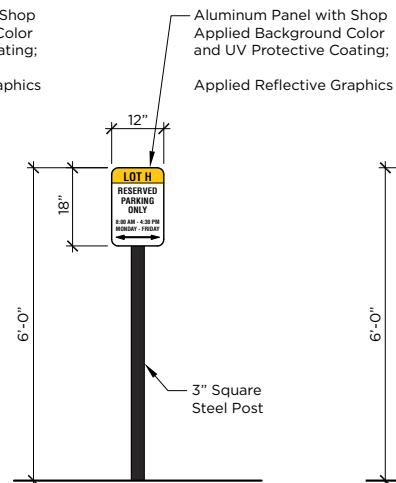
Regulatory / Informational Kiosk (Disc Golf)
(2-Sided with Posting Board Case)
Front Elevation



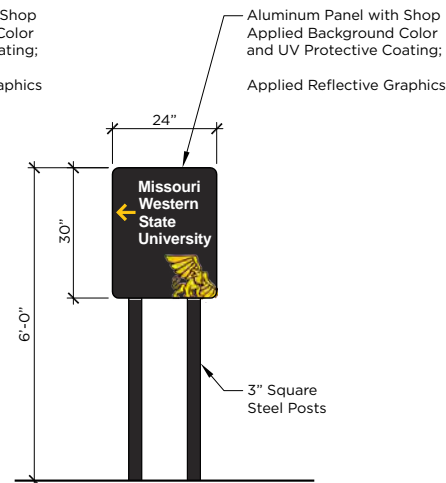
Back Elevation



Regulatory / Informational
Elevation



Regulatory (Parking)
Elevation



Feeder Sign
Elevation

SAFETY, SECURITY AND ACCESSIBILITY

Safety and Security Introduction

Campus safety and security are represented by several areas of interest. Personal security, storm safety, and facility life-safety measures all contribute to the overall safety and security of the campus.

Personal Security: Through the recent energy study and recommendations Missouri Western is currently proceeding with changes to exterior lighting to improve brightness and safety in selected areas of campus. Once these changes are complete, experience will identify any remaining areas that might be deficient. Emergency telephones are located throughout the main areas of campus. The Cleary reports show an average to low amount of campus crime events.

Storm Safety: There currently are limited options for emergency or backup power on the campus. A location in each building has been identified for storm retreat. These locations are currently the best secure location during a storm but do not represent storm safe rooms or storm shelters.

Protection from violent storms is important to the campus. Currently there are designated areas within each facility for the building occupants to take shelter if needed. These designated areas are rarely protected to the degree that FEMA would require. In some cases a 500-foot radius is used as a planning tool for the location of future shelters.

As depicted on the storm shelter map, found on page 109, a 500-foot radius applied to this campus would require approximately 6 shelter locations. This map can be used as a planning tool when new projects and renovations are

begun. As funding is available, the addition of storm shelter spaces would improve the safety of campus occupants.

Facility Life Safety: Each building has a series of components that contribute to life safety. These are typically identified as code requirements. New construction and alterations on campus should comply with current codes, which are defined by state of Missouri statute. At the current time, this is the 2012 International Building Code. Code requirements include items such as fire resistive construction, smoke detection, fire alarm systems, fire suppression systems, emergency and backup power, as well as occupant load limitations and exiting requirements.

The campus has little to no redundancy or emergency power provisions currently in place. Throughout each facility there is a mixture of partial systems for smoke detection and fire suppression, with few buildings being fully sprinkled. A fire alarm system was visible in each facility. Occupant load limitations are not posted, and most if not all handrails are noncompliant in the older facilities.

The facilities – with the exception of GISC and Agenstein/Remington – are suffering from an overall lack of life safety features and general noncompliance with current building codes.

Emergency Vehicle Access: The center of campus has been identified as an area with limited access by emergency vehicles. In addition, it appears that emergency vehicles currently are required to utilize wide sidewalks in the

residential complex for access, and likely do not have full access to those facilities as currently defined in the building code.

