UNIVERSITY OF NEBRASKA OMAHA

FACILITIES DEVELOPMENT PLAN UPDATE




FULL REPORT | FALL 2013


UNIVERSITY OF NEBRASKA AT OMAHA

TABLE OF CONTENTS

ACKNOWLEDGMENTS

This project would not have been possible without the support of many individuals who devoted their time and input to the creation of this 2013 Facilities Development Plan Update.

STEERING COMMITTEE

John Christensen, Chancellor
Trev Alberts, Athletic Director
Gail Baker, College of Communication, Fine Arts and Media
Nancy Castilow, Assistant to the Chancellor
Bill Conley, Business & Finance
John Fiene, Academic and Student Affairs
Lanyce Keel, Academic and Student Affairs
Michael McGinnis, Peter Kiewit Institute
Pelema Morrice, Student Affairs
Eric Owen, University Communications
BJ Reed, Academic and Student Affairs
Daniel Shipp, Student Affairs
Julie Totten, Business and Finance

CAMPUS ADVISORY COMMITTEE

Ethan Anderson, Athletics
Gail Baker McCarthy, College of Communications, Fine Arts and Media
Melissa Berke, College of Communications, Fine Arts and Media
Robert Blair, Faculty
Lori Byrne, NU Foundation
Jim Carroll, Faculty
Rex Cammack, Faculty
Lee Denker, Alumni Association
Mary Laura Farnham, Sponsored Programs and Research
Trent Fredericksen, Student Involvement
James Hagen, Faculty
Rita Henry, Student Affairs
Michael Kemp, Athletics
Joe Kaminski, Health, Physical Education and Recreation
Nicole Massara, NU Foundation
Mike Messerole, Health, Physical Education and Recreation
Molly Moody, Student Government
Joseph Nabity, Student Government
Dave Nielsen, Staff Advisory Council
Erin Owen, University Communications
William Pickett, Housing
Stanley Schleifer, Support Services
Deborah Smith-Howell, Academic and Student Affairs
Martha Spangler, Student Government
Jeanne Surface, Faculty
Regina Toman, College of Public Affairs and Community Service
Neal Topp, College of Education
Jim Welch, Milo Bail Student Center

COMMUNITY ADVISORY COMMITTEE

Michael Albanese, Aksarben/Elmwood Neighborhood Association
Brook Bench, City of Omaha Parks and Rec ration
Dave Ciaccio, Fairacres Neighborhood Association
Diana Failla, Aksarben/Elmwood Neighborhood Association
Murthy Koti, City of Omaha Public Works
Ken Moreano, Scott Technology Center
Nancy Murphy, Aksarben/Elmwood Neighborhood Association
Jay Noddle, Noddle Companies
Todd Pfitzer, City of Omaha Public Works
Curt Simon, Metro Area Transit
Pat Slaven, City of Omaha Parks and Recreation
James Thele, City Planning

ADDITIONAL UNO COMMUNITY MEMBERS

Open House Constituents
Focus Group Members
Hersham Ali, College of Information Sciences and Technology
John Bartle, College of Public Affairs and Community Service
Dave Boocker, Dean, College of Arts & Sciences
Nancy Edick, College of Education
Thomas Gouttierre, International Studies & Programs
Lou Pol, Dean, College of Business
Steve Shorb, Library
Russel Smith, Institutional Effectiveness
Scott Snyder, Sponsored Programs and Research

CORE PLANNING TEAM

John Amend, Facilities Management and Planning
George Killian, Facilities Management and Planning
Doug Kozma, SmithGroupJJR
Michael Johnson, SmithGroupJJR
Tony Nastasi, SmithGroupJJR
Darin Daguano, SmithGroupJJR
Tengteng Wang, SmithGroupJJR
Doug Bisson, HDR
John Bengston, Paulien & Associates
Frank Markley, Paulien & Associates

I. EXECUTIVE SUMMARY

The 2013 University of Nebraska Omaha (UNO) Facilities Development Plan Update provides a framework for future campus development and continues the institution's commitment to strategic physical planning. The Facilities Development Plan Update builds upon goals and objectives established in the 2006 UNO Facilities Development Plan and incorporates focused updates that have adjusted the plan since 2006.

The plan affirms university goals as a student-centered metropolitan university, an institution recognized for academic excellence, and a university engaged with urban, regional, national and global communities.

Input and support received from students, faculty, staff, and the Omaha community propelled this planning effort, and have resulted in a comprehensive plan with wide support.

This executive summary chapter provides a preview and summary of the topics addressed by chapter in the full Facilities Development Plan Update Report, including:

INTRODUCTION TO THE PLAN

BACKGROUND

UNO is Nebraska's premier metropolitan university. A beautiful urban residential campus set in the geographical center of Omaha, UNO blends a diverse and friendly culture with big city advantages and resources of a research university with a close-knit community.

Established in 1908, UNO is firmly anchored in its surrounding community through transitions from a private, coeducational college to Omaha's first and only municipal university in 1930. Since UNO became part of the Nebraska system in 1968, there has been a flurry of growth spanning three adjacent campuses along Dodge Street, Pacific Street, and Center Street. Growth on the Dodge, Pacific and Center campuses has been firmly anchored to the community, forming the basis for future growth to address the changing needs of the metropolitan area, state, region and world.

The 2013 Facilities Development Plan Update follows a continuum of planning launched in the 2006 Facilities Development Plan. This plan builds upon and revises established strategies for change as the university seeks new opportunities as a growing metropolitan university.

FLEXIBLE AND OPPORTUNITY-BASED

The 2013 Facilities Development Plan Update is opportunity-based, establishing consensus-based capital priorities and providing a flexible framework for future growth at UNO that is rooted in history and the Strategic Plan.

Drawing inspiration from the university's mission, vision, values and beliefs, the 2013 Facilities Development Plan Update provides forward-thinking ideas and physical manifestation of the UNO's strategic priorities to be a(n):

- Student-centered metropolitan university
- Institution recognized for academic excellence
- University engaged with urban, regional, national and global communities

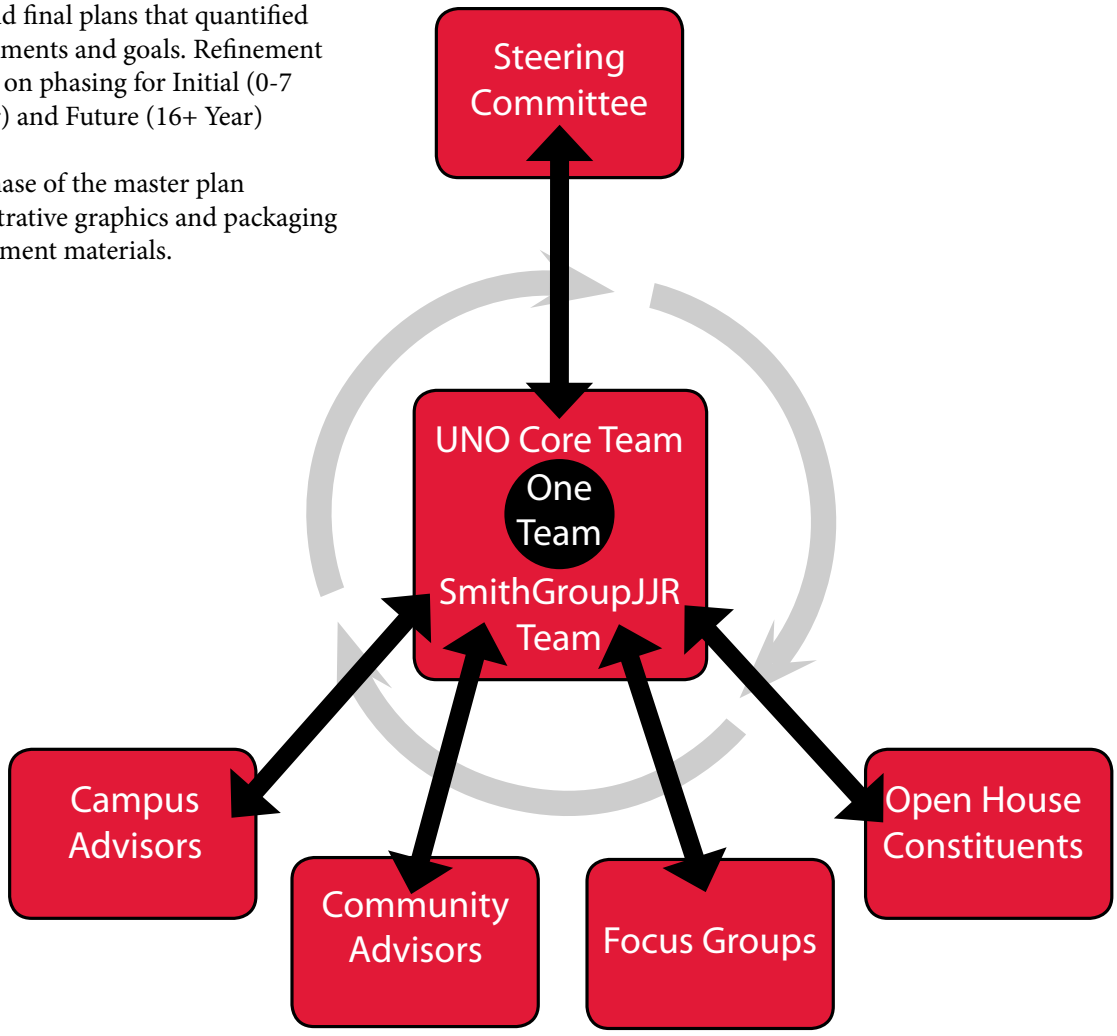
Arts and Sciences Hall

PLANNING PROCESS

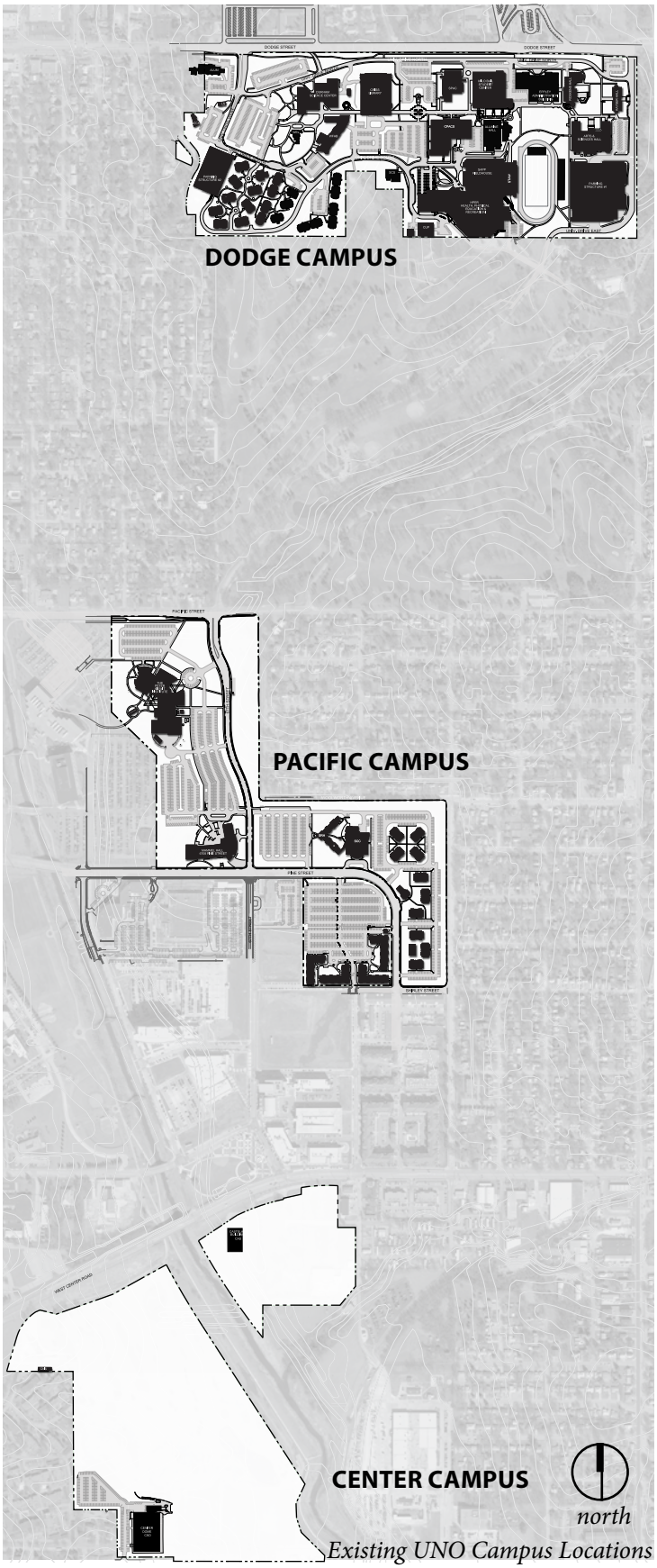
The 2013 Facilities Development Plan Update was completed within a 15-month planning process divided into five phases:

- **Discovery.** Beginning with listening and learning, this outreach phase included data collection, interviews, committee meetings, open houses, and the development of principles.
- **Analysis.** The analysis phase included an evaluation of current and existing planning endeavors in an effort to consolidate recommendations in a single coordinated plan. Additional spatial and physical evaluation of facilities, utilities, transportation and site elements established framework parameters for future campus development
- **Idea Generation.** This phase explored several divergent scenarios for organizing the programmatic elements of campus. Alternatives were scrutinized against common principles and objectives. The result was a composite framework plan that formed the basis for further refinement
- **Refinement.** During this phase, the framework plan was developed into preliminary and final plans that quantified and verified programmatic elements and goals. Refinement of the plan included emphasis on phasing for Initial (0-7 Year), Intermediate (8-15 Year) and Future (16+ Year) opportunities.
- **Documentation.** The final phase of the master plan included creation of final illustrative graphics and packaging of final presentation and document materials.

Milo Bail Student Center Plaza



Master Plan Committee Structure



Existing UNO Campus Locations

PRINCIPLE-DRIVEN

The ideas embedded in this document represent the consensus vision of institutional and community members involved in the master plan process. As a composite document of principles, goals, objectives, ideas, recommendations, and graphics that illustrate these concepts, the 2013 Facilities Development Plan Update is:

- A collection of powerful ideas
- A tool to align academic, spatial, fiscal, and physical visions
- Driven by principles
- An opportunity based document
- Developed through a methodical process
- Visionary yet realistic
- Inclusive of implementable short and long-term strategies
- A flexible framework that can adapt to future changes
- Participatory and consensus based
- Data informed and defensible

ORGANIZATION OF THE DOCUMENT

The 2013 Facilities Development Plan Update consists of four chapters and a technical appendix. This document is representative of the planning process and is chronological in nature, with each chapter building on its predecessor. The chapters previewed in this executive summary include:

- **Chapter 2: Planning Context**
  This chapter provides a baseline understanding of the planning process and previous planning studies. Chapter two also provides a physical analysis of campus and space needs summary leading to a development framework.
- **Chapter 3: Plan & Systems**
  Chapter three introduces the concepts of the Facilities Development Plan Update, discussing opportunities for systematic changes to the physical fabric of the university.
- **Chapter 4: Campus Ideas**
  Chapter four outlines thought-provoking and detailed opportunities for change within the Dodge, Pacific, and Center campuses
- **Chapter 5: Phasing & Guidelines**
  Chapter five provides a phaseable road map for implementation of action-oriented priorities as part of initial, secondary, and future opportunities. Included in this chapter is a discussion of flexibility and strategic prioritization.
- **Space Needs Planning Appendix**
  Developed in partnership with Paulien & Associates, this appendix provides back-up information for enrollment, program, delivery and space utilization that became the basis for physical campus development.

CHAPTER 2 SUMMARY: PLANNING CONTEXT

CONSENSUS BUILDING

The 2013 Facilities Development Plan Update is rooted in UNO's mission and vision, and was augmented by a process that included workshops, open houses, focus group meetings and committee meetings. Input was solicited at decision points, and consensus was achieved by involving a wide range of dedicated individuals, including regular campus and community involvement.

ONE COORDINATED PLAN

As part of a continuum of planning launched during the 2006 Facilities Development Plan, the 2013 Facilities Development Plan Update coordinates and consolidates recommendations from several recently completed and on-going planning studies at UNO, including:

- 2008 Campus Mobility Study
- 2008 Drainage Study
- 2011 Signage and Wayfinding
- 2011 Parking and Traffic Master Plan
- 2011 Renewable Energy Plan
- 2011-2012 Athletics Studies
- 2012 Utility Master Plan
- 2012 Student Center Master Plan

SPACE NEEDS PLANNING

UNO Steering Committee members worked corroboratively with Paulien & Associates and the core planning team to:

- Analyze Fall 2011 facilities, enrollment, course and staffing data
- Conduct interviews with UNO representatives from all college units, student affairs, athletics, university library and other academic support units to validate information provided by UNO
- Define enrollment targets and on-campus population projections
- Understand and benchmark classroom utilization and teaching laboratory utilization against 1987 University of Nebraska Space Guidelines
- Analysis of Space Needs by type required to meet Facilities Development Plan Update enrollment targets.

A summary of these findings can be found in Chapter 2 of this report. The complete Space Needs Planning Report can be found in Appendix A.

CAMPUS ANALYSIS

A thorough physical analysis of UNO's campus was completed as a baseline for understanding the existing conditions in 2012. The physical systems analyzed in Chapter 2 were essential to the production of proposed campus systems discussed in Chapter 3 of this report. Physical analysis categories include:

- Evolving Learning Models and Architecture
- Organizational Framework
- Location by College
- Natural Systems
- Transportation and Parking
- Peer Comparisons

COMMUNITY CONTEXT

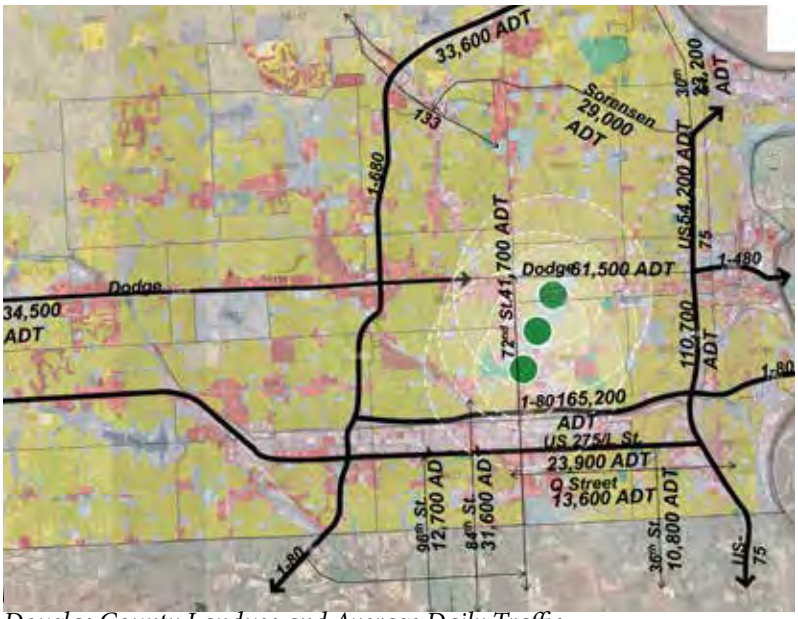
As a core member of the planning team, HDR, Inc. provided a critical link to the ongoing Omaha initiatives influencing the plan. The balance of national campus planning expert and local planning expert as part of the team allowed for the development of creative yet functional solutions for the 2013 Facilities Development Plan Update. Omaha design initiatives affecting development of the Facilities Development Plan Update include:

- Omaha By Design urban design and environmental design initiatives
- Central Omaha Transit Alternatives Analysis
- Aksarben Village design, development and future plans
- Crossroads development opportunities
- Ongoing UNO Arena design initiatives
- Midtown Crossing and University of Nebraska Medical Center (UNMC) initiatives
- Additional adjacent development discussions

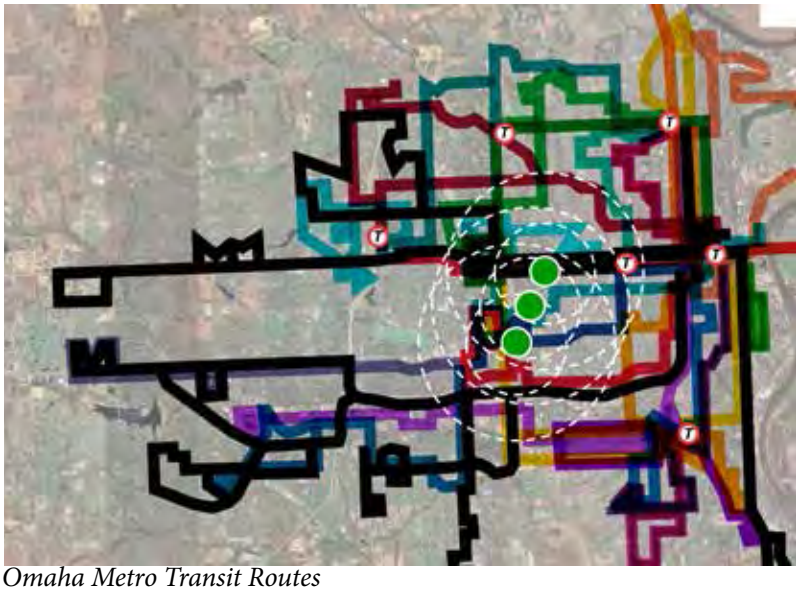
PLAN DRIVERS

A baseline for the Facilities Development Plan Update was established based on an understanding of planning context and specific university initiatives:

- Accommodate enrollment increases
- Capture increased residential demand
- Address changing pedagogy - reposition facilities
- Align strategic, spatial, fiscal, and physical visions
- Maximize existing campus land
- Develop a framework for decision making
- Coordinate multiple university initiatives



