2.4 Physical Planning Principles, UW System Board of Regents

It is the policy of the Board of Regents that the following principles shall guide the physical planning and development of UW System institutions and stewardship of physical assets controlled by the Board of Regents.

A. Physical Planning and Development

1. *Physical development that is planned using an integrated planning model that incorporates programmatic concerns, physical concerns, and financial realities.*
2. *Involvement of stakeholders that provides a meaningful role for students when student funding and fees are involved.*
3. *Physical development that is planned within the context of UW System, institutional, and State of Wisconsin planning guidelines, policies, and funding parameters.*
4. *Cooperative planning with the city and county in which the institution is located.*
5. *Campus physical environments that promote optimal accessibility for people with disabilities.*
6. *Comprehensive campus master plans that are periodically updated and address:*
   a. *Space needs;*
   b. *Image, identity, and aesthetics;*
   c. *Multimodal transportation access and circulation;*
   d. *Parking;*
   e. *Open space;*
   f. *Building sites;*
   g. *Infrastructure and utilities;*
   h. *Sustainability;*
   i. *Implementation; and*
   j. *Health and safety.*

   Physical development is planned in accordance with the campus master plan.
7. *Planning that includes student enrollment, faculty, and staff projections; applicable space allocation and utilization benchmarks; evidence-based decision-making; and best planning practices.*
8. *Responsiveness to the needs of a diverse student body and the delivery of programs and services that meet those needs.*
9. *Sustainable design through:*
   a. *Optimal use and reuse of existing facilities;*
   b. *Minimal construction of new facilities;*
   c. *Optimal adaptability for future changes;*
   d. *High-performance and energy-efficient design;*
   e. *Ease of long-term maintenance and operation; and*
   f. *Appropriate use of renewable energy.*
10. *Accurate and defensible project programs, budgets, and schedules developed prior to enumeration.*

B. Stewardship of Physical Assets

Appropriate stewardship of physical assets should include:

1. *An institutional commitment to assure sufficient resources, their optimal use, and adequate expertise to care for physical assets.*
2. *An accurate and current geographic information system (GIS) for all Board of Regents-owned land using a common UW System-wide format and minimum level of detail.*
3. *A comprehensive building space management function, an accurate and current space inventory, and a comprehensive space use plan specific to each institution.*
4. *An accurate and current record of the physical condition and maintenance needs of all facilities.*
5. *Proper maintenance of all existing facilities to protect and extend the life of existing investments and ensure that facilities are usable for their intended purposes.*
6. *A commitment to Wisconsin's heritage through preservation of historic buildings and other cultural resources.*

A successful campus master plan needs to be consistent yet flexible and responsive to the needs of its time. It is an important baseline upon which to make day-to-day decisions over a longer period of time and to meet a consistent vision. The development of new facilities, and the preservation, renovation and maintenance of existing facilities, need to assure university and state decision-makers that funds allocated for facilities are in line with the campus mission. As the campus continues to rely on private dollars for more and more of its development, it is also clear that the 2015 Campus Master Plan Update will be used to keep aspirations high and help raise funds for new and exciting endeavors. The campus master plan must continue to always provide an optimistic vision for the future.

2.5 Master Plan Goals and Guiding Principles

The master planning process was guided and driven by the master plan goals and guiding principles. The master plan goals of the 2005 Campus Master Plan were updated to reflect the university's 2015 strategic direction and leadership. The goals were expanded to provide additional guidance regarding the campus landscape, open space, and green infrastructure. The Master Plan Consultant team and Campus Planning Steering Committee referred to the goals and principles when considering alternative futures and refining the Master Plan recommendations.

More important than this historical use is the future use of these goals and guiding principles. As all building, parking, landscape, and utility projects are developed and constructed, UW–Madison staff and its consultants should refer to and apply these principles to ensure a consistent and common vision.

1. Support Our Mission

- Support our mission of teaching, research, and outreach by enhancing our physical identity.
- Demonstrate and support the Wisconsin Idea in how we perceive and develop our physical campus.
- Maintain/renovate/replace campus buildings to support a high quality academic and research environment.
- Support and create interdisciplinary academic connections through improved campus facilities and landscapes.
- Support the integration of education, research, and outreach into campus operations with hands-on learning opportunities.
- Leverage the Lakeshore Nature Preserve as natural areas that support our mission of teaching, research, and outreach.

2. Manage Our Resources

- Manage our physical resources as effectively and efficiently as possible.
- Provide buildings with designed flexibilities to meet a planned life of at least 50-100 years or more.
- Demonstrate leadership in environmental sustainability both on- and off-campus.
- Develop and respect sustainable design guidelines to create sustainable facilities.
- Preserve and enhance our environmentally sensitive and culturally important areas by improving, expanding, and monitoring their long-term viability.
- Establish long-range goals to become a future zero-waste campus by 2025.
- Make data-informed decisions regarding infrastructure and building services as the campus evolves.
- Manage and improve our water resources by continuing our water conservation initiatives.
- Construct a reliable utility infrastructure network to meet current and future demands.
- Use Sustainable SITES Initiative® as a guideline for all future development.

3. Make Travel Easy

- Support convenient alternatives to driving by maximizing our Transportation Demand Management initiatives.
- Make it efficient to travel to and move around campus.
- Construct accessible and convenient bicycle/pedestrian facilities that connect users to destinations on campus and beyond.
- Provide an efficient and convenient commuter and circulator transit system, connecting campus destinations and linking campus with the city and surrounding areas.
- Improve our streetscapes, making them more comfortable, safe, and convenient for pedestrians and cyclists.
- Provide the minimal amount of parking needed to meet the needs of the campus and its visitors.

4. Celebrate Our Lakeside Setting

- Protect and celebrate our lakeside setting while reducing our impacts on land and water.
- Leverage our lakefront setting and natural areas in the Lakeshore Nature Preserve.
- Enhance and sustain our campus natural resources for future generations.
- Work with our local partners to continue to improve the water quality of Willow Creek, Lake Mendota, and the entire Yahara Lakes system to meet current and future water quality regulations.

5. Revitalize Outdoor Spaces

- Develop our physical environment so that it communicates our institutional values and strategic priorities.
- Respect and celebrate the history and cultural diversity of the university.
- Promote a clear sense of place by protecting, enhancing, and maintaining our existing quadrangles, courtyards, and streetscapes.
- Explore the need for new outdoor spaces for informal gatherings.
- Protect and enhance our historic buildings, historic districts, and cultural landscape resources.
- Nurture wellness through a broad spectrum of outdoor open spaces and encourage physical activity throughout the seasons.
- Refine and unite our on-campus neighborhoods by revitalizing outdoor gathering spaces and utilizing the campus for experiential learning, health, and wellness.
- Ensure our available land is put to the highest and best use.
- Design buildings and landscapes so that they fit into their campus neighborhood context.
- Develop and respect comprehensive design guidelines to further design coherence.

6. Be Good Neighbors

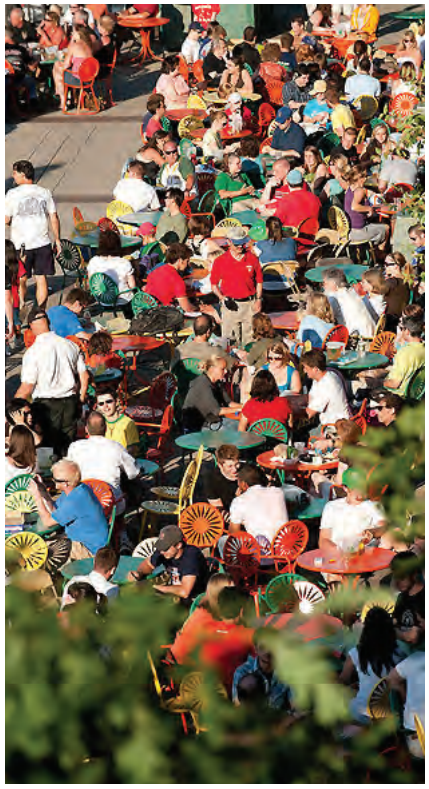
- Be responsive to our neighbors to assure we are good community partners, maintaining a high quality of life for everyone.
- Create an environment that invites participation by the surrounding community in our educational and entertainment events.
- Welcome visitors to campus with a sense of arrival through defined gateways at major entry points.
- Delineate an identifiable and inviting campus boundary where appropriate.
- Establish efficient and attractive connections across campus and with the surrounding neighborhoods.

Extending Our History

The 2015 Campus Master Plan Update vision is to capture the best characteristics of our historic campus core, and extend and strengthen them throughout our evolving campus.

The careful balance of Bascom Hill – mixed-use buildings of architectural prominence surrounding and defining a well-designed and active open space.

The comfort and safety of Library Mall and East Campus Mall – easy walking and biking with careful interaction with vehicles.



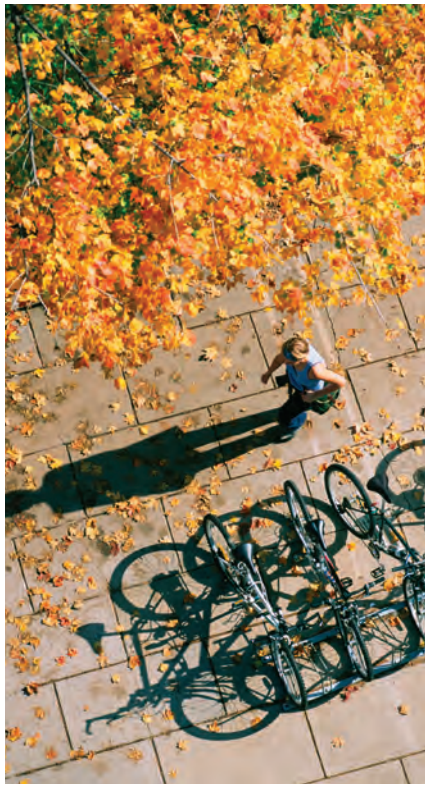
The activity of the Memorial Union Terrace – indoor and outdoor places for people to gather and exchange ideas with a focus on Lake Mendota.

The preservation of the Lakeshore Nature Preserve – a place of respite for humans and habitat for flora and fauna.

Embracing Our Future

We will continue to recreate ourselves in place, while reducing the impact of the campus and its activities on our environment. The UW–Madison physical campus supports the university as a preeminent center for discovery, learning, and engagement.

As the campus infiltrates and treats not only the water that falls upon it, but also a portion of water from the region, the water of Lakes Mendota and Monona will be cleaner.



As we strengthen our national leadership in those taking transit, carpooling, biking, and walking to campus, we will support the region's growth toward a more balanced and effective transportation system.

As we maximize opportunities for generating and using renewable energy, we will continue to reduce our carbon footprint.

As we meticulously plan and improve our facilities, we will reduce our operating costs and wisely manage the state's physical assets. We will promote our resource stewardship and improve our service delivery, efficiency, and sustainability.

3. FACILITIES PLAN: EXISTING CONDITIONS

3.1 Campus Profile

Founded in 1848 by a clause in the Wisconsin Constitution that provided for "a State University, at or near the seat of state government," the UW–Madison has grown to become one of the nation's largest and most productive institutions of higher learning. Beginning with a class of 17 on February 5, 1849, the university now enrolls more than 42,000 students. UW–Madison offers the only public schools of law, medicine and veterinary medicine in the state and is one of only two state-supported schools to offer doctoral degrees. As one of the country's first land grant universities, currently serving over 43,000 students and 21,600 faculty and staff (data as of Fall 2015). The main campus is comprised of over 936 acres of picturesque grounds along the shores of Lake Mendota, of which 300 acres are defined as the Lakeshore Nature Preserve and are protected from development. The university currently (as of early 2016) has over 22.9 million gross square feet of building space and offers a broad array of undergraduate, graduate, professional, research and advanced academic programs. UW–Madison is the flagship university in the 26-campus University of Wisconsin System (UW System) and is one of the nation's largest and most productive research institutions in higher education.

UW–Madison's strength as a research university garnered $1,142.7 million of extramural awards in 2014-15 with the largest awards ($901.5 million) coming to research programs. These awards translate into service to the people of Wisconsin, hands-on research opportunities for undergraduates, top tier graduate training programs, news-making discoveries by faculty, staff, and students and economic development for the State of Wisconsin. Additionally, in 2014, there were 417 invention disclosures, 166 US patents issued, and 147 new patent applications filed. Total licensing income for UW–Madison in 2014 was $43.4 million.

In achievement and prestige, UW–Madison has long been recognized as one of America's great universities. A public, land-grant institution, UW–Madison offers a complete spectrum of liberal arts studies, professional programs and student activities

As a land-grant university, UW–Madison maintains a strong research emphasis. Award-winning research spanning the academic disciplines has earned the University a place among the world's elite institutions of higher education. The flagship school of the UW System, UW–Madison has always sought to return the fruits of teaching and research to Wisconsin residents. In 1904, UW–Madison President Charles Van Hise crystallized the university's commitment to public service in defining "the Wisconsin Idea," which mandates that "the beneficent influence of the university [be] available to every home in the state."

Across all programs, UW–Madison garnered $1.09 billion of extramural awards in 2010-11 with the largest awards ($849 million) coming to research programs. These awards translate into service to the people of Wisconsin, hands-on research opportunities for undergraduates, top tier graduate training programs, news-making discoveries by faculty, staff, and students and economic development for the State of Wisconsin. A 2011 economic impact report found that UW–Madison and affiliated organizations and startup companies support 128,146 Wisconsin jobs and generate $614 million in revenue annually for Wisconsin.

UW–Madison graduates become extraordinary citizens, community members, and national and global leaders. Since the agency was created in 1961, UW–Madison has produced the greatest number of Peace Corps volunteers, second only to the University of California, Berkeley. More leaders of major corporations have graduated from UW–Madison than any other university in the country. We are among the top producers of faculty members who teach at research intensive institutions around the world. Many local, state, and national leaders are our graduates. Something about the UW–Madison experience prepares students to become outstanding leaders who are engaged locally, nationally, and globally. That "something" is the Wisconsin Experience.

Grounded in the hundred-year old Wisconsin Idea and our progressive history, our historical mission has evolved to create an expectation for all faculty, staff, and students to apply in- and out-of classroom learning in ways that have significant and positive impacts on the world. What we do matters, and together we can solve any problem. It is this distinctive Wisconsin Experience that produces graduates who think beyond the conventional wisdom, who are creative problem-solvers who know how to integrate passion with empirical analysis, who know how to seek out, evaluate and create new knowledge and technologies, who can adapt to new situations, and who are engaged citizens of the world.

3.2 Context within Region and City

Symbolic and Prominent Location

The university is located in Dane County, less than a mile from the state capitol building. Inland lakes create a narrow isthmus where concentrated development patterns exist within a scenic setting. The campus is well-known for its location along 4 miles of shoreline on Lake Mendota. The City of Madison, with a population of almost a quarter million, is routinely rated as one of the most livable cities in America.

The campus' spectacular lakefront setting is its greatest physical asset. The natural areas, historic landscapes, and public spaces are the places that create astounding first impressions and lasting memories for those who visit, work, and learn at this institution. They are the essence of its physical quality and its greatest hope for the future of the campus' physical environment.

Ancient forces have shaped the campus and its host community. The City of Madison is surrounded by beautiful lakes and natural areas, created by the glaciers some 15,000 years ago. Over 1,000 years ago, the effigy mound culture was prevalent throughout the Midwest and it transformed the topography of many areas of campus. The 1850 Campus Plan, attributed to architect John Rague and the university's first chancellor, John H. Lathrop, proposed situating the campus on Madison's "second hill," facing the nearby state capitol building which was located on the "first hill."

Over time, the campus grew from its first three buildings (North, South, and University (aka Bascom) Halls) on what would become Bascom Hill, to the present day total of 405 buildings spanning 936 acres in downtown Madison.

Shared Resources

The university is intertwined with its host communities of the City of Madison and the Village of Shorewood Hills. Particularly on the south and east campus edges, the university and private uses are blurred.

Student Housing

The university relies on the private housing market to house our students, especially students beyond their first year. On-campus, the university provides:

- Southeast: 4,104 beds
- Lakeshore: 3,465 beds
- Eagle Heights: 1,848 beds

Off-campus, students live throughout the region, but are concentrated in neighborhoods within a short walk, a bicycle ride, or a brief transit ride. Since the 2005 Campus Master Plan, the private real estate market has constructed a significant number of student-focused housing facilities, many of them in higher density towers. These urban developments do not provide on-site open space, resulting in a higher use pressure on existing open spaces on campus and within the city. Considering only the student-focused housing projects constructed or planned between 2008 and 2015:

- East of campus: 4,966 beds
- South of campus: 1,132 beds
- West of campus: 501 beds

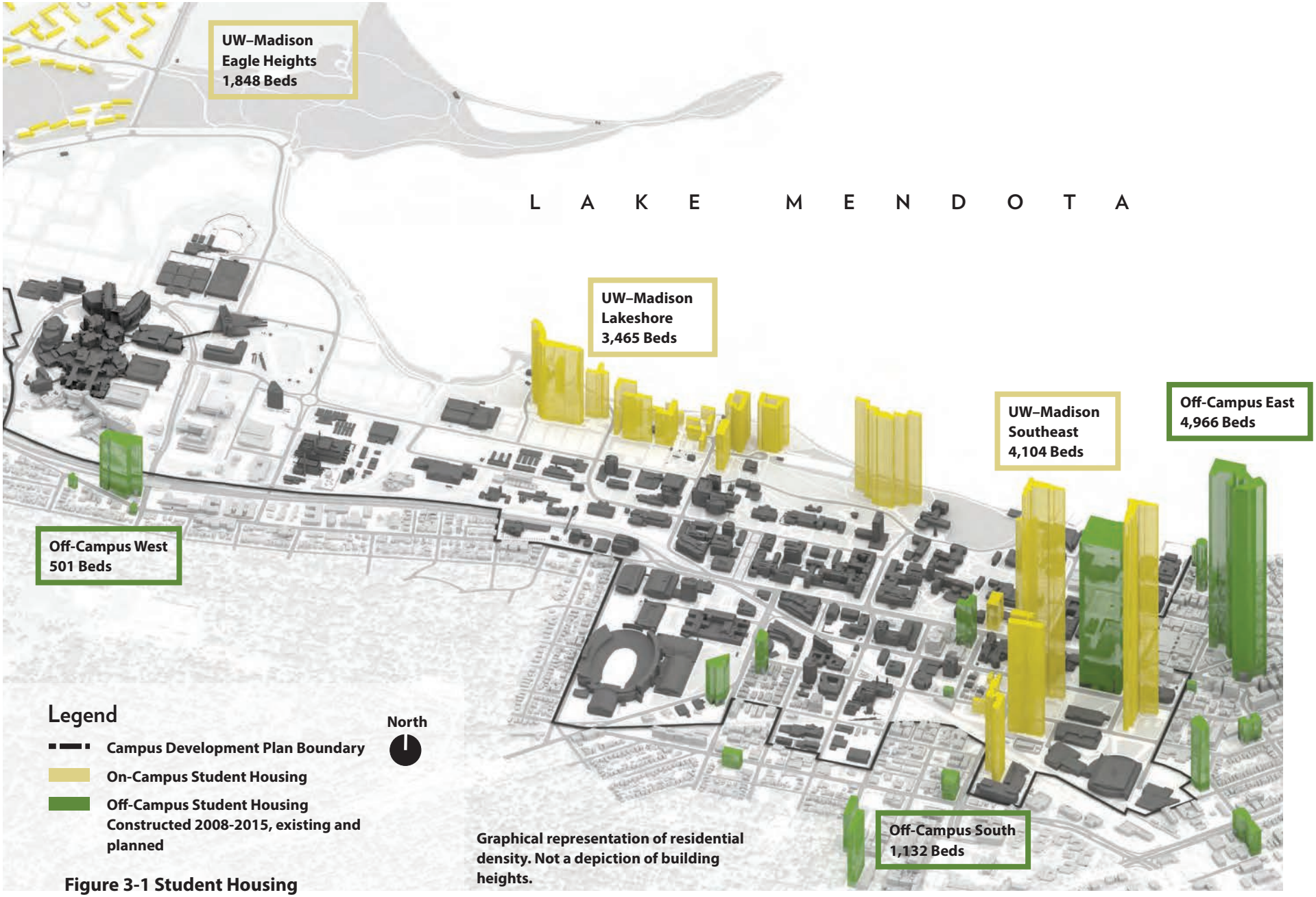


Figure 3-1 Student Housing

3.3 Campus Development Plan Boundary

UW–Madison's main campus currently includes approximately 936 acres within a Campus Development Plan Boundary defined by the Board of Regents.

The last change to the Campus Development Plan Boundary occurred in September 2005 with the inclusion of the University Square redevelopment block bounded by N. Lake Street, University Avenue, W. Johnson Street and N. Murray Street (vacated).

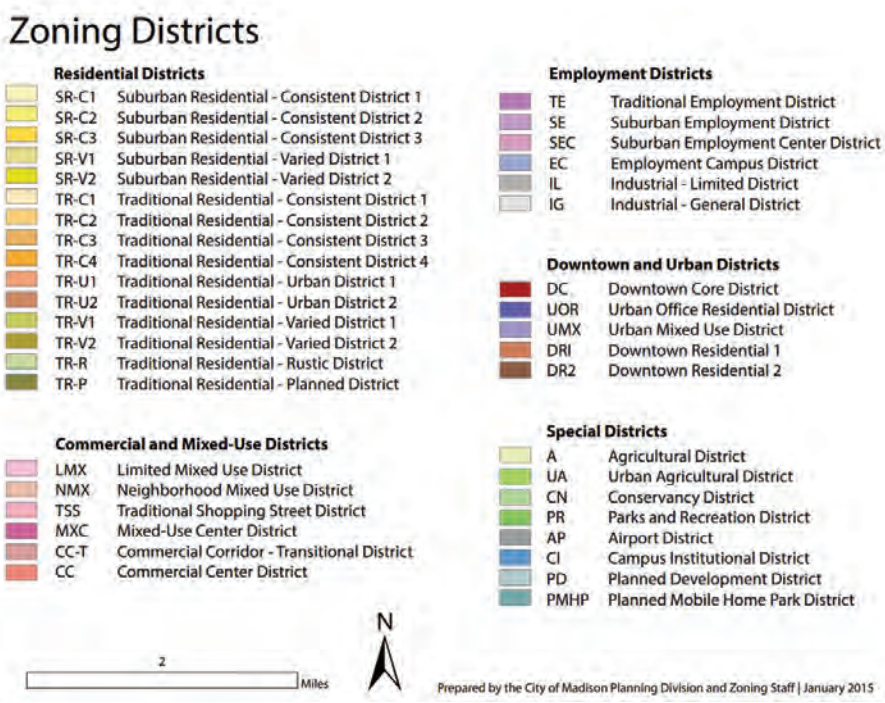
As part of the 2015 Campus Master Plan Update, one minor change to the Campus Development Plan Boundary is recommended in the southeast corner of campus. See Chapter 4: Recommendations for more information.