Accessibility Introduction

The Americans with Disabilities Act Regulations (ADA) cover public and private entities, which includes state-funded schools such as universities and colleges. Universities that receive federal funding are also covered by the regulations of Section 504 (Subpart E) of the Rehabilitation Act, which is a civil rights statute enforced by the Office for Civil Rights (OCR), U.S. Department of Justice, and the Equal Employment Opportunity Commission (EEOC).

The overall effect of these regulations is that a university cannot discriminate on the basis of disability. It must ensure that the programs, services, amenities, and opportunities that are offered are accessible to students with disabilities. Universities can accomplish this in a variety of ways including removal of architectural barriers, providing aids and services for assistance, and by modifying policies and procedures.

State agencies and instrumentalities of the state are subject specifically to Title II of the regulations, which requires an evaluation of current services, policies, and practices to identify noncompliant conditions and develop a plan to make corrections. This activity is described in the regulation as “self-evaluation” and the resulting document itemizing planned improvements to physical conditions is called the university’s “transition plan.”

This plan is required to be kept up to date as alterations are completed, and full compliance is assumed to be the ultimate goal of the transition plan.

Alterations and new construction “shall be made so as to ensure that, to the maximum extent feasible, the altered portions of the facility are readily accessible ... ” The regulations define “maximum extent feasible” as applying to the occasional case where the nature of an existing facility makes it virtually impossible to comply fully with the accessibility standards through a planned alteration. In these cases alterations shall provide the maximum physical accessibility feasible.

Prioritization of improvements to existing facilities is recommended by the regulations, particularly when total compliance cannot be achieved within a single alteration. When undertaking modifications for purposes other than to improve the accessibility of the facility, the “path of travel” description sets out priorities for accessibility improvements that must be included in the scope of the project, and begin with parking, access to the entrance, the entrance itself, the restrooms, and access to the primary purpose of the facility (classrooms, offices, lab space, etc.).

Observations

Many improvements have been implemented throughout the campus to provide improved accessibility. The majority of the facilities on campus were constructed prior to 1991, when the standards for accessibility were first published, therefore were constructed in a mostly noncompliant manner. Many of the facilities are also challenged by the existing topography.

Accessible parking has been distributed throughout campus to provide convenient locations at each building. Sidewalk ramps have been located to direct pedestrian circulation from the accessible parking to the designated entrance in most cases. Entrance doors themselves are typically outfitted with access control operators, and allow for adequate width and clearances. In general, automated access controls have been added at designated entrances and at restroom entrances throughout the campus. The remainder of door hardware in many buildings is noncompliant or partially upgraded. Restroom facilities have typically been upgraded to provide at least one accessible stall for each gender, and include grab bars and turning radii.

There are several locations where access is limited and/or challenging to navigate from parking spaces to building entrances, such as the Fulkerson Center, Spratt, and the Hearnes Center. The quantity of spaces at various locations appears to be out of sync with the anticipated occupancies in some high-use areas. The location of spaces is frequently at the back of the facility, where users must share circulation space with loading docks and trash dumpsters. This creates an unpleasant and potentially dangerous conflict

between mobility-challenged pedestrians and reduced-visibility truck traffic. Cross-campus circulation is challenged by topography at the east and north portions of the campus, while the western core campus has a few options for cross-campus routes that are reasonably accessible (*see diagram on page 110*).

Within the facilities, elevators typically are old enough to be out of compliance but getting by. Situations such as at the Hearnes Center where users must call for assistance may meet compliance requirements but are not user friendly. Wilson Hall's elevator is smaller than a compliant elevator, and many buildings still include handrails and objects such as signage and transaction counters that are noncompliant.

There are office areas in several of the older facilities that have noncompliant doors, door hardware, and inadequate clear floor space at door openings. Adequate clear floor space and turning radii are lacking, as well, at the library stacks.

Recommendations

Missouri Western is strongly encouraged to implement an accessibility improvement plan to identify noncompliant conditions, document a plan for corrections, and to develop new facilities under the requirements of the 2010 Standards for Accessibility.

Several strategies can be implemented that would improve the overall accessibility of the campus. Relocation of accessible parking to correspond to front door entrances is recommended, in addition to adjusting total parking quantities to adequately serve spaces with large groups such as Potter Hall.