Douglas County Landuse and Average Daily Traffic



Omaha Metro Transit Routes

Owner Occupied Households

Total Land Value

Omaha Metro Transit Alternatives Analysis

Omaha by Design

Aksarben Village Initiatives

north

CHAPTER 3 SUMMARY: PLAN & SYSTEMS

GUIDING PRINCIPLES

Strategic priorities were established early in the planning process with consensus from the Steering Committee, Campus Advisory Committee and Community Advisory Committee. These goals provide a flexible framework for campus development that is both visionary and realistic. Principles assume an understanding of the established Plan Drivers. Guiding principles for the 2013 Facilities Development Plan Update include:

- Plan for increased undergraduate, graduate and on-line enrollment
- Expand campus life opportunities and 24/7 vitality
- Increase campus density within existing boundaries
- Create an identifiable campus character
- Develop learning communities with responsive academic facilities
- Consolidate and simplify transportation networks
- Foster innovative partnerships
- Enhance the campus perimeter and gateways
- Integrate planning for sustainable buildings and landscapes

PLANNING CONCEPT

Guiding principles for the plan are expressed in over arching and campus-wide planning recommendations which drive physical change on campus. Organizing concepts for the 2013 Facilities Development Plan Update include:

- Provide open connections between campus and community
- Develop a cohesive campus image through improved linkages between campuses
- Consider partnerships to better utilize shared community amenities
- Accommodate parking at the perimeter of campus neighborhoods while providing accessible and visitor routes
- Integrate academic and residential uses at the Dodge campus and Pacific campus
- Maintain and enhance core auxiliary and support uses on Dodge campus while considering future satellite opportunities on the Pacific campus
- Consolidate competitive athletic and outdoor recreation uses on Center campus

PLAN UPDATE SYSTEMS

Existing and future campus systems are evaluated in depth in chapter three, focusing on methodical changes to the physical campus, including:

- Academic & Support
- Residence Life
- Parking
- Open Space, Athletics and Recreation
- Pedestrian and Bike Circulation
- Vehicular Circulation
- Campus Transit
- Sustainability

Illustrative Master Plan

Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

CHAPTER 4 SUMMARY: CAMPUS IDEAS

THREE CAMPUSES

UNO is comprised of locations at the Dodge, Pacific and Center campuses. The Facilities Development Plan process identified a desire to better connect the three campus locations through:

- Programmatic alignment and enhanced mixed-use academic and residential neighborhoods
- Improved linkages to and through community amenities including Elmwood Park and Aksarben Village
- Enhanced amenities and twenty-four hour vitality
- Consolidated and simplified transportation connections
- Creation of a cohesive campus image

DODGE CAMPUS

The Dodge campus represents the historic core of UNO facilities. Future growth at the Dodge campus should consider the following strategies:

- Beautify and enhance Dodge Street edge and improve access from Dodge Street to campus with an additional entrance
- Improve visitor arrival and parking experience at a consolidated location near Henningson Memorial Campanile
- Provide opportunity for Strauss Performing Arts expansion
- Develop competitive soccer field and shared recreation amenity at the core campus
- Improve Student Center and One-Stop experience
- Enhance the Pep Bowl as a significant campus open space
- Encourage housing adjacent to the pep bowl and campus core
- Develop a new science building
- Create a consolidated science and arts neighborhood with future academic building including Weber Fine Arts expansion
- Develop a new parking garage to accommodate removal of surface parking, loss of off-site remote parking, and future growth
- Consider a new consolidated visitors center and alumni center on Dodge Street
- Redevelop a mixed use residential and academic neighborhood at University Village
- Enhance connections to Elmwood Park
- Improve internal neighborhood vehicular, pedestrian and transportation circulation

PACIFIC CAMPUS

The Pacific campus is rapidly developing as a new hub for activity at UNO. As Aksarben Village continues to build out and densify, future growth at the Pacific campus should consider the following strategies:

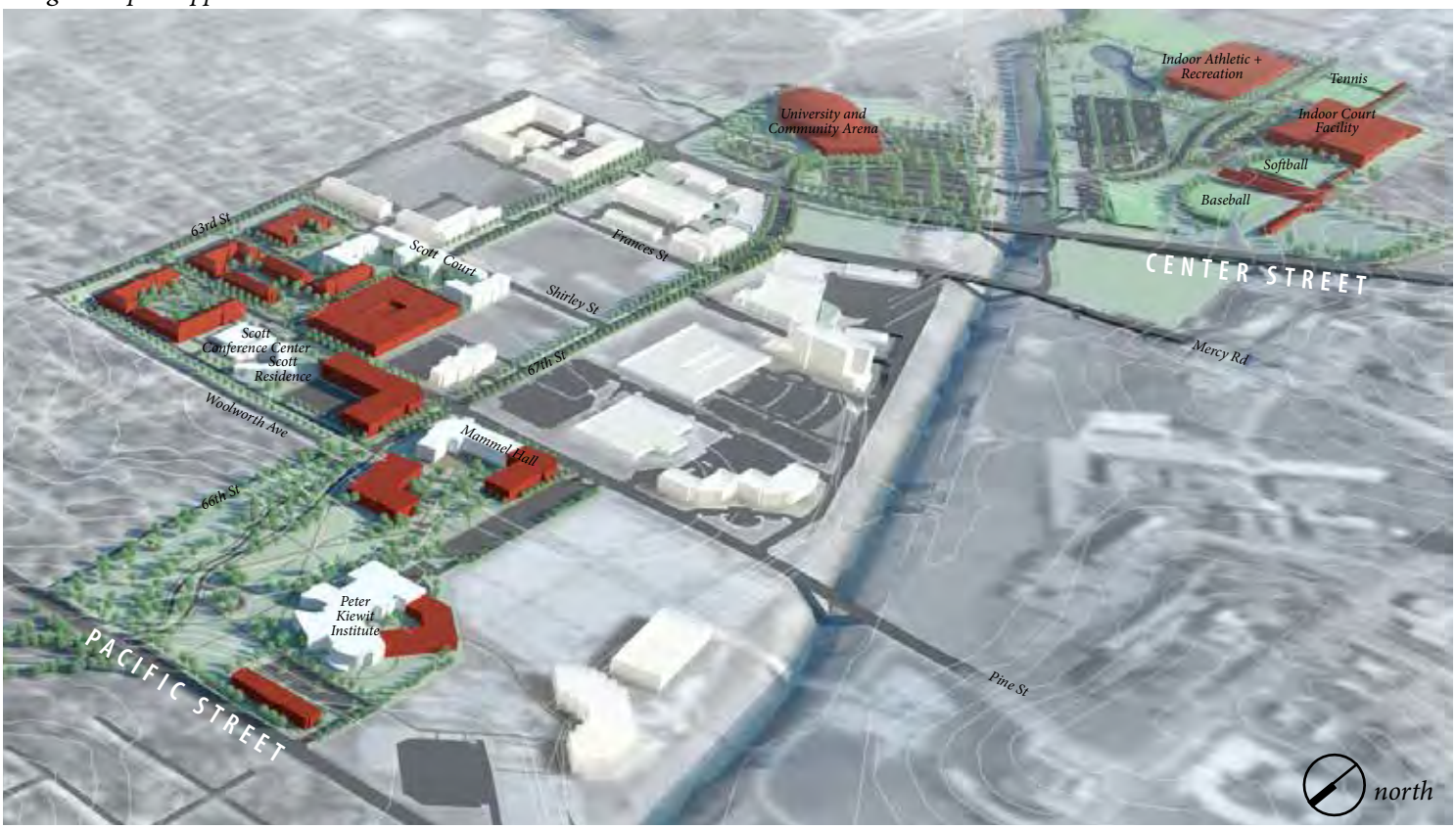
- Increase building density in the Scott Residential Hall and Scott Village area and develop residential models that create space and provide for active and passive recreation and exchange of ideas
- Provide academic growth opportunities adjacent to Mammel Hall
- Allow for PKI expansion
- Allow for future academic or residential growth along Pacific Street
- Create campus quadrangle along 67th Street to anchor the Pacific Campus neighborhood and frame academic growth
- Improve connections to the Dodge Campus neighborhood, Elmwood Park, and the Center neighborhood through enhanced multi-modal opportunities
- Extend the park space character of Elmwood Park into the Pacific Campus
- Encourage parking garage to accommodate loss of surface parking and future growth
- Improve internal neighborhood multi-modal circulation

CENTER CAMPUS

The Center campus is currently utilized for indoor and outdoor field recreation and limited competitive athletic uses. Future growth at the Center campus should consider development of a consolidated athletics campus including the following strategies:

- University Community Arena
- Varsity tennis courts
- Indoor athletic and recreation
- Varsity baseball field
- Varsity softball field
- Additional athletics, recreation and campus parking
- Campus recreation fields
- Future indoor court facility
- Improved vehicular, pedestrian and bicycle circulation via 67th Street extension and Mercy Road connector
- Improved transit connectivity to Aksarben Village, Dodge and Pacific neighborhoods
- Consolidated facilities and landscape services
- Improved stromwater management detention areas

Dodge Campus Opportunities



Pacific and Center Campus Opportunities

CHAPTER 5 SUMMARY: PHASING & GUIDELINES

PHASING AND IMPLEMENTATION STRATEGY

The long-term value of the Facilities Development Plan Update will be its power to establish capital priorities and optimize limited and valuable resources. The master planning process identified nearly eighty potential projects, including site improvements, building expansions and renovations, and new buildings.

The priorities are generally arranged in chronological order, grouped in Initial (0-7 year), Intermediate (8-15 year) and Future (16+ year) subsets. Prioritization sequencing must remain flexible, thus priorities can happen out of order as opportunities arise. Further explanation of priorities can be found in chapter five.

INITIAL PRIORITIES (0-7 YEARS)

In summary, initial opportunities include:

- University Community Arena and associated parking
- Consolidate athletics and recreation on Center campus
- Athletics sitework and new facilities, landscape services and central storage on Center campus
- Initial Dodge Street improvements
- Partner to improve connection through Elmwood Park
- Strategic housing infill on the Dodge campus and Pacific campus
- Community Engagement Center (Under Construction)
- Competitive soccer + recreation fields
- Strauss addition

INTERMEDIATE PRIORITIES (8-15 YEARS)

In summary, secondary opportunities include:

- Student Center and one-stop renovation and expansion
- PKI expansion
- Improve multi-modal connectivity between Dodge and Pacific campuses
- Secondary Dodge Street improvements
- Improve visitor arrival experience on Dodge campus at Henningson Memorial Campanile
- New University Village Housing
- Science expansion west of Durham Science Center
- Academic expansion on Pacific campus

FUTURE OPPORTUNITIES (16+ YEARS)

In summary, future opportunities include:

- Academic expansion at Mammel Hall
- Increased housing density at Pacific campus
- Pacific campus parking garage
- Academic expansion at Dodge campus
- Housing infill at Dodge campus
- Alumni Center + Visitors Center on the Dodge campus
- Long range opportunity for indoor court facility

NEXT STEPS AND ONGOING CONSIDERATIONS

The 2013 Facilities Development Plan Update provides flexible opportunities to accommodate future growth. Further consideration should be given to phasing of priorities utilizing a strategic prioritization criterion, including:

- Does the priority benefit one of UNO's signature programs?
- Is the priority part of the first year experience?
- Is the priority fundable?
- Is the priority part of UNO's strategic vision?

Initial 0-7 Year Priorities

- Is the priority on current capital lists?
- Does the priority occur in a key campus location?
- Is the priority part of an area that was recently renovated?
- How does the priority relate to deferred maintenance?

In addition to on-campus opportunities for growth, the 2013 Facilities Development Plan Update provides accommodations for future acquisition opportunities to meet future needs when appropriate opportunities present themselves.

EVIDENCE BASED DESIGN

The Facilities Development Plan Update is based on sustainable and holistic principles that grow out of UNO's mission and vision and manifest in physical campus recommendations for the future. While every implementation priority referenced in the master plan has a unique set of drivers, principles established in the Facilities Development Plan Update should be reinforced by non-prescriptive and evidence-based design guidelines that address architecture, urban design, site and landscape on campus.


WOODMEN

II. PLANNING CONTEXT

This chapter provides a baseline understanding of the previous planning studies and description of the concensus-based composition of the planning process. The physical analysis of UNO's systems depicted in this chapter also provide a chronological starting point for ideas depicted in the following chapters of this report. In addition, this chapter outlines the assumptions for academic and program growth parameters that drive the physical expansion illustrated in the master plan.

This plan provides capacity for the institution to grow to 20,000 students while increasing opportunities for emergent academic and student life space that supports UNO's mission and improving status as leading metropolitan institution.

This chapter provides context for the Facilities Development Plan Update, including:

INCLUSIVE AND CONSENSUS ORIENTED

The Facilities Development Plan Update is the University's plan. Although the consultant team has contributed technical expertise, the UNO's participants have guided its development. The plan accommodates growth at the Dodge, Pacific and Center campuses and reflects the institution's vision, priorities, culture, and future needs.

As part of this Facilities Development Plan Update, UNO developed an inclusive, consensus-oriented process to provide continuity with previous plans and to encourage greater representation across broad reaching constituent groups, including:

- Students
- Faculty
- Staff
- Community Members
- Administrators

Extensive input from these groups guided the process, providing valuable insight to the planning team and allowing constituents to gain ownership of the plan. UNO held campus planning sessions and open houses with a variety of campus and community stakeholders in April 2012, September 2012 and November 2012

A variety of events were conducted to encourage participation in the planning process, including committee meetings, focus groups, interviews and open houses. The Facilities Development Plan Update offers a comprehensive and thoughtful planning perspective that reflects the campus and community at large.

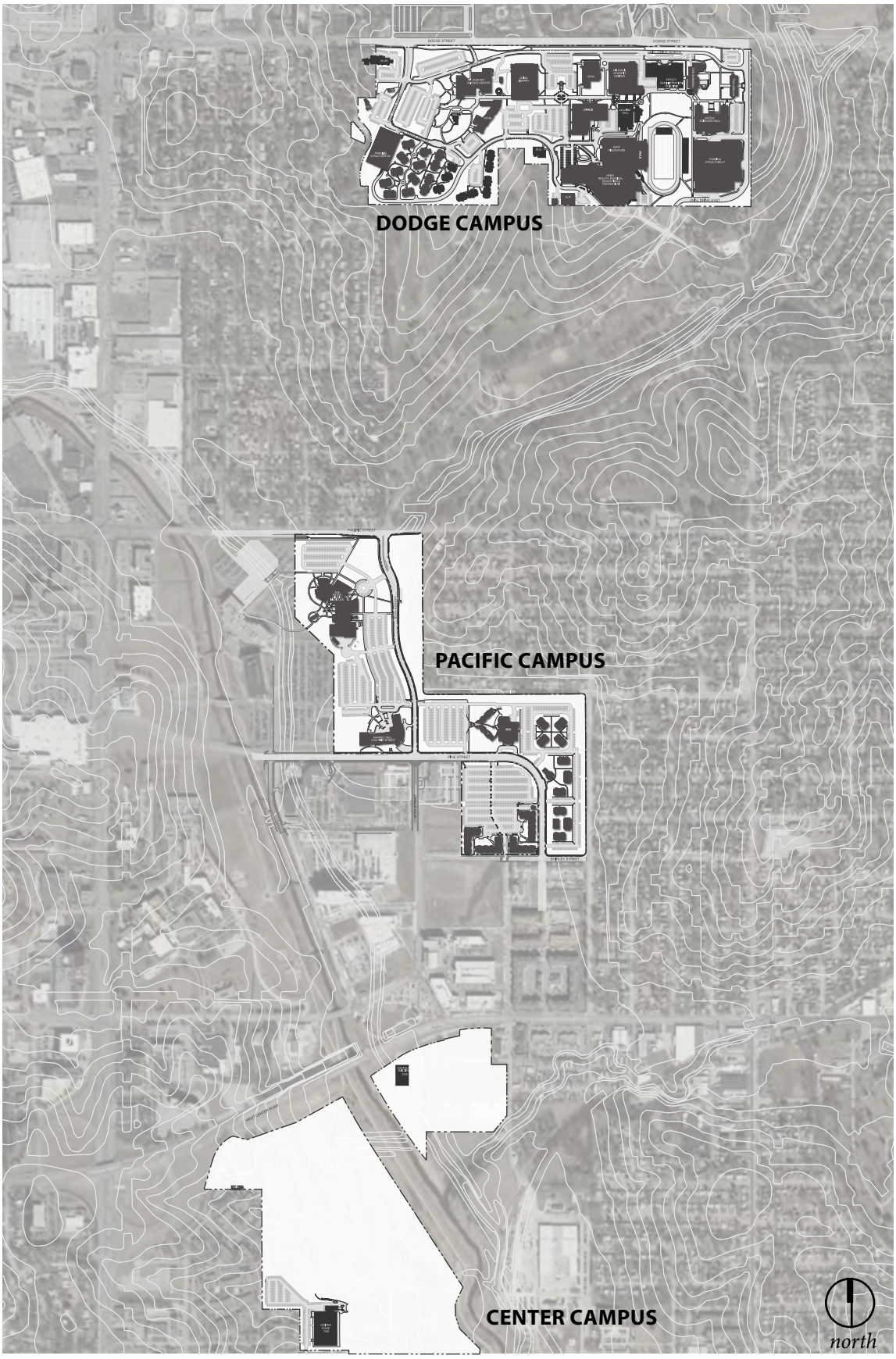
Several important committees were tasked with directing, advising, and supporting the Facilities Development Plan Update. Committee Members are noted on Page 5 of this report.

Steering Committee
The Steering Committee oversaw the development of the Facilities Development Plan Update. The committee provided final direction to the planning team as well as administrative guidance, coordination of internal and external input, and final planning recommendations.

Campus Advisory Committee
The Campus Advisory Committee provided advisory input at all critical steps of the Facilities Development Plan Update. This committee constitutes a broad range of campus participation for idea generation and consensus building.

Community Advisory Group
This committee met regularly to focus on the intrinsic connection between the Facilities Development Plan Update and the surrounding community. This committee constitutes a broad range of community participation for idea generation and consensus building.

Core Planning Team
This internal working team directed the week to week planning activities and was responsible for directing the process, logistics, and the review of data and ideas.


DODGE CAMPUS
PACIFIC CAMPUS
CENTER CAMPUS
north

ONE COORDINATED PLAN

As a dynamic, comprehensive planning document intended to establish a flexible framework for development and growth, the Facilities Development Plan Update is not a stand-alone document; rather, it expands upon ideas and recommendations from previous planning studies. Several of the studies utilized as references and summarized below include:

- *2006 Master Plan Update*
- *2008 Campus Mobility Study*
- *2011 Dodge Campus Storm Sewer Study*
- *2011 Signage and Wayfinding Study*
- *2011 Parking and Traffic Master Plan*
- *2011 Renewable Energy Plan*
- *2012 Utility Master Plan*
- *2011 Athletics Studies*
- *2012 Student Center Master Plan*

2006-2015 FACILITIES DEVELOPMENT PLAN

The 2006 Facilities Development Plan laid out a path to meet the growing needs for the Omaha community and State of Nebraska. The plan is guided by the strategic goals of focusing on students, academic excellence and community engagement. The plan specifically addresses the growing needs of the institution as a 24-hour campus, and desire to reinforce a sense of place to ensure divergent university owned parcels are connected. General initiatives include maintaining existing land use patterns that support core academic, enhancing a central campus green space and increasing student housing. Specific recommendations for each campus include:

- **Dodge.** Enhance as academic, housing and administration hub. Consolidate parking to decks.
- **Pacific.** Utilize as expansion zone for technology and housing, including future partnerships.
- **Center.** Consolidate dispersed athletic facilities.

2008 CAMPUS MOBILITY STUDY

The 2008 Campus Mobility Study utilized traffic counts and a 2003 parking study to asses the "person trips" between campuses. The study assumed elimination of remote parking at Crossroads and dispersion of replacement parking on the Pacific and Center Campuses. Vehicular connection between campuses was also assessed, with emphasis on access from Dodge Street and through Elmwood Park. Private and public transit options were explored to increase inter-campus connectivity. Pedestrian and bicycle conditions were also analyzed. Specific recommendations include:

- **Parking.** Add Center Campus lot to offset Crossroads. Consider additional parking structures.
- **Roadways.** Improve key road geometry and consider signalized intersections at key locations.
- **Mass Transit.** Consider 3 shorter shuttle routes with reduced stops and joint MAT transit center.
- **Pedestrian & Bicycle.** Add and widen sidewalks, paths and trails. Consider bikeshare options.

2011 DODGE CAMPUS STORM SEWER STUDY

This 2011 study examined the capacity and functionality of the existing storm sewer systems for the eastern portion of the Dodge Campus, encompassing approximately 40% of campus. Four major areas of problematic drainage were addressed in order of magnitude:

- Reroute the stormline through lots D and E to tie into existing manhole south of the library
- Increase the size of the existing 8" pipe through Milo Bail Student Center Plaza to 15"
- Remove and replace 30" pipe north of west stadium with a steeper slope (completed)
- Reconstruct the area surrounding the south entrance to the East Parking Garage and Elmwood Park with larger pipes to eliminate overflow
- Investigate Elmwood Creek Outflow for further study

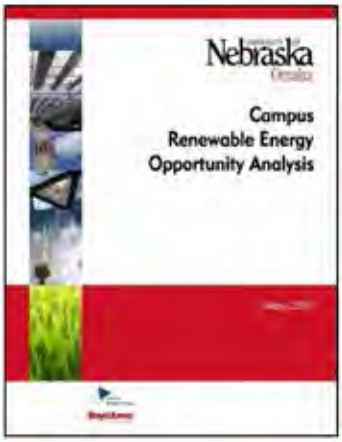
2011 SIGNAGE AND WAYFINDING

Corbin Design completed a signage and wayfinding study for UNO in late 2011/early 2012 to clarify exterior design intent and unify campus branding. The document organizes and describes a cohesive system, outlining appropriate materials, finishes, logos, symbols and fabrication specifications. Signage types described vary, including: campus identifiers (new and retrofit), pedestrian map kiosks, vertical pedestrian building identifiers, trailblazers, vehicular guides, pedestrian guides, building identifiers, parking identifiers, street identifiers, regulatory, temporary and vinyl on glass.