Figure 3-2 Campus Development Plan Boundary

3.4 Existing Zoning Districts

The city of Madison's 1966 zoning code was recently updated, becoming effective on January 2, 2013. The previous code did not reflect current best management zoning and planning practices which led to excessive use of planned unit developments (PUD) and excessive requirements for conditional uses which burdoned city staff time and resources. One outcome of this rewrite came in section 28.096, the Campus Institutional (CI) District, established to recognize the City's major educational and medical institutions as important activity centers & traffic generators, accommodate the growth & development needs of these institutions, and coordinate the master plans of these institutions with the City's plans, policies and zoning standards. The district is also intended to:

Under this new CI district code, UW-Madison is required to have an approved master plan which is valid for a period of ten years. This aligns with the current State Building Commission and Board of Regents policy requiring a campus master plan process being performed every ten years. Ultimately, this document carries more importance and influence on our current and long-range planning projects.



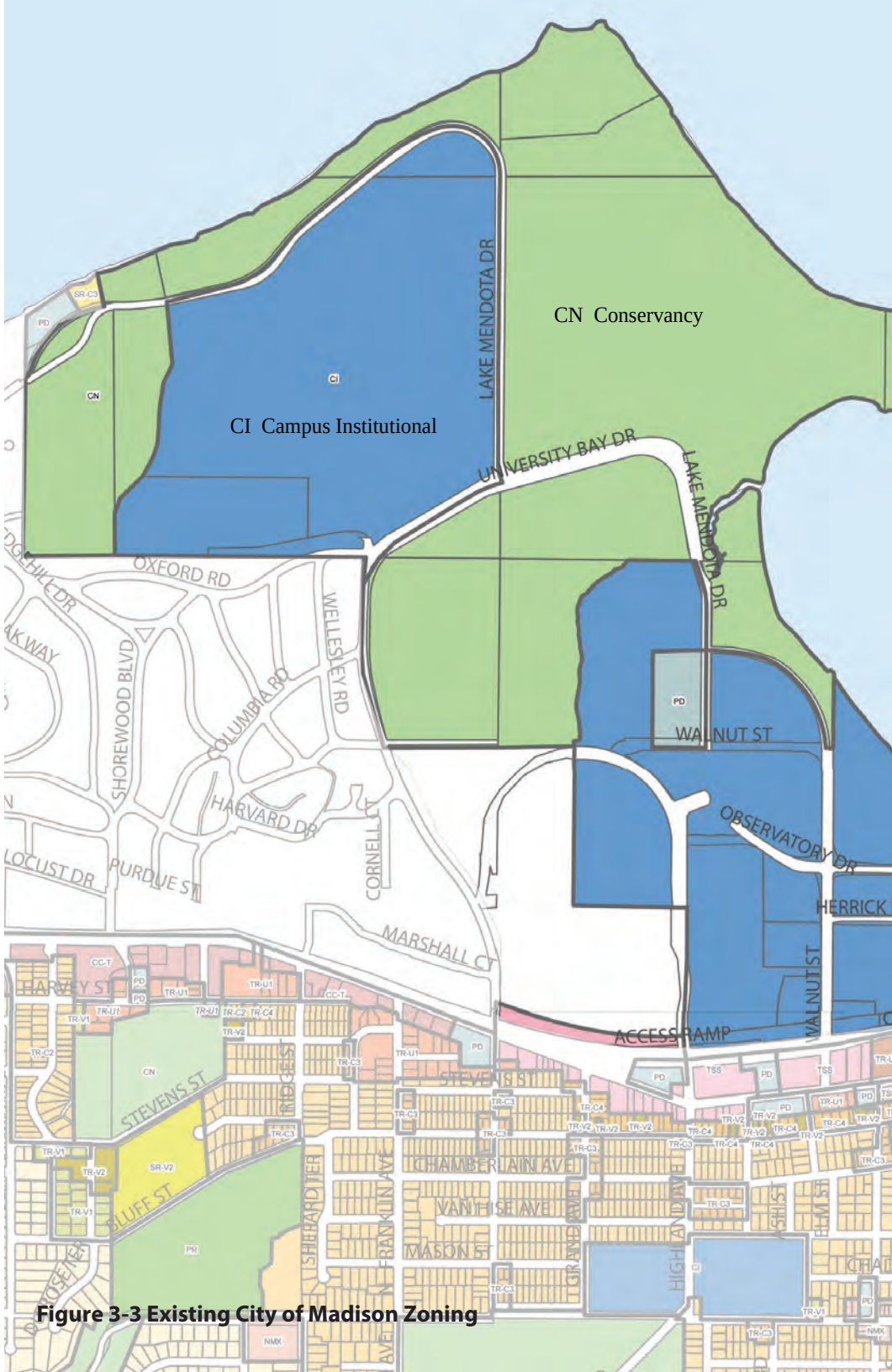


Figure 3-3 Existing City of Madison Zoning


L A K E M E N D O T A
CI Campus Institutional
WILLOW DR
TRIPP CIR
OBSERVATORY DR
W LINDEN DR
LINDEN DR
BABCOCK DR
EASTERDAY LN
N CHARTER ST
N PARK ST
LANGDON ST
EAST CAMPUS MALL
CAMPUS DR
UNIVERSITY AVE
W JOHNSON ST
W DAYTON ST
N MILLS ST
REGENT ST
ROWLEY AVE
N PROSPECT AVE
SUMMIT AVE
FOREST ST

3.5 Projects Completed Since 2005 Campus Master Plan

The decade after the 2005 Campus Master Plan saw dramatic on-campus changes. New buildings provided over 3,750,000 gross square feet of new academic, research and support spaces. Transportation improvements dramatically connected the campus with the city's bicycle and pedestrian network. These building and transportation projects were sited and designed in support of the 2005 Campus Master Plan.

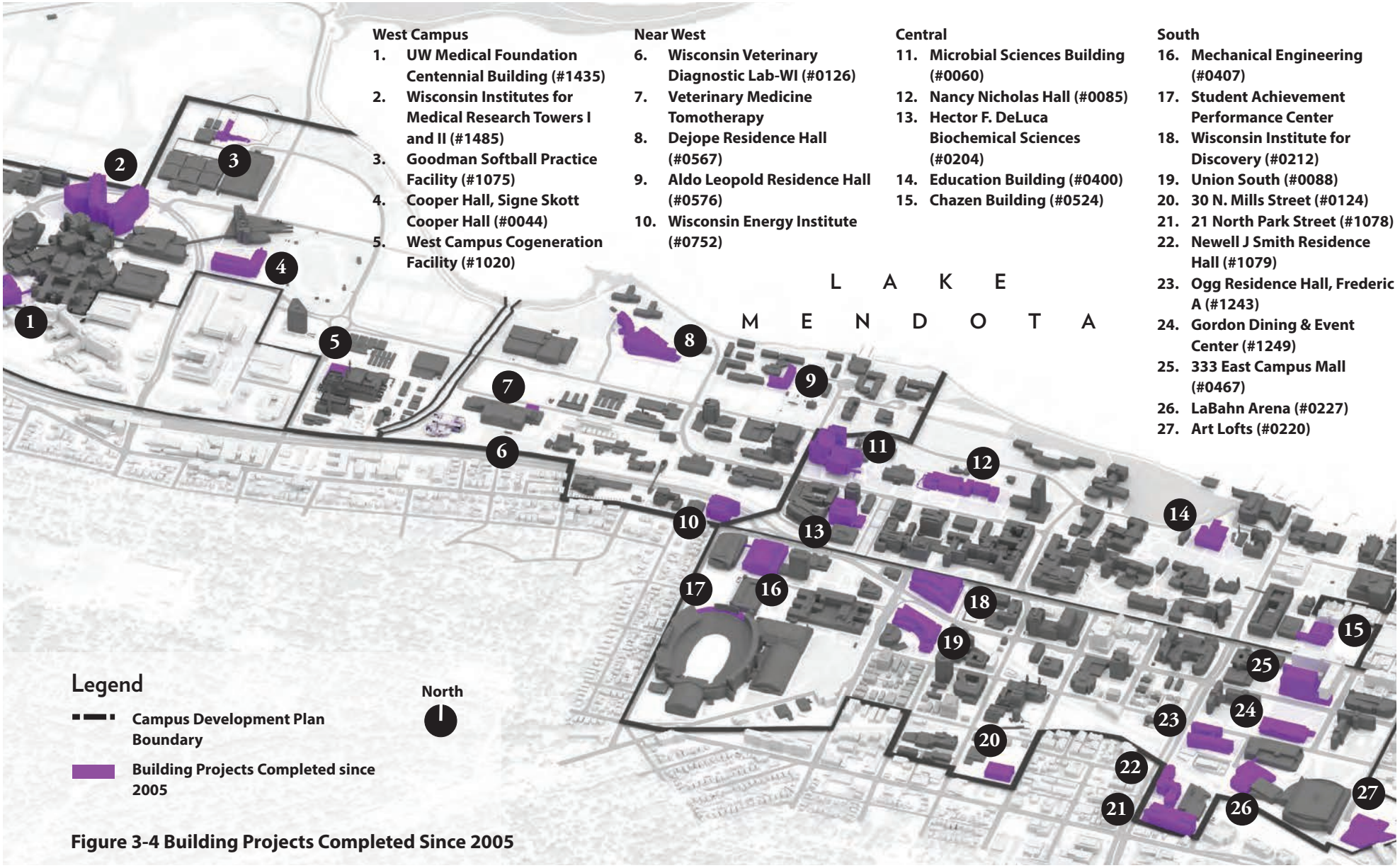


Figure 3-4 Building Projects Completed Since 2005

Legend

Bicycle Improvements

1. Campus Drive Path
2. Extension of Southwest Path ("Missing Link")
3. Bicycle Lands on Walnut Street, south of Observatory Drive
4. Bicycle Lanes, Traffic Calming on Highland Avenue
5. Bicycle Lanes on Observatory Drive
6. Bicycle Lanes on University Bay Drive
7. Bicycle Lanes on Randall Avenue
8. Bicycle Signal Added

Pedestrian Improvements

1. East Campus Mall
2. Signal and Crosswalk on University Avenue at MSC/WID
3. Signal and Crosswalk on University Avenue at East Campus Mall
4. Signal and Crosswalk at Johnson Street at Orchard Street
5. Traffic Calming and Streetscape Improvements on University Avenue at Johnson Street
6. Pedestrian Priority Streetscape on Observatory Drive
7. Sidewalk on east side of Highland Avenue between Campus Drive and Observatory Drive

Roadway Improvements

1. Vacation of Johnson Street (Randall Avenue to Campus Drive)
2. Reconfiguration of Intersection of University Avenue and Campus Drive
3. Extension of Observatory Drive

Parking Improvements

1. CSC Visitor Ramp (Lot 75) Expansion
2. Steenbock Ramp (Lot 36) Expansion
3. Union South Ramp (Lot 80)
4. New Surface Parking Lots (Lots 33 and 45)
5. Surface Parking Lot (Lot 61)
6. Parking Added Under School of Education Green Roof (Lot 10)
7. Parking Added Under School of Human Ecology (Lot 27)

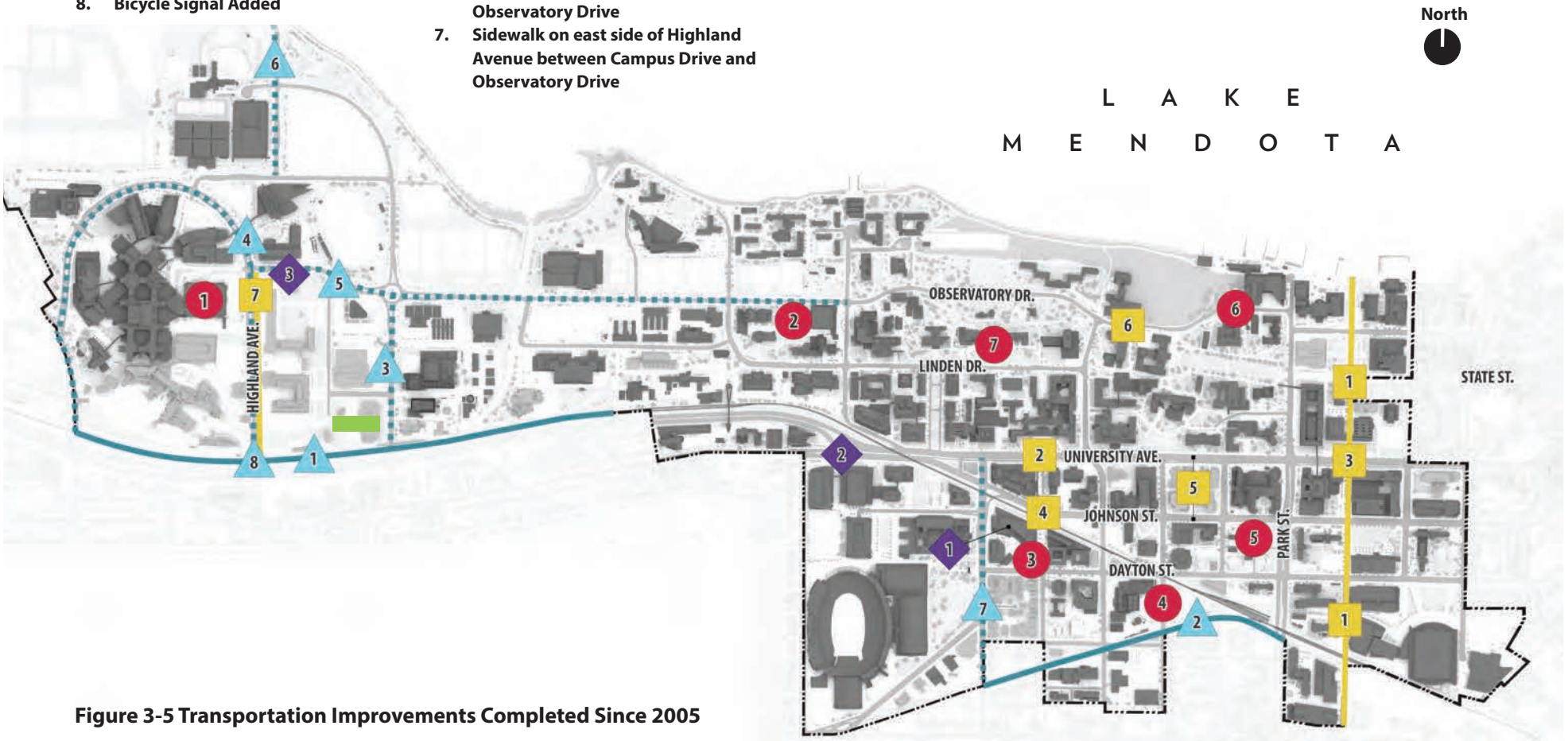


Figure 3-5 Transportation Improvements Completed Since 2005

3.6 Campus Planning Districts

The 2015 Campus Master Plan Update divides the campus into five easily recognizable districts, each a collection of several campus neighborhoods.

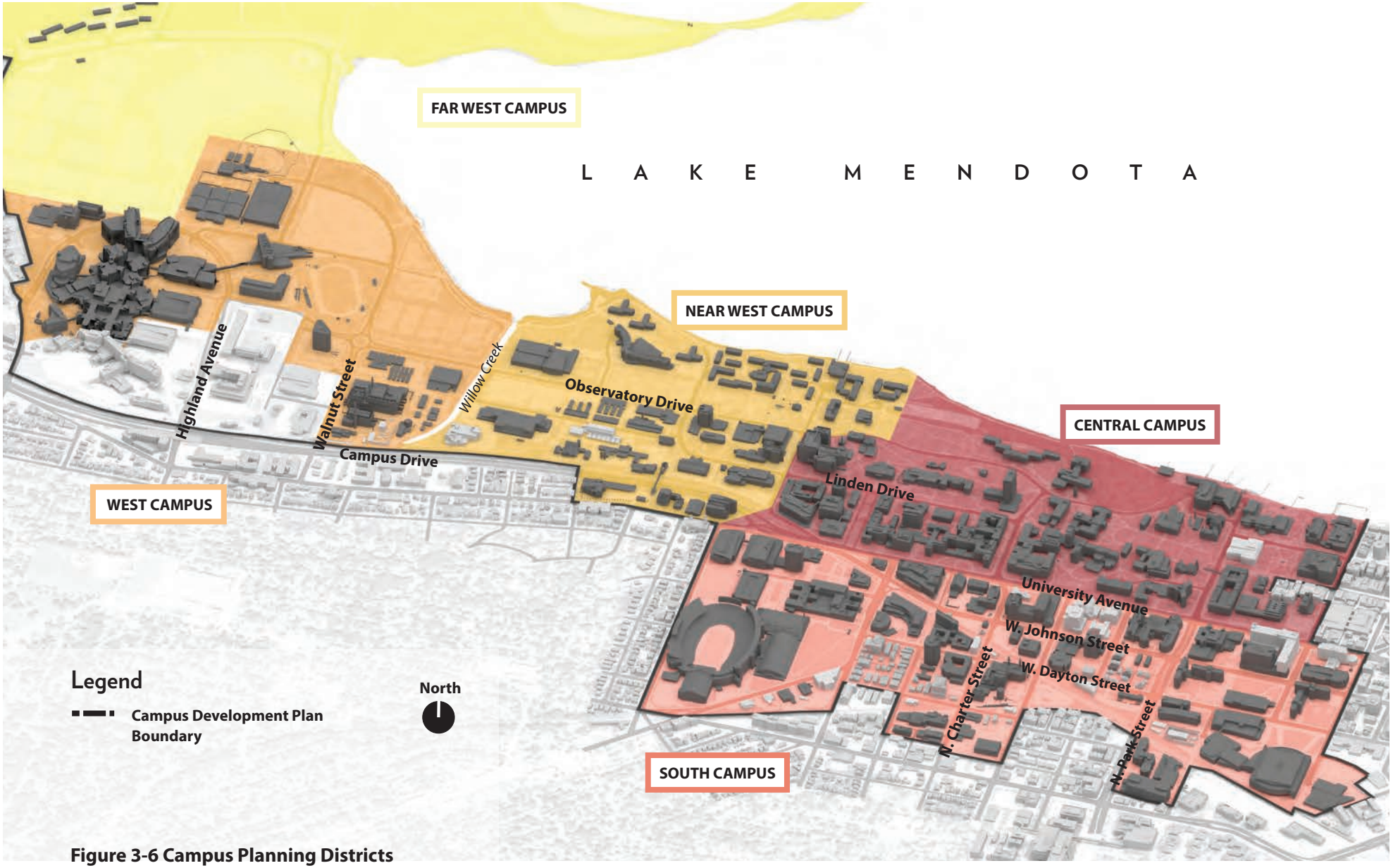


Figure 3-6 Campus Planning Districts

3.7 Campus Land Use and Buildings

The campus has a clear existing building use pattern. Academic and research uses are concentrated in Central and South Campus, clinical and health research in the West Campus, and agricultural teaching and research in the Near West Campus. There are two distinct student housing neighborhoods in the southeast and along the lakeshore. Athletic venues are in South Campus and in the West Campus.

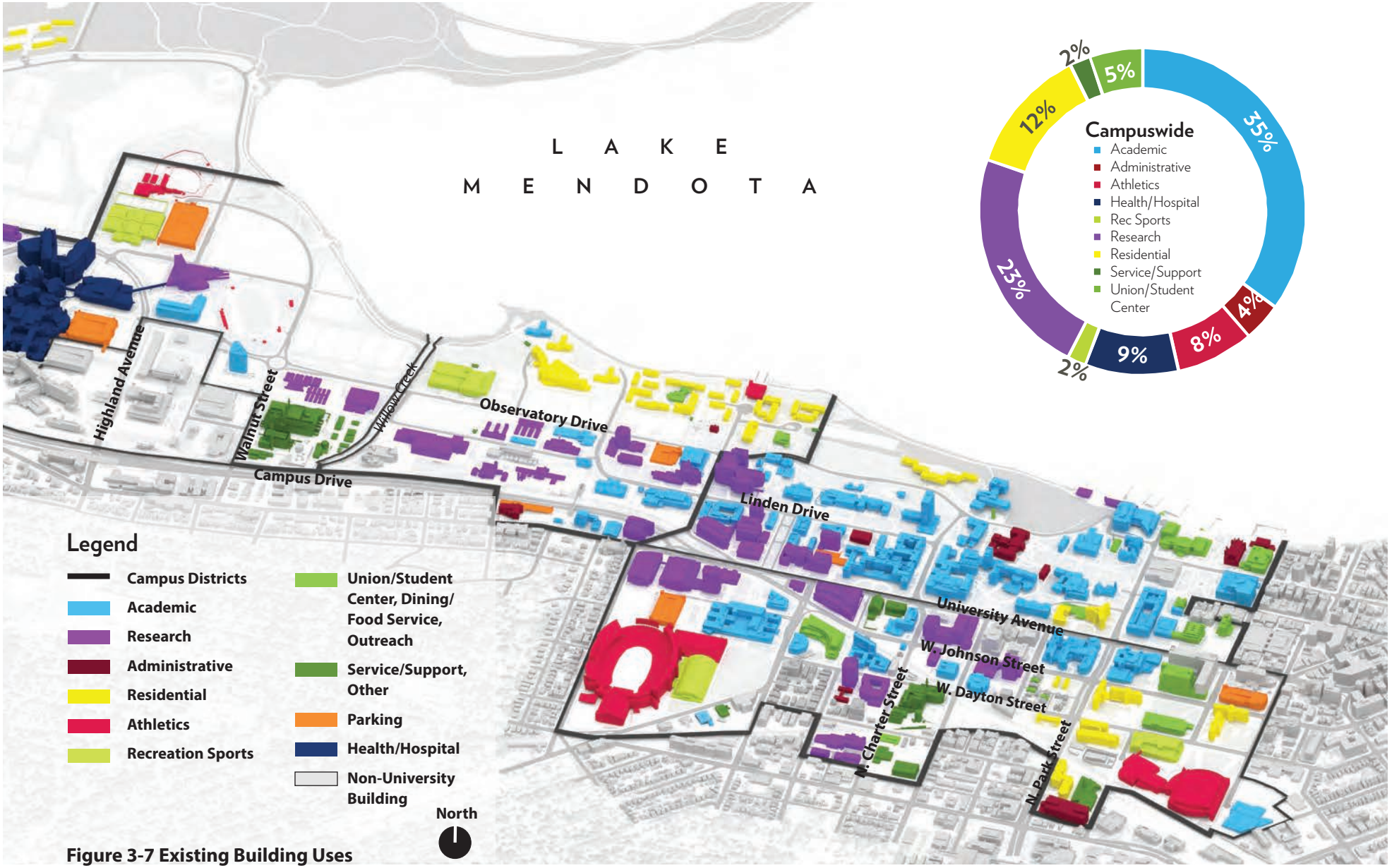


Figure 3-7 Existing Building Uses

3.8 Building Form and Density

The campus planning districts vary considerably in the existing density of buildings. The Central and South Campuses are relatively dense, although differing in open space character. The Far West campus is largely preserved open space and has a low density.