Identification of designated accessible routes and entrances can allow the university to reduce costs associated with providing electronic access operators at multiple locations, as well as provide a user-friendly system for navigation (*see diagram on page 111 for cross-campus accessible path*). Electronic access operators are not required but are beneficial at exterior door locations where wind pressures necessitate an electronic assist to

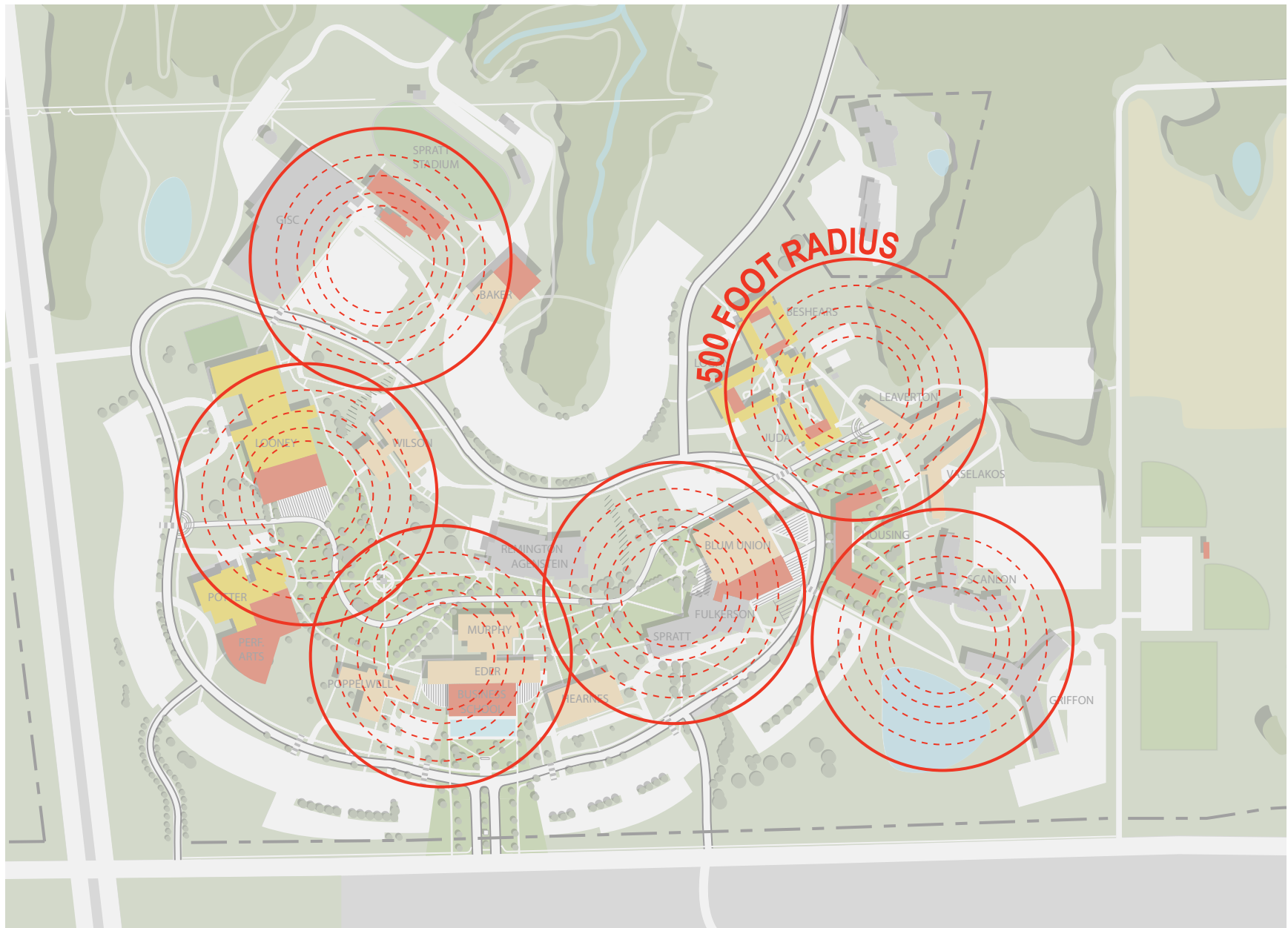
operate the door. At interior door locations, accessible door handles are a more cost-effective way to provide accessibility.