2011 PARKING AND TRAFFIC MASTER PLAN

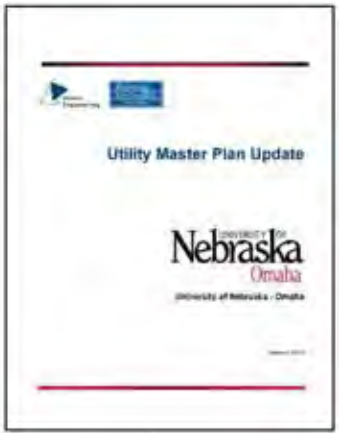
The 2011 Parking and Traffic Master Plan builds on the guiding principles and goals of the 2006 Facilities Development Plan. The plan addresses all three UNO campuses in 4 primary phases:

- Review existing conditions, including number of spaces, demand, adequacy and zip code
- Assess future parking needs assuming growth rate of 1.5% and increase people per space to 2.6.
- Develop recommendations, including pros and cons of 7 future sites on university property.
- Provide economic analysis and implementation for short-, medium-, and longer-term priorities.



2011 RENEWABLE ENERGY PLAN

In 2011, UNO developed a Renewable Energy Plan to serve as an overlay to the Facilities Development Plan. Completed in cooperation with Alvine Associates and Boyd Jones Construction, renewable strategies studied include: photovoltaic, wind turbine, solar hot water heating and geothermal. As the use of renewable energy to offset traditional energy sources continues to expand in the future, UNO has set out to be a leader in Nebraska and the Midwest, aiming to reduce energy use by 10% by 2015. The Renewable Energy Plan is a living document will continue to change and update as new and emerging technologies continue to improve best practices. Specific suitable locations for photovoltaic, wind and geothermal by campus were incorporated in the report and included as foundational for the Facilities Development Plan Update.



2012 UTILITY MASTER PLAN

The 2012 Utility Master Plan Update by Alvine Associates and Burns McDowell focuses on the utility recommendations to manage energy production and consumption on the Dodge Campus in a fiscally and environmentally responsible manner. The master plan update provides road maps for:

- Retiring and bringing on line new boiler and steam equipment in 2017
- New chillers in 2021, 2027 and 2035
- Replacement of the condensed water cooling tower
- Minor steam and chilled water improvements
- Expansion of the loop feed electrical distribution system in the next 5-10 years.
- Building energy consumption improvements through reduced electric, heating and chilled water usage, totalling $500,000 annual energy savings.

PEER COMPARISONS

University of Nebraska - Omaha	
Omaha, Nebraska	
Total Enrollment	14,665
Campus Acreage	235
City Population	408,958
Metro Area	877,110
Distance from CBD (miles)	4.3
Floor Area Ratio	0.37
Total Parking Spaces	8,480
Ratio of People to Parking Spaces	2.12
% Living on Campus	14%

University of Alabama - Birmingham	
Birmingham, Alabama	
Total Enrollment	15,245
Campus Acreage	342
City Population	212,237
Metro Area	1,128,047
Distance from CBD (miles)	1.2
Floor Area Ratio	0.87
Total Parking Spaces	12,996
Ratio of People to Parking Spaces	2.62
% Living on Campus	19%

University of Cincinnati	
Cincinnati, Ohio	
Total Enrollment	23,980
Campus Acreage	473
City Population	296,943
Metro Area	2,130,151
Distance from CBD (miles)	2.9
Floor Area Ratio	0.65
Total Parking Spaces	11,882
Ratio of People to Parking Spaces	2.82
% Living on Campus	21%

URBAN METROPOLITAN UNIVERSITIES

During the planning process, UNO's physical campus was compared to six other urban metropolitan institutions. These campuses were chosen primarily for physical commonalities with UNO. Comparisons were drawing from a list of attributes including: enrollment, campus acreage, city and metro area population, distance from the central business district (CBD), floor area ratio (FAR), ratio of campus population to parking spaces and percentage of population living on campus.

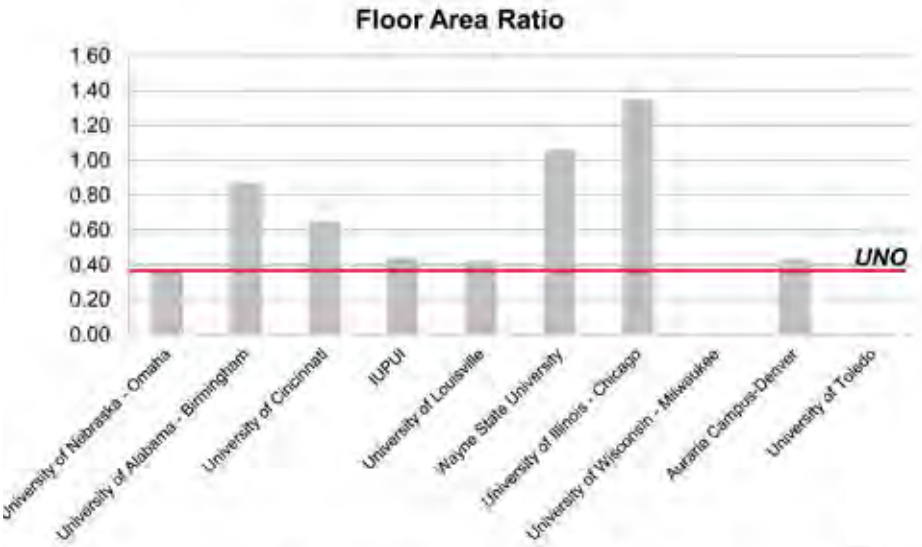
The bar charts on page 27 summarize UNO relative to these peers in regards to floor area ratio (FAR), percent living on campus and ratio of people to parking spaces.

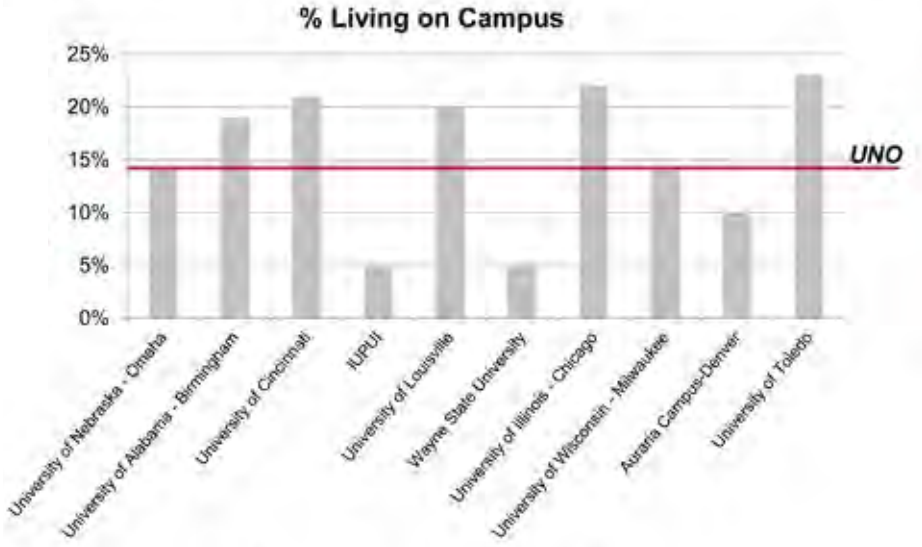
IUPUI	
Indianapolis, Indiana	
Total Enrollment	29,854
Campus Acreage	509
City Population	829,718
Metro Area	1,756,241
Distance from CBD (miles)	1.2
Floor Area Ratio	0.44
Total Parking Spaces	18,449
Ratio of People to Parking Spaces	2.05
% Living on Campus	5%

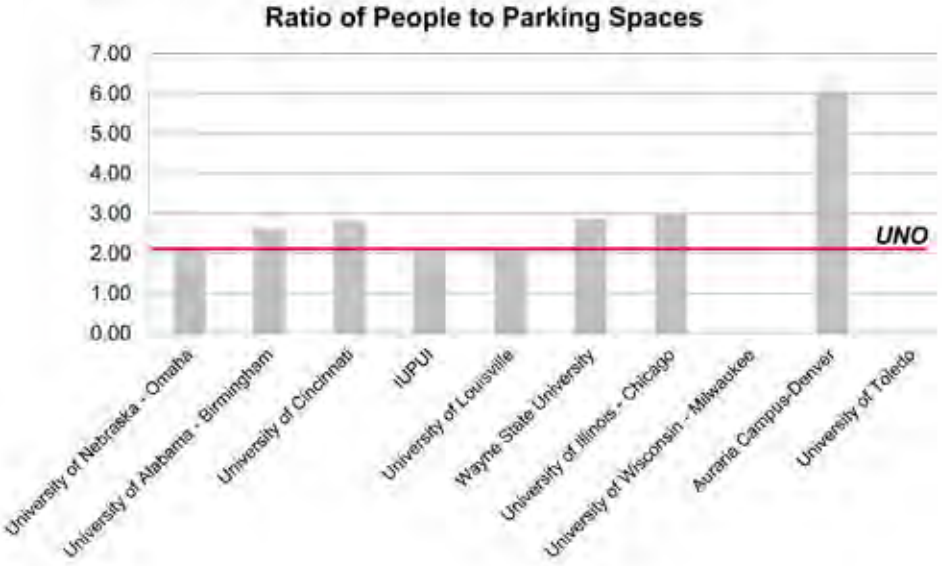
University of Illinois - Chicago	
Chicago, Illinois	
Total Enrollment	23,980
Campus Acreage	244
City Population	2,695,598
Metro Area	9,461,105
Distance from CBD (miles)	1.4
Floor Area Ratio	1.35
Total Parking Spaces	12,000
Ratio of People to Parking Spaces	2.96
% Living on Campus	22%

University of Louisville	
Louisville, Kentucky	
Total Enrollment	19,743
Campus Acreage	287
City Population	741,096
Metro Area	1,307,647
Distance from CBD (miles)	0.9
Floor Area Ratio	0.42
Total Parking Spaces	10,666
Ratio of People to Parking Spaces	2.05
% Living on Campus	20%

Wayne State University	
Detroit, Michigan	
Total Enrollment	33,240
Campus Acreage	203
City Population	713,777
Metro Area	4,296,250
Distance from CBD (miles)	3.6
Floor Area Ratio	1.06
Total Parking Spaces	12,500
Ratio of People to Parking Spaces	2.88
% Living on Campus	5%







COMMUNITY CONTEXT

A physical analysis of UNO's campuses was completed as a baseline for understanding the existing conditions in 2012. The physical systems analyzed were essential to the production of existing and proposed campus systems discussed in Chapter 3 of this report.

REGIONAL ACCESS

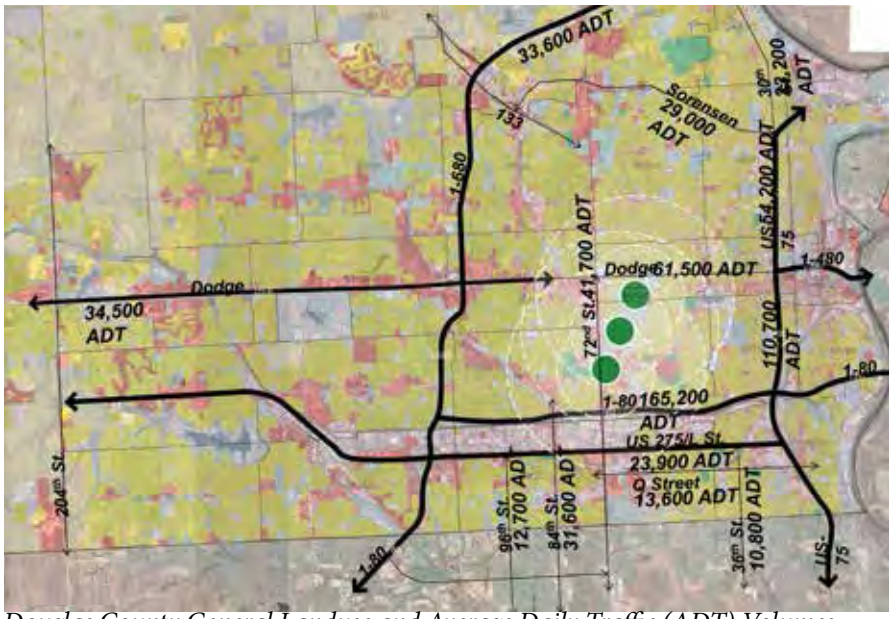
- UNO's campuses are located in the geographic center of Omaha
- The three campuses sit between two of the highest traveled east-west routes in the city with good north-south access via 72nd Street
- The Dodge campus has high visibility and access potential from Dodge Street

REGIONAL TRANSPORTATION

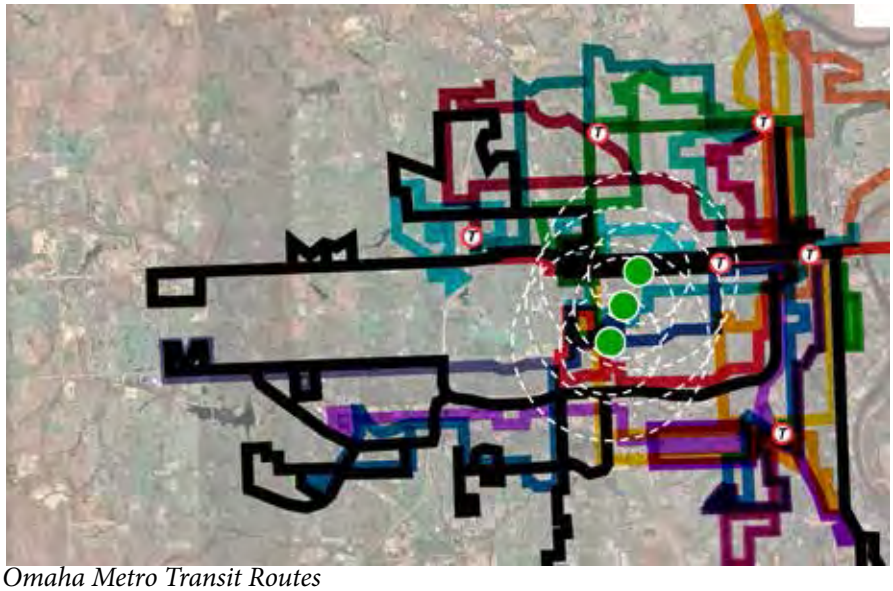
- Metro Area Transit (Metro) operates regional transportation routes that serve each of UNO's sites
- Dodge Street, Pacific Street, Center Street and 67th Street provide the highest opportunity for transit access to and between campus
- The "MavRide" program provided 400 passes to students in 2011, resulting in over 11,000 rides to or from campus Expansion of this program has the potential to reduce parking demand and alleviate traffic congestion on campus at relatively low cost
- UNO should consider opportunities to locate a new transit hub that serves the city on or adjacent to one of the three campus locations

REGIONAL LANDUSE

- UNO's Dodge and Pacific campuses are primarily surrounded by owner-occupied households, creating a mostly desirable edge condition
- The Center campus is adjacent to a lower percentage of owner occupied neighborhoods
- General land values in the surrounding area are on the higher end, which may provide challenges when considering future expansion opportunities



Douglas County General Landuse and Average Daily Traffic (ADT) Volumes


Omaha Metro Transit Routes


Owner Occupied Households


Total Land Value

Omaha Metro Transit Alternatives Analysis

Omaha by Design

Aksarben Village Initiatives

TRANSIT ALTERNATIVES ANALYSIS

- The city of Omaha is currently evaluating alternative transit routes that will have a significant impact on UNO's campus
- The Central Omaha Transit Alternatives Analysis is developing and evaluating alternative routes, analyzing costs, benefits and impacts, and providing preferred modes
- Mode considerations include enhanced bus, bus rapid transit and modern streetcar
- The Community Advisory Group provided the planning team with regular update as to the progress of this ongoing study throughout the planning process
- Facilities Development Plan Update recommendations are flexible to respond to the outcome of this study

OMAHA BY DESIGN

Recommendations embedded in the Facilities Development Plan Update are responsive to the Omaha by Design initiative, including specific attention to Urban Design and Environmental components:

- Neighborhood Omaha
- Green Omaha
- Civic Omaha
- Building Construction
- Community Health
- Natural Environment and Resource Conservation
- Urban Form and Transportation

HDR, Inc. served as a local liaison to the planning team in regards to community context, Omaha by Design and Aksarben Village Development.

AKSARBEN VILLAGE DEVELOPMENT

Because of UNO's proximity to Aksarben Village, including directly adjacent uses on the Pacific campus, planning team members were regularly updated regarding development progress of the village. Existing and planned village stats include:

- Nearly 500,000 SF of office, 200,000 SF of food and entertainment, 400 residential units and 150 hotel rooms currently exist in Aksarben Village
- At the time of this report, an additional 200 residential units were under construction (Broadmoor and Alchemy)
- Future plans include additional retail and office in zones 6 and 8 (along 67th Street, south of Shirley Street), An additional 120 hotel rooms north of Shirley Street, and infill residential and office in already developed areas of the village

NATURAL SYSTEMS

UNO's natural and physical characteristics were mapped in relation to existing campus and community development. Three primary natural system categories were analyzed, providing buildable and non-buildable zones as shown in the framework plan on page 34. Natural system analysis conclusions by category include:

Topography

- The Dodge campus occupies the highest point as UNO's three campuses step down in elevation towards the Center campus. Future development should consider preservation of views between campuses.

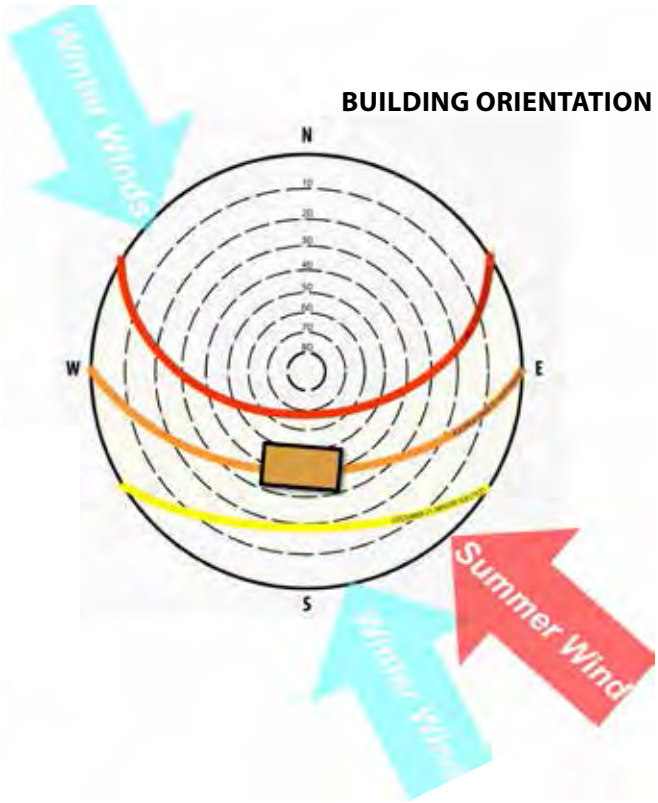
Drainage + Floodplain

- Areas within the 100 year flood plain of the Little Papillion Creek should avoid new building construction
- To reduce run-off rates to pre-development conditions, UNO should consider treating the 1.50" first flush to manage water quality and the 6.50" 100-year event for water quality. Additional best practices include reduction of impervious surfaces and treatment of stormwater in place.

Vegetation

- Elmwood Park and UNO's campuses provides one of the greatest tree cover assets in the Omaha Metro Area. Trees should be preserved an enhanced where possible to increase air quality and store and sequester carbon.

BUILDING ORIENTATION



Building Orientation

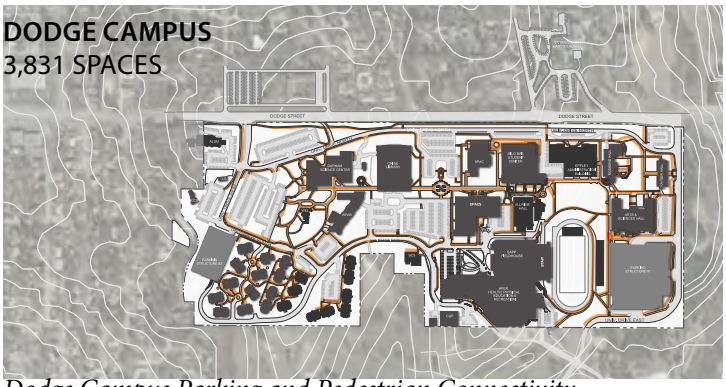
- Building orientation is critical for passive shading and cooling. Based on sunpath and wind diagrams specific to Omaha, Nebraska, the largest mass of the building should be oriented slightly rotated from the east-west long axis.