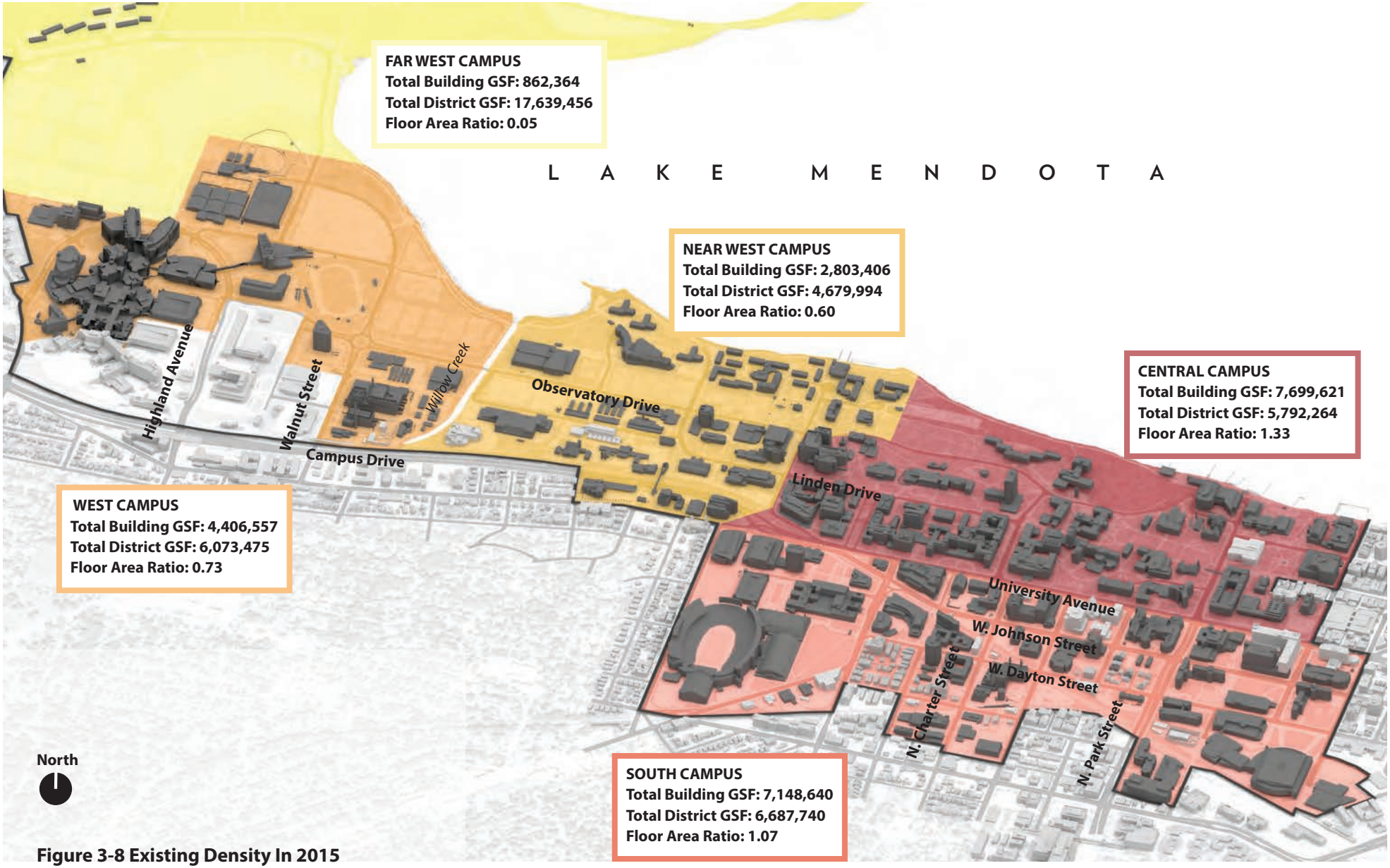


Figure 3-8 Existing Density In 2015

Floor Area Ratio (F.A.R.) is a method measuring density. It is calculated as the sum of the gross floor area (GSF) of all buildings in a district, divided by the size of the district.

To better measure the activity concentration of each district, building GSF and F.A.R. do not include parking structures, Camp Randall, or the Kohl Center.

3.9 Landmarks and Historic Sites

For more than 12,000 years, native peoples inhabited the region, leaving many indelible marks. As a result, Madison has the largest concentration of Native American effigy mounds in the world, and examples still exist on campus today. These cultural landscapes are a significant part of the history at UW–Madison, and merit respect and preservation.

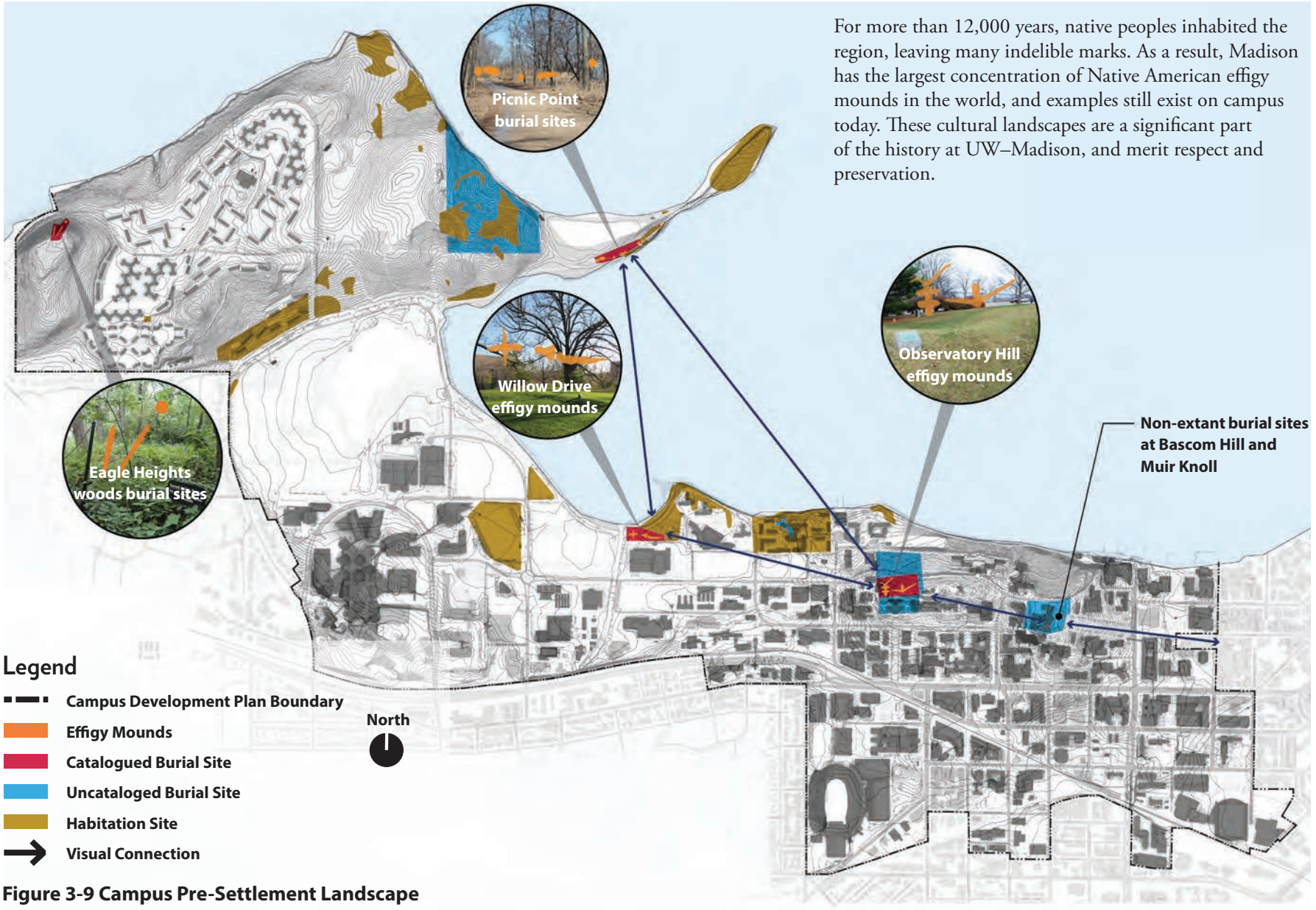


Figure 3-9 Campus Pre-Settlement Landscape

The UW–Madison campus has developed over a century and half and numerous generations of students. The result is a rich campus comprised of historic and cultural landscapes that provide a vital link to our past. Despite constant development pressures, these landscapes must be preserved and renewed; they are sacred and powerful landscapes to be enjoyed by all.

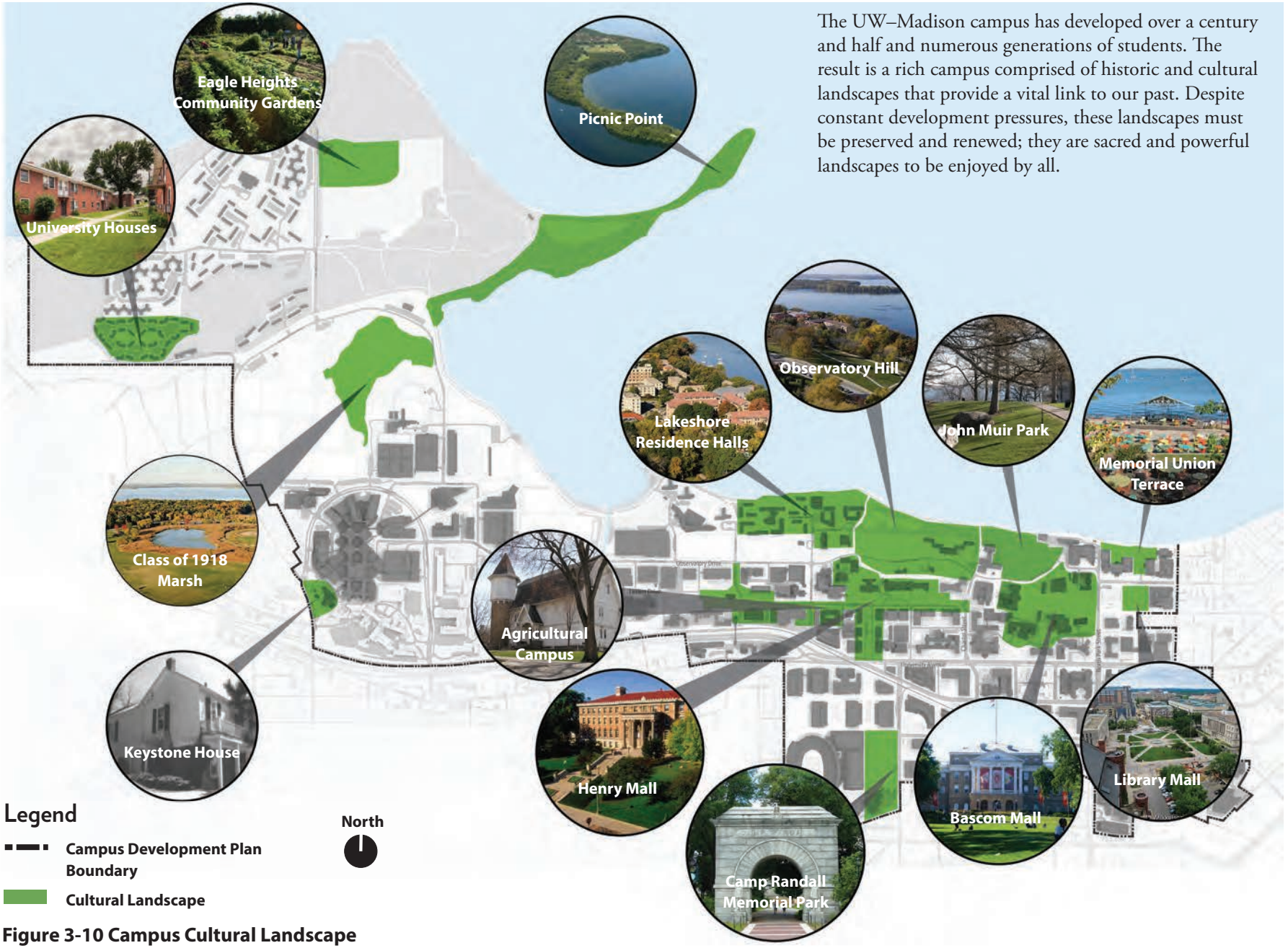


Figure 3-10 Campus Cultural Landscape

3.10 Historic Preservation Planning at UW-Madison

Registered and Listed Buildings

With this significant historical perspective of the campus and how it developed, comes the need to develop a historic preservation plan for the university. This rich history today is codified in the recognition of two historic districts and 18 buildings listed by themselves on the National Register of Historic Places. Four of these buildings have also reached National Landmark status with the National Park Service. In addition, 45 buildings are currently listed on the Wisconsin Architecture & History Inventory by the Wisconsin Historical Society as having potential historic value to the State of Wisconsin. Some of these are the already noted National Register buildings as listed below.

Per Wisconsin Statute 44.40 the university and State of Wisconsin are required to consider any proposed action that may affect a historic property listed on the inventory or on any locally designated list of historic properties. The university then works cooperatively with the Wisconsin Historical Society to review the project details, mitigate the affect and provide a final determination on if the project creates an adverse effect on the historic building or property.

Buildings on the National Register are listed below followed by the dates they were listed.

National Register Districts

Bascom Hill Historic District (1974)

- North Hall
- South Hall
- Bascom Hall
- Music Hall (aka Assembly Hall and Library Building)
- Science Hall
- State Historical Society Building
- Armory and Gymnasium
- Radio Hall (aka Mining and Metal Engineering and Heating Station)
- Carillon Tower
- Memorial Union
- University Club (needs to be reconsidered as contributing)
- Lake Lab (aka Hydrobiology Lab)
- Water Chemistry (aka Sanitary Engineering and Pumping Station)
- Birge Hall
- Education Building (aka Engineering Hall)
- Humanities Building
- Elvehjem Art Center (aka Chazen Museum of Art)
- Helen C. White Hall
- Limnology Laboratory Building
- Law Building

Henry Mall District (1992)

- Contributing
  - Biochemistry (Agricultural Chemistry)
  - Agronomy (aka Agricultural Journalism)
  - Agriculture Engineering
  - Agriculture Hall
  - Wisconsin High School (removed 1993)
  - Henry Mall
  - Hoard Statue
  - William A. Henry Memorial Boulder
- Non-contributing
  - Stovall State Lab of Hygiene
  - Genetics Building
  - 1956 Wing, Biochemistry
  - 1985 Wing, Biochemistry

Buildings on the National Register of Historic Places (date of listing)

- Agriculture Dean's Residence (1984)
- Agricultural Engineering (1985)
- Agricultural Hall (1985)
- Agricultural Heating Station (1985)
- Camp Randall Memorial Park (1971)
- Biochemistry (aka Agricultural Chemistry Building) (1985)
- Hiram Smith Hall and Annex (1985)
- Lathrop Hall (1985)
- Materials Sciences Building (aka Old US Forest Products Lab) (1985)
- North Hall (1974 and 1977) National Landmark Status (1966)
- Observatory Director's Residence (1985)
- King Hall/Soils (aka Horticulture, Agricultural Physics and Soil Science) (1985)
- Red Gym/Armory (1974) National Landmark Status (1993)
- Science Hall (1993) National Landmark Status (1993)
- Stock Pavilion (1985)
- UW Fieldhouse (1998)
- Washburn Observatory (1985)
- Wisconsin Dairy Barn (2002) National Landmark Status (2005)

Buildings on the Wisconsin Architecture and History Inventory (date surveyed)

All of the above buildings listed on the National Register or in a National Register of Historic Places District (including all contributing and non-contributing buildings)

- Barnard Hall (1974)
- Chadbourne Hall (1973)
- Chamberlin Hall (1974)
- Engineering Research Building (1973)
- Heating Station (aka Old Heating Plant) (1974)
- Home Economics Building (aka School of Human Ecology) (1974)
- Horticulture Hall (1973)
- Mechanical Engineering (1974)
- Primate Center (1985)
- Sea Grant Institute (1973)
- Sellery Hall (1973)
- Service Building (2003)
- Sterling Hall (unknown)
- University Life Saving Station (1997)
- Vilas Hall (1998)
- WARF Building (1974)
- Weeks Hall (aka Geology Building) (1973)
- Wisconsin General Hospital (aka Medical Sciences Center) (1974)

Buildings Eligible for National Register Designation

(As determined by the Wisconsin Historical Society)

- Adams Hall
- Animal Science Building
- Barnard Hall
- Biotron Laboratory
- Camp Randall Memorial Sports Center (aka The Shell)
- Carson Gulley Commons
- Cole Hall
- Elizabeth Waters Hall
- Enzyme Institute
- Goodnight Hall
- Horse Barn
- Humphrey Hall
- Ingraham Hall (formerly Commerce Building)
- Institute for Enzyme Research
- Keystone House and Garage (aka 901 University Bay Drive)
- Kronshage Dormitories (Chamberlin, Conover, Gilman, Jones, Kronshage, Mack, Showerman, and Swenson)
- McArdle Cancer Research Building
- McClain Athletic Facility
- Mechanical Engineering Building
- Meiklejohn House
- Middleton Building (former Middleton Medical Library)
- Nancy Nicholas Hall, School of Human Ecology (former Home Economics)
- Nutritional Sciences (former Children's Hospital/Orthopedic Hospital
- Phillips, Vel Hall
- Service Building Annex (former Old Heating Plant, Central Heating Station)
- Picnic Point Change House/Beach House
- Primate Laboratory and Addition
- Sewell Social Science Building
- Short Course Dormitories (Humphrey and Jorns)
- Slichter Hall
- Steenbock Library
- Sterling Hall
- Teacher Education
- Temin Lakeshore Path
- Tripp Hall
- Van Hise Hall
- Van Vleck Hall
- Vilas Communication Hall
- WARF Office Building

There are also several important archaeological sites on campus which are mapped and inventoried by the Wisconsin Historical Society (see Figure 2-25). Several are on the National Register of Historic Places and others are inventoried and catalogued. Some of those major sites include (with their State Archaeological Site Number and Year Cataloged, if known):

- Willow Drive Mounds (DA-119)
- Picnic Point Grove Mounds (DA-120)
- Picnic Point Mound Group (DA-0121) (2006)
- Stevens (DA-122)
- Unnamed Group (eastern end of Picnic Point) (DA-123)
- Unnamed Group (west lakeshore residence halls and the Natatorium) (DA-124)
- Picnic Point Bay Mounds Group (DA-125)
- University Ridge Mound Group (DA-126)
- Breitenbach (along University Bay Drive, west of the Recreation fields) (DA-128)
- Eagle Heights Group (DA-0130) (2006)
- Eagle Heights Field (DA-413)
- Picnic Point (DA-501)
- Observatory Hill Mound Group (DA-0571) (2006)
- Bascom Hill Mound Group (DA-573)
- North Hall Mounds (DA-819)
- Agricultural Hall Mounds (DA-820)
- South Slope (on Picnic Point) (DA-1168)
- Unnamed (on Picnic Point) (DA-1169)
- Observatory Hill Village (DA-1207)
- Muir Knoll (DA-1208)

Further detailed information is available on all of these sites, including a map with all of the historic sites, at the Campus Planning & Landscape Architecture office of Facilities Planning & Management and on their website.

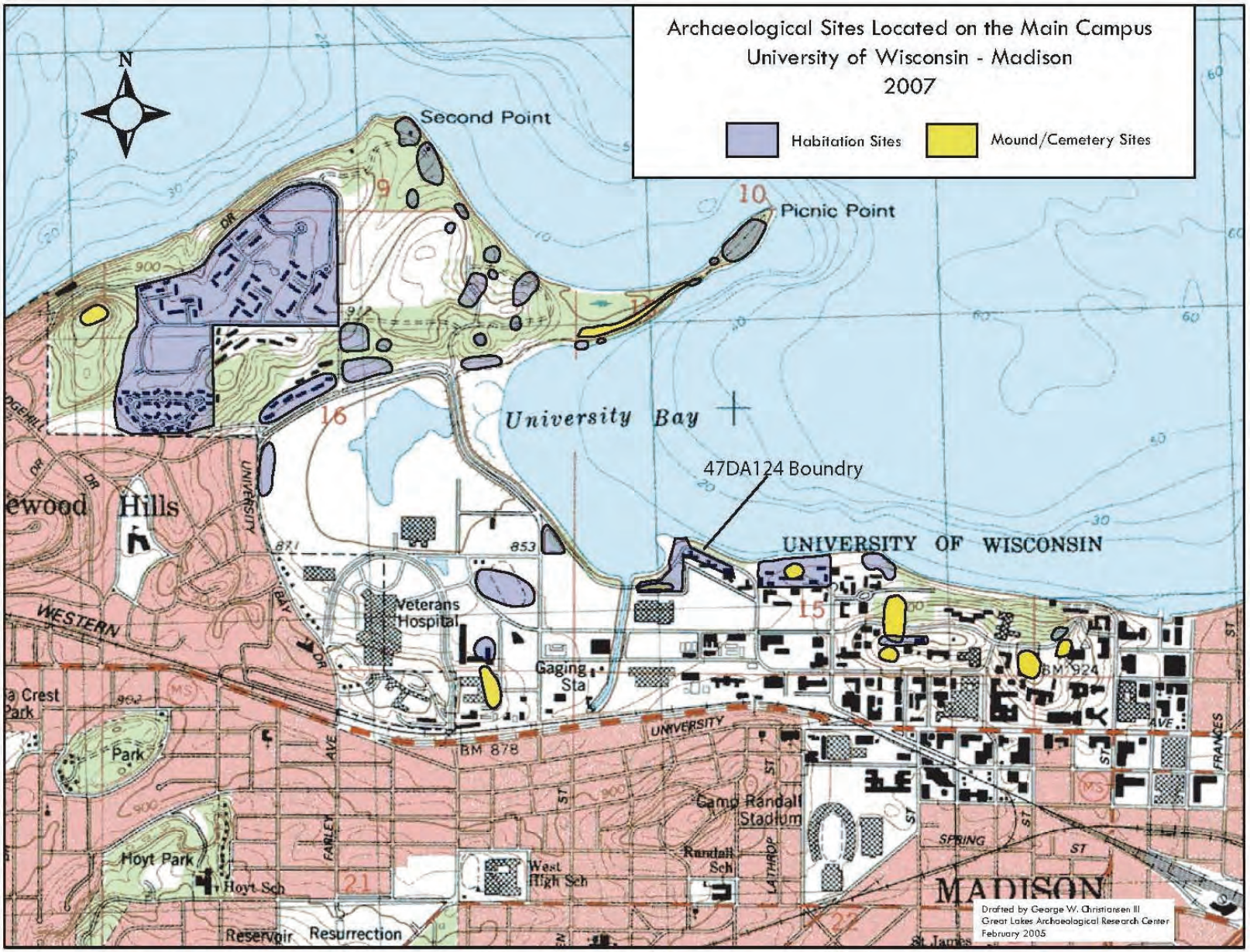


Figure 3-11 Archaeological Sites on the Main Campus of the University of Wisconsin–Madison

Cultural Landscape Resources

In 2005, the university developed a Cultural Landscape Resources Plan as one part of a collaborative project entitled the Cultural Landscape Resource Project. The Cultural Landscape Resource Project developed a base of knowledge and resources to protect the significant cultural landscapes on campus. The Cultural Landscape Resource Project was funded through a grant from the J. Paul Getty Trust and supported by Facilities Planning & Management. The Cultural Landscape Resource Project was developed under the guidance of the Wisconsin Department of Administration, Quinn Evans Architects, faculty and students from the UW–Madison Department of Landscape Architecture and staff of Facilities Planning & Management. Portions have been excerpted from the planning documents developed by that process and included in this comprehensive campus master plan. A complete copy of the analysis and recommendations in the Cultural Landscape Resource Project can be found for reference in the UW–Madison Facilities Planning & Management office or in the UW–Madison Library system.