Handrail replacement is needed at existing stair locations, as well as elevator controls and/or cab replacements where necessary.

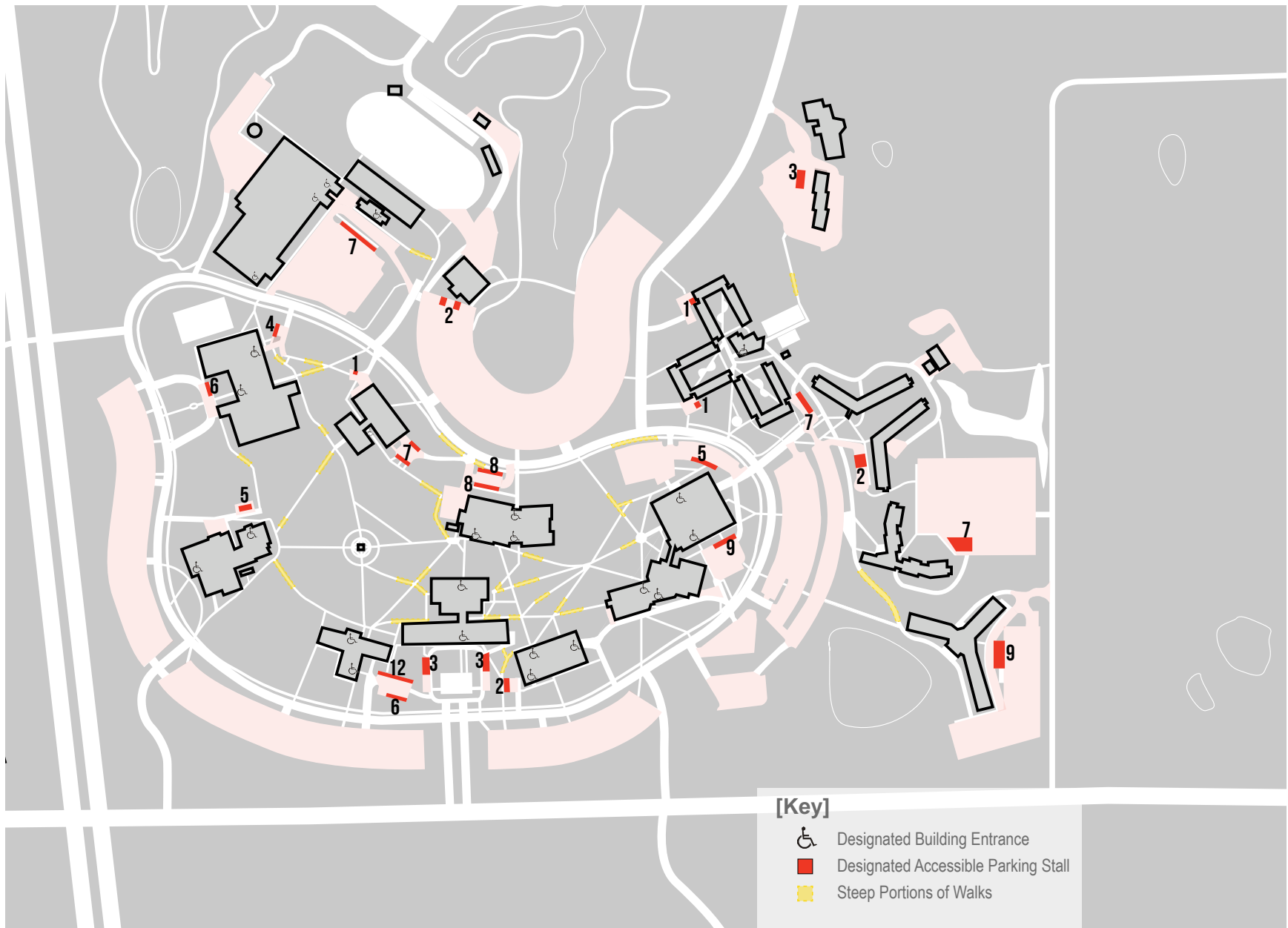
Signage and wall-mounted or fixed objects should be reviewed to confirm their compliance, and additional improvements to restroom facilities should be implemented to provide compliant restrooms on each floor.