TOPOGRAPHY

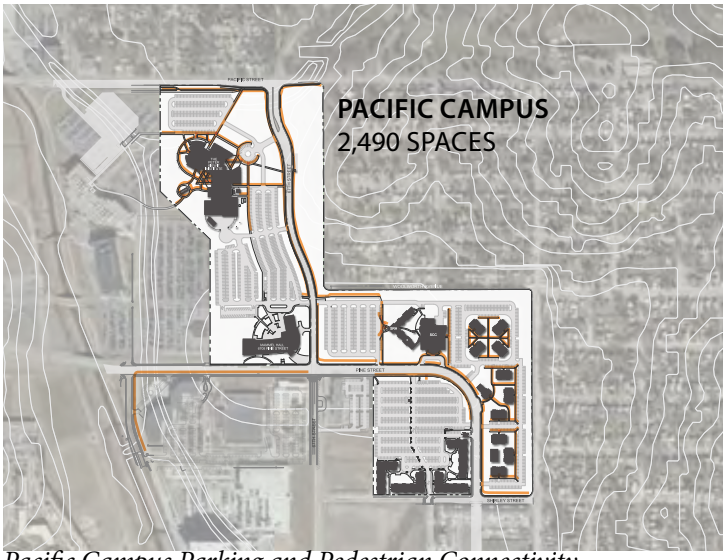
DRAINAGE + FLOODPLAIN

VEGETATION

TRANSPORTATION AND PARKING



Dodge Campus Parking and Pedestrian Connectivity

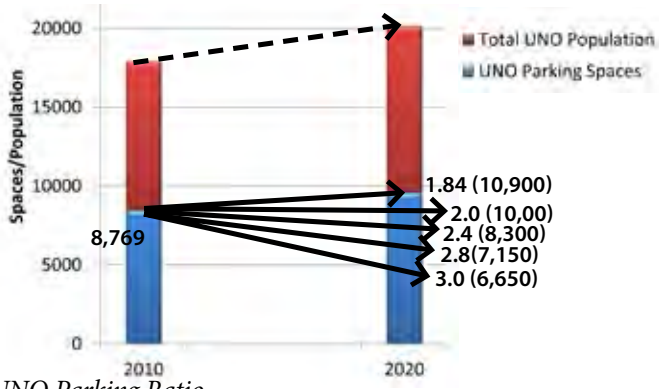


Pacific Campus Parking and Pedestrian Connectivity

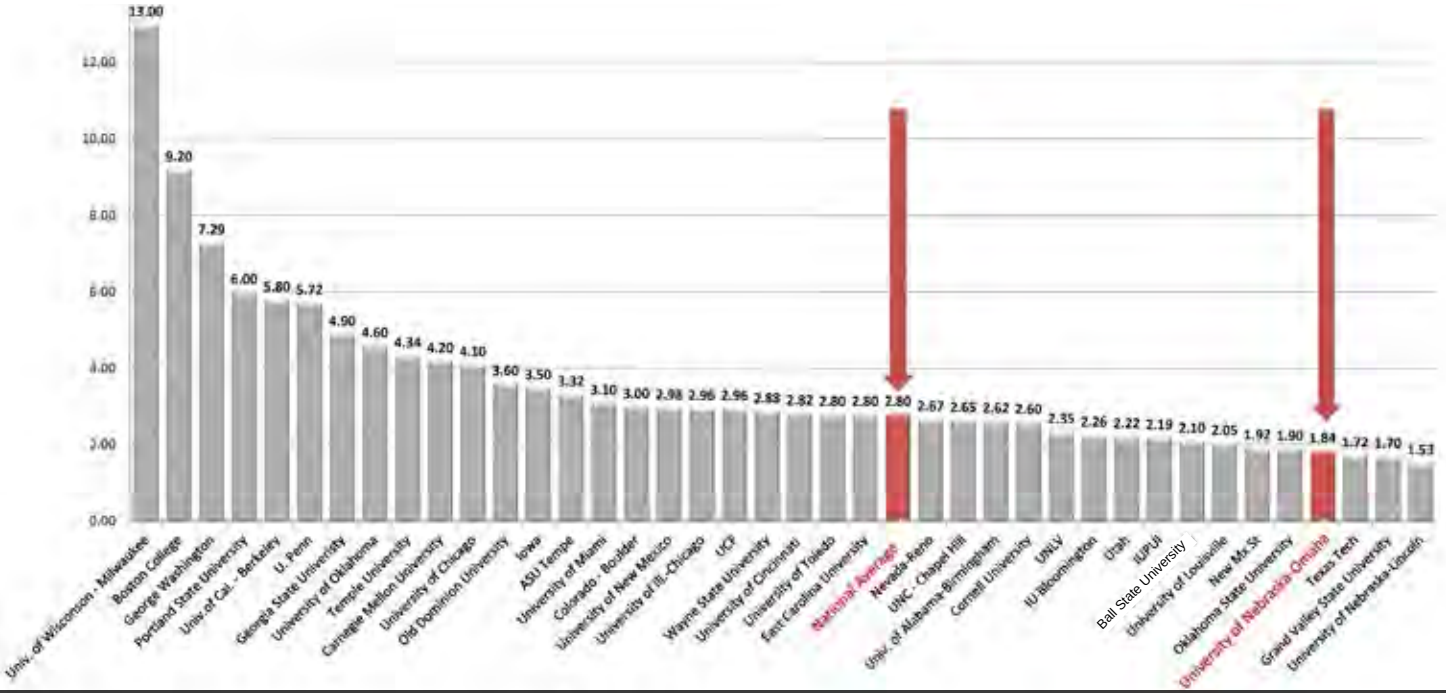
UNO currently maintains 8,769 parking spaces to support a total campus population of 16,123. Parking spaces are generally distributed on campus as follows:

- Dodge campus: **3,831 Spaces**
- Pacific campus: **2,490 Spaces**
- Center campus: **237 Spaces**
- Off campus (Crossroads, First Christian, St. Margaret Mary and On Street/Other): **2,211 Spaces**

UNO's current ratio of total campus population per parking stall is 1.84:1. When compared to similar collegiate parking ratios, UNO is well below the national average of 2.80 people per stall, and the problem could be compounded as the university continues to grow. This issue will only be exacerbated as growth to 20,000 students is pursued. As a sustainably-driven and generally land-locked institution, UNO should pursue transportation demand management (TDM) strategies to reduce parking footprints on campus, including bike, transit, and car sharing.



UNO Parking Ratio



Comparable Collegiate Parking Ratios

CAMPUS LAND USE

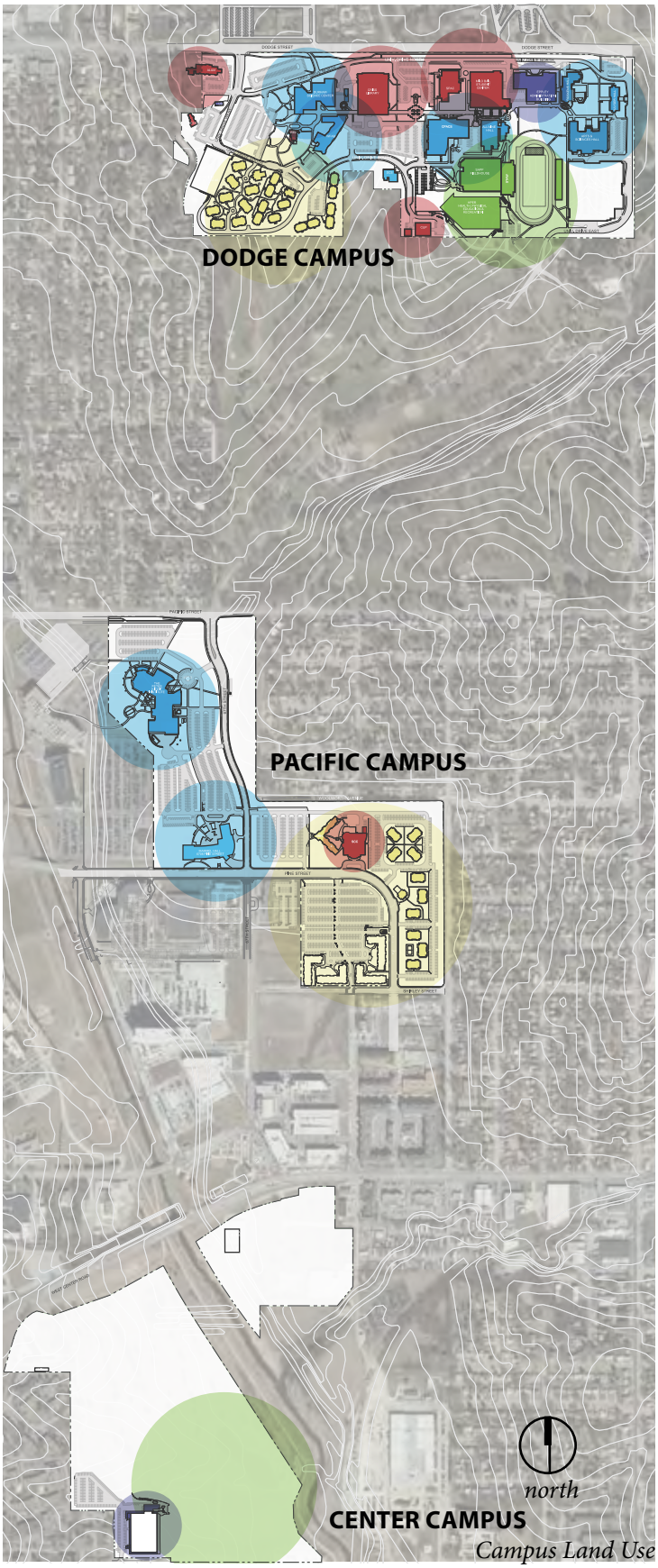
UNO's campuses consist of several distinct land use zones. Core academic uses are split between the Dodge and Pacific campuses. On the Dodge campus, academic uses generally surround the pep bowl and are successfully integrated with administrative and student life/campus support and recreation and athletic uses. Academic uses west of the Henningson Memorial Campanile are physically connected to other academic uses and additional student housing.

Academic uses on the pacific campus are physically separated from residential and student life/campus support uses by 67th Street. As a rapidly growing portion of campus, the Pacific campus has yet to achieve the dynamic mix of uses within a comfortable walk as is found on the Dodge campus.

The Center campus currently provides athletic and recreation resources for the campus south of Center Street.

General land use conclusions for UNO's campus include:

- Existing dynamic mix of uses within a 5-minute walk on the Dodge Campus should be enhanced and replicated in other campus areas.
- Academic core areas on the Dodge campus and Pacific campus are separated and require strategic planning to ensure that these functions are connected.
- Athletic and recreation uses are currently dispersed across campus and the city of Omaha and should be consolidated
- Opportunities for housing growth on the Dodge and Pacific campuses should consider appropriate density to allow for additional academic capacity



Campus Land Use

Academic/Learning

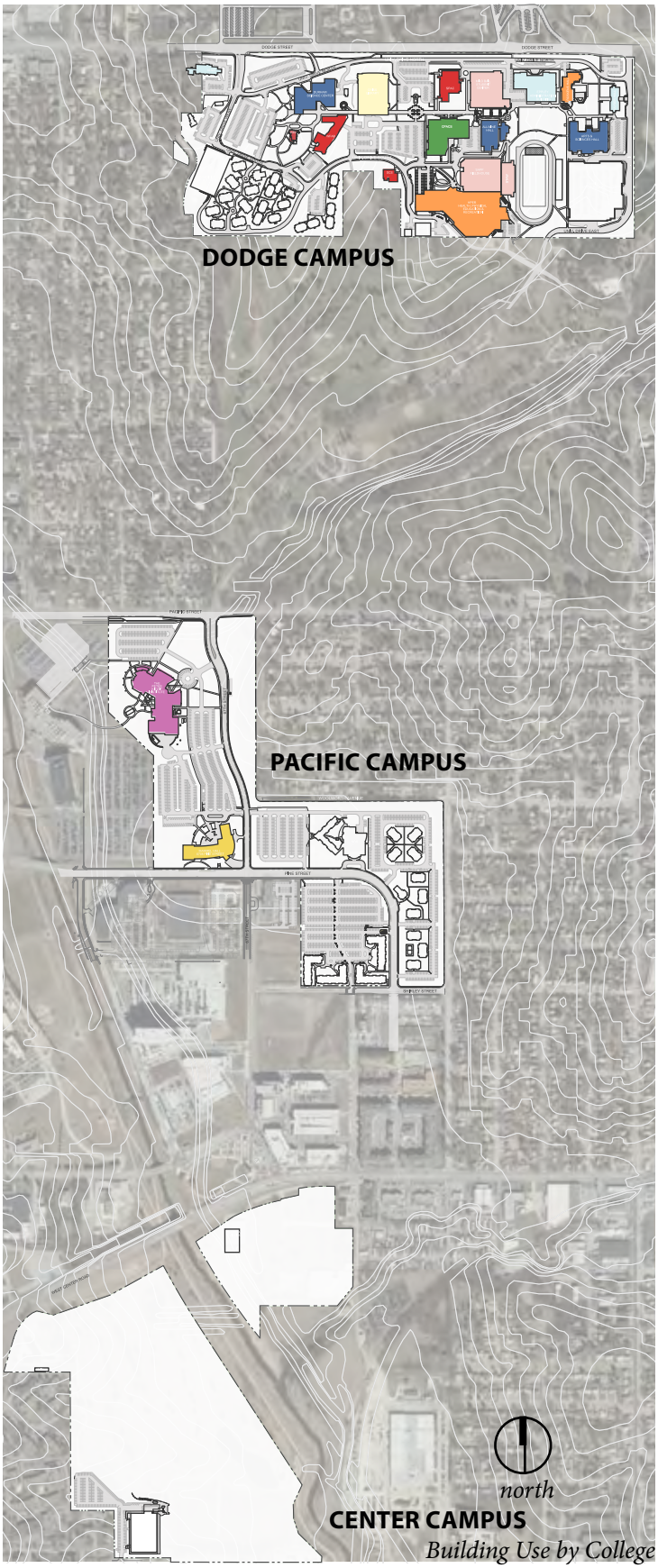
Administration

Campus Support

Housing

Recreation/Athletics

Campus Land Use



Building Use by College

BUILDING USE BY COLLEGE

The College of Arts and Sciences and College of Education maintain a strong presence on the Dodge campus surrounding the pep bowl. These colleges are also well supported by Student Center and Administrative functions.

The Library anchors the other end of the main pedestrian walk on the Dodge campus, surrounded primarily by the College of Arts and Sciences, College of Communication, Fine Arts and Media, and College of Public Affairs and Community Service.

Major parking uses are generally located at the periphery of the Dodge campus.

This organization and relation between colleges and parking resources places importance on the Henningson Memorial Campanile not only as the geographic and iconic center of campus, but also the potential as a primary gathering space for cross-discipline collaboration.

The Pacific campus is anchored by predominately professionally oriented colleges including the College of Engineering and College of Business Administration.

As UNO considers future growth, consideration should include:

- Enhancement of all three campus locations as a single unit
- Optimal location for academic growth by campus in the context of adjacencies on each campus.
- Preferred location and type for housing growth and desired interaction between housing, student life and academic uses on each campus.
- Central or dispersed athletic and recreation models
- Preferred transportation or land use strategies to better link colleges and uses on across campuses
- Desired parking strategy and opportunities for parking growth to serve a growing population

Building Use by College

- *College of Arts & Science*
- *College of Business Administration*
- *College of Communication, Fine Arts and Media*
- *College of Education*
- *College of Engineering/ College of Information Science Technology*
- *College of Public Affairs and Community Service*
- *Student Center*
- *Library*
- *Administration*
- *Parking Garage*

A BASIS FOR THE FACILITIES DEVELOPMENT PLAN UPDATE

Based on the comprehensive analysis phase, a data-informed framework plan for UNO's campus was developed to identify areas appropriate for future campus development at the campus scale. Considerations embedded in the framework plan include:

- Community context
- Existing buildings to remain
- Buildings in progress
- Buildings to be considered as long-range replacement candidates
- Programmatic adjacencies by use and by academic college
- Existing parking lots
- Open space and natural areas to be preserved and/or enhanced
- Natural systems considerations including sun, wind, topography, drainage and vegetation

Based on this analysis, primary and secondary opportunities for growth on each campus include:

Dodge Campus:

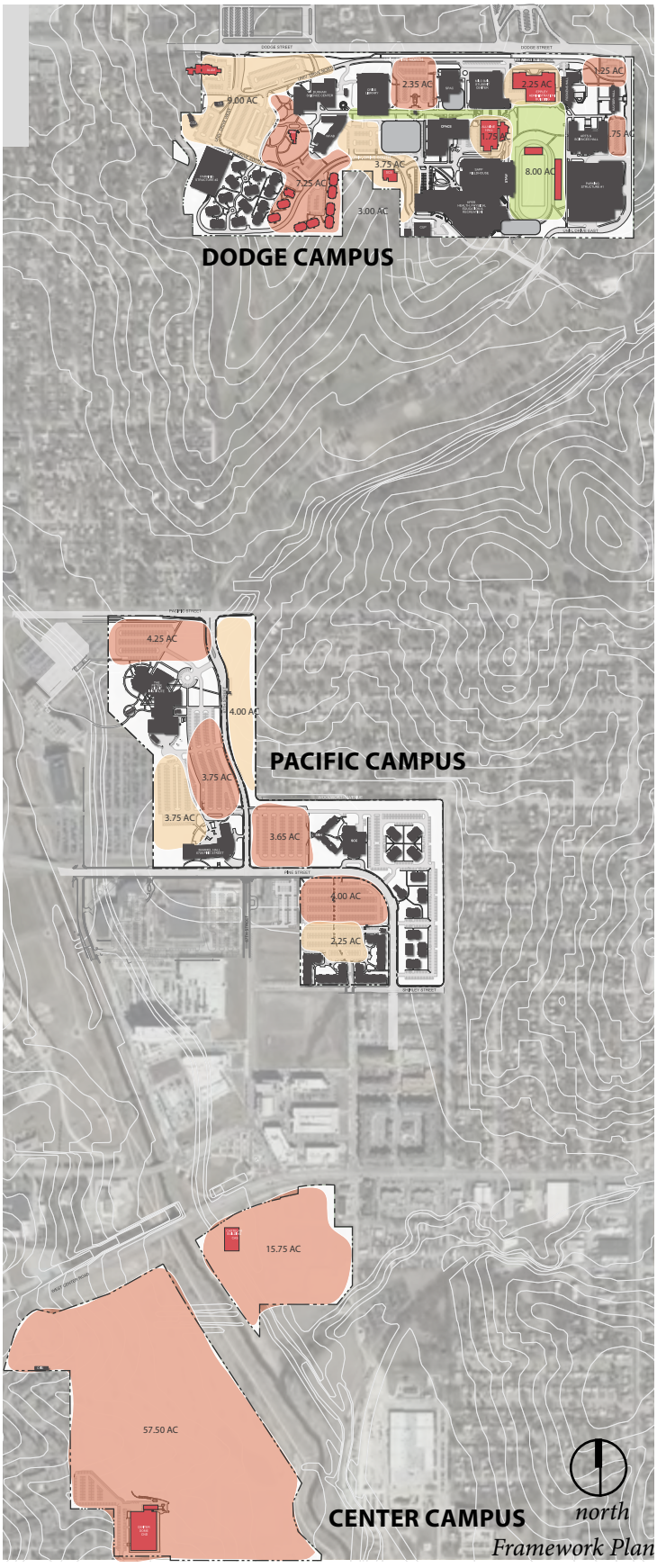
- +/-16 AC west of Durham Science Center
- +/- 2AC north of Henningson Memorial Campanile
- Renovation by replacement opportunities north and west of the pep bowl.
- Small infill opportunities north and south of Kayser Hall.

Pacific Campus:

- +/- 4 AC north of The Peter Kiewit Institute (PKI)
- +/- 16 AC between PKI and Mammel Hall
- +/- 4 AC east of Mammel Hall (Across 67th St.)
- +/-6 AC south of Scott Conference Center and Residence Hall

Center Campus:

- +/- 15 AC east of the Little Papillion Creek
- +/- 57 AC west of the Little Papillion Creek



Pep Bowl Looking West

SPACE NEEDS ANALYSIS

ENROLLMENT PROJECTIONS

Enrollment projections for the Master Plan Horizon were established based on historical analysis, growth in distance delivery, and input from Steering Committee members. These enrollment projections became the baseline for analyzing future space needs at UNO's campus. To achieve a growth to 20,000 students, the university is planning an on-campus undergraduate student increase of 32% and graduate headcount increase of 38%. This growth represents approximately 3% annual compounded growth

Assuming faculty growth at the existing student/faculty ratio of 29 to 1, the university should anticipate an increase of approximately 108 faculty by the Plan Horizon. Staff numbers are projected to grow by 13% by the Plan Horizon.

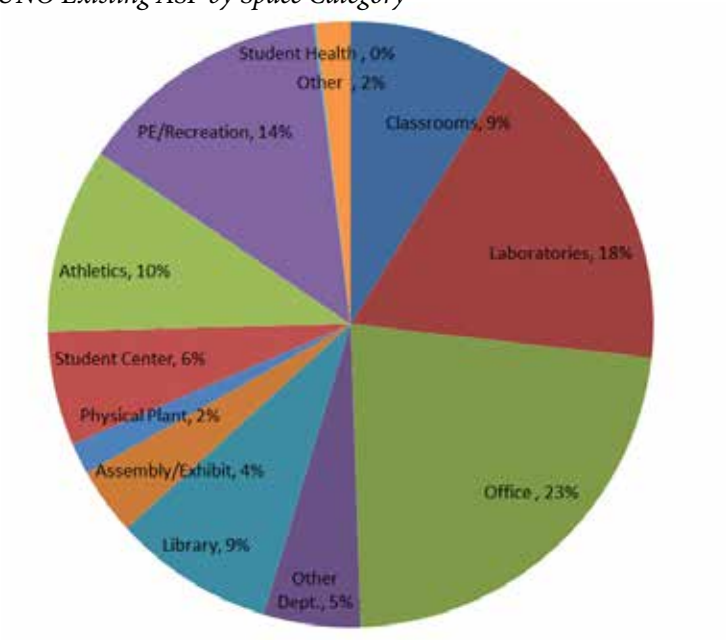
EXISTING SPACE

UNO has approximately 1,425,636 assignable square feet (ASF) of space on the Dodge, Pacific and center campuses, not including residence life space. Of this total approximately 9% is dedicated to classrooms and 18% is dedicated to teaching, open or research laboratories. Academic and administrative offices represent the largest space category on campus.