The cultural landscapes on the UW–Madison campus are places that provide touchstones to the past. Stories related to past activities bring the history of these places to life for people who use, visit, and explore these sites today. The campus today can be compared to a fabric woven of historic and contemporary landscapes that are intertwined. The historic landscapes retain the ability to conjure the past as three-dimensional entities that display a sense of place and contain physical reminders of the activities that occurred. As such, the preservation of historic landscapes takes on the same responsibility as the preservation of historic buildings.

The university is undergoing a period of change that requires updated and new facilities to address the needs of advancing education and research. Since the campus is surrounded by the City of Madison on three sides and Lake Mendota on the fourth, only limited opportunities for expansion of boundaries exist. A major goal of the current master planning effort is for the campus to "recreate itself in place" with the physical planning needs met within the current campus boundaries. Identification of the historic landscapes on campus has played an important role in the master planning process in two ways:

1. It has increased understanding of these landscapes through historical research and analysis and helped to identify the aspects that are most essential for preserving their character and integrity; and,
2. It has identified the characteristics and features that are components of the historic landscapes providing guidance for planning and design for future development on campus.

The protection of historic landscapes already has taken a step forward by integrating these newly identified resources into the current comprehensive master planning process.

The Cultural Landscape Resource Project, completed in fall 2005, includes a number of documents that are available to provide information about the historic landscapes on campus. A Cultural Landscape Report was developed addressing:

- The historical context for the development of cultural landscapes on campus.
- Archaeological resources on campus (details of the site investigations conducted as part of the project and management recommendations for archaeological resources).
- Individual Cultural Landscape Inventories (CLI) for eight sites: Bascom Mall, Library Mall, John Muir Park, Memorial Union Terrace, Observatory Hill, Henry Mall, the Agricultural Campus, and Camp Randall Memorial Park. The CLIs each include: a historic narrative and graphics documenting the physical development of the site; documentation of existing conditions; evaluation of the significance and integrity of the site; and, landscape preservation recommendations.
- A summary of the reconnaissance survey for additional sites including: Temin Lakeshore Path, Lakeshore Area Residence Halls, Class of 1918 Marsh, Picnic Point, Keystone House, Eagle Heights Community Gardens, and University Houses.

In addition to the Cultural Landscape Report, efforts associated with preparing the Cultural Landscape Resource Project, have included

- Historical image and map gallery website: http://digital.library.wisc.edu/1711.dl/UW.UWCulturalLand
- UW–Madison cultural resources website: http://www2.fpm.wisc.edu/planning/culturalresources
- Press package with information regarding cultural landscapes
- Walking tour brochure of significant campus landscapes
- Interpretive exhibit posters for the eight sites studied
- A PowerPoint presentation that provides an overview of the Cultural Landscape Resource Project, findings.

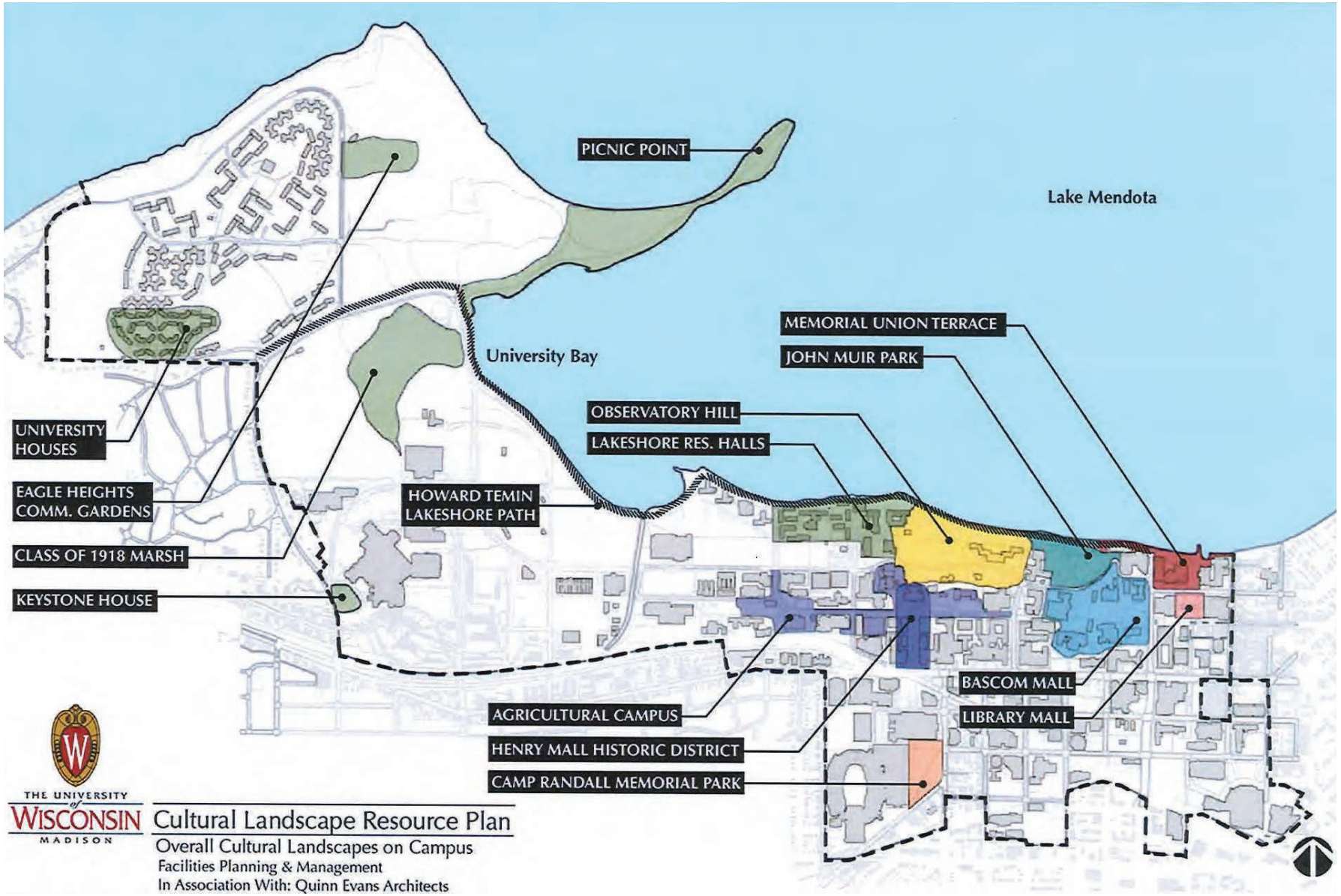


Figure 3-12 2005 Cultural Landscape Resource Project, Fifteen Potentially Significant Sites

(The materials listed above are housed at the office of UW–Madison Campus Planning & Landscape Architecture, Facilities Planning & Management and at www.fpm.wisc.edu. Address inquiries to the Campus Planning Director at 608-263-3023.)

The documents address two audiences interested in the cultural landscapes on campus. One is the general public. The other includes the facilities managers, planners, designers, and others involved in the implementation of treatment applications and facilities development on campus. These range from everyday maintenance including mowing, pruning, and building repairs; to restoration, rehabilitation and construction of new buildings and landscapes within the historic site boundaries. The Cultural Landscape Resource Project was a tremendous first attempt to identify, evaluate, and determine appropriate future management for the historic landscapes on campus. An emphasis has been placed on compiling as much information as possible for providing access for future researchers and the general public. The Cultural Landscape Report is a technical document supplying a large amount of information in a simple format. The cultural landscapes and archaeological sites at the UW–Madison campus are tremendously valuable historic resources. The Cultural Landscape Resource Project has also provided a basis for future research and management of these sites.

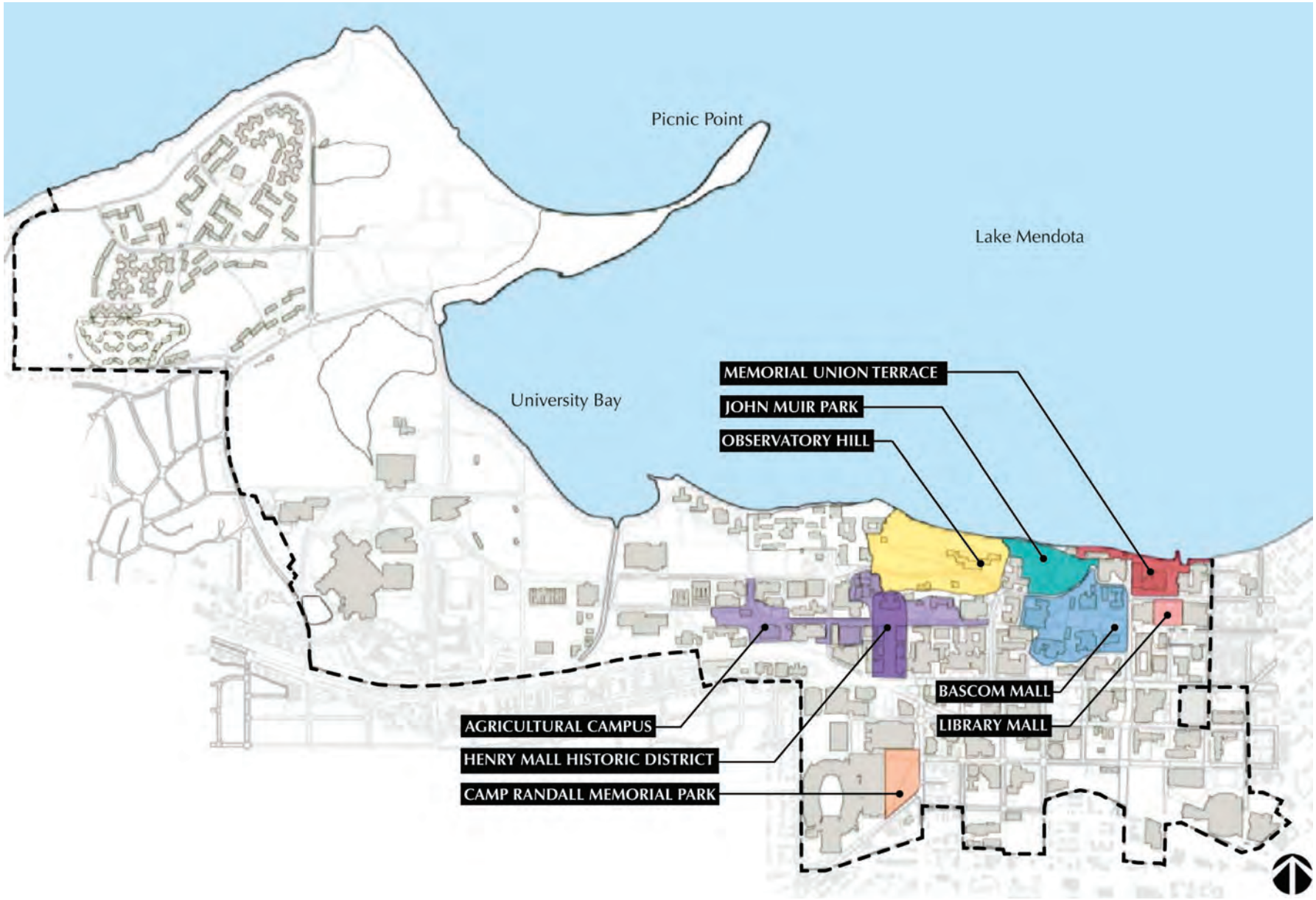


Figure 3-13 2005 Cultural Landscape Resource Project, Eight Sites Selected for In-Depth Analysis

3.11 Open Space

Each campus area was analyzed to determine a percentage of open space as a ratio of landscape (both soft and hardscapes) minus buildings, roads, and parking. Existing open space ratios were compared to open space ratios for the proposed building siting recommended in the 2005 Campus Master Plan.

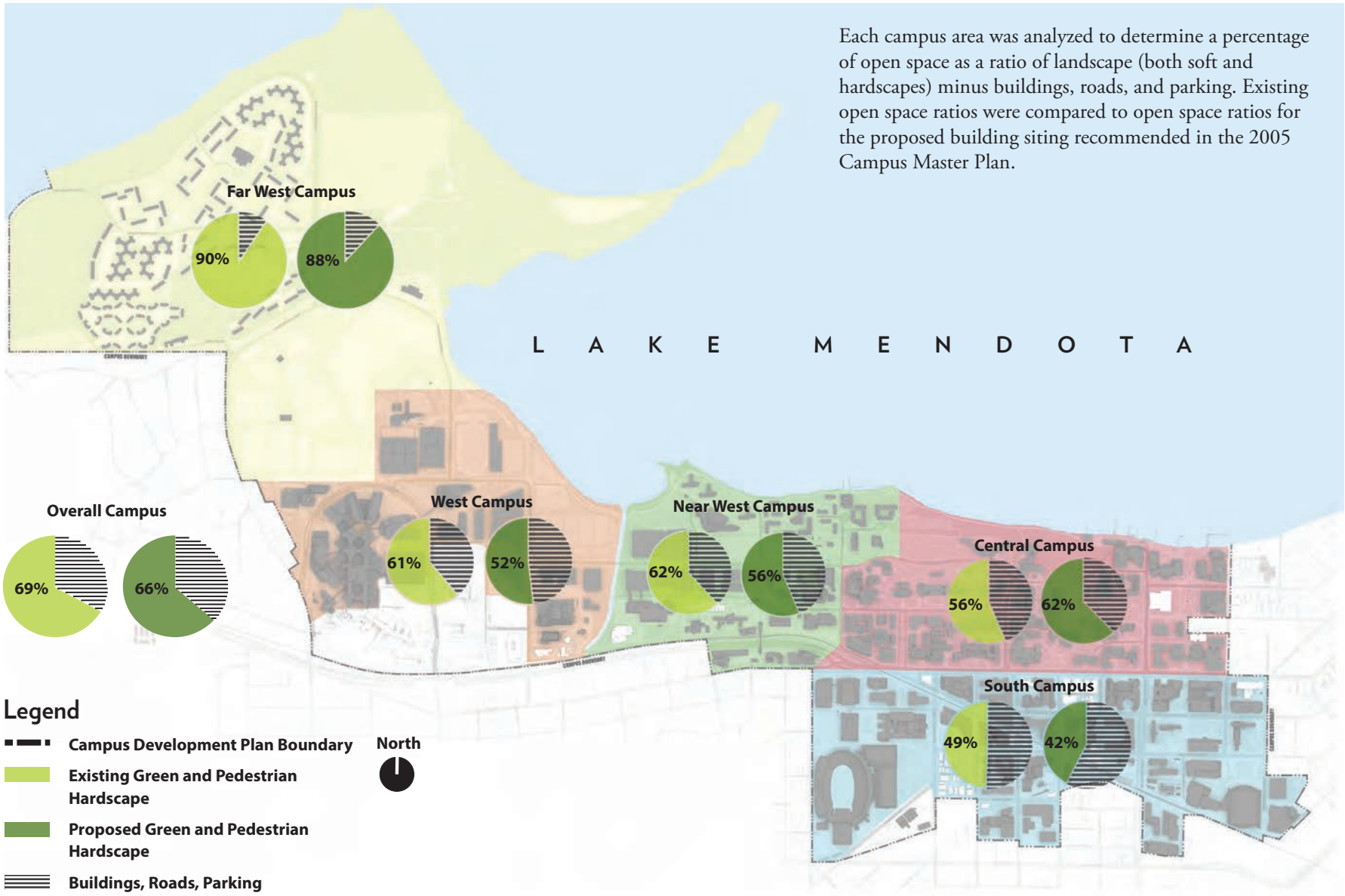


Figure 3-14 Open Space Ratios

The development of campus over time has resulted in a diversity of landscape spaces on campus, each reflective of the values of the students and administration that oversaw their development.

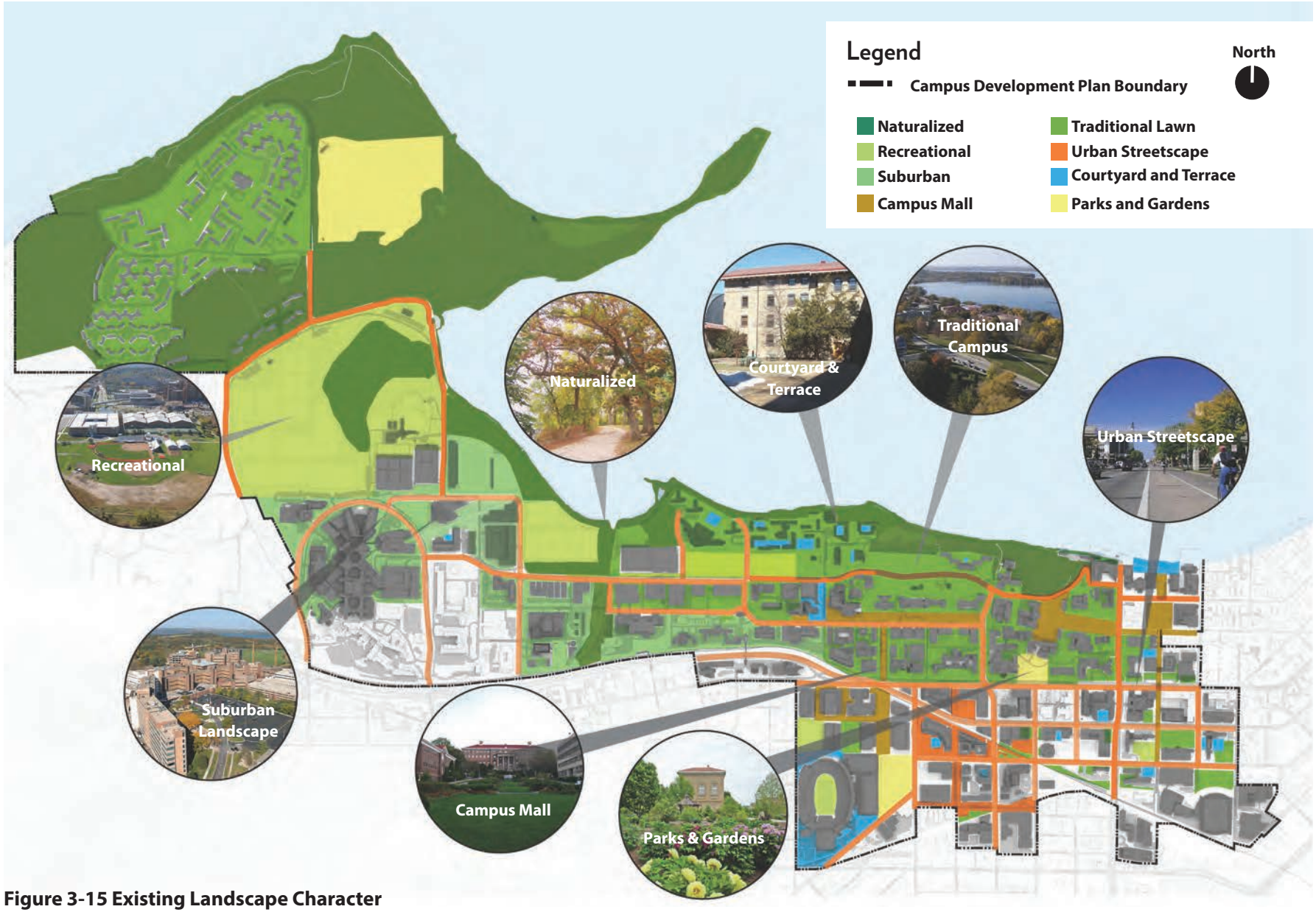


Figure 3-15 Existing Landscape Character

3.12 Tree Canopy

The tree canopy contributes directly to the landscape structure of a campus. At the UW–Madison campus, the tree canopy varies greatly throughout, resulting in a disconnection between campus areas. Central Campus is endowed with beautiful mature trees, many of them campus landmarks such as the Euthenics Oak at the School of Human Ecology. The Memorial Union Terrace is also graced with mature White Oaks shading the historic outdoor terrace. Yet on the West Campus, the historic expansion of the agricultural campus and its modern redevelopment have given this area a distinctly different landscape character. The re-establishment of a consistent tree canopy would better unify it with the campus lakeshore and the Central Campus.

Similarly, the lack of street trees makes a distinct separation between the "campus" spaces and the roads intertwined throughout. This is particularly apparent on the South Campus, where streetscapes dominate the campus experience. Here, the addition of street trees would not only help provide landscape structure, but also provide shade, habitat, manage stormwater and buffer pedestrians from traffic.

With 74 documented tree species, the campus has significant species diversity. The canopy is dominated by maple (13%), honey locust (9%), ash (8%), pine (7%), oak (7%) and elm (5%). The grounds department is currently managing the ash tree canopy and their percentages continue to decline, due to the recent activity of the Emerald Ash Borer in Dane County.

Figure 3-16 Existing Tree Canopy


L A K E M E N D O T A
Willow Creek
Observatory Drive
Walnut Street
Linden Drive
Campus Drive
University Avenue
W. Johnson Street
N. Charter Street
W. Dayton Street
N. Park Street

3.13 Stormwater Management & Green Infrastructure

The campus and its host communities drain into the Yahara River, Six Mile Creek, and Rock River watersheds. The Rock River watershed, which includes Lake Mendota, Lake Monona, the UW–Madison campus, and much of the City of Madison, is included on the United States Environmental Protection Agency and Department of Natural Resources list of impaired waters.

Figure 3-17 Campus Relationship to Rock River Watershed

Approximately 802 acres of campus and public rights-of-way drain to Lake Mendota, and 238 acres to Lake Monona via campus and city-owned storm sewers. Of the area draining to Lake Mendota, approximately 134 acres drains via discharge to Willow Creek.