Construction and modification of interior walls and partitions and the location of semi-permanent furnishings such as library stacks and computer workstations should allow for adequate turning radii and clear floor space.

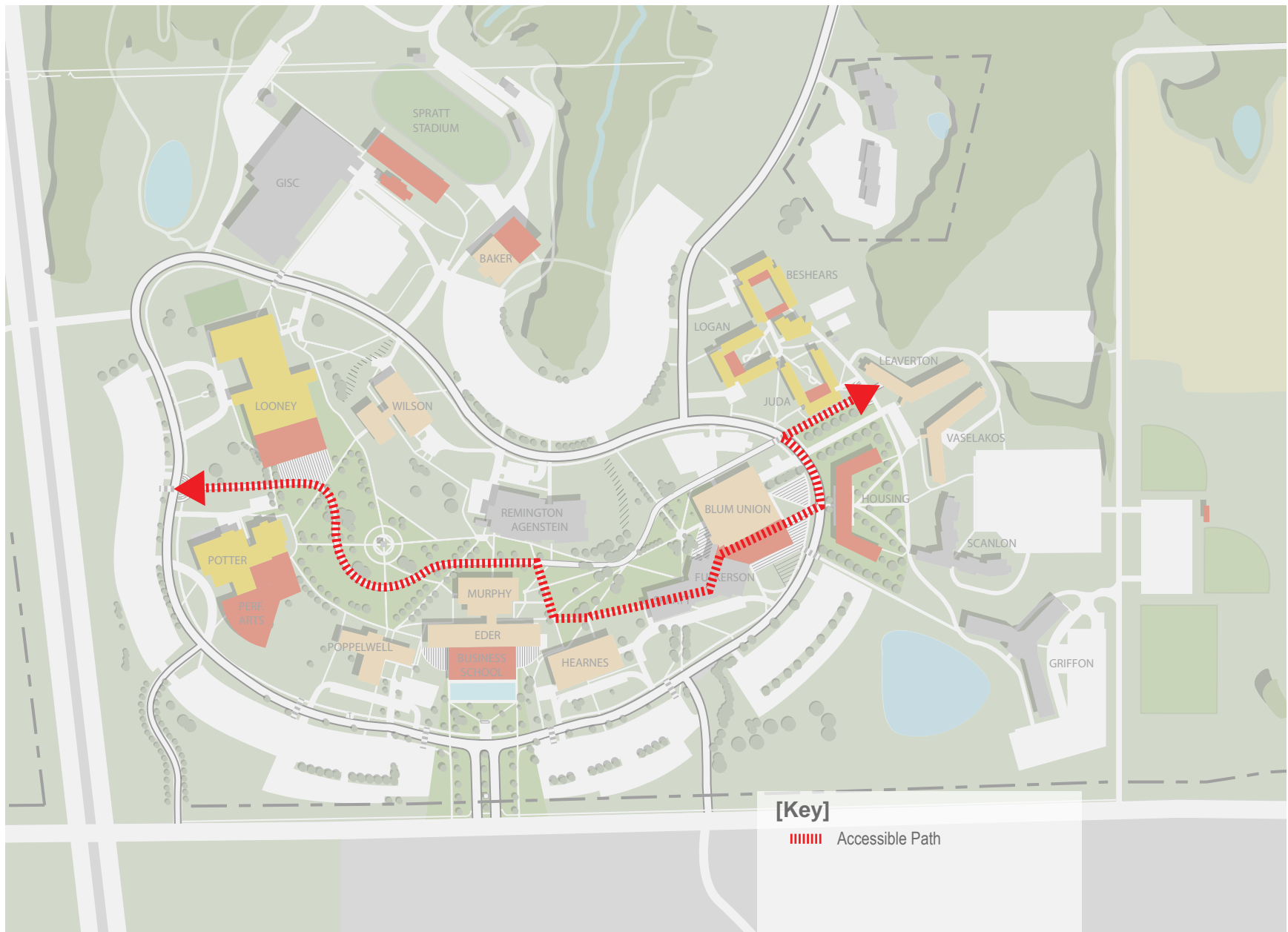
The creation of an accessibility map that identifies accessible routes, entrances, and services, and includes the university's policies for accommodation is also recommended. In combination with identification signage on-site, these strategies will improve the experience of the campus for all.