Master Plan Enrollment Assumptions

Category	Fall 2011 Headcount	Plan Horizon Headcount	% Change
UGrad Total	11,683	16,000	-
UGrad-Online Only	444	1,144	-
UGrad-On Campus	**11,239**	**14,856**	**32%**
Grad.Total	2,762	4,000	-
Grad.-Online Only	270	572	-
Grad.-On Campus	**2,492**	**3,428**	**38%**
UNL-Total UNO Delivery	889	900	1%
Total	**14,620**	**19,184**	**31%**

UNO Existing ASF by Space Category



CLASSROOM AND TEACHING LABORATORY UTILIZATION

Current classroom utilization of 31 hours per week at 65% student station occupancy with 20 ASF per student station exceeds the 1987 University of Nebraska Space Guidelines. UNO's 77 teaching laboratories average 18 weekly room hours is slightly less than UN space guidelines, while 71% student station occupancy exceeds established guidelines. The planning team suggested UNO adopt more contemporary classroom and laboratory utilization guidelines based on recent benchmarking projects. Guidelines used to assess future space needs for each space category are within reasonable proximity to the UN guideline, if not the actual UN space guideline. The complete findings of these reports are located in Appendix A.

Classroom Utilization Summary

	UNO Campus Average	UN Space Guidelines	Recommended Space Guidelines
Weekly Room Hours	31	30	34
Student Station Occupancy	65%	65%	68%
ASF per Student Station	20	16	22
Number of Rooms	140		

ASF = Assignable Square Feet

Teaching Laboratory Utilization Summary

	UNO Campus Average	UN Space Guidelines	Recommended Space Guidelines
Weekly Room Hours	18	20	20
Student Station Occupancy	71%	65%	75%
ASF per Student Station	49	Varies	Varies
Number of Rooms	77		

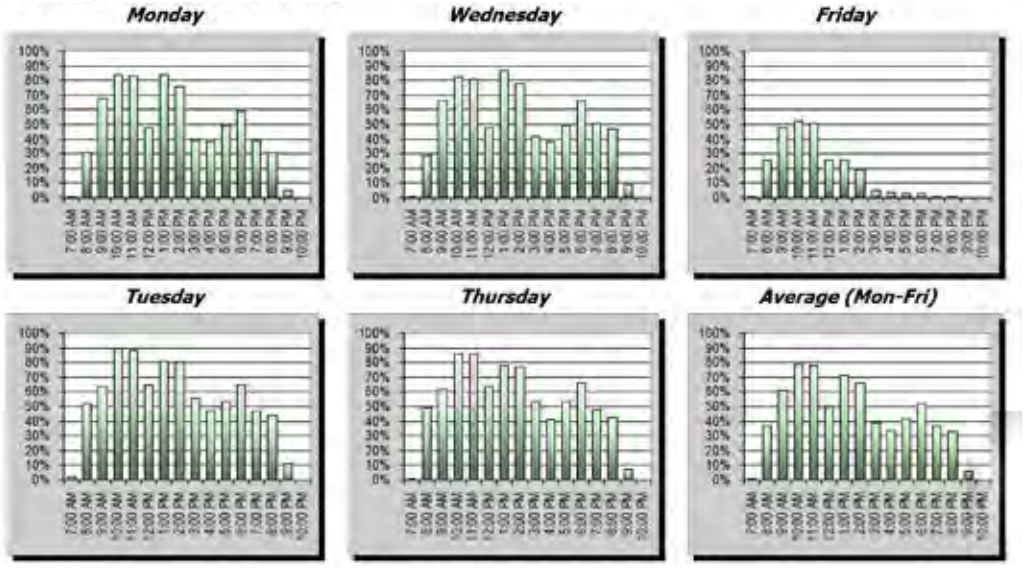
ASF = Assignable Square Feet

Scheduled Classroom Use by Day and Time

Time of Day	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Average	
	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use
7:00 AM	2	1%	3	2%	2	1%	2	1%	1	1%	0	0%	0	0%	2	1%
8:00 AM	43	31%	73	52%	40	29%	69	49%	36	26%	2	1%	2	1%	52	37%
9:00 AM	95	68%	89	64%	92	66%	87	62%	67	48%	7	5%	2	1%	86	61%
10:00 AM	118	84%	126	90%	115	82%	121	86%	73	52%	9	6%	2	1%	111	79%
11:00 AM	116	83%	123	88%	113	81%	120	86%	71	51%	9	6%	2	1%	109	78%
12:00 PM	67	48%	91	65%	67	48%	89	64%	36	26%	2	1%	0	0%	70	50%
1:00 PM	117	84%	113	81%	122	87%	109	78%	37	26%	1	1%	2	1%	100	71%
2:00 PM	106	76%	112	80%	109	78%	108	77%	26	19%	1	1%	2	1%	92	66%
3:00 PM	55	39%	79	56%	59	42%	75	54%	7	5%	0	0%	2	1%	55	39%
4:00 PM	53	38%	66	47%	53	38%	58	41%	6	4%	0	0%	0	0%	47	34%
5:00 PM	68	49%	76	54%	69	49%	76	54%	4	3%	0	0%	0	0%	59	42%
6:00 PM	83	59%	91	65%	93	66%	92	66%	4	3%	0	0%	0	0%	73	52%
7:00 PM	55	39%	66	47%	72	51%	67	48%	2	1%	0	0%	0	0%	52	37%
8:00 PM	44	31%	62	44%	66	47%	60	43%	1	1%	0	0%	0	0%	47	33%
9:00 PM	7	5%	15	11%	12	9%	10	7%	0	0%	0	0%	0	0%	9	6%
10:00 PM	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

Total classrooms = 140

Percent of Classroom in Use



SPACE NEEDS ANALYSIS

SPACE CATEGORY	Fall 2011 Existing ASF	Fall 2011 Guideline ASF	Fall 2011 Surplus/ (Deficit)	Fall 2011 Percent Surplus/ (Deficit)	Plan Horizon Existing ASF	Plan Horizon Guideline ASF	Plan Horizon Surplus/ (Deficit)	Plan Horizon Percent Surplus/ (Deficit)
	Student Headcount = 14,620 Staff Headcount = 1,503				*Student Headcount = 19,184 Staff Headcount = 1,762*			
Academic Space								
Classroom & Service	126,189	122,765	3,424	3%	126,439	158,453	(32,014)	(25%)
Teaching Laboratories & Service	113,211	112,354	857	1%	120,457	139,858	(19,401)	(16%)
Open Laboratories & Service	90,406	89,652	754	1%	90,406	102,638	(12,232)	(14%)
Research Laboratories & Service	51,944	53,410	(1,466)	(3%)	52,354	77,307	(24,953)	(48%)
Academic Offices & Service	230,951	210,010	20,841	9%	237,682	249,225	(11,543)	(5%)
Physical Education & Recreation	192,670	167,251	25,419	13%	192,670	211,943	(19,273)	(10%)
Other Academic Department Space	60,016	61,637	(1,621)	(3%)	60,936	69,649	(8,713)	(14%)
Academic Space Subtotal	*865,287*	*817,079*	*48,208*	*6%*	*880,944*	*1,009,073*	*(128,129)*	*(15%)*
Academic Support Space								
Administrative Offices & Service	92,667	98,190	(5,523)	(6%)	106,187	111,380	(5,193)	(5%)
Library	122,488	121,469	1,019	1%	122,488	142,164	(19,676)	(16%)
Athletics	141,007	210,607	(69,600)	(49%)	141,007	310,707	(169,700)	(120%)
Assembly & Exhibit	51,470	64,688	(13,218)	(26%)	75,860	85,422	(9,562)	(13%)
Physical Plant	23,945	49,017	(25,072)	(105%)	23,945	64,612	(40,667)	(170%)
Other Administrative Department Spac	13,829	16,810	(2,981)	(22%)	15,159	21,994	(6,835)	(45%)
Academic Support Space Subtotal	*445,406*	*560,781*	*(115,375)*	*(26%)*	*484,646*	*736,279*	*(251,633)*	*(52%)*
Auxiliary Space								
Student Center	86,876	124,271	(37,395)	(43%)	86,876	163,064	(76,188)	(88%)
Health Care Facilities	1,847	2,193	(346)	(19%)	1,847	3,837	(1,990)	(108%)
Auxiliary Space Subtotal	*88,723*	*126,464*	*(37,741)*	*(43%)*	*88,723*	*166,901*	*(78,178)*	*(88%)*
CAMPUS TOTAL	**1,399,416**	**1,504,324**	**(104,908)**	**(7%)**	**1,454,313**	**1,912,253**	**(457,940)**	**(31%)**
Childcare Center	*3,823*				*3,823*			
Inactive/Conversion Space	*766*				*0*			
Off Campus	*5,813*				*5,813*			
Scott Conference Center	*15,818*				*15,818*			

UNO Existing and Plan Horizon Space Needs Analysis

SPACE NEEDS ANALYSIS

Existing and Plan Horizon space needs were generated for UNO's campus based on guidelines rooted in the 1987 UN space guidelines. At the campus wide level, the guideline generated an existing deficit of 105,000 ASF. For the Plan Horizon (accommodating growth to 20,000 students), the guideline generated a deficit of approximately 450,000 ASF. Athletics and Student Center account for nearly 250,000 ASF of this space need. The largest space need beyond Athletics and Student Center include Classrooms and Physical Plant.

New construction and renovations on UNO's campus incorporated in the Plan Horizon assumptions include:

- Biomechanics Research Facility (14,891 ASF/22,820 GSF)
- Community Engagement Center (39,240 ASF/60,000 GSF)
- Peter Kiewit Institute Remodel (54,00 NSF)

APPLYING SPACE NEEDS TO CAMPUS

Assignable square feet (ASF) was used to depict space needs as part of the Space Needs analysis. ASF describes the amount of interior space between walls that constitutes the area required for a given program. ASF does not include corridors, circulation space, rest rooms, other building support spaces or structural elements like walls and columns.

For master planning purposes, gross square feet (GSF) is used to depict the total enclosed area of future buildings in the Campus Master Plan. The ratio of ASF to GSF describes a building efficiency that varies by building type. For the purpose of this master plan, GSF numbers used to describe future building projects are derived from the ASF planning targets using a 65% efficiency.

The Space Needs Analysis highlights general Plan Horizon deficits in each primary space category, including:

- Academic Space **128,000 ASF/205,000 GSF**
- Academic Support Space **250,000 ASF/400,000 GSF**
- Auxiliary Space **78,000 ASF/125,000 GSF**

ACADEMIC SPACE GROWTH

205,000 GSF of Academic Space Needs includes Plan Horizon deficits for:

- Classroom & Service
- Teaching Laboratories & Service
- Open Laboratories & Service
- Research Laboratories & Service
- Academic Offices & Service
- Physical Education & Recreation
- Other Academic Department Space

The largest Academic Space Needs include:

- Classrooms and Laboratories
- Research Laboratories
- Recreation and Physical Education Space

ACADEMIC SUPPORT SPACE GROWTH

270,000 GSF of Academic Support Space Needs includes Plan Horizon deficits for Athletics and **130,000 GSF** of other support space. Deficits for Academic Support Space include:

- Administrative Offices & Service
- Library
- Athletics
- Assembly & Exhibit
- Physical Plant
- Other Administrative Department Space

The largest space needs in the Academic Space category include:

- Ice Hockey Arena
- Shops and Central Storage Space
- Library

AUXILIARY SPACE GROWTH

125,000 GSF of Auxiliary Space Needs includes Plan Horizon deficits for:

- Student Center
- Health Care Facilities

CANDIDATES FOR REPLACEMENT

Replacement opportunities as part of the Campus Master Plan could include up to **350,000 GSF** of space.
Specific replacement opportunities are outlined in Chapter 3.

EVOLVING LEARNING MODELS

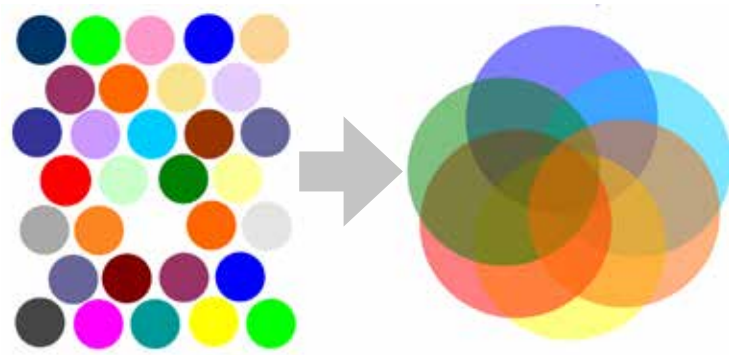
ALIGNING SPACE NEEDS WITH CAMPUS

Implementation of UNO's Facilities Development Plan requires strategic assessment of campus resources and a vision of emerging academic practices. In particular, a necessary first step will be comparing the programmatic direction from the Space Needs Analysis with current campus stock.

In response to shifting programmatic direction, campus facilities should be designed as innovative by current standards and be flexible enough to incorporate future innovative features. Campus environments then must include a variety of different and dynamic space types that support the broadest spectrum of student personalities and instructor pedagogies along with proper technology and infrastructure.

It is important to consider direction of pedagogy as an important step in the design process. Pedagogical considerations include:

- Inquiry-based
- Team-based
- Hands-on lab-based
- Case study-based
- Class studio implemented
- Immersion enhanced
- Hybrid (face-to-face+web+distance learning)
- Learning-research community integrated



Silo-based Learning *Integrated + Holistic Learning*

Flexible Space

ARCHITECTURAL RESPONSE

Campus architecture should be a culmination of evidence-based design, based in an understanding of the evolving learning models and future space needs. As part of further studies, existing campus buildings should be evaluated as candidates for reuse/repurpose or rebuild/place as opportunities on campus.

Reuse/Repurpose

If the building's systems (structural, mechanical, electrical, etc) and attributes (daylighting and space needs) are currently able to accommodate desired programs and meet the needs of current and future academic environments, the building is probably a good candidate for reuse. If the buildings systems and attributes do not accommodate current and future needs, it is important to consider alternative approaches:

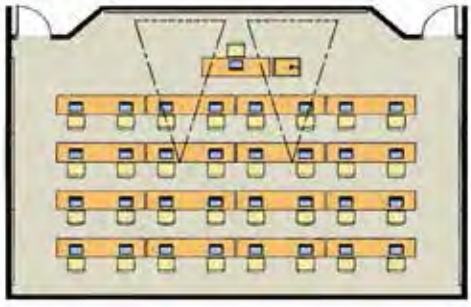
- Is the building flexible enough to allow for modifications, updates or expansions?
- If the building , what might the approximate cost of necessary renovations be?

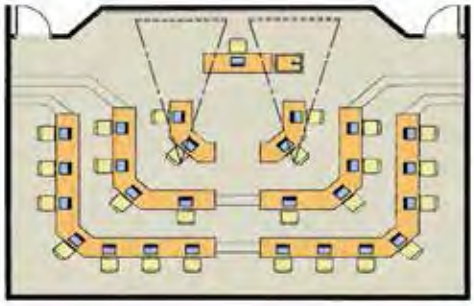
Office and classroom typologies generally lend themselves well to renovation or repurpose scenarios. Roskens Hall and the College of Public Affairs and Community Service (CPACS) renovations are excellent examples of successful academic

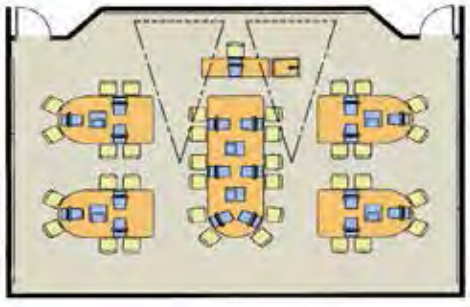
Collaborative Space

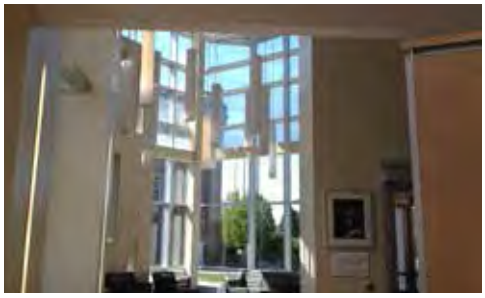
renovations on UNO's campus. Future projects should similarly consider the demands of today's learning environments including adjustable spaces and a variety of pedagogical configurations (lecture, didactic, collaborative, distance learning, etc.). A variety of well distributed academic support spaces (quiet/loud, open/private, library/coffee shop, etc) are also a priority for today's students.

Rebuild/Replace -
Inevitably buildings will reach the end of the life for which they were originally conceived. While it may be possible to reuse or repurpose some campus buildings, others may need to be raised to make way for more updated construction.










APPLICATION OF EVOLVING MODELS

ARCHITECTURAL CASE STUDIES

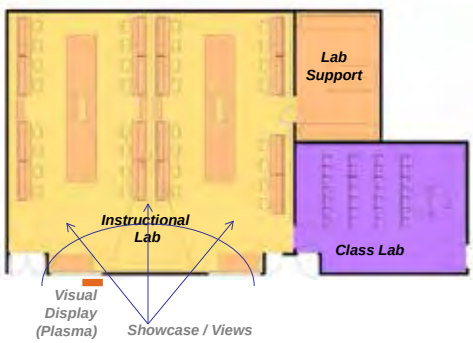
Allwine Hall and Milo Bail Student Center were assessed as case studies on UNO's campus to apply reuse/repurpose and rebuild/replace principles in a relevant way. Facilities Development Plan Update recommendations for Allwine Hall and Milo Bail Student Center are incorporated in Chapter 3 of this report.

Allwine Hall

Allwine Hall is a solid, well-built and durable with an easily understandable organization. At the same time it is uninviting and inflexible with a lack of daylight and lack of connectivity to the exterior. While it's current location is strategic on campus, it is programmatically divorced from its newer counterpart, the Durham Science Center (1987).

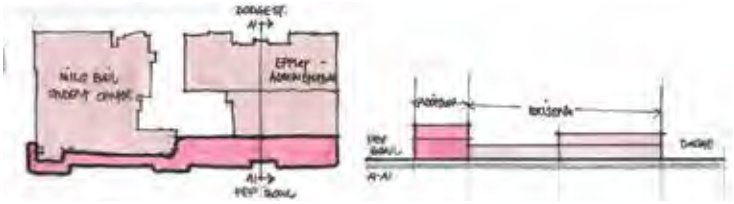
Considerations for creating modern science space on UNO's campus include:

- Embody a transparent and inviting nature
- Connect to outdoor and public spaces
- Allow for learning on display
- Provide a variety of learning environments, especially interactive, flexible classrooms that enable both large and small group learning
- Include spaces that foster collaboration
- Introduce/utilize daylight



Milo Bail Student Center

With good structural bones and adaptable open plans, student life buildings can evolve with changing student needs. The Milo Bail Student Center could be a candidate for such renovation providing for updated space to meet the student life demands of today's changing student population. Successful student centers require combinations of quiet and active spaces and varieties in amenities including "real world" dining experiences. In addition, inviting spaces that promote a sense of community are particularly important in hybrid campus models that include residential and commuter students.



Considerations for renovating student life buildings on UNO's campus include:

- Flexibility
- Collaboration opportunities
- Transparency
- Food
- Amenities for on-campus residents, commuters and the greater community
- Study/small group areas

III. PLAN & SYSTEMS

GUIDING PRINCIPLES

INTRODUCTION

The Facilities Development Plan Update is a physical manifestation of UNO's strategic priorities and is comprised of the planning concept, campus-wide systems, and campus ideas. The planning concept conveys the intent, goals, and long-term values of the University. This is the most fixed and enduring element of the plan. The planning concept represents ideas regarding campus enhancement, preservation, growth areas and opportunities to reinvigorate existing campus neighborhoods. The planning concept for the Facilities Development Plan Update is based on institutional preferences regarding:

- **Campus Image.** What are we good at and known for?
- **Urbanity.** How "urban" are we and do we want to be?
- **Mobility.** What does it mean to be a residential campus in central Omaha?
- **Sustainability.** What cues can we take from the land?
- **Multiple Campuses.** What does it mean to have three campuses?

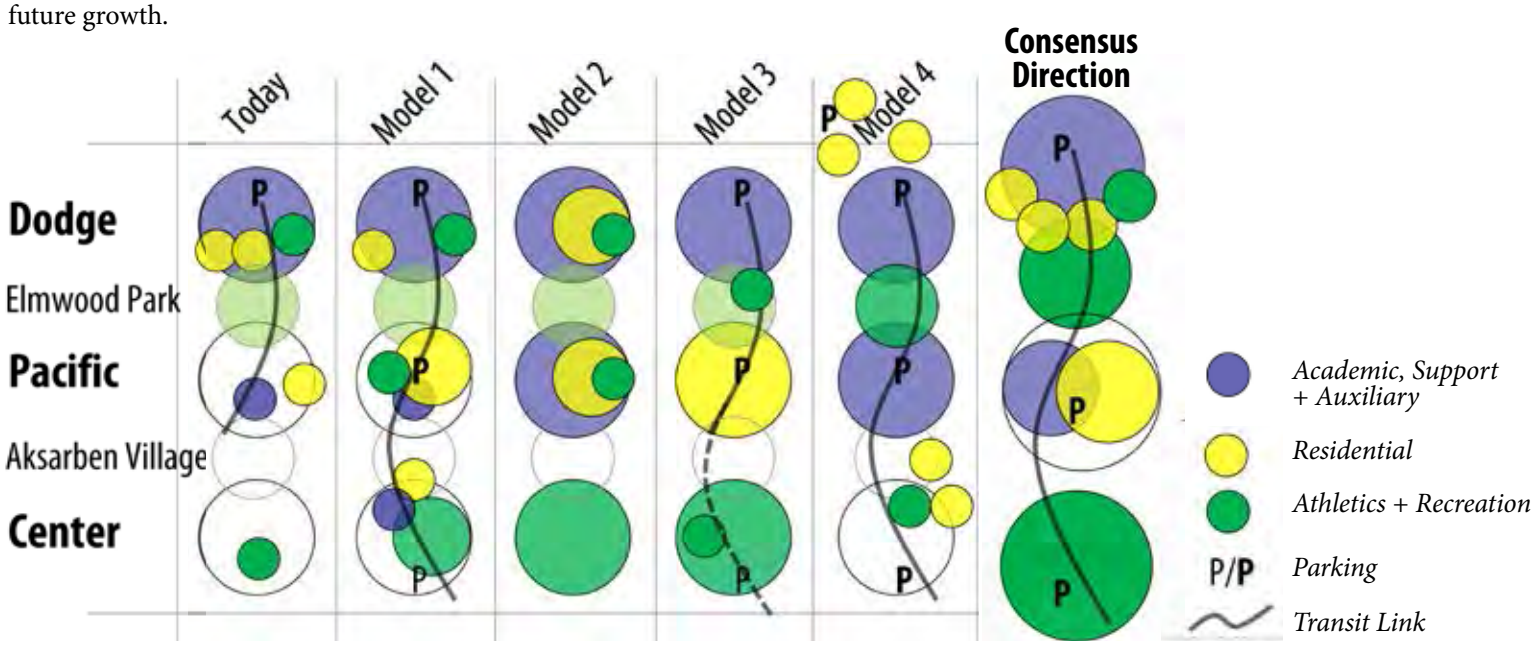
GUIDING PRINCIPLES

Strategic priorities established early in the planning process provide a flexible framework for campus development that is both visionary and realistic. These guiding principles for the 2013 Facilities Development Plan Update include:

- Plan for increased undergraduate, graduate and on-line enrollment
- Expand campus life opportunities and 24/7 vitality
- Increase campus density within existing boundaries
- Create an identifiable campus character
- Develop learning communities with responsive academic facilities
- Consolidate and simplify transportation networks
- Foster innovative partnerships
- Enhance the campus perimeter and gateways
- Integrate planning for sustainable buildings and landscapes

ALTERNATIVE GROWTH MODELS

Alternative growth models were tested based on campus strategic priorities, guiding principles and an understanding of preferences regarding campus-wide growth models. These alternative models are expressed in overarching landuse preferences by campus for future growth.

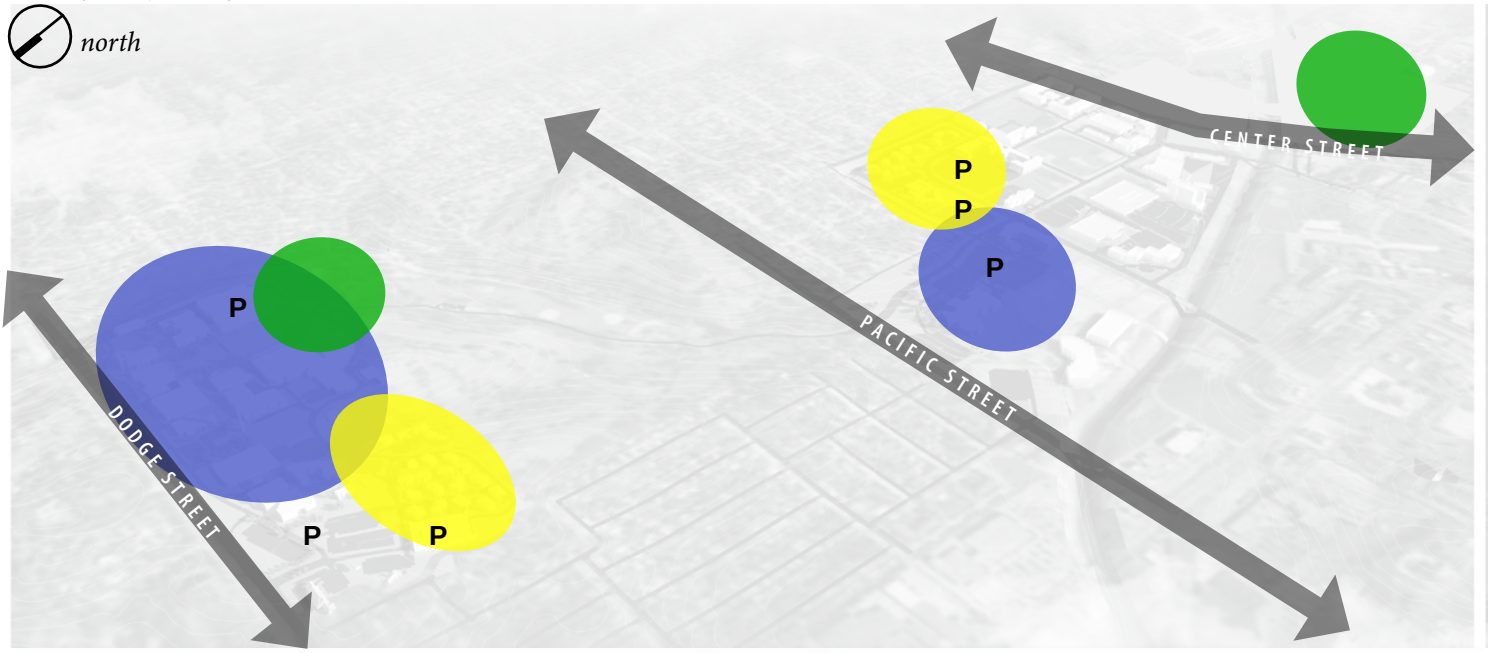


THE PLANNING CONCEPT

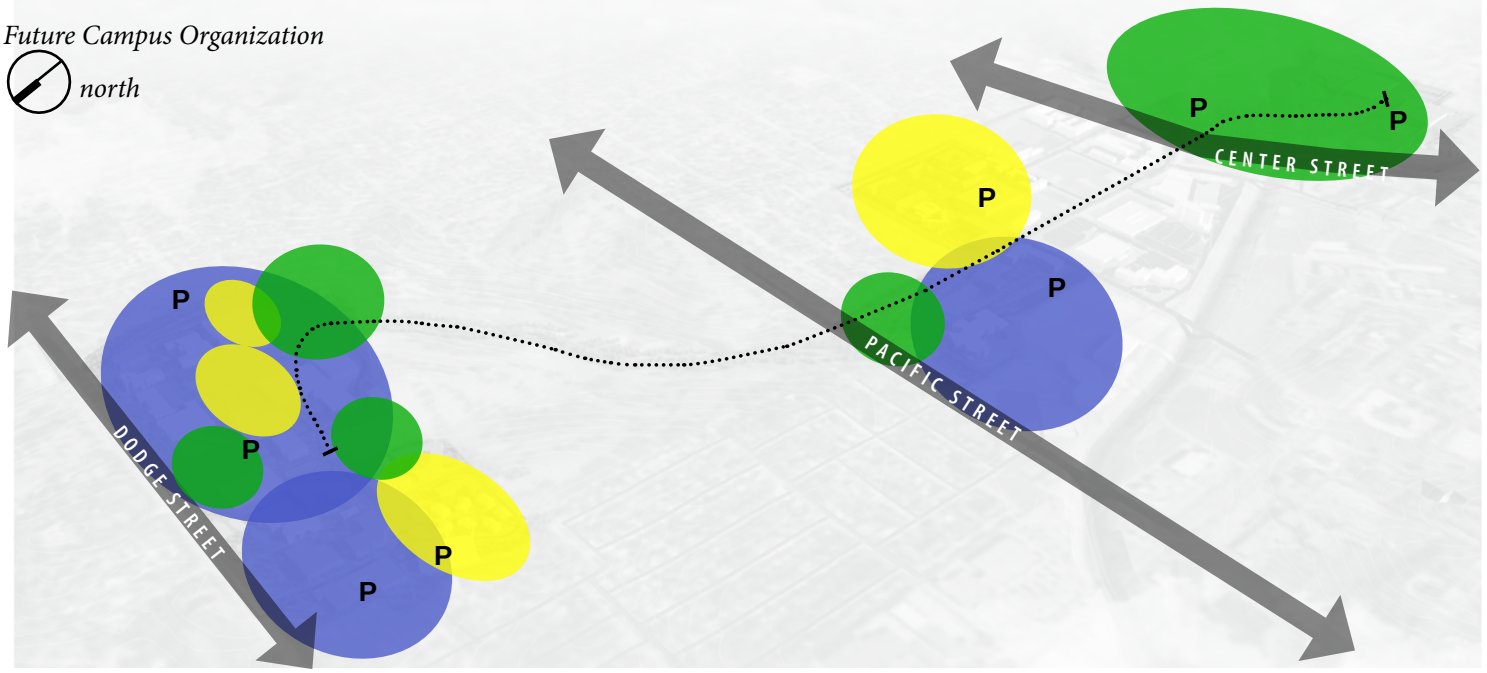
The planning concept is expressed in overarching and campus-wide recommendations which underscore physical recommendations for campus. Organizing concepts for the 2013 Facilities Development Plan Update include:

- Provide open connections between campus and community
- Develop a cohesive campus image through improved linkages between campuses
- Consider partnerships to better utilize shared community amenities
- Accommodate parking at the perimeter of campus neighborhoods while providing accessible and visitor routes
- Integrate academic and residential uses at the Dodge campus and Pacific campus
- Maintain and enhance core auxiliary and support uses on Dodge campus while considering future satellite opportunities on the Pacific campus
- Consolidate competitive athletic and outdoor recreation uses on the Center campus

Existing Campus Organization



Future Campus Organization



ILLUSTRATIVE PLAN

A VISION FOR THE FUTURE

The illustrative plan represents an optimal campus configuration for UNO at full build-out in the long term. The illustrative plan proposes the placement of new features such as opportunities for new buildings, roadways, open spaces, parking and other facilities in relationship to existing campus facilities. It is important to note that the illustrative plan and perspective views are not intended to be wholly inflexible but to suggest the scale, design vocabulary, and landscape pattern.

While flexible, the elements of the plan are deliberately located to be consistent with the planning concept as a place of living, learning and community involvement. Taken collectively, the plan concept, illustrative plan, and campus systems are intended to aid in initial, intermediate, and future decision making.

Future academic building zones are generally shown at 80-120 feet wide, which could be wider or narrower depending on specific classroom, lab, and office configurations. Residential building zones are generally shown at 60-80 feet wide, assuming double loaded corridors.

This chapter identifies tables for each plan system (keyed to the system diagram) which defines building footprints in GSF, and provides a proposed number of floors, and subsequent total GSF (and bed or parking count where applicable). These tables are provided as a guide for potential development and intended density and building height. The actual GSF per building will vary depending on the final program, number of floors, configuration of the base floor, existence of a lower level, and whether penthouse space is provided.

Illustrative Master Plan

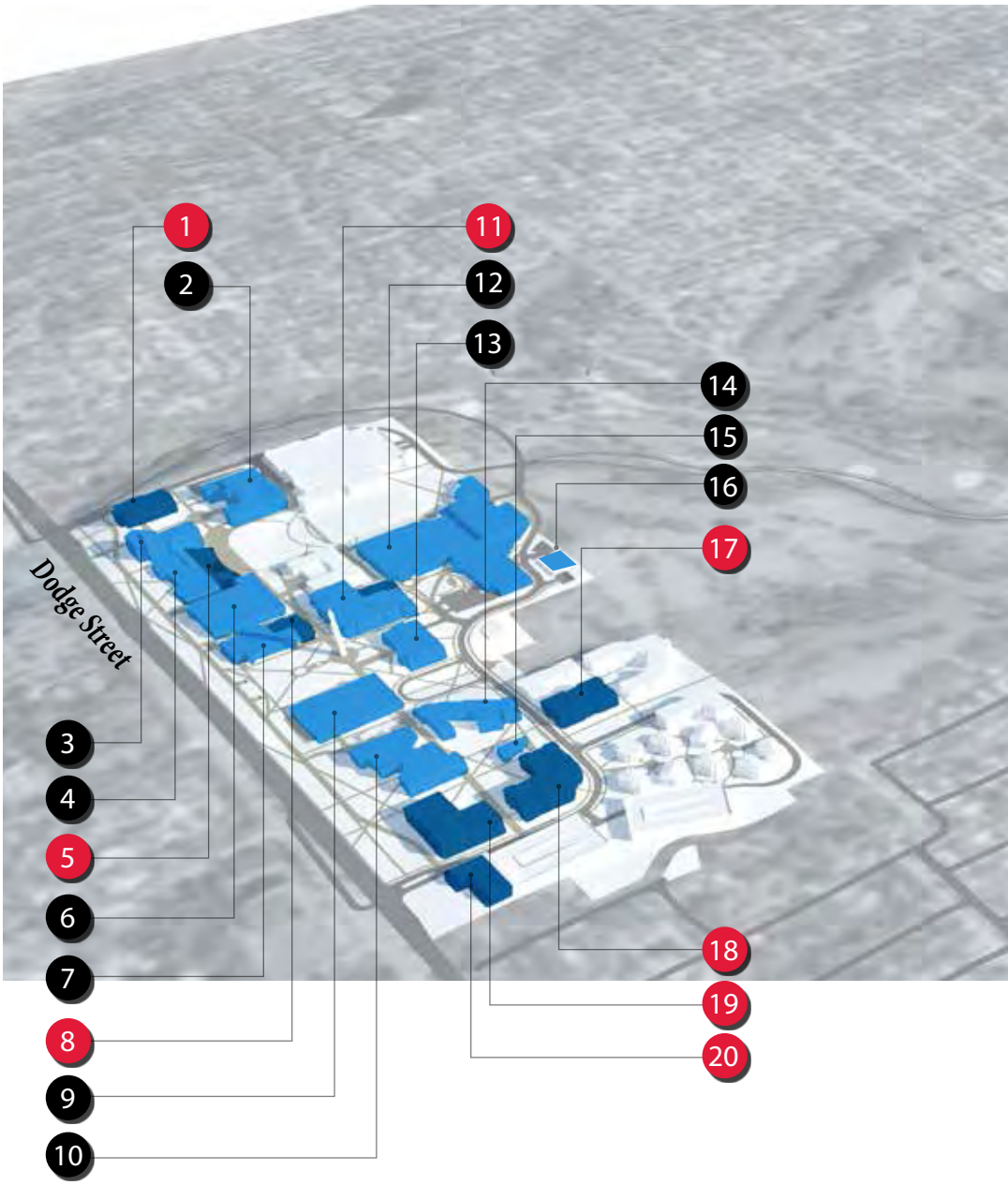
Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

ACADEMIC & SUPPORT

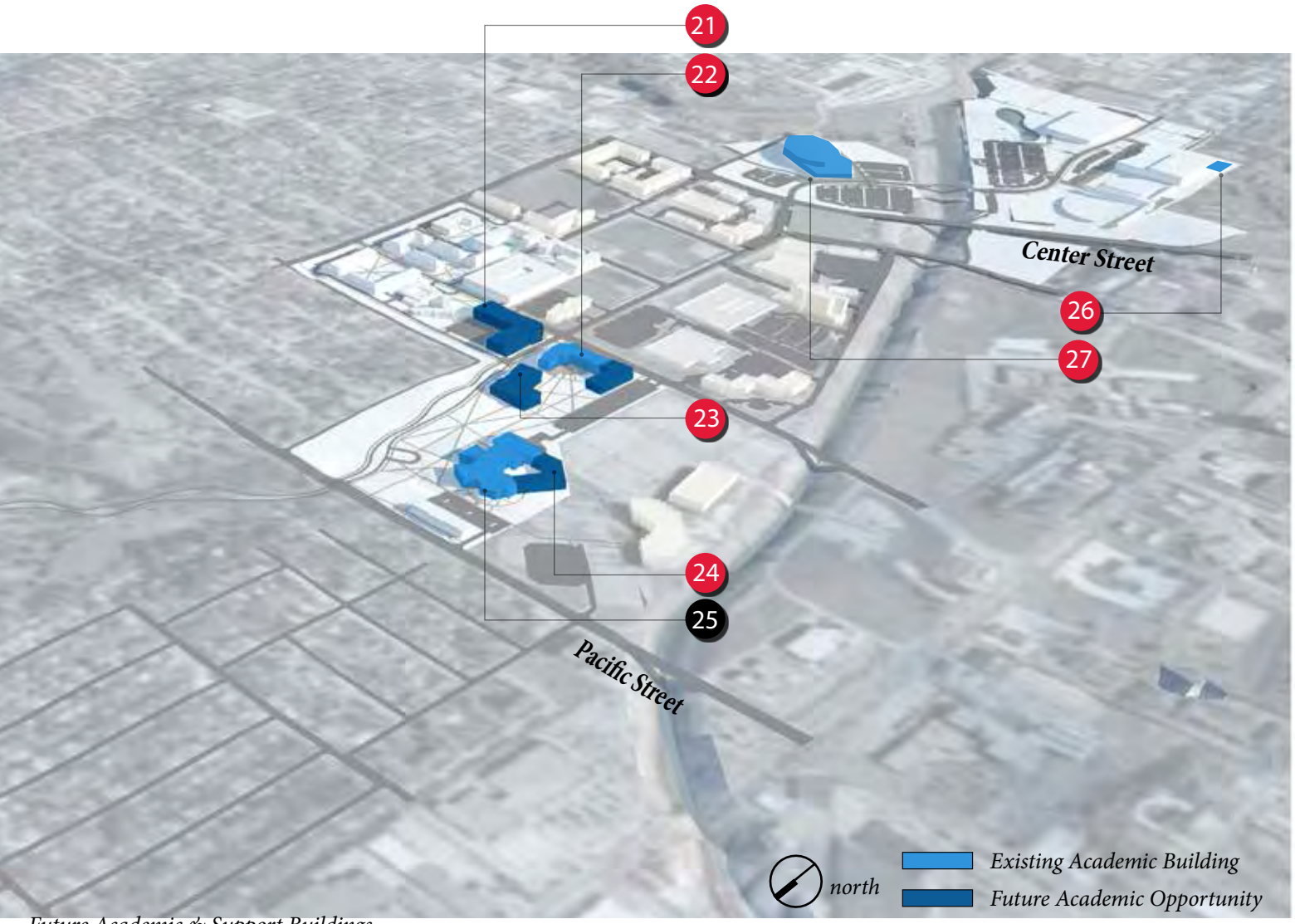
1. Kayser Hall Replacement
2. Arts and Science Hall
3. Roskens Hall
4. Eppley Administration Building
5. Eppley Enhancements
6. Milo Bail Student Center
7. Strauss Performing Arts Center
8. Performing Arts Center Addition
9. Criss Library
10. Durham Science Center
11. College of Public Affairs & Community Service + Addition
12. Sapp Field House & HPER
13. Community Engagement Center
14. Weber Fine Arts Building
15. Welcome Center (Repurposed)
16. Central Utilities Plant
17. Academic Expansion
18. Academic Expansion
19. Science Expansion
20. New Alumni Building
21. Academic Expansion
22. Mammel Hall + Expansion
23. Academic Expansion
24. Peter Kiewit Institute Addition
25. Peter Kiewit Institute
26. General Services
27. University Community Arena

Existing Building

New or Renovated Building



Existing and future campus systems are depicted on the following pages via graphic representation of initiatives by campus, tabular data by initiative and phase, and comparative charts by phase. The Facilities Development Update Plan provides flexible opportunities to meet space needs analysis quantities depicted in Appendix A and highlight a potential to add more than 1,000,000 GSF of new and replacement Academic & Support space to campus by the future (16+ Year) phase.



Future Academic & Support Buildings

	Existing Condition	Initial Phase 0-7 Years	Intermediate Phase 8-15	Future Phase 16+
Academic/Support GSF (Start)	2,389,230	2,389,230	2,729,091	3,047,367
Academic/Support GSF (Removed)	0	43,389	165,724	70,364
Academic/Support GSF (Added)	0	383,250	484,000	527,352
Delta	0	339,861	316,276	456,988
Total Academic/SupportGSF	2,389,230	2,729,091	3,047,367	3,504,355
Campus Acreage	235	235	235	235
Floor Area Ratio (FAR)	0.23	0.27	0.30	0.34

ACADEMIC & SUPPORT

ACADEMIC & SUPPORT BUILDINGS

	BUILDING	BASE GSF	FL	Existing GSF	0-7 Year	8-15 Year	16+ Year
Dodge Campus Academic + Support Buildings							
	Allwine Hall	21,103	7	147,724	147,724		
	Thompson Alumni Center	12,400	1	12,400	12,400	12,400	
	Landscape Services	1,432	3	4,295			
	Child Care Center	2,612	2	5,223			
2	Arts and Sciences Hall	33,249	5	166,245	166,245	166,245	166,245
16	Central Utilities Plant	7,258	2	14,516	14,516	14,516	14,516
13	Community Engagement Center	28,000	2	56,000	56,000	56,000	56,000
11	College of Public Affairs & Community Service+Addition	45,549	3	136,648	136,648	136,648	150,000
9	Criss Library	60,672	3	182,016	182,016	182,016	182,016
10	Durham Science Center	32,842	5	164,210	164,210	164,210	164,210
4	Eppley Admin Building	28,045	4	112,178	112,178	94,178	94,178
	Henningson Memorial Campanile	448	9	4,032	4,032	4,032	4,032
12	HPER (Health, Phy Education, and Recreation)	53,089	5	265,445	265,445	265,445	265,445
	Kayser Hall	11,593	5	57,964	57,964	57,964	
6	Milo Bail Student Center	38,143	4	152,572	152,572	152,572	152,572
	RCRA (Resource Conservation & Recovery Area)	1,144	1	1,144	1,144	1,144	1,144
3	Roskens Hall	14,330	7	100,310	100,310	100,310	100,310
12	Sapp Field House	25,452	6	152,713	152,713	152,713	152,713
	Sculpture and Ceramics Studio	7,628	1	7,628			
	Stadium East	7,970	2	15,940			
	Stadium North	4,731	1	4,731			
7	Strauss Performing Arts Center	13,615	4	54,461	54,461	54,461	54,461
14	Weber Fine Arts Building	20,020	4	80,078	80,078	80,078	80,078
15	Welcome Center (Repurposed)	3,208	4	12,832	12,832	12,832	12,832
19	Science Expansion	35,000	4		140,000	140,000	140,000
8	Performing Arts Addition	12,000	2		24,000	24,000	24,000
5	Eppley Enhancements	31,000	2			62,000	62,000
17	Academic Expansion	23,000	4			92,000	92,000
18	Academic Expansion	36,000	4				144,000
1	Kayser Hall Replacement	20,000	4				80,000
20	New Alumni Building	17,000	4				68,000
Total				1,911,305	2,037,488	2,025,764	2,260,752
Pacific Campus Academic + Support Buildings							
22	Mammel Hall + Expansion	41,000	3	123,000	123,000	123,000	173,000
25	Peter Kiewit Institute	88,000	3	264,000	264,000	264,000	264,000
	Scott Conference Center*	36,000	1	36,000	36,000	36,000	36,000
24	Peter Kiewit Institute Addition	35,000	2			70,000	70,000
21	Academic Expansion	65,000	4			260,000	260,000
23	Academic Expansion	43,000	4				172,000
Total				423,000	423,000	753,000	925,000
Center Campus Academic + Support Buildings							
	Center Building	3,000	1	3,000			
	Center Storage	1,286	2	2,572			
	Center Dome*	49,353	1	49,353	49,353	49,353	49,353
27	Arena	219,250	1		219,250	219,250	219,250
26	General Services	22,000	2		44,000	44,000	44,000
				54,925	268,603	268,603	268,603
	Total			**2,389,230**	**2,729,091**	**3,047,367**	**3,504,355**

Existing Building

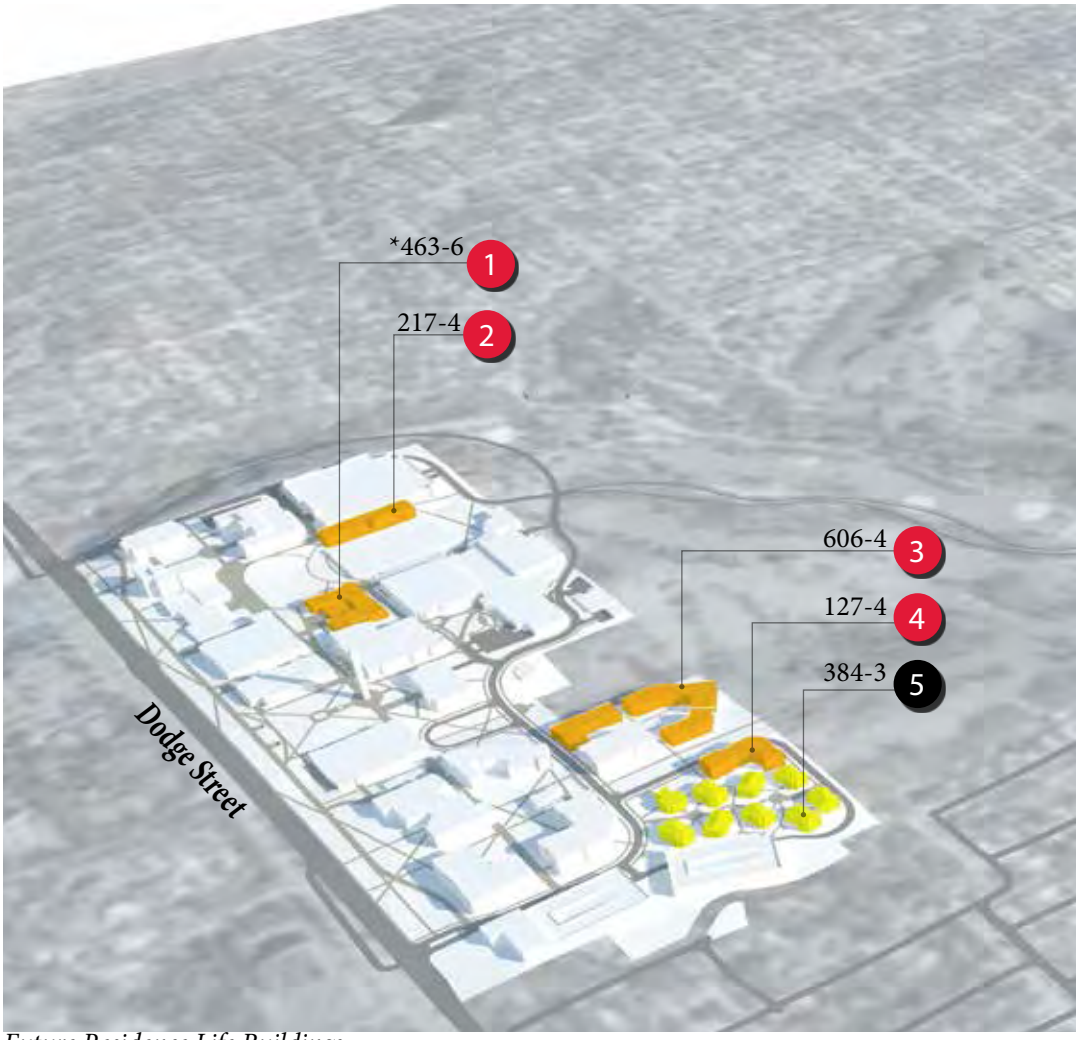
New or Renovated Building

Mammel Hall

RESIDENCE LIFE

As part of a growth trajectory to 20,000 students, UNO desires to increase its on campus ratio of students living on campus from 14% to 20%+ during the life of the Facilities Development Plan Update. Specific residential life initiatives include:

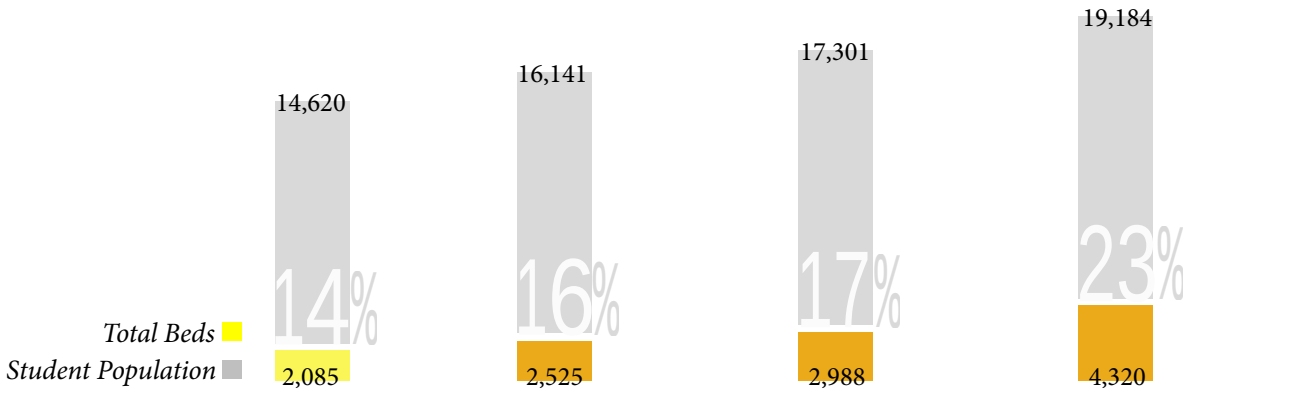
- Provide mix of housing typology that responds to market demand
- Enhance existing residential buildings
- Provide higher density housing models to achieve more units on campus
- Orient buildings to form open space for formal and informal use
- Locate housing to create distinct neighborhoods or districts
- Plan for future greek housing



Future Residence Life Buildings

1. Allwine Replacement
2. New Residential 1
3. University Village Replacement B
4. University Village Replacement A
5. Maverick Village Housing
6. Scott Village Replacement C
7. Scott Village Replacement B
8. Scott Residence Hall
9. Scott Village Replacement D
10. Scott Village Replacement A
11. Scott Court Housing
12. Pacific & 67th Housing

- Indicated an Existing Building
- Indicates a New Building
- * Indicates Total Beds - Total Floors



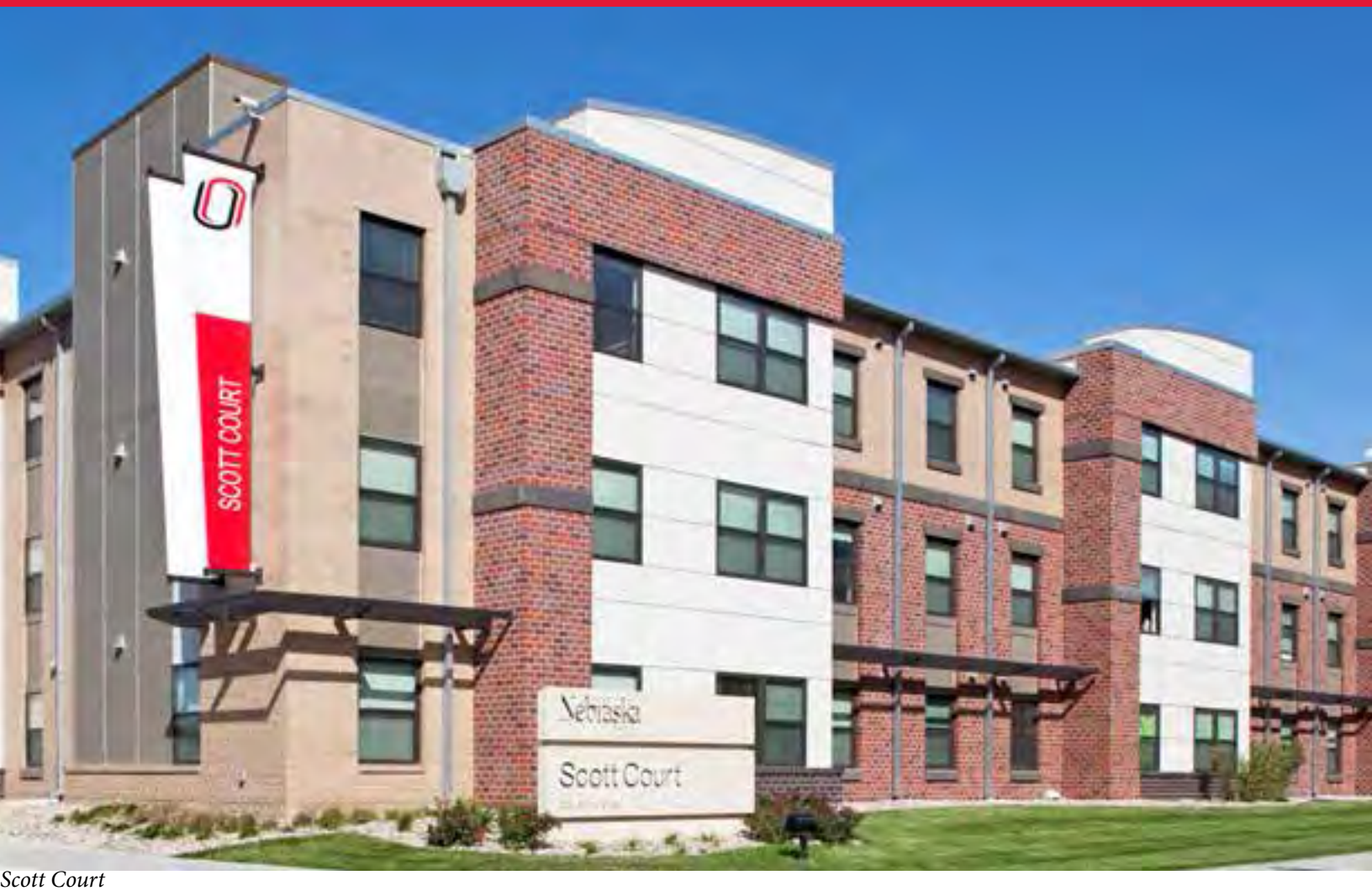
	Existing Condition	Initial Phase 0-7 Years	Intermediate Phase 8-15	Future Phase 16+
Number of Beds (start)	2,085	2085	2525	2988
Removed Beds	0	0	0	1,056
Added Beds	0	440	463	2,389
Delta(+/-)	0	440	463	1,333
Total Beds	2,085	2,525	2,988	4,321
Student Population	14,620	16,141	17,301	19,184
% Living on Campus	14%	16%	17%	23%

RESIDENCE LIFE

	BUILDING	BASE GSF	FL	Beds	Existing GSF	0-7 Year	8-15 Year	16+ Year
Dodge Campus Academic + Support Buildings								
5	Maverick Village Housing - Bldg 1	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 2 (Commons)	5,860	3		17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 3	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 4	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 5	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 6	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 7	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 8	5,860	3	48	17,581	17581	17581	17581
5	Maverick Village Housing - Bldg 9	5,860	3	48	17,581	17581	17581	17581
	University Village - Clubhouse	3,840	1		3,840	3840	3840	
	University Village - Niobrara Hall	4,851	3	48	14,553	14553	14553	
	University Village - Red Willow Hall	4,851	3	48	14,553	14553	14553	
	University Village - Platte Hall	9,634	3	96	28,902	28902	28902	
	University Village - Calamus Hall	9,634	3	96	28,902	28902	28902	
	University Village - Nemaha Hall	9,634	3	96	28,902	28902	28902	
	University Village - Loup Hall	9,634	3	96	28,902	28902	28902	
	University Village - Cedar Hall	9,634	3	96	28,902	28902	28902	
2	New Residential 1	19,000	4	217		76000	76000	76000
1	Allwine Replacement	27,000	6	463			162000	162000
3	University Village Replacement B	16,000	4	183				64000
3	University Village Replacement B	16,000	4	183				64000
3	University Village Replacement B	21,000	4	240				84000
4	University Village Replacement A	11,000	4	126				44000
Pacific Campus Academic + Support Buildings								
8	Scott Residence Hall	14,989	4	169	59,955	59955	59955	59955
8	Scott Village Housing - Commons	2,952	2		5,904	5904	5904	5904
	Scott Village Housing - Bldg A	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg B	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg C	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg D	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg E	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg F	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg G	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg H	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg I	5,794	3	48	17,381	17381	17381	
	Scott Village Housing - Bldg J	5,794	3	48	17,381	17381	17381	
11	Scott Court Housing Building 1	15,484	3	119	46,453	46453	46453	46453
11	Scott Court Housing Building 2	15,484	3	119	46,453	46453	46453	46453
11	Scott Court Housing Building 3	15,484	3	119	46,453	46453	46453	46453
11	Scott Court Housing Building 4	15,484	3	119	46,453	46453	46453	46453
10	Scott Village Replacement A	19,500	4	223		78000	78000	78000
7	Scott Village Replacement B	31,500	4	360				126000
7	Scott Village Replacement B	26,000	4	297				104000
6	Scott Village Replacement C	14,500	4	166				58000
6	Scott Village Replacement C	23,000	4	263				92000
6	Scott Village Replacement C	14,500	4	166				58000
9	Scott Village Replacement D	16,000	4	183				64000
12	Pacific & 67th Housing	19,500	4	223				78000
TOTAL					**761,166**	**915,166**	**1,077,166**	**1,561,900**

● Existing Building

● New or Renovated Building



Scott Court

Maverick Village

PARKING

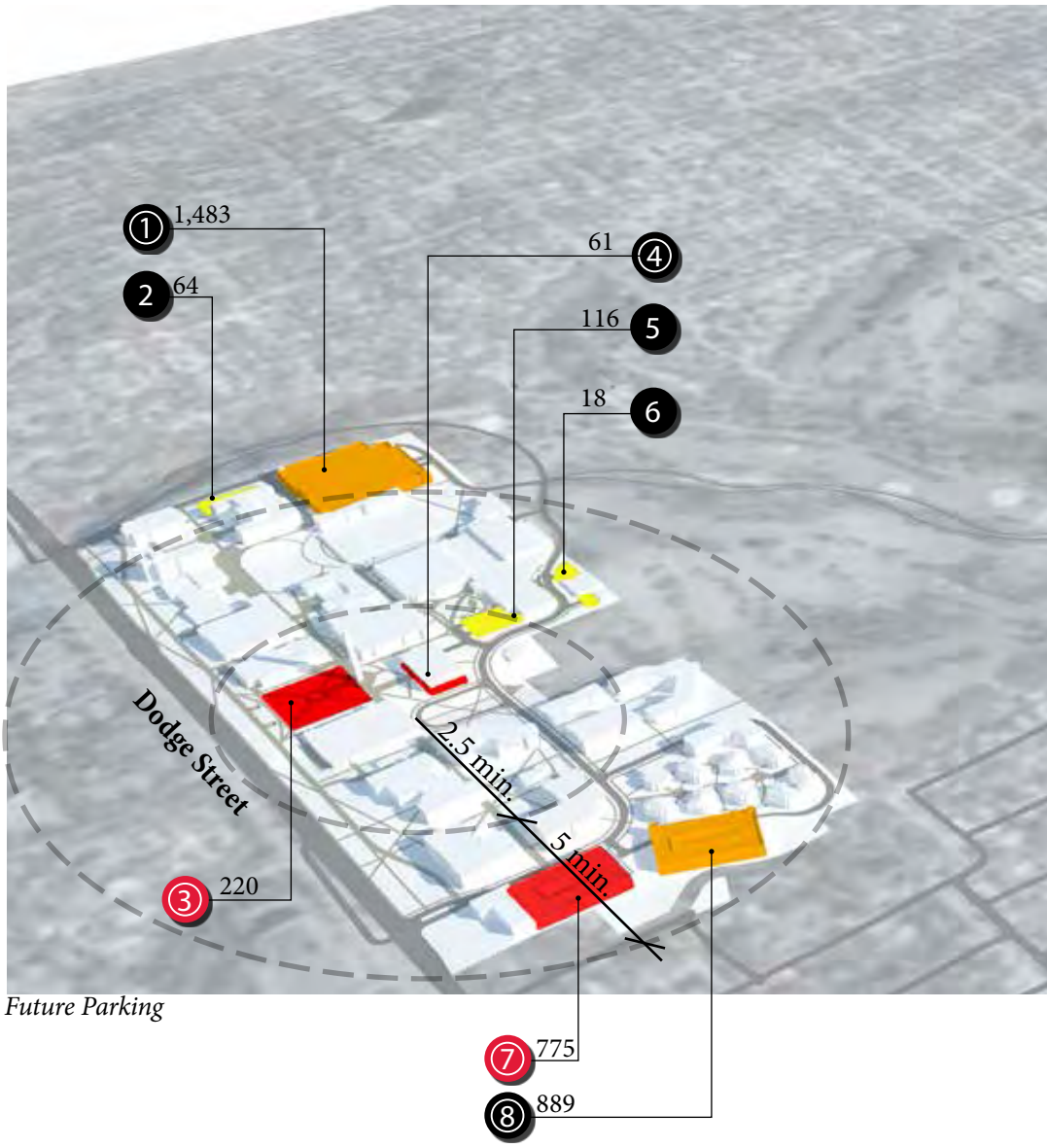
UNO should strive become a parking independent institution. To achieve this goal, while providing adequate program growth opportunities and open space, additional parking structures have been identified and strategically located as part of the Facilities Development Plan Update. Much of the current off campus parking can be replicated with new surface lots at the new Arena facility.

Locating parking resources at the periphery of campus allows for easy access by car while alleviating the need for additional internal vehicular routes. Specific parking initiatives include:

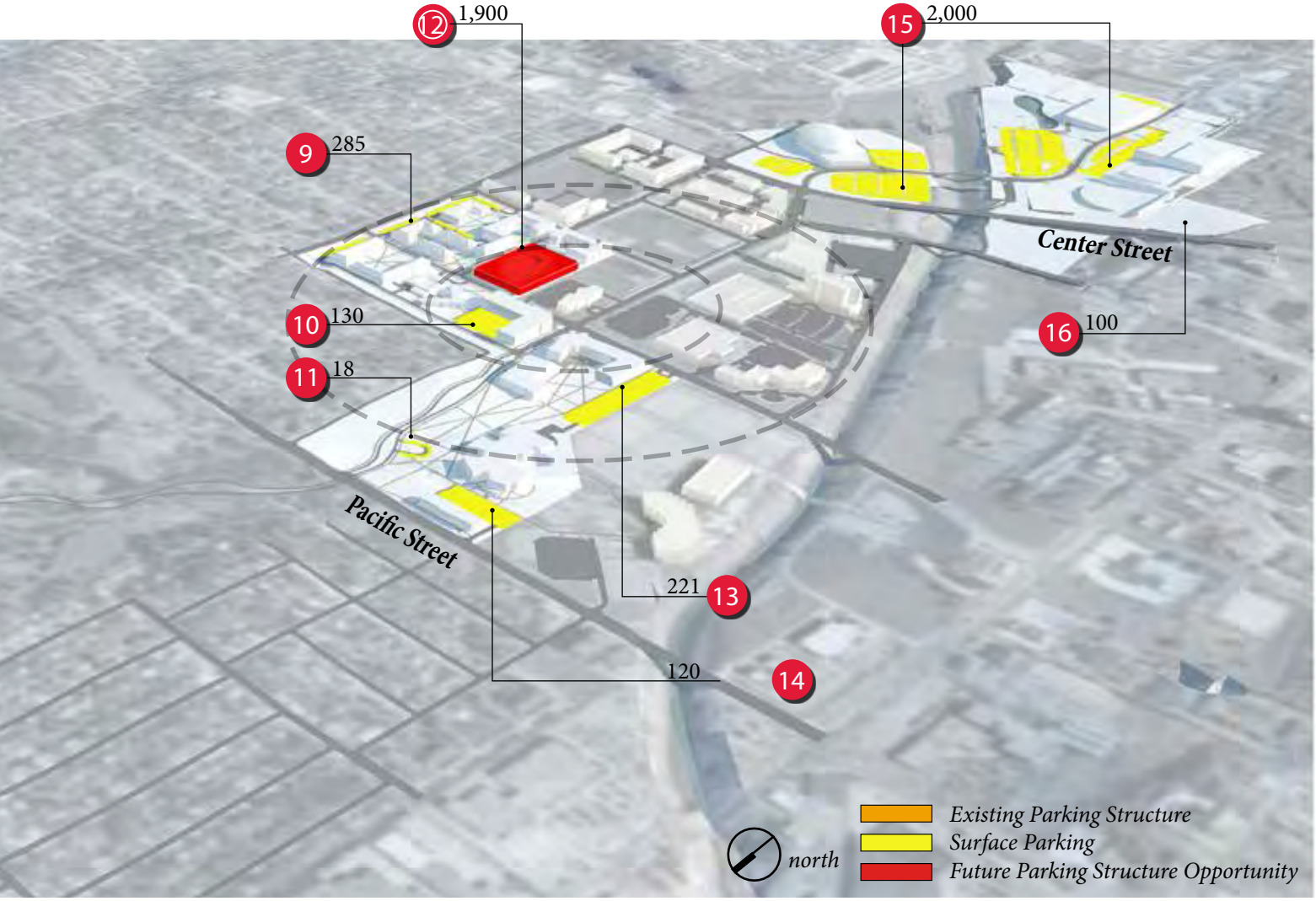
1. East Parking Garage
2. Arts and Science Lot
3. New Parking Structure 1
4. Community Engagement Center
5. HPER North/South
6. Central Plant
7. New Parking Structure 2
8. West Parking Garage
9. Scott Village Housing
10. Academic Expansion C Lot
11. PKI Drop Off
12. Parking Structure 3
13. West of Mammel Lot
14. North of PKI
15. Athletics Campus
16. Services

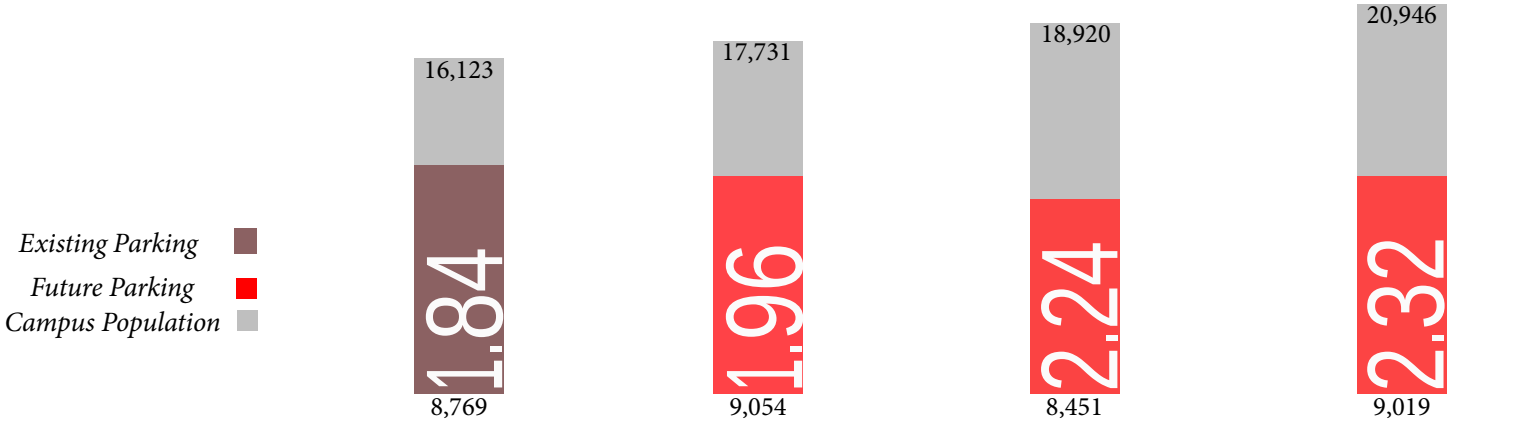
Existing / Future Surface Parking

Existing / Future Parking Structure



Future Parking





	Existing Condition	Initial Phase 0-7 Years	Secondary Phase 8-15	Future Phase 16+
Number of Stalls (start)	8,769	8769	9,054	8,451
Stalls Removed	0	2590	823	2,088
Stalls Added	0	2,875	220	2,656
Delta(+/-)	0	285	-603	568
Total Stalls	8,769	9,054	8,451	9,019
Campus Population	16,123	17,731	18,920	20,946
Ratio*	1.84	1.96	2.24	2.32

PARKING

Key	Parking Area	User	Existing	Intial	Intermediate	Future
Lot#	Lot Name	2012	2012	0-7	8-15	16+
Dodge Campus						
	Durham Tower	Fac/Staff	73	73	0	0
	Welcome Center	Fac/Staff	91	0	0	0
	Weber	Fac/Staff	92	92	0	0
5	HPER South	Fac/Staff	37	16	16	16
4	Community Engagement Center	Fac/Staff	186	61	61	61
	Alwine	Fac/Staff	49	49	0	0
6	Central Plant	Fac/Staff	18	18	18	18
1	Mid Deck - East Parking Garage	Fac/Staff	491	491	491	491
2	Arts/Sci	Fac/Staff	64	64	64	64
			1,119			
	Welcome Center	Multipurpose	20	0	0	0
8	West Parking Garage	Multipurpose	889	889	889	889
	University Village	Multipurpose	61	61	61	0
			139			
	North of Kayser	Student	41	41	0	0
	Univ. Drive N.	Student	76	76	0	0
	Durham Science	Student	164	0	0	0
	Welcome Center	Student	146	0	0	0
	Child Care	Student	95	0	0	0
	University Village	Student	67	67	0	0
5	HPER North	Student	100	100	100	100
1	Lower Deck - East Parking Garage	Student	496	496	496	496
1	Upper Deck - East Parking Garage	Student	496	496	496	496
			2,047	2,047	2,047	2,047
	Epply	Visitor/Meter	53	53	0	0
	Student Center	Visitor/Meter	26	26	0	0
			44			
		Resident				
			810			
7	New Parking Structure 2 (5 Levels)	Multipurpose		775	775	775
3	New Parking Structure 1 (2 Levels)	Fac/Staff/Visitor			220	220
			3,831	**3,944**	**3,687**	**3,626**
Pacific Campus						
	East of Scott Conf Center	All	324	324	132	0
		All	179	80	80	0
		All	213	213	213	0
	E of PKI	Fac/Staff	154	154	0	0
			219			
	Scott Village	Housing	266	266	266	0
	Scott Village	Housing	103	103	103	0
	Scott Village	Housing	101	101	101	0
	Scott Court	Housing	263	263	263	0
			654			
	South of SCC	Multipurpose	85	85	85	0
			604			
	North of PKI	Student	248	248	248	0
	PKI/Mammel	Student	260	260	260	0
	PKI/Mammel	Student/Fac	174	174	174	0
	PKI/Mammel	Student/Fac	71	71	71	0
			724			
11	PKI Drop Off	Visitor/Meter	18	18	18	18
	Mammel	Visitor/Meter	31	31	31	0
13			18			
	New Lot West of Mammel					221
9	New Scott Village Housing					285
12	New Parking Structure 3 (5 Levels)					1,900
14	New Lot North of PKI					120
10	New Lot Behind Academic					130
			2,490	**2,391**	**2,045**	**2,674**
Center Campus						
	Dome	All	237	78	78	78
			211			
15	Athletics Parking			2,000	2,000	2,000
16	Services			100	100	100
			237	2,178	2,178	2,178
Off Campus						
	Crossroads	Remote/Shuttle	1,350	0	0	0
			1,350			
	First Cristian		139	0	0	0
	St Margaret Mary		181	0	0	0
	On Street/Other		541	541	541	541
			2,211	**541**	**541**	**541**
			8,769	9,054	8,451	9,019

Existing / Future Surface Parking

Existing / Future Parking Structure

Dodge Campus, West Parking Garage

OPEN SPACE, ATHLETICS AND RECREATION

UNO's campus open space character is exemplified by a primary pedestrian corridor connecting the Dodge Campus along the east-west axis. This open space currently terminates in the Pep Bowl and area surrounding the Welcome Center. The Facilities Development Plan Update extends the character of this pedestrian spine to create a cohesive landscape character and organization of athletic and recreation that permeates all three campus locations. Open space, athletic and recreation priorities include:

- Maintain established setback along Dodge Street and beautify the edge
- Situate new buildings to define open space and frame quadrangles
- Create competitive soccer on the Dodge campus
- Incorporate informal recreation opportunities near residential districts
- Develop Center campus as a Competitive and Recreational anchor

Future Open Space

Athletics + Recreation
Open Space
300m Indoor Track
Competitive Tennis
Competitive Hockey
Competitive Soccer
Competitive Softball
Competitive Baseball

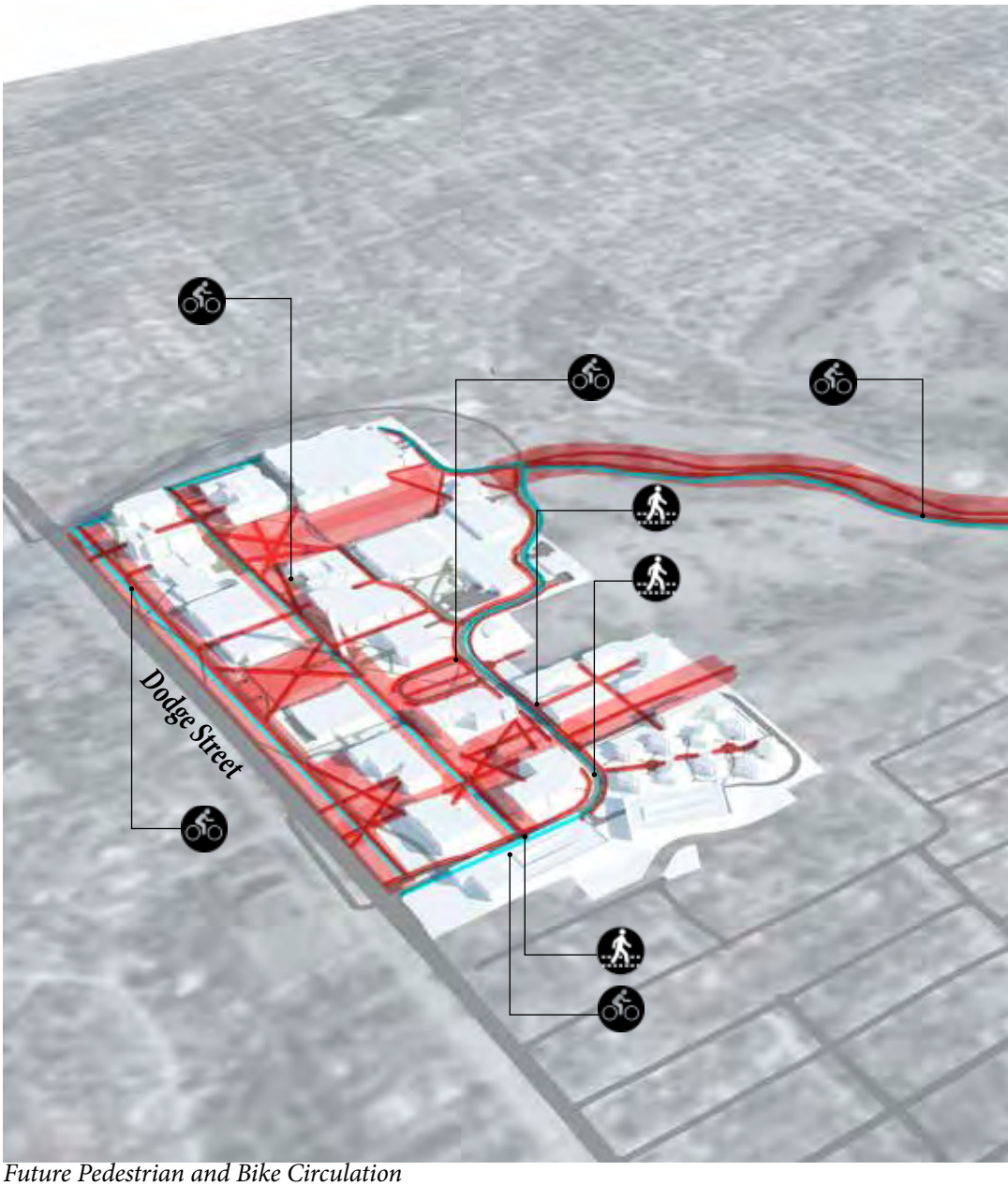
Recreational Basketball
Recreation Volleyball
General Recreation Fields
Competitive Basketball
Competitive Volleyball


B
V
R
R
Center Street
Pacific Street
north

PEDESTRIAN AND BIKE CIRCULATION

The Facilities Development Plan Update strengthens a multi-modal campus core through development of a hierarchy of dedicated pedestrian and bicycle corridors with minimal vehicular conflicts to reinforce walking and biking as the primary modes of circulation on UNO's campuses. A number of on- and off-street connections are feasible for use as bicycle transportation routes as part of this plan. Campus walkways can be specifically designed to accommodate pedestrians and bicycles separately or as part of a single path. Locating adequate bicycle parking and showers/changing facilities throughout campus also promotes a culture of biking. Specific pedestrian and bicycle initiatives include:

- Provide direct and accessible pedestrian routes to all major building entries
- Define a comfortable and welcoming pedestrian environments through sidewalks, seating and provision of shade
- Enhance multi-modal connections between campuses
- Strategically locate pedestrian crossings to reduce vehicular pedestrian conflicts
- Create bike parking areas adjacent to high use bicycle paths, transit stops, parking resources and at the edge of primary pedestrian areas
- Develop designated pedestrian and service areas to minimize conflicts
- As bicycle population continues to grow, consider bicycle dismount zones in highest use pedestrian areas to minimize conflicts

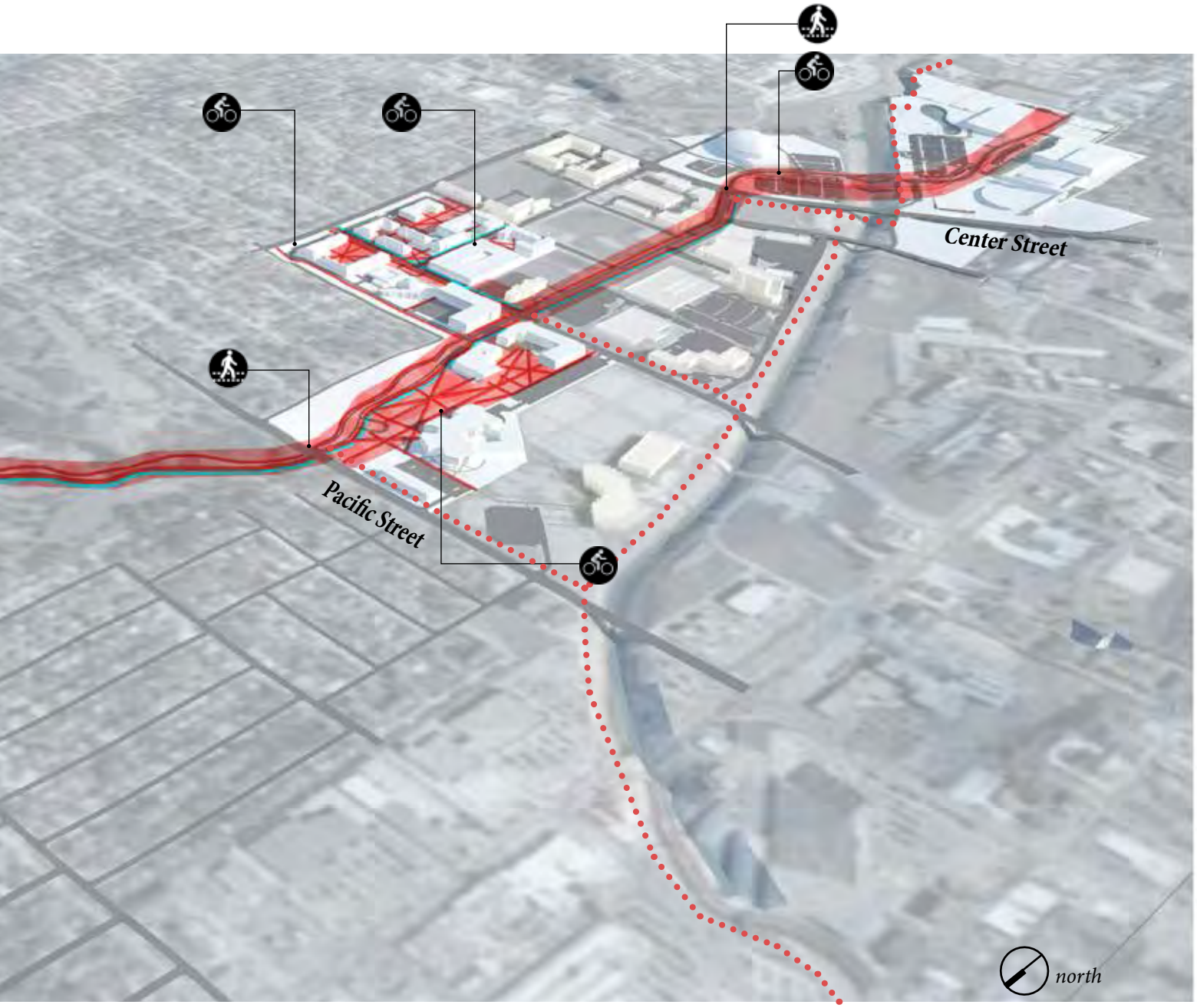


Future Pedestrian and Bike Circulation

Pedestrian and Bike Corridors
Major Pedestrian Routes
Major Bike Routes
Keystone Trail + Connections

Enhanced Pedestrian Crossings

Major Bike Parking Hubs


Center Street
Pacific Street
north

VEHICULAR CIRCULATION

The Facilities Development Plan Update builds upon existing vehicular circulation on campus and maintains primary routes to perimeter parking resources and between campuses while maintaining pedestrian cores at each campus. Encouragement of vehicular circulation to the campus perimeter will create safe, imageable and attractive pedestrian environments for students, faculty, staff and visitors and reduces the potential for pedestrian-vehicular conflicts. Vehicular circulation initiatives include:

- Develop easily understood and identifiable gateways
- Create a hierarchy for gateway opportunities
- Locate major vehicular gateways along Dodge Street, Pacific Street, and Center Street
- Provide an outer vehicular loop to easily access parking resources and alleviates the need for internal roads.
- Establish a grid system consistent with Aksarben Village on the Pacific Campus
- Provide a looped connection though Center Campus allowing for better transit capabilities

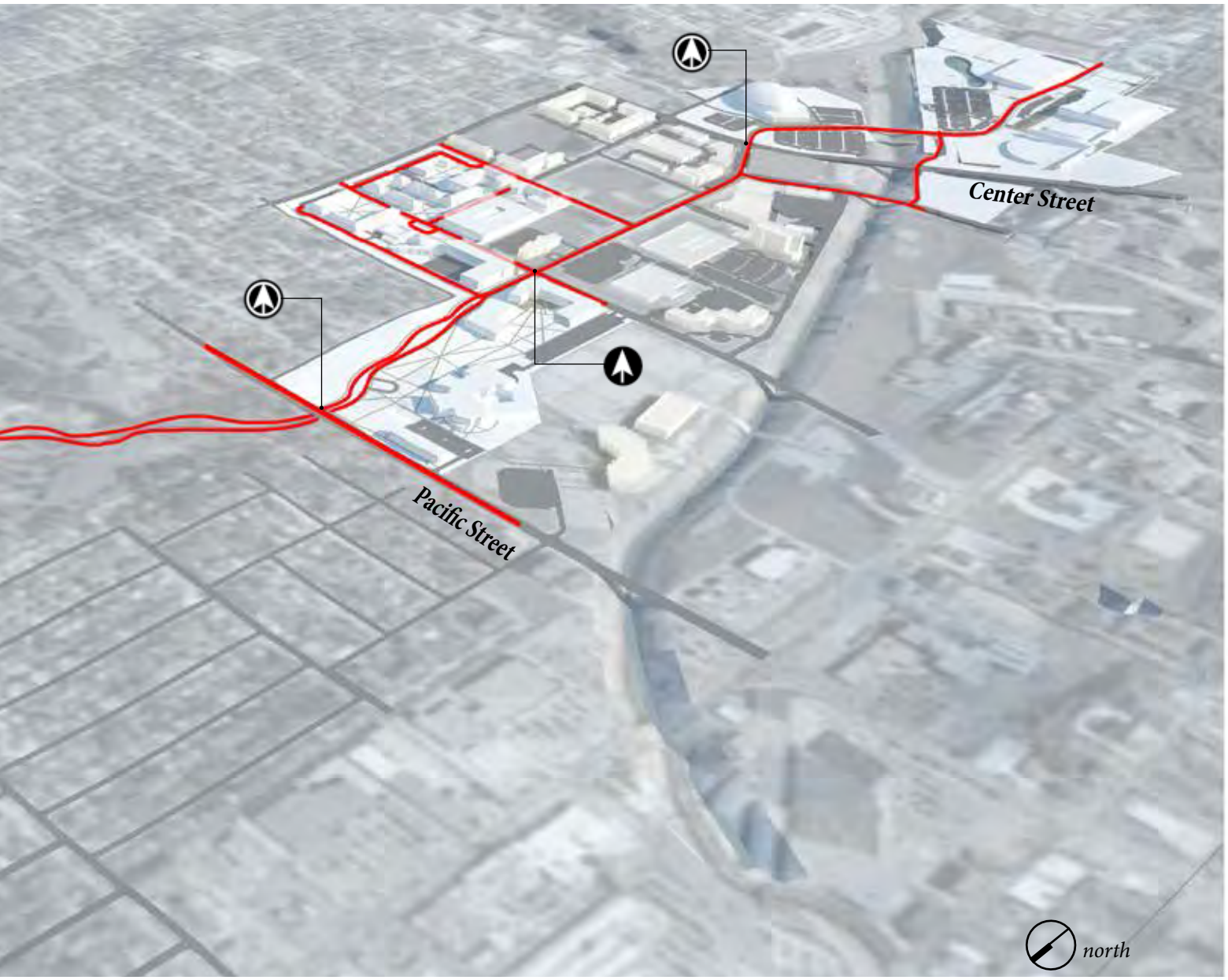
Future Vehicular Circulation

Major Vehicular Routes

Pedestrian and Service Corridor

Major Campus Vehicular Gateways