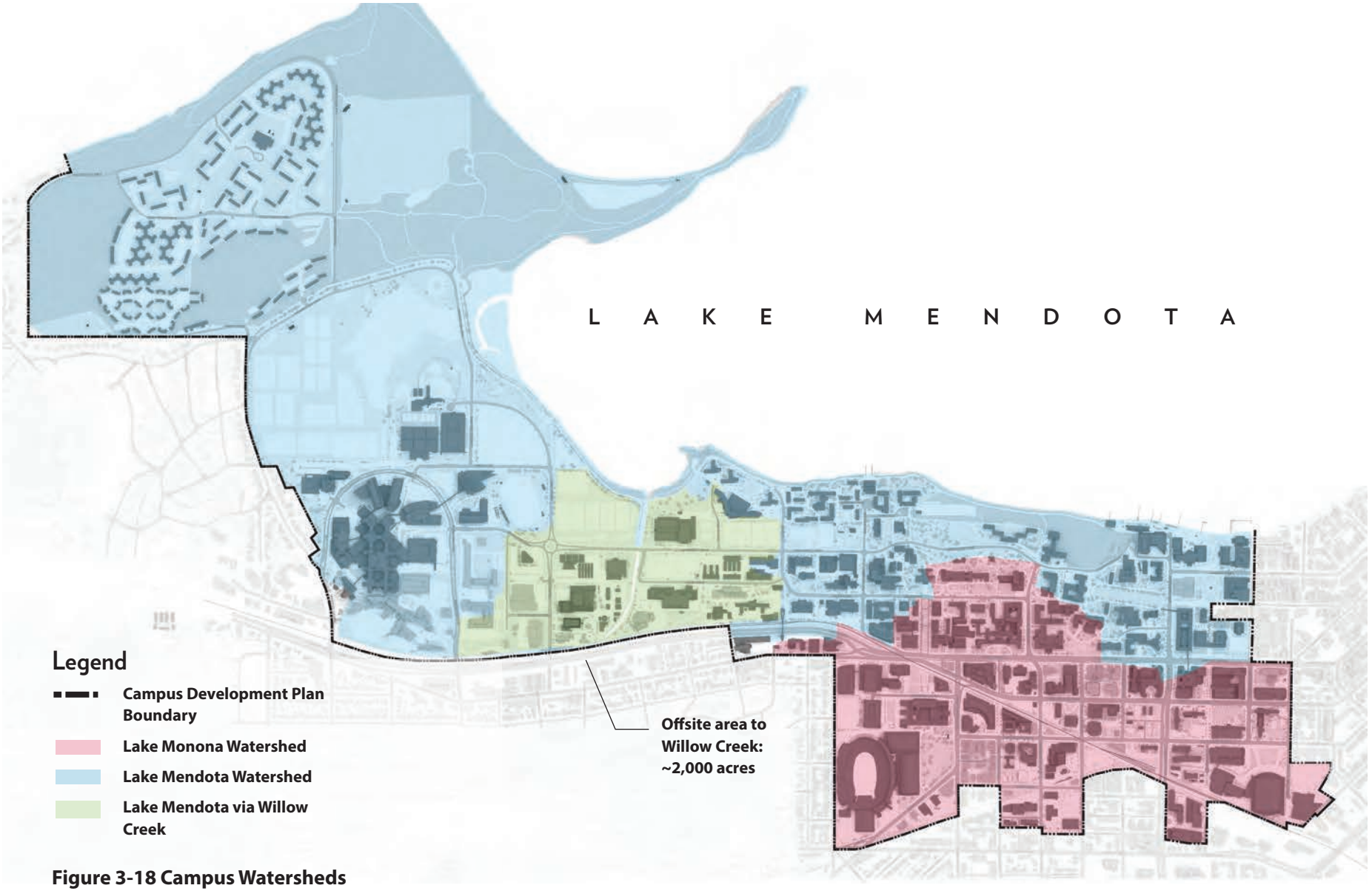


Figure 3-18 Campus Watersheds

Impervious and Pervious Surfaces

Since its founding in 1848, the campus has grown from three buildings located on what would become Bascom Hill to include over 180 acres of building "footprints" supported by over 320 acres of supporting impervious areas such as roadways, parking lots, walkways, plazas, and driveways. Currently, approximately 504 acres of the 1,040 acres of land within the Campus Development Plan Boundary is impervious (approximately 48%). Of the impervious area, it is estimated that approximately 190 acres supports traffic (e.g., streets, parking lots, driveways, etc.) The proportion of area supporting traffic is important because these are typically the highest sources of pollutant loads of the pertinent land uses.

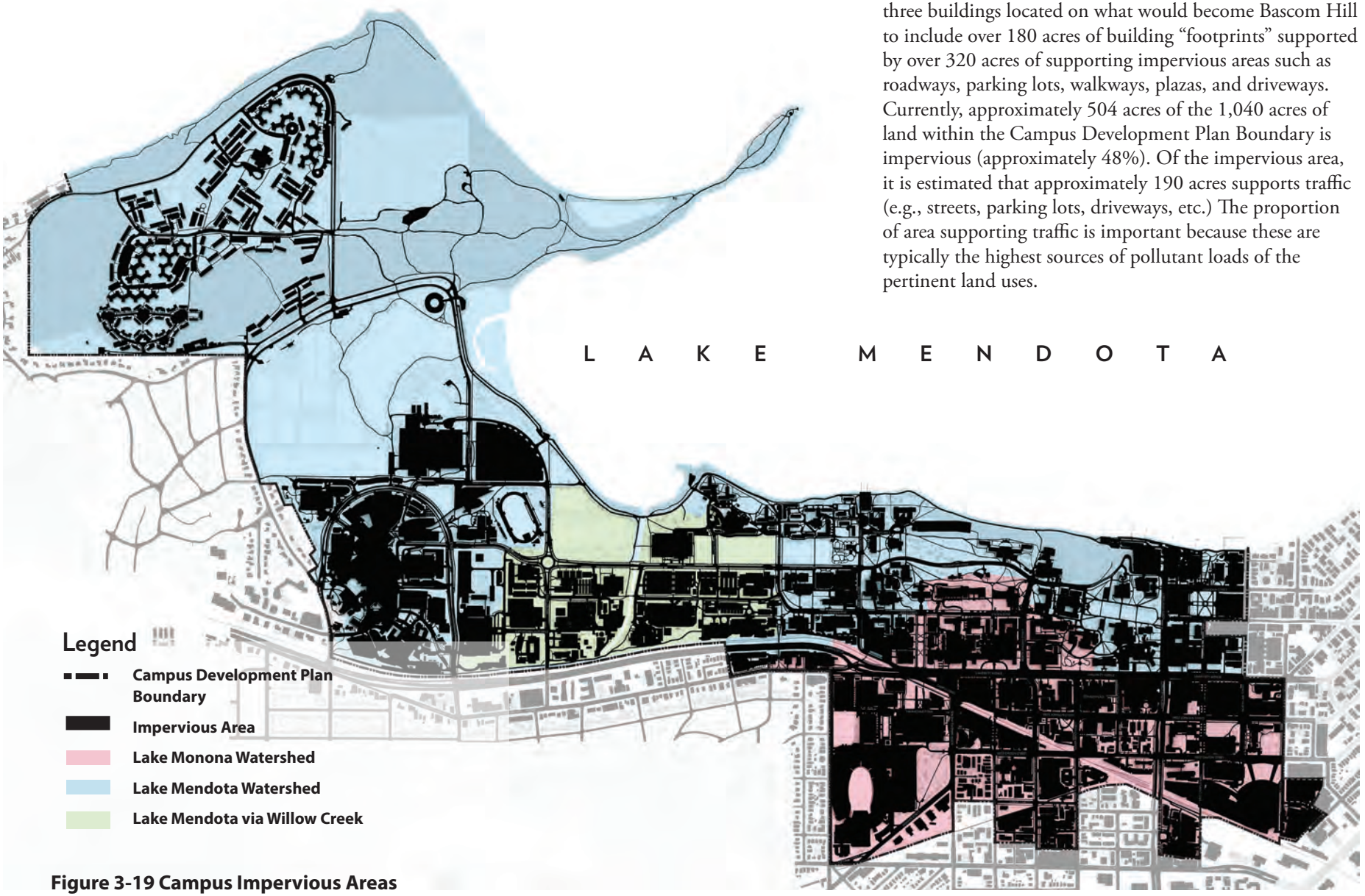


Figure 3-19 Campus Impervious Areas

Table 3-1 Impervious and Pervious Areas

Surface Type	2015 Impervious Area (acres)
Impervious Traffic Areas	184.9
Impervious Non-Traffic Areas	319.6
Overall Impervious Area	504.4
Pervious Area	536.1
Total Area	1040.6
Impervious %	48%

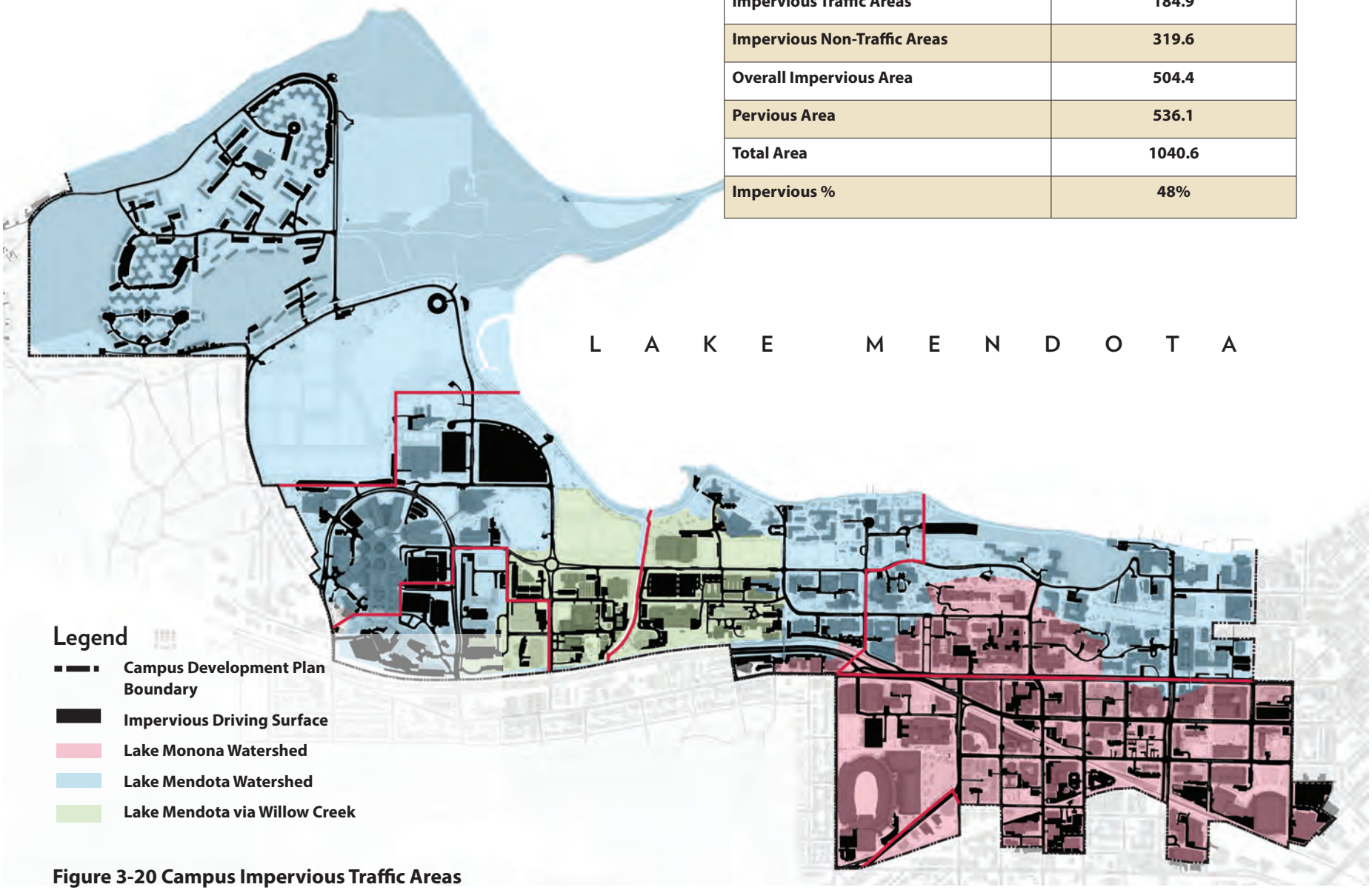


Figure 3-20 Campus Impervious Traffic Areas

Stormwater and pollutant runoff rates and volumes are dependent on the type and condition of the surface upon which precipitation falls and the type of stormwater conveyance system. Stormwater runoff rates are higher from paved surfaces than from unpaved surfaces due to the limited infiltration capacity of the pavement. Compacted turf lawns also only provide minimal infiltration if not properly managed and maintained.

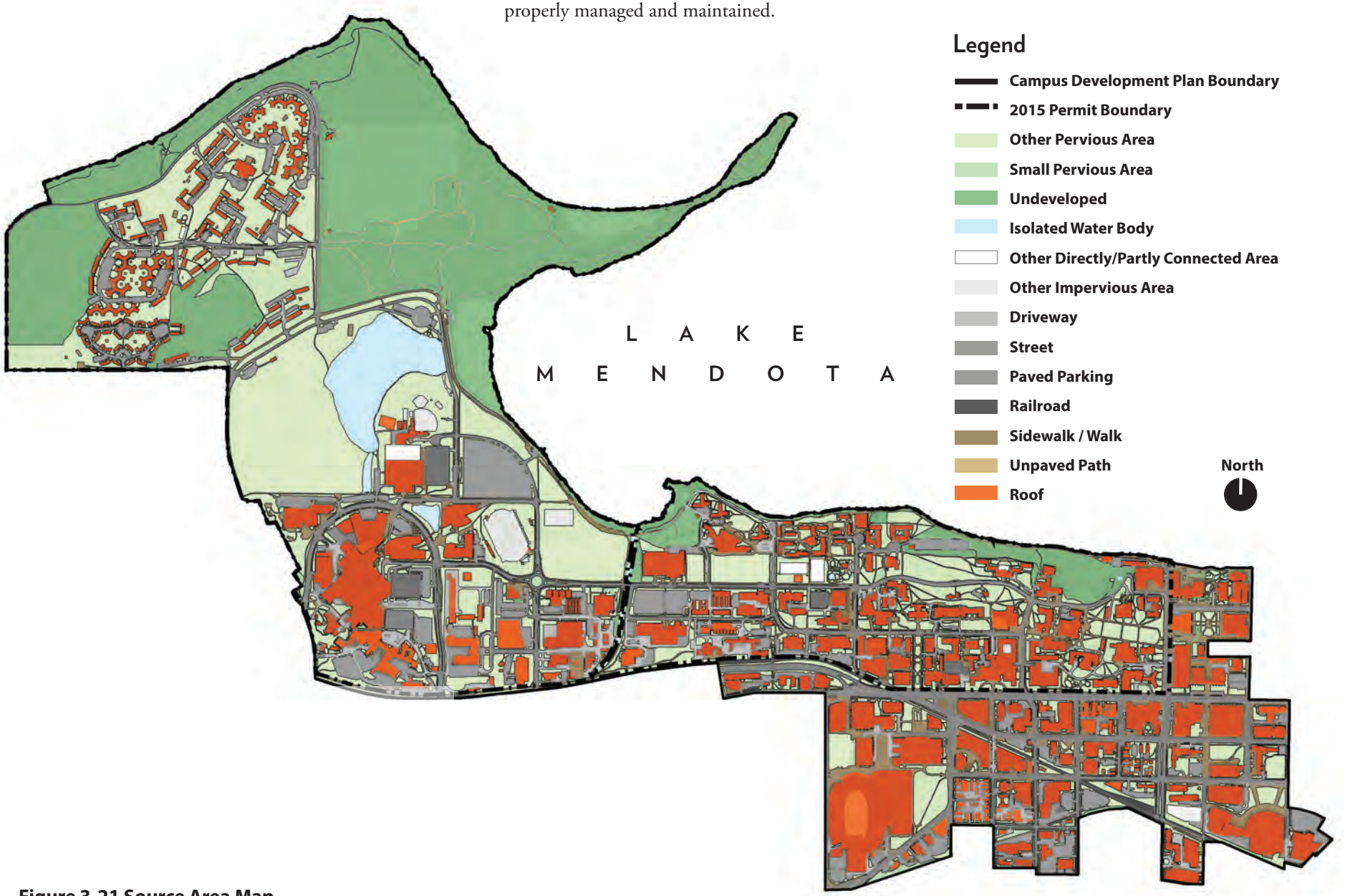


Figure 3-21 Source Area Map

Since completion of the 2008 Stormwater Management Study, dozens of stormwater best management practices have been installed throughout campus. The campus showcases a wide variety of practices such as green roofs, wet detention ponds, biofiltration basins, and pervious pavements. In addition, non-structural stormwater best practices such as street sweeping, education of facilities staff, and improved "housekeeping" efforts have improved and expanded. WinSLAMM modeling results indicate that these practices capture approximately 53,000 pounds of total suspended solids and 143 pounds of phosphorus annually that would otherwise discharge to adjacent waterways.

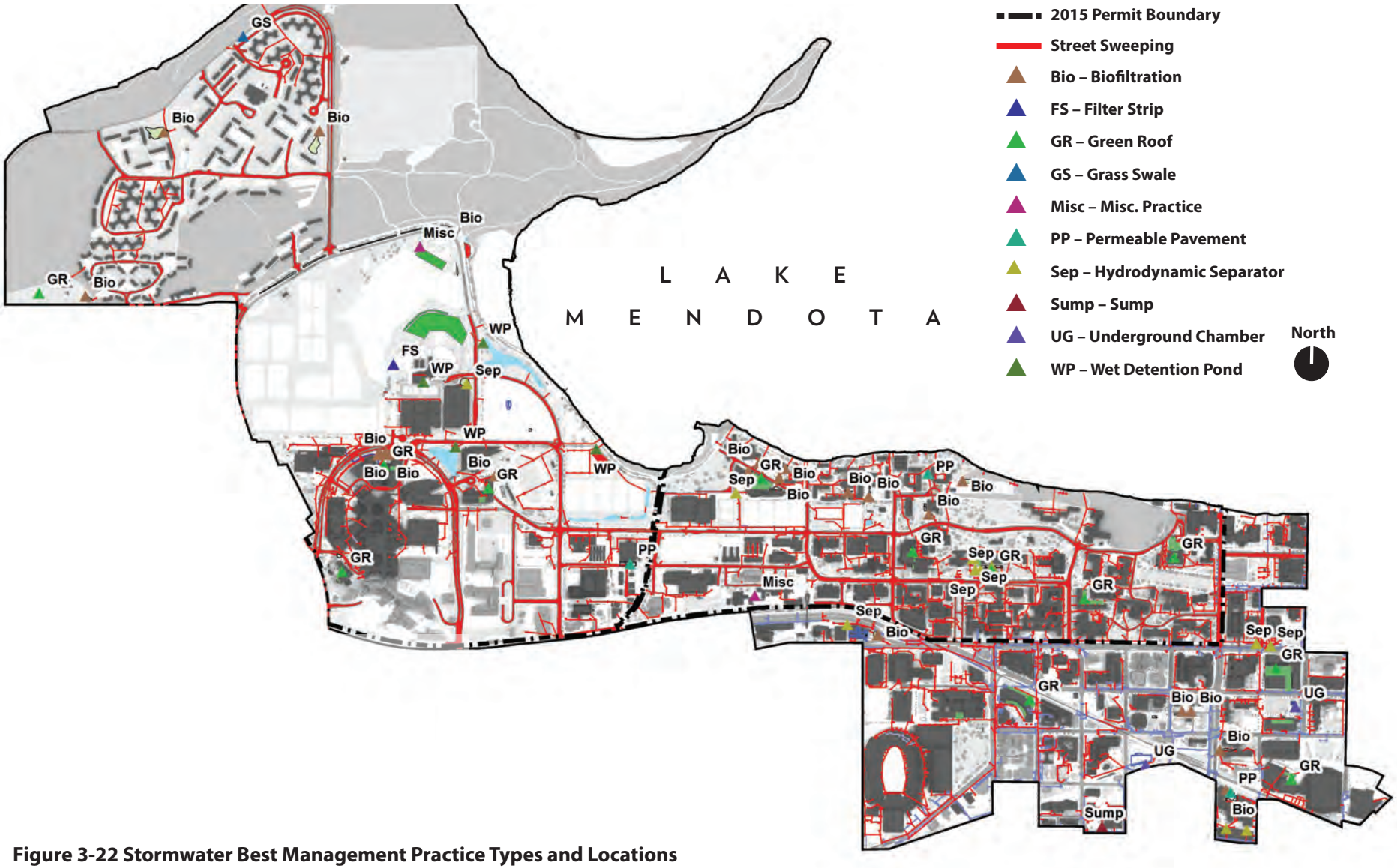


Figure 3-22 Stormwater Best Management Practice Types and Locations

3.14 Pedestrian and Bicycle

Walking and biking are the predominant modes of transportation on campus. A grid street system, dense land uses, attractive streetscapes, and comfortable walking and biking facilities carry students, faculty, and staff to classes, work, and appointments on a daily basis. UW–Madison consists of a dense building network interconnected with walking facilities, particularly on the east part of campus. With nearly 22,000 faculty and staff and over 43,000 students on a nearly 1.5 square mile campus, walking continues to be the most accessible and popular form of transportation. See the Long-Range Transportation Plan for a detailed analysis of existing pedestrian and bicycle facilities and services.

This section describe the current assets and challenges with the non-motorized transportation network. The findings presented in this section form the basis of recommendations offered in Chapter 4: Recommendations.

Gaps in Connectivity

For Pedestrians

Paved pedestrian-only pathways represent the primary routes carrying students, faculty, and staff across campus grounds and between buildings. These pathways provide micro-level connections. Paved shared-use facilities such as the Southwest Path and unpaved facilities like the Lakeshore Path serve longer distance and cross-campus connections. Campus destinations are well-connected, with a few exceptions.

Sidewalks exist on the majority of campus streets and carry high volumes of pedestrian traffic on a daily basis. Interior block connecting roads such as Lathrop Drive, Clymer Place, Conklin Place, and Fitch Court do not have sidewalks on either side of the road but have alternate pathways nearby. However, analysis identified Lathrop Drive as being particularly uncomfortable for pedestrians because there is an absence of infrastructure or design elements indicating whether pedestrians or automobiles have priority in this space.

There is a primary gap in pedestrian connectivity on the west side of campus. The eastbound Campus Drive shared-use path ends near the School of Veterinary Medicine. A connection to Babcock Drive and University Avenue to the east would better connect pedestrians and cyclists along this corridor.

Busy arterial roads and railroads act as barriers to pedestrian connectivity on campus because of uncomfortable intersections and the absence of adequate crossing locations. There is limited pedestrian connectivity across Campus Drive and the railroad corridor west of Babcock Drive. The shared-use bridge at the Stock Pavilion (city-owned Alicia Ashman Bridge) as well as Walnut Street and Highland Avenue are the only north-south crossings on campus. There is a ½ mile span near the Veterinary Medicine Building without a crossing of Campus Drive. This is an issue for students and others living in the concentration of residences along University Avenue west of Breese Terrace and south of Campus Drive.

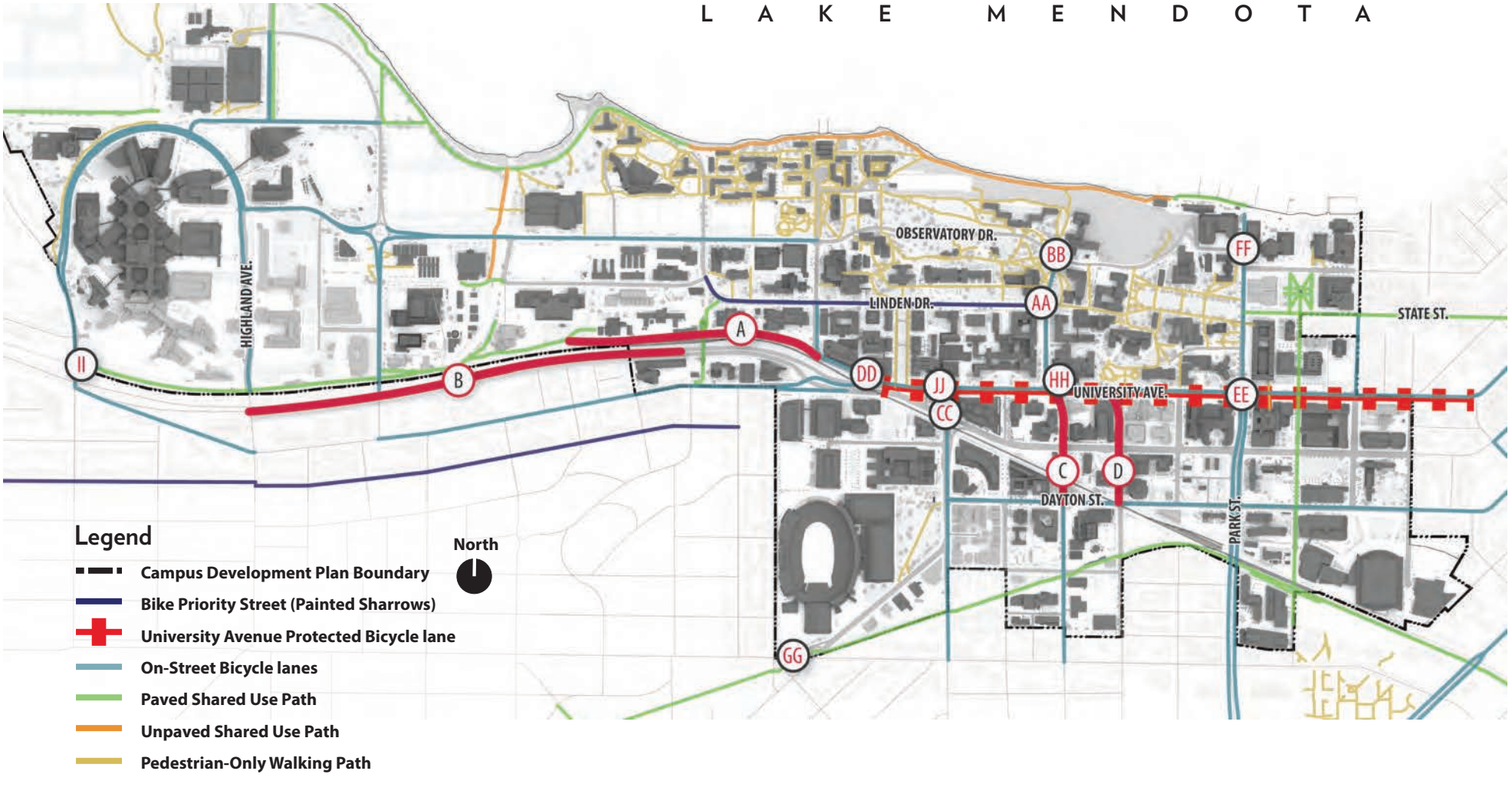


Figure 3-23 Existing Walking and Biking Routes and Identified Challenges

For Cyclists

Corridors without designated bicycle markings or signage discourage cycling, especially where motor vehicle speeds and volumes are high. Adding biking infrastructure in the listed gaps will work to boost cycling, reduce instances of cyclists riding on sidewalks, and promote overall efficiency and safety for all modes of travel.

Critical locations where gaps in walking and bicycle infrastructure reduce campus connectivity are summarized in Table 3-2 (the Route IDs correspond to the map in Figure 3-21).

Table 3-2 Summary of Gaps in Walking and Biking Connectivity

Route ID	Location	Challenge/Need
A 	Campus Drive Path and Linden Drive	Need for connection between end of path at Veterinary Medicine to Babcock Drive and University Avenue to the east
B 	West Campus Connection over Campus Drive	Additional north-south crossing of Campus Drive for pedestrians and cyclists between existing bridge and Walnut Street
C 	N. Charter Street between W. Dayton Street and University Avenue	Primary north-south route connecting north campus with campus and neighborhoods to the south Need for bicycle accommodations on N. Charter Street between W. Dayton Street and University Avenue
D 	N. Mills Street between W. Dayton Street and University Avenue	Primary north-south route, similar to N. Charter Street Need for bicycle accommodations between W. Dayton Street and University Avenue to connect northern parts of campus to the neighborhood area to the south Will have to integrate with on-street parking

Challenging Crossings and Interactions with Other Modes

Pedestrians and cyclists travel in large volumes across streets, railroad crossings, and intersections. Many pedestrians cross streets at mid-block locations or at locations without designated pathways or crossings. Pedestrian and cyclist compliance of walk signals and other control devices is often low. They are often in a hurry to get to class or appointments because of limited time and long travel distances. High volumes of people walking and biking interact regularly with Metro Transit buses, personal automobiles, delivery trucks, service vehicles, and mopeds across campus.

Analysis indicated low perceived safety for pedestrians and cyclists at uncontrolled crossings around campus. At these intersections signs or signals indicate that cars must stop and yield to pedestrians using the crossing, but environmental conditions such as low visibility (due to glare or precipitation) can inhibit a driver's ability to recognize a pedestrian in the crosswalk. Furthermore, angled and offset intersections and crossings exist on campus that reduce visibility of pedestrians and cyclists and create long crossing distances.

Table 3-3 Summary of Locations Where Challenges Exist summarizes intersections and crossings identified as critical locations where pedestrian and cyclist interactions with other modes diminishes overall efficiency and safety. The Location IDs correspond to those on the map in Figure 3-21.

Table 3-3 Summary of Locations Where Challenges Exist

Location ID	Location	Challenge
AA	N. Charter Street and Linden Drive	High non-motorized volumes; peak 15 minute pedestrian volume from 10:45 – 11:00 a.m. on a Tuesday in April 2015 of 2,199 pedestrians and 95 cyclists Conflicts between modes, major transit delays
BB	N. Charter Street and Observatory Drive	High non-motorized volumes; peak 15 minute pedestrian volume from 10:45 – 11:00 a.m. on a Tuesday in April 2015 of 1,299 pedestrians and 26 cyclists Conflicts between modes, major transit delays
CC	Campus Drive and N. Randall Avenue	Skewed intersection, long crossing Various turning movements, high vehicle speeds and volumes Pedestrian, cyclist, and vehicle yielding confusion Railroad crossing
DD	Campus Drive, University Avenue, and Babcock Drive	Skewed intersection, long crossing Various turning movements, high vehicle speeds and volumes Pedestrian, cyclist, and vehicle yielding confusion Railroad crossing
EE	N. Park Street and University Avenue	Various turning movements, high vehicle speeds and volumes Pedestrian, cyclist, and vehicle yielding confusion Very high pedestrian and bicycle traffic
FF	N. Park Street and Observatory Drive	Highly skewed and offset intersection Transit layover area on west side of Memorial Union All mode turning movements Low pedestrian and bicycle compliance
GG	Southwest Path, Regent Street, Breese Terrace, Crazy Legs Lane, and Monroe Street	City has worked to address green pavement markings, bike specific signal going westbound, and other measures Highly skewed intersection results in a lot of confusion between all modes and intersection shared-use path
HH	University Avenue and N. Charter Street	Skewed intersection with difficult crossings for pedestrians and cyclists Modal conflicts, transit delay
II	University Bay Drive and Campus Drive Path	Cyclists crossing this intersection come into conflict with buses and emergency hospital vehicles
JJ	University Avenue and N. Randall Avenue	No pedestrian crosswalk at the west leg of the intersection Long crossing with high motor vehicle traffic speeds and volumes

3.15 Existing Transit, Parking, and Vehicular Circulation

Campus Road Network

Campus Drive and University Avenue run east-west through campus and act as the primary arterial "spine" on campus. N. Park Street is the primary north-south campus arterial. A variety of other smaller connectors run north-south including N. Randall Avenue, N. Mills Street, N. Orchard Street, and N. Charter Street. The smaller east-west connectors include Observatory Drive, Linden Drive, and W. Dayton Street. Campus Drive and Observatory Drive provide the only vehicle connections across Willow Creek and to the West Campus.

Traffic Volumes

Traffic volumes on the roads leading into and circulating around campus are varied. The highest vehicular volumes on campus occur at the intersection of Babcock Drive, Campus Drive, and University Avenue with an average daily traffic of 32,050 vehicles. Campus Drive west of this intersection had an average daily traffic of 41,600 vehicles (both 2011) (see Figure 3-20).

Public Transportation

UW–Madison currently contracts with the local transit provider, Metro Transit, to provide transit service to students, faculty, and staff on campus. There are four routes on campus that UW–Madison faculty, staff, and students can ride for free. Metro Transit bus passes for an unlimited number of rides are available for eligible UW faculty and staff for $24 per year. Those without a pass can ride Metro Transit routes for $2 per ride.

Existing Service Options

There are a variety of service options that connect to and around the UW–Madison campus.

- On-Campus Metro Transit Bus Routes: There are currently 11 routes on campus and 18 additional routes that travel close to campus. Figure 3-23 displays the peak transit service locations provided on campus, as well as transit stops. Currently, there is an average of 16,900 boardings on campus each weekday during the academic year. According to available Metro Transit data, the busiest transit stop on campus is at University Avenue and N. Park Street, with an average of 1,460 daily boardings.
- Carpool: The university offers carpool locations for those wishing to decrease their commuting costs by riding with others. Carpools may elect to register for a carpool permit with UW Transportation Services to give them priority in acquiring a parking permit in the parking lot of their choice from a select list of lots across campus.
- Vanpool: Vanpools consist of 8-15 employees that travel to work in a State of Wisconsin van. Operating costs are covered by fares. Vanpools are serviced by the Wisconsin State Vanpool Program.
- Car Sharing
- Intercity Buses: Megabus, Van Galder, and Badger Bus offer intercity bus service from a stop at the Chazen Museum of Art on University Avenue. Buses layover in the northern bus lane at this location. During bus layovers, Metro Transit buses are forced into the adjacent vehicle travel lane, crossing

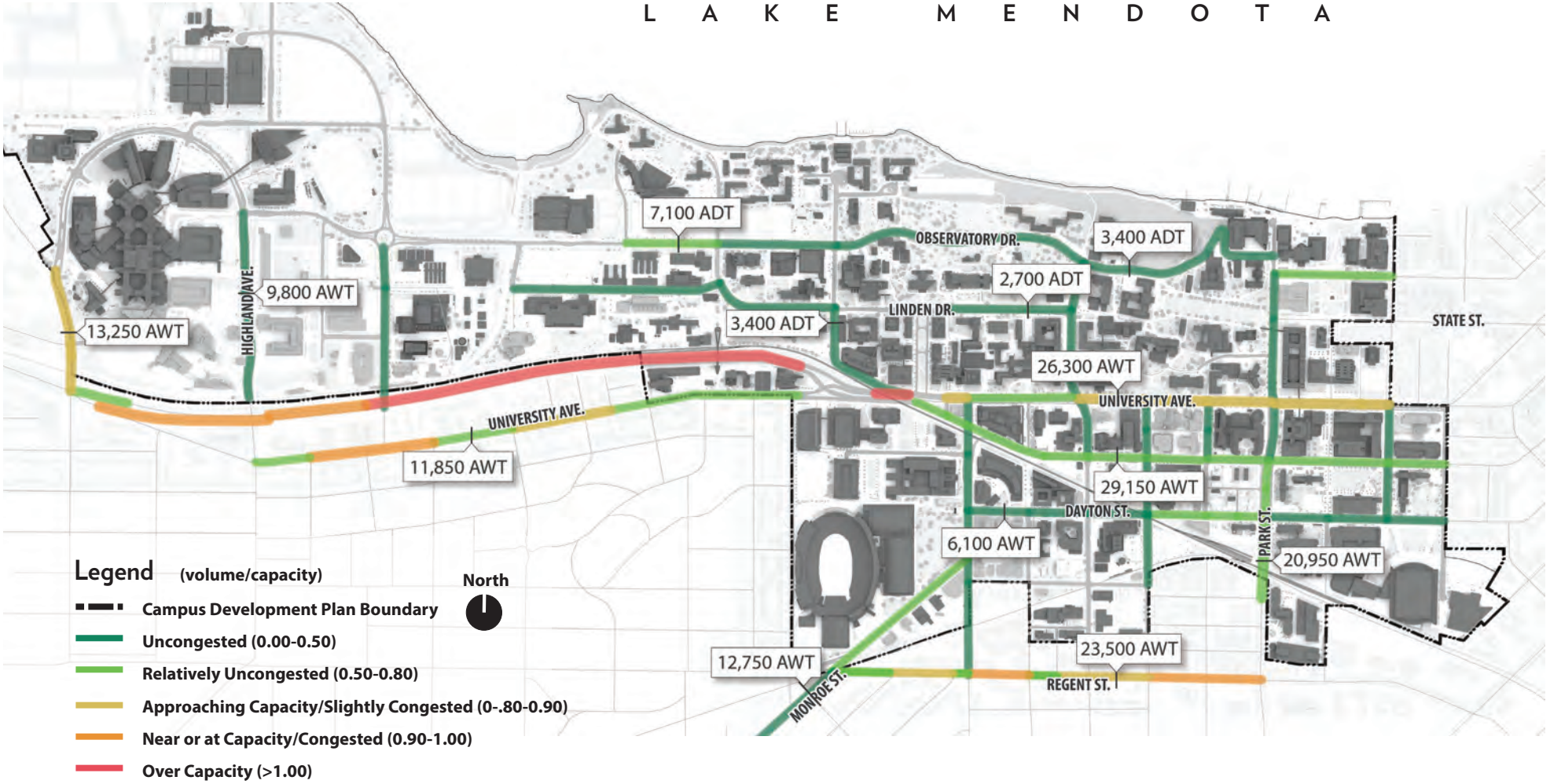


Figure 3-24 Vehicle Congestion on Campus

the westbound bicycle lane for access.

- Park-and-Ride Service: Metro Transit owns and operates five designated park-and-ride lots with direct transit service to and from campus. Complimentary parking is provided to riders at these locations. The university also has its own park-and-rides, including Lot 200 (served by Routes 6 and 11), Lot 202 (served by a UW–Madison shuttle), and Lot 203 (served by a UW–Madison shuttle). These park-and-rides are serviced by the UW independently of Metro Transit in order to improve commuters' access to campus.

Transit System Analysis

The current transit system works well and those wishing to access campus via a high-occupancy vehicle have several options. Transit is available for those traveling just around the corner as well as those traveling to the other side of campus. Transit service is also available during the peak period, the middle of the day, and the evening.

The transit system analysis presented here builds off of the 2013 Campus Transportation System Evaluation completed by Nelson Nygaard, currently serving as a reference for Transportation Services. There are several areas in need of improvement within the UW–Madison transit system. These include the street network, route structuring, travel time, capacity, and express service. Each of these items is discussed in further detail below.

Street Network Connectivity

The street network throughout campus is a significant limitation to the transit network. There is a lack of connecting roadways and a significant number of one-way streets so transit routes are required to operate in a circuitous and indirect manner. This prohibits bi-directional service, creates inefficiencies, and provides less optimal service. There is an identified wish to explore allowing transit vehicles to operate through the Observatory Drive switchback.

Route Structuring

The structure of the transit routes on campus also is in need of improvement. Currently, there are many routes that operate on the same stretch of roadway, partly due to the geography of campus. This creates route duplication, which in turn causes increased congestion and operational issues.

Furthermore, due to the road network and limited resources several routes operate in a circuitous fashion. This is not optimal for several reasons, but is especially an issue for circulator routes that only operate in one direction. This has significant travel time implications for those traveling a relatively short distance in the opposite direction of the route.

Finally, some routes on campus currently serve competing purposes. As discussed previously, this is particularly an issue for the current structure of Route 80. This route is currently structured to serve as a connector between the east and west ends of campus and as a circulator. As a result of these contradictory roles, the route is inhibited from performing well in either one. There is a strong desire for a Memorial Union to Union South circulator route that would operate back and forth between these popular destinations.

Travel Time and Delay

Several factors contribute to the issues associated with bus travel time. As discussed previously, the road network and route structures create several travel time limitations. Additionally, there are a large number of pedestrians on campus, which often conflict with bus operations, particularly at intersections such as N. Charter Street and Linden Drive, and N. Park Street and University Avenue. The current bus stop spacing on campus also is a detriment to travel time since buses stop frequently along with slow fare collection and manual rider counting methods contributing to delays. Finally, buses often face increased delay and poor performance during times of inclement weather due to degraded road conditions and high usage.

Capacity Limits

Capacity is a challenge, especially during class change times. This issue causes students to have to wait for the next bus or commute via another mode. As with other issues, capacity is exacerbated during times of inclement weather since buses are delayed and have more passengers per stop than usual. During other times of the year buses are well below capacity. A more demand-responsive set of routes on campus should be examined. Improving the efficiency and reducing the capacity limitations of Route 80 is a high priority on campus.

Limited to No Express Service

Currently there is limited or no express bus service to campus. This results in those taking transit from more remote areas to transfer or experience an indirect, time-consuming trip to campus. There is likely latent transit demand not being captured, since direct service to campus is not available. This is evident based on the substantial amount of "hide-and-ride" activity that occurs in the residential areas near campus. Direct, express transit service for area park-and-rides should be explored as a viable option to reducing on-campus vehicle use and parking demands.

See the Long-Range Transportation Plan for additional analysis.

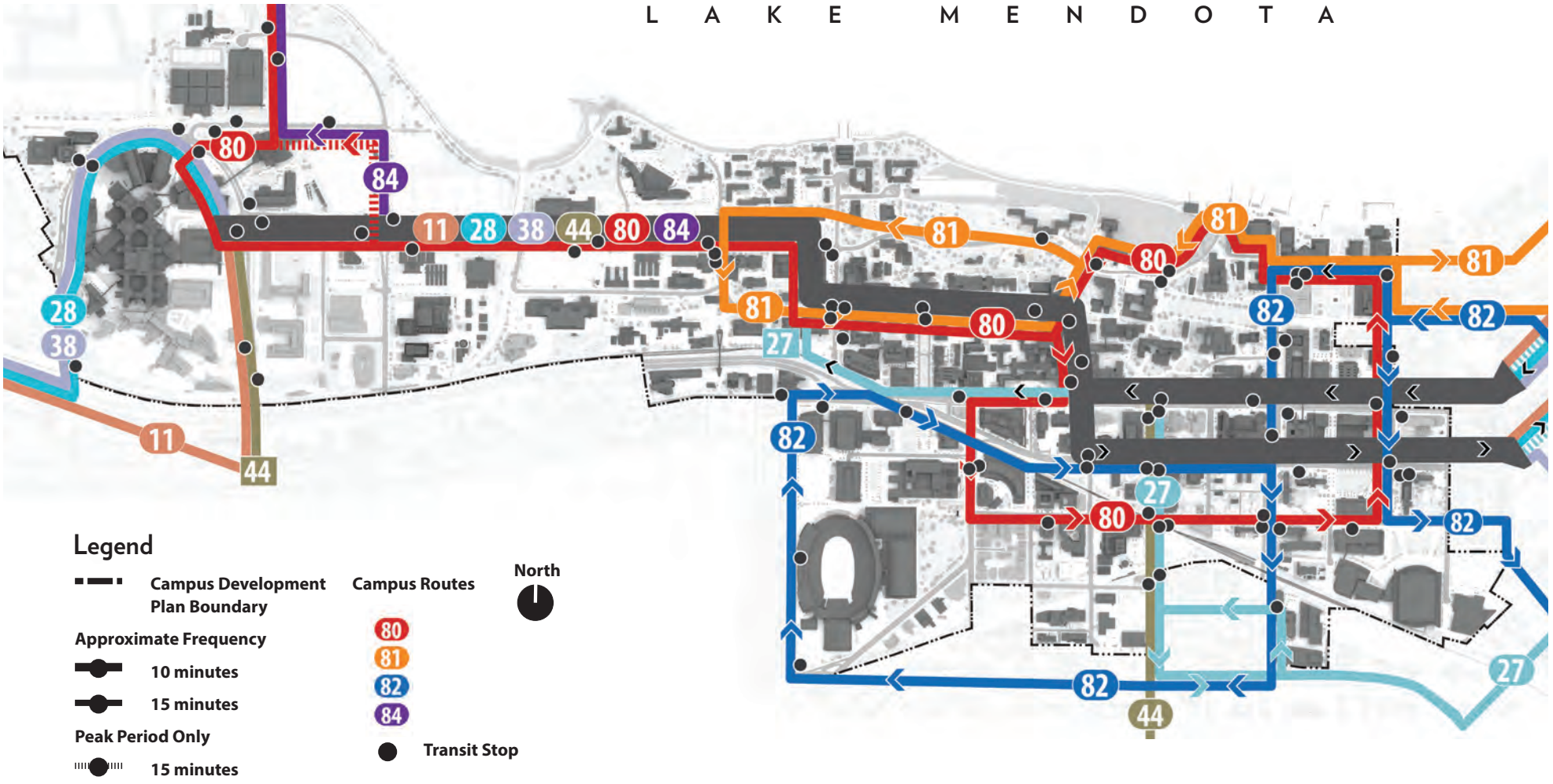


Figure 3-25 Campus Bus Routes

Existing Parking Inventory

In total, there are approximately 13,000 parking stalls on the UW–Madison campus. These stalls are located in surface lots or in underground and above-ground structures. The inventory includes approximately 9,400 faculty/staff spaces, 1,600 visitor spaces, and 2,000 service/fleet spaces. There are also approximately 350 motorcycle stalls which are not included in the parking inventory total.

A total of 12 structured parking areas are located on campus and are available for visitors. The Transportation Services website displays real-time stall availability per garage in order to assist visitors in planning their parking destination. About half of these garages are located in Central and South Campus, with the remainder in other various locations.

There also are numerous surface parking lots on campus. The hours of availability vary depending on general campus location and the specific lot. Many of the surface lots in the Central and South Campus area are available for use all day, while most lots in the Near West and West Campus area are only open Monday through Friday. Campus development consumes available surface parking which is causing the university to seek replacement parking often in more consolidated (but more expensive) parking structures.

National Leaders in Parking and Transportation Demand Management

UW–Madison has approximately 13,000 parking spaces that serve approximately 22,000 faculty and staff, 8,600 UW Hospital employees, and 43,000 students. This yields a parking ratio of 0.18 parking spaces provided per person. This is the second lowest parking ratio of peer universities in the United States. With limited physical and financial resources, the university focuses on providing a minimal but efficiently managed parking supply to meet the needs of its faculty, staff, employees, visitors, and select students.

UW–Madison is a national leader in providing effective travel demand management and alternative commuting strategies and messaging. The City of Madison provides services and infrastructure that support travel to and around UW–Madison. Alternative commuting options include connected and comfortable walking and biking facilities, Metro Transit bus service, park-and-ride options, and carpool and vanpool programs. These options have allowed UW–Madison to maintain low parking ratios along with an attractive, livable environment on a campus with limited space and constrained parking resources.

Without the current policies in place, traditional land use-based parking calculations would estimate a necessary supply of nearly 24,000 spaces to meet the faculty, staff, employee, and visitor parking demand. If students were permitted to park on campus this demand would increase by as many as 18,000 more parking spaces. In summary, the current supply is about 13,000 parking spaces. Unconstrained demand would be as high as 24,000 parking spaces of demand (or higher if students were allowed to park). Current parking supply is effectively full. The current constrained demand is approximately 13,750 spaces, which includes those that are on the waiting list and those that park at area park-and-ride lots.

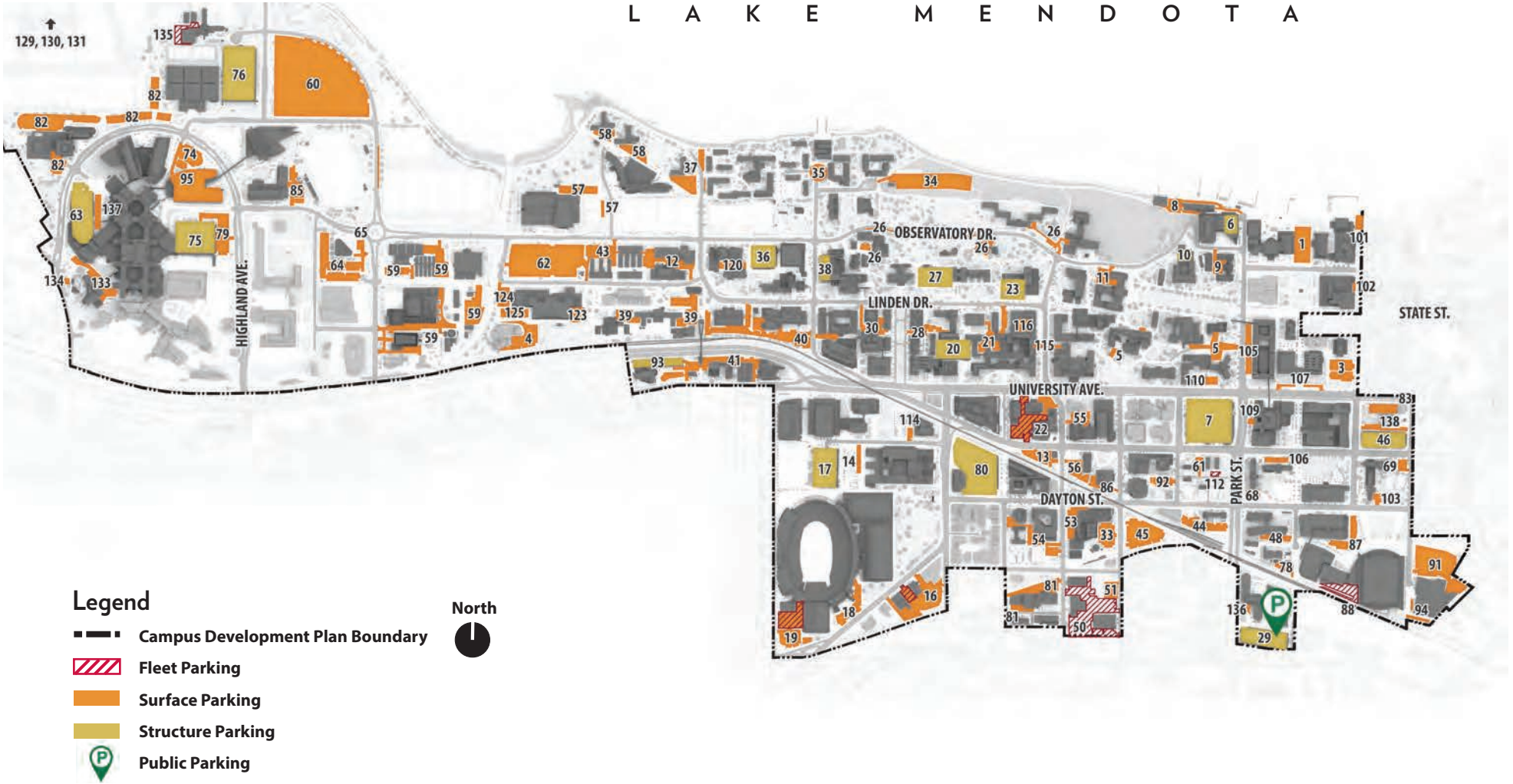


Figure 3-26 Existing Campus Parking Facilities

Occupancy Analysis

An occupancy analysis was conducted to determine the current supply and demand pattern for each user type for all parking lots on campus. Knowledge of these existing parking behaviors helps to identify spatial and temporal opportunities to improve parking efficiency and highlight needs of the system as the university undergoes physical changes across the 20+ year period of the 2015 Campus Master Plan Update.

Overall, campus parking supply is operating between 85-90% full during the peak period—occupancies between 85% and 95% are considered to be effective capacity maximums. This indicates that current observed parking occupancies on campus are at or very near the overall effective capacity. Figures 3-25 and 3-26 display mid-day parking occupancies for faculty and staff, as well as visitors. Lots colored in orange and red are effectively full.

Visitor parking is particularly challenging to find, especially in South and Central Campus. The university tightly controls and manages parking supply on a daily basis to allocate available spaces (including visitor parking spaces), depending on events and other situations which drive demand. Transportation Services is challenged with allocating the correct supply of visitor spaces in the correct locations to meet changing demand, while maintaining permit parking supply. This problem is further exacerbated by consumption of parking supply by ongoing campus building development.

Visitor parking allocations fill up daily and requests exceed available supply. Transportation Services indicates a need of approximately 2,000 additional parking spaces to accommodate increasing visitor parking demand, and to provide flexibility and "swing space" for parking phasing and campus construction.

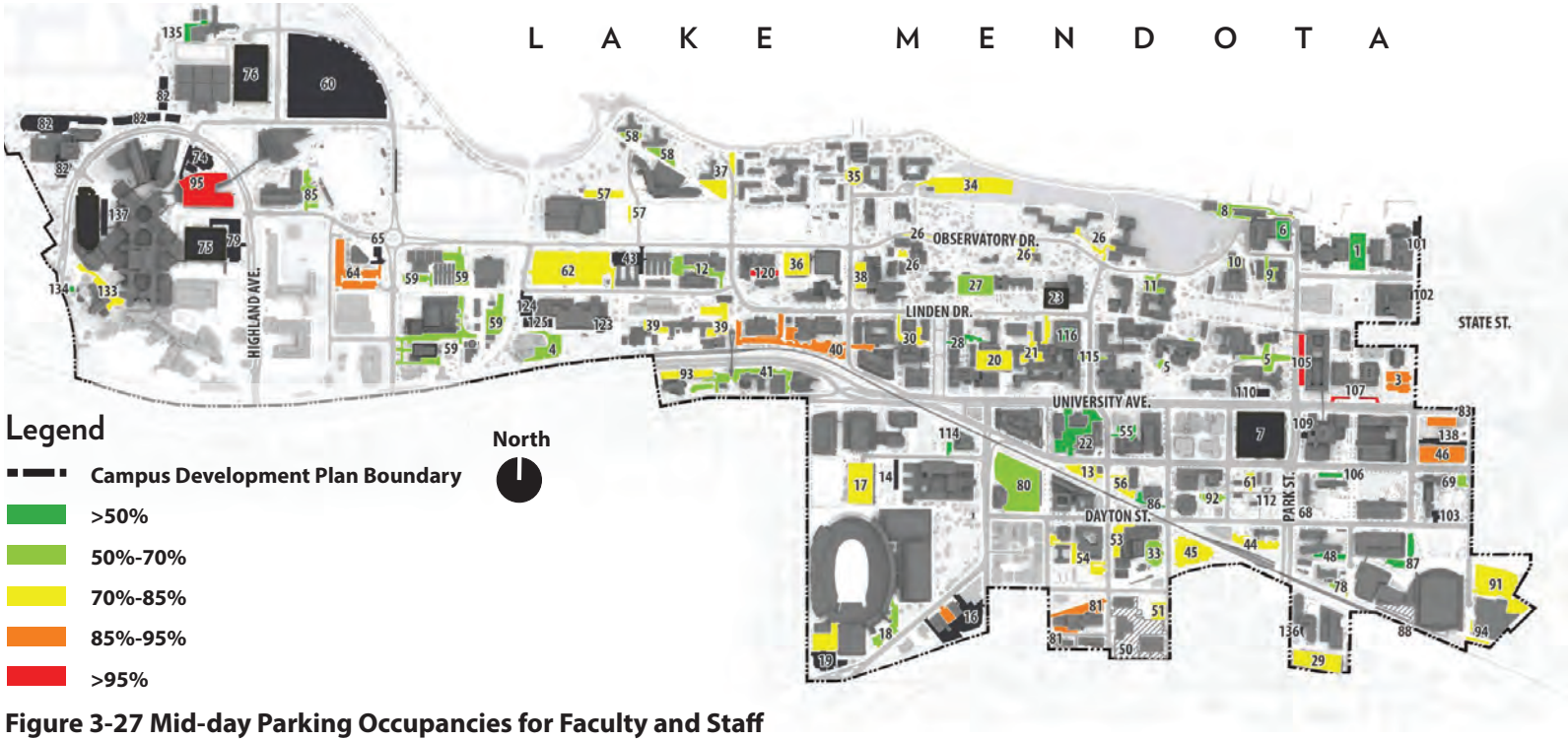


Figure 3-27 Mid-day Parking Occupancies for Faculty and Staff

As a result of limited supply in the desired locations, visitors and other university parkers spend considerable time searching for available parking spaces and usually end up parking in locations far from their destinations. Visitors are less likely to use alternative modes of travel due to lack of knowledge or their inability to access alternatives from where they are traveling.

UW–Madison will never reach an equilibrium in placing an adequate supply of parking directly adjacent to building destinations. In some capacity, parking will always occur in adjacent districts. Parking supply must be continuously evaluated relative to the demand for academic and research building sites.

While current policies and practices nearly halve the amount of parking needed to accommodate a development the size of the campus, any further development will have to be paired with additional transportation demand management strategies or an expansion of the current parking supply to meet increased demand.

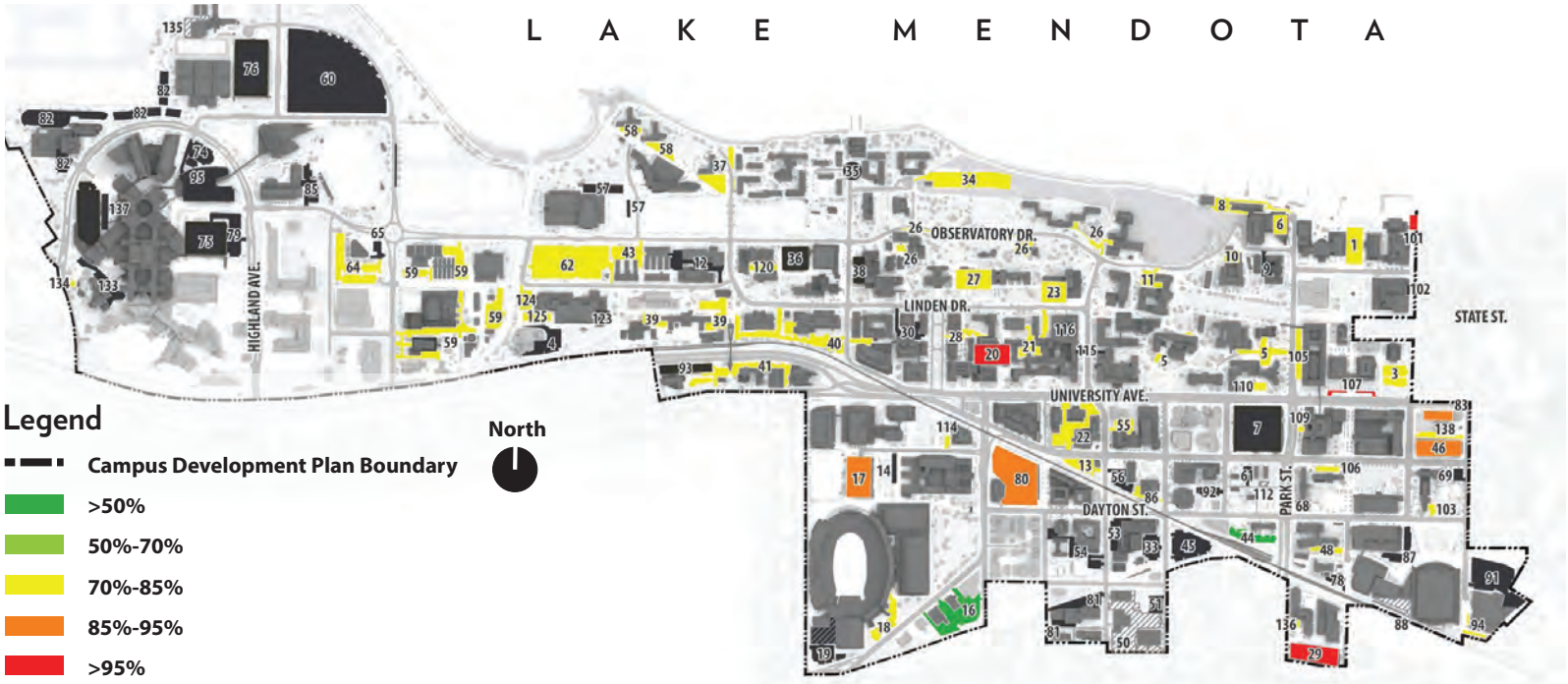


Figure 3-28 Mid-day Parking Occupancies for Visitors

4. FACILITIES PLAN: PROPOSED CONDITIONS

4.1 Campus Development Plan Boundary and Proposed Land Acquisitions

The current master planning process recommends a change to the Campus Development Plan Boundary in the southeast corner of campus. The boundary is recommended to be shifted north to the south side of the Doyle Administration Building to include the entirety of Lot 91.

Private Parcels within the Campus Development Plan Boundary

There are many privately-owned parcels within the Campus Development Plan Boundary (see Figure 4-1).

Not Considered for Acquisition

Within the Campus Development Plan Boundary, certain parcels continue to be held privately. Of those parcels, several are not currently being considered for future acquisition by UW–Madison. Those parcels not considered for future acquisition by the Board of Regents include:

- 816 State Street (Wisconsin Historical Society)
- 433 N. Murray Street (Pres House Apartments site)
- 701 University Avenue (University Square development-condo)
- 108 and 110 N. Murray Street (MGE South Campus Substation)
- 1001 W. Dayton Street (W. Dayton Street private apartments)
- Block bounded by University Avenue, N. Mills Street, W. Johnson Street and N. Brooks Street (including Luther Memorial Church/Lutheran Campus Center, Street Francis House Episcopal Student Center, X01, Grand Central, Porchlight)
- 1127 University Avenue (The Crossing)
- 1423 Monroe Street (private apartments)
- 1435 Monroe Street (UW Credit Union)
- 1437 Monroe Street (City of Madison Fire Department)
- 210 N. Charter Street (private apartments)
- 445 Easterday Lane (Wisconsin Veterinary Diagnostic Lab)
- 112 N. Mills Street (private apartments)

Open for Acquisition

Several parcels are held by the federal government and not currently being considered for acquisition. If at such time the federal government decides to relocate and/or liquidate their property interests in these locations, the university would be interested in acquiring the land under prior agreements with the federal government.

- 2500 Overlook Terrace (William F. Middleton Memorial Veterans Administration Hospital)
- One Gifford Pinchot Drive, (USDA Forest Products Laboratory facilities)
- 502 Walnut Street (Cereal Crops Research Unit)
- 1925 Linden Drive (US Dairy Forage Research Center) (long-term lease)

Desired Acquisition

Within the approved Campus Development Plan Boundary, several private parcels are being considered for future purchase when available from willing sellers. It is the desire of the university to, over time, purchase these parcels for future development. These include parcels not currently owned by the Board of Regents.

- All parcels in the block bounded by N. Randall Avenue, W. Dayton Street, N. Orchard Street, and Spring Street
- All parcels in the 1200 block of Spring Street, both sides of the street
- Parcel at W. Johnson Street and the rail line (1221 W. Johnson Street)
- Parcel at N. Charter Street and the rail line (222 N. Charter Street)
- Parcel on N. Charter Street, north of Capitol Court (26 N. Charter Street)
- Parcels on south side of Spring Street (1101 Spring Street, 1111 Spring Street, 1115 Spring Street)
- Parcels near the corner of N. Brooks Street and W. Dayton Street (1014 W. Dayton Street, 202 N. Brooks Street)
- All parcels in the block bounded by N. Park Street, W. Johnson Street, N. Brooks Street, and W. Dayton Street

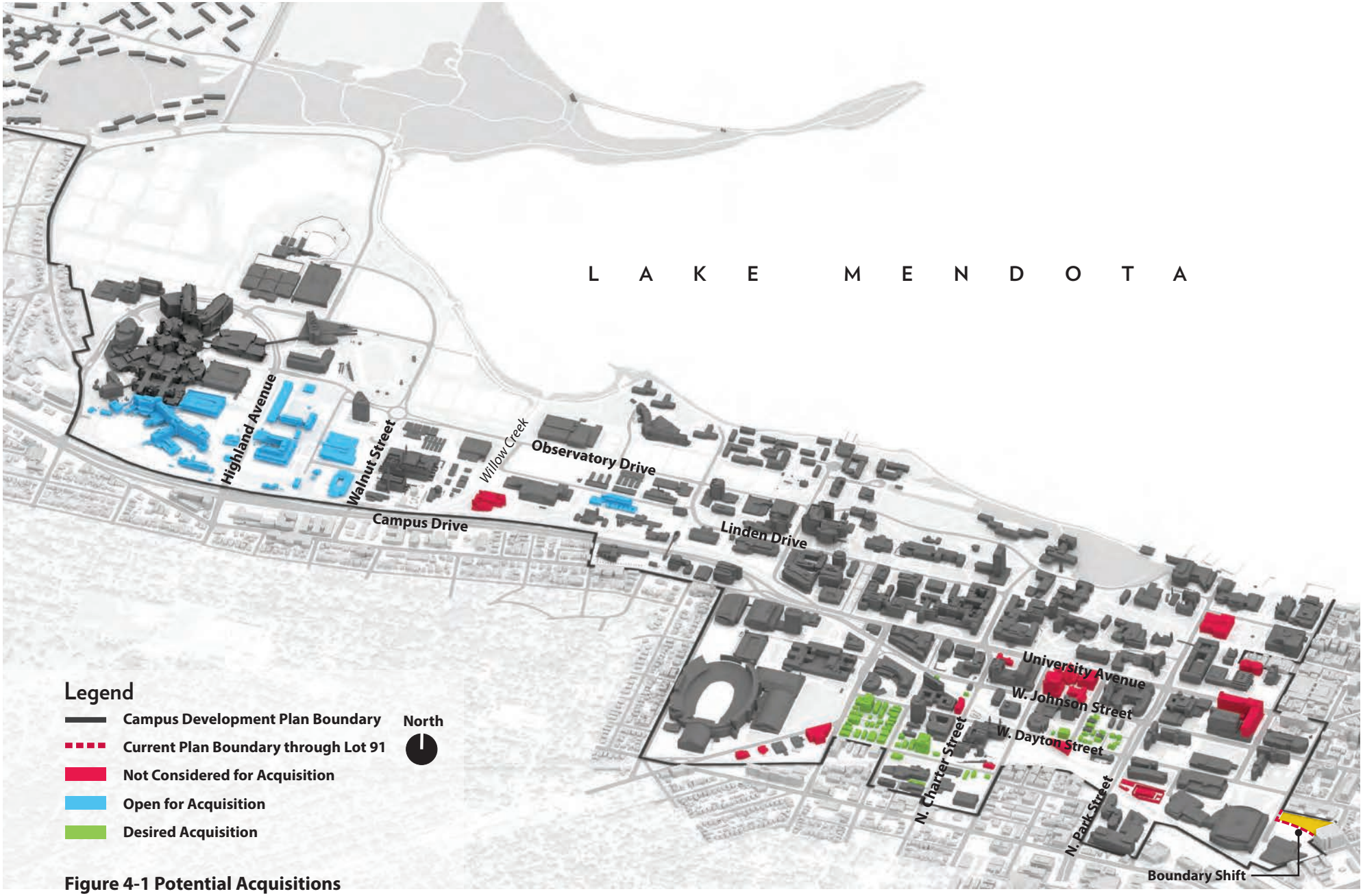


Figure 4-1 Potential Acquisitions

4.2 Proposed Land Use

Master Plan + Zoning Overlay

The graphic below and on the following page indicate an overlay of the City of Madison zoning designations and the Campus Master Plan graphic. The 'white' boxes indicate the proposed future buildings across campus and how they overlap with the existing zoning. Note where the Campus Development Plan Boundary is identified in the south campus (south of University Avenue) there are a number of parcels not owned by the university and as such not yet zoned Campus Institutional (CI) District. All non-CI properties will have to undergo a zoning change before the university can develop these parcels in accordance with the Campus Master Plan. The graphics also identify a number of Planned Development (PD) parcels that the university is requesting to convert to Campus Institutional (CI) districts. The conditions of these three areas have been met and the development reflects the purpose and intent of the larger zoning district. The two exceptions to this would be the Camp Randall and Kohl Center PD. Both of these sites are unique land uses which require specific design considerations which are atypical to the larger zoning districts which they border.

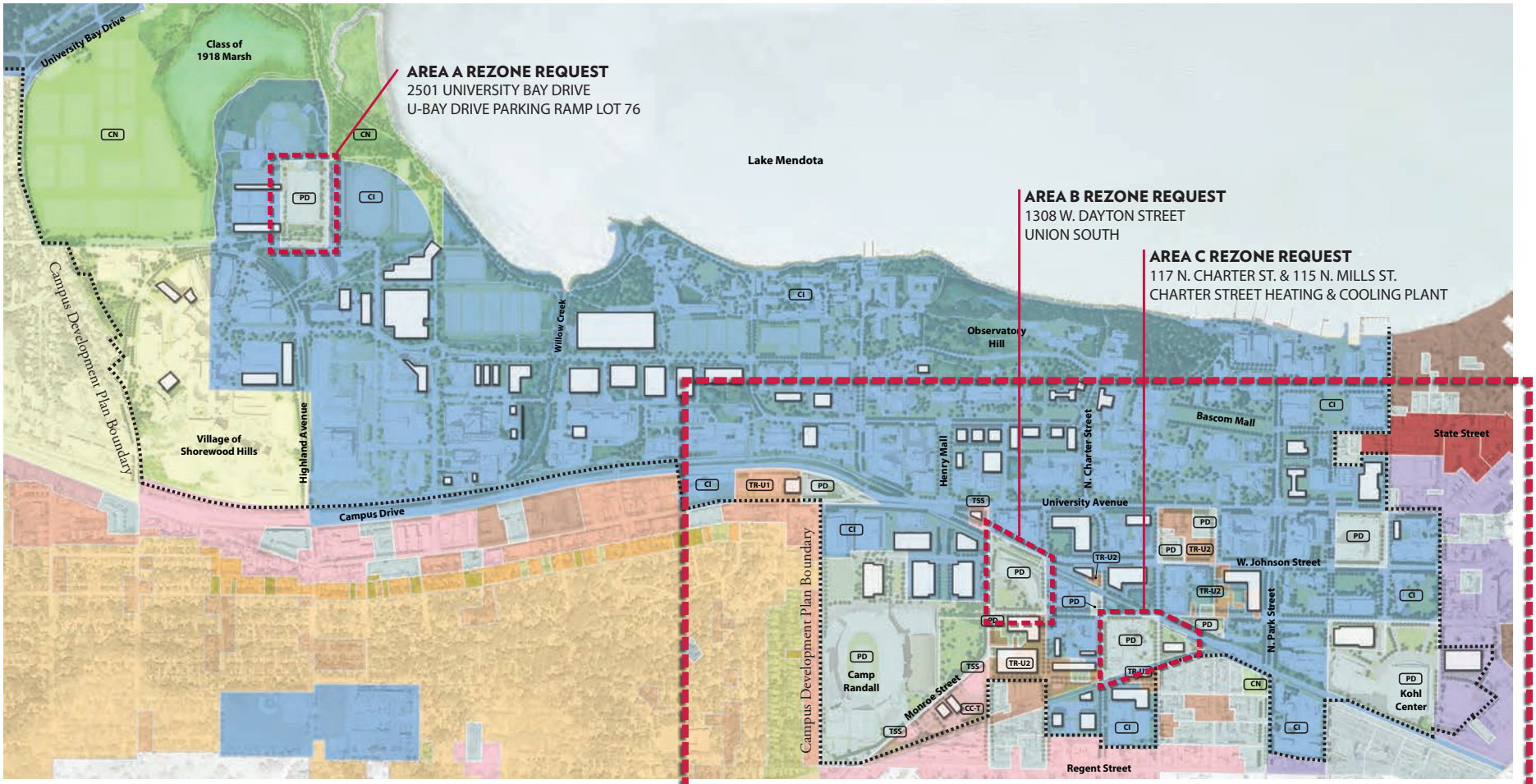


Figure 4-2 Zoning Overlay and Proposed Buildings

Enlargement Area (See Next Page)

Master Plan + Zoning Overlay Enlargement

The enlargement graphic below identifies the area of campus south of University Avenue where a number of non-university owned parcels exist within the Campus Development Plan Boundary. The 'white' boxes indicate the proposed future buildings across campus and how they overlap with the existing zoning. The 'red' parcels consist of the following zoning districts; TSS, CC-T, TR-U1, TR-U2.

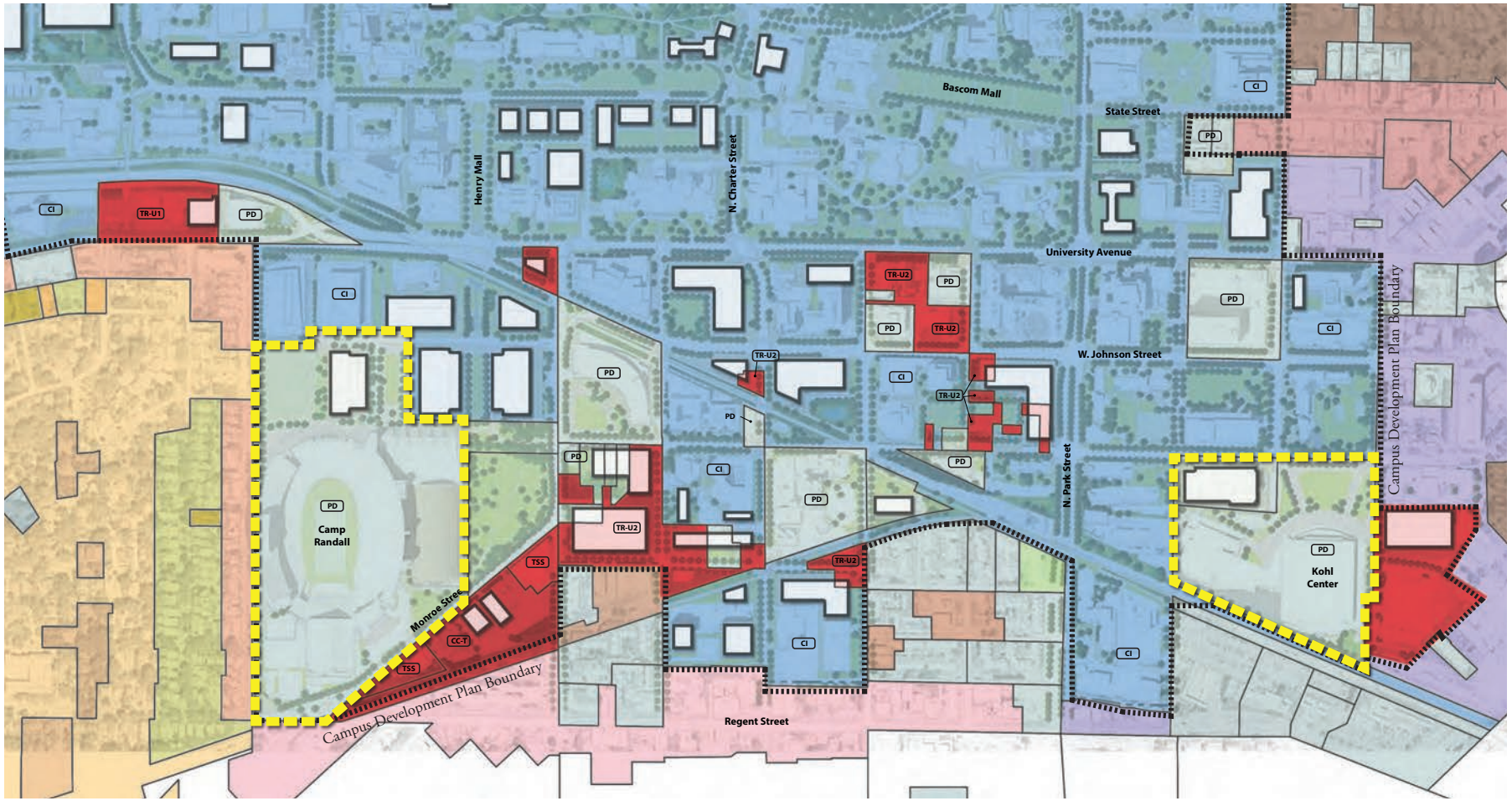


Figure 4-3 Enlargement Zoning Overlay and Proposed Buildings

4.3 Building Density Floor Area Ratios (F.A.R.)

Density

The 2015 Campus Master Plan Update indicates the appropriate location and massing for future buildings. These sites are new construction on existing surface parking lots or removal of existing structures and construction on the same site. These building site opportunities represent the long-term capacity of campus, with a campuswide increase of capacity of over 4,747,000 gross square feet over existing inventory. The university will be able to grow and change for decades within the Campus Development Plan Boundary. The density of the Central Campus and Far West Campus areas will remain largely unchanged, and the density of the West and Near West Campus areas will increase moderately. With over half of the increased capacity, the density of South Campus will increase substantially, overtaking Central Campus as the most building dense area of campus.

Floor Area Ratio (F.A.R.) is a method measuring density. It is calculated as the sum of the floor area (gross square foot, GSF) of all buildings in a district, divided by the size of the district. To better measure the activity concentration of each campus district,the building gross square feet of the floor area ratios of parking structures, Camp Randall, and the Kohl Center are not included in Figures 4-3 and 4-4.

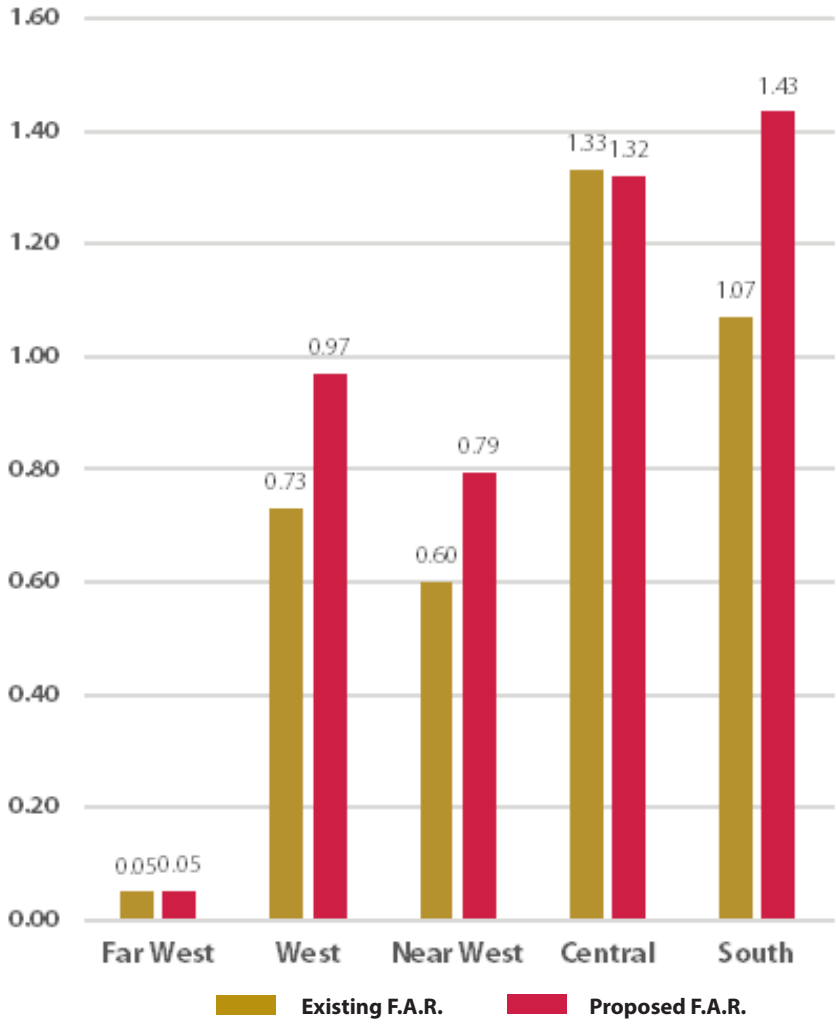


Figure 4-4 Floor Area Ratio – Existing and Proposed

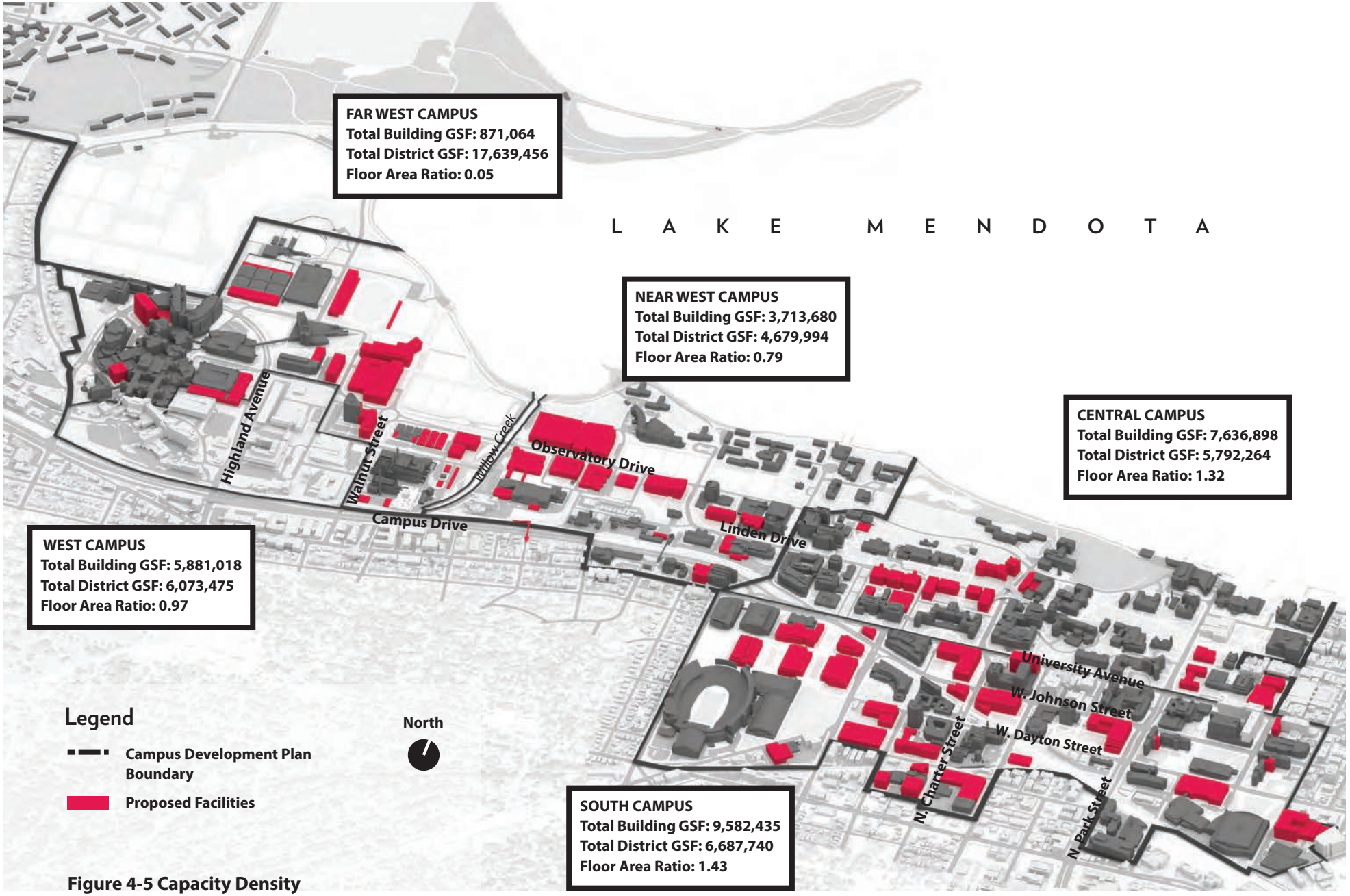


Figure 4-5 Capacity Density

4.4 Proposed Building Use

The campus has a clear existing building use pattern and the 2015 Master Plan Update strengthens and extends that pattern. Academic and research uses are concentrated in the Central and South Campus areas, clinical and health teaching and research in the West Campus area, and agricultural teaching and research in the Near West area. There are two distinct student housing neighborhoods, in the southeast and along the lakeshore, each with significant outdoor and indoor recreational facilities. Outdoor recreational fields are located in lower density Near West, West, and Far West Campuses. Athletic venues are in the South Campus and West Campus areas. The most significant building use pattern change proposed in the 2015 Campus Master Plan Update is a relocation and expansion of medical and health related teaching and research from the Central Campus to the West Campus

A detailed listing of all major planned buildings follows. In each section, where a new building is proposed, it is referenced to a map by a key location and building number. For example, “W-08” would be a new building on the West Campus or Near West Campus The numeric numbers are in a simple geographic sequence and does not signify a timeline or sequence as to how the buildings would be built over time.

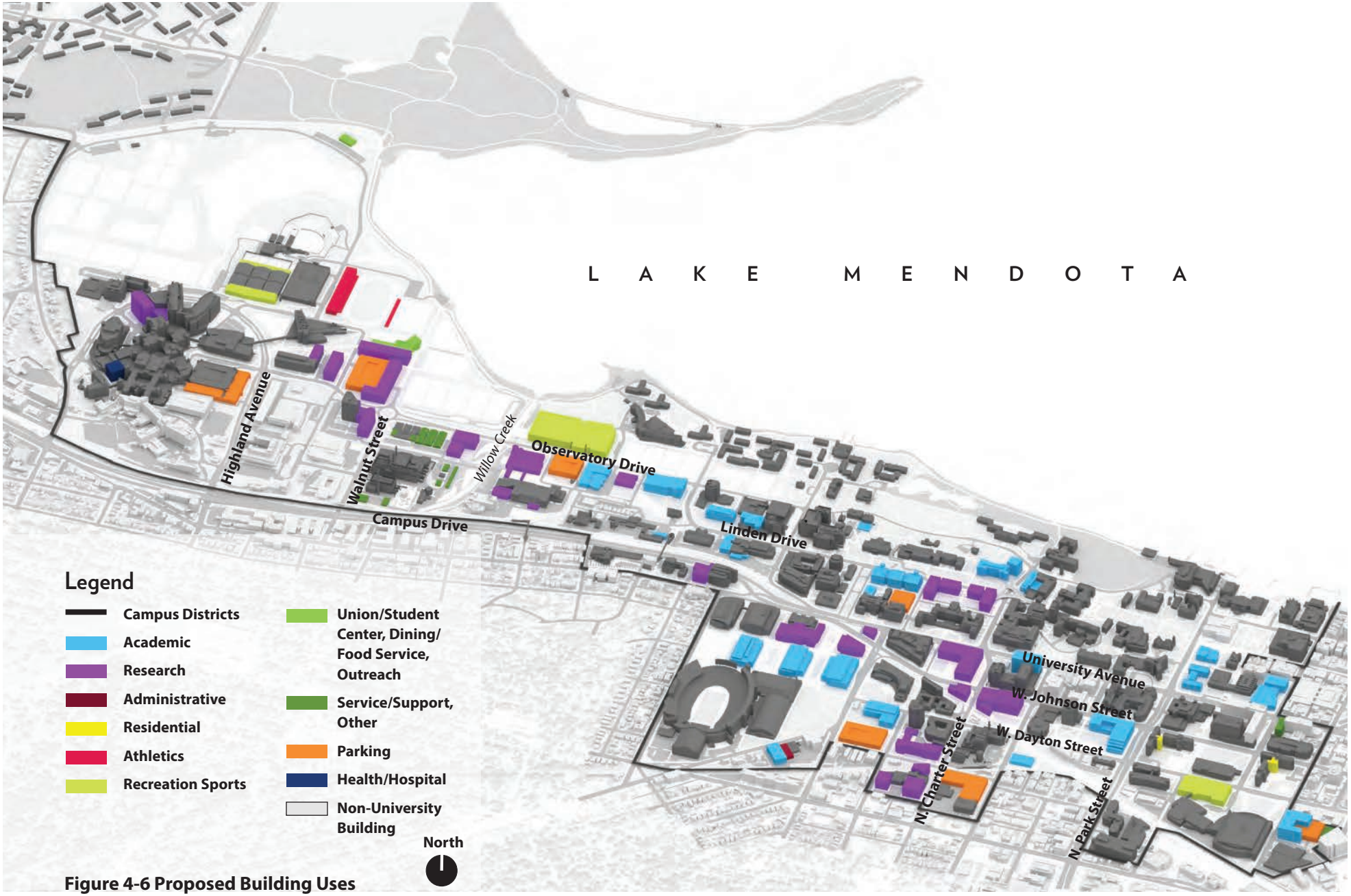


Figure 4-6 Proposed Building Uses

Far West Campus

The general goals for the Far West Campus district (approximately all land north of UW Hospital, Nielsen Tennis Stadium, and Goodman Softball Complex) are to:

- Maintain existing recreation fields and open space connections
- Maintain existing low-scale residential in Eagle Heights
- Continue strong preservation and management of the Lakeshore Nature Preserve, per the goals and recommendations of the Lakeshore Nature Preserve Master Plan

The 2015 Campus Master Plan Update recommends one new facility, a Preserve Outreach Center (W-29). This facility would welcome visitors, provide maps, educational displays, and interpretive information for the entire, 300-acre Lakeshore Nature Preserve. It could provide an overlook as part of the structure to enhance views across University Bay and toward the Class of 1918 Marsh, year-round restroom facilities, and rationalize parking for cars and bicycles.

West Campus

The general goals for the West Campus district are to:

- Increase building density to provide for potential future growth in the health sciences
- Change the general character of the West Campus from suburban to more of a traditional campus with large buildings organized around quadrangles and green spaces
- Set heights to generally reflect existing buildings in the area
- Preserve and create new viewsheds to Lake Mendota, particularly for the UW Hospital and WARF Building

The primary focus of the West Campus is health sciences services, medical and affiliated education, and research. Other uses include athletic facilities, recreational fields, and supporting parking and service facilities.

The 2015 Campus Master Plan Update continues the migration of the medical school and UW Hospital from its original home in the Central Campus district on University Avenue. As outlined in earlier campus master plans, the university seeks to move medical research and teaching facilities to near the teaching hospital to facilitate a closer bench-to-bed technology transfer. The consolidation of the hospital and medical school on the West Campus continues what was initially envisioned in the original hospital master development plan developed in 1970 by HOK.

Health sciences-related research will continue to grow and expand. Space expansion is likely for the UW Hospital, Medical School, Pharmacy, and Nursing, in addition to swing space necessary for efficient remodeling. Two expansion opportunities remain within the Highland Avenue ring road – the Wisconsin Institutes for Medical Research Phase 3 (W-01) and a reservation of space for an additional hospital module (W-04A).

The USDA Forest Products Lab and the William S. Middleton Veterans Memorial Hospital comprise over 45 acres of land within the Campus Development Plan Boundary and adjacent to the hospital. Expansion into the federal property is currently not possible. These two federal properties are shown to be continuing without significant changes. Both the USDA Forest Products Lab and the Veterans Hospital are consolidating their functions from around Wisconsin and the Midwest to their facilities here in Madison making them even more viable then in the past. Purchasing land from the federal government will be difficult, if not impossible. Potential does exist however for joint

Figure 4-7 Far West and West Campus Building Key