Storm Shelter Map



Existing Accessible Entrances and Parking



Cross-campus Accessible Path

STANDARDS AND IMPLEMENTATION

Policy Recommendations

Campuswide Space Standards

A policy for following the master plan recommendations would provide structure to ongoing implementation efforts and increase the chance of success toward achieving the master plan goals. Discipline applied to following the signage recommendations, for example, will deliver rewards in improved wayfinding, cost reduction, and reduce campus clutter. Utilizing the master plan to easily and successfully answer ongoing project requests for facility improvements, additional landscaping, donor ideas, and memorial gifts should be an outcome of this effort.

Quantitative standards for space should be finalized and put into place as policy. Standards for classrooms and classroom labs should acknowledge different pedagogies, furnishings, etc., in the establishment of the square foot/student allocated. Standards for university offices should be established as well to inform future projects and renovations. Qualitative standards would be helpful and should also be considered.

Classroom Cap

To incorporate facility and pedagogy goals and requirements, a policy normalizing the determination of classroom caps from a more centralized and unified perspective is recommended.

Centralized Scheduling

Current centralized scheduling policy should be reviewed to improve the positive impact it can have on classroom and class lab efficiency. This effort would then position the campus to maximize the utilization of classroom and classroom lab space and ensure the campus capacity for handling future growth to 7,500 students without major capital projects put toward classroom buildings.

Shipping and Logistics

Currently there exists a hybrid for shipping and receiving packages and mail. Deliveries come directly to some buildings, the Union and Hearnes for example. Many other items are centrally delivered to the campus with deliveries and pickups to independent buildings from the West Campus location. A logistics study is recommended to determine the costs saved in changing this policy.

Design

The current impression of the campus design, in general, is the one established in the 1970s. Over the years, an emphasis on economy of choice and individual and decentralized design decisions have led to a lack of design cohesiveness on the campus. New policies should address ways to

bring a newer aesthetic and a more cohesive appearance to the design of the grounds and the buildings.

Requiring programs such as LEED-rated building design, the 2030 Challenge, STARS, or requiring a percent reduction of energy use below the ASHRE baseline requirements should be considered. One additional benefit other than sustainable practice and leadership is serious long-term energy savings and cost reduction.

Coordination with Energy Study

The current energy measures taken by the campus are a very good start to moving the facilities toward safer and more efficient structures. These actions will bring immediate returns.

The energy study made many recommendations that were not chosen at this point but should be pursued in any long-term energy reduction program. In addition, the nature of the recent energy study is focused on short-term gains. An analysis of potential broader utility and energy approaches should be undertaken with a focus on long-term advantages and sustainability.

Purchasing

Purchasing policy should be reviewed. A goal of consistency of choice would achieve three things: more predictability in future costs, more sustainability, and more design cohesiveness. Items that would fall under such a policy would be, for example, trash receptacles, light fixtures, benches, restroom accessories, and supplies.

Operations and Maintenance

Throughout the master planning process many stakeholders commented on the desire to improve the process for maintenance planning and requests. A change in this current policy should be considered and could pay dividends in higher quality projects, more comprehensively applied, with more design unity and sustainability.

Turf Maintenance

A follow-up to the suggestions in the turf maintenance analysis is recommended. The large quantity of turf and landscape under current university ownership requires a significant ongoing operational investment. Any policy that can moderate these costs should be considered.



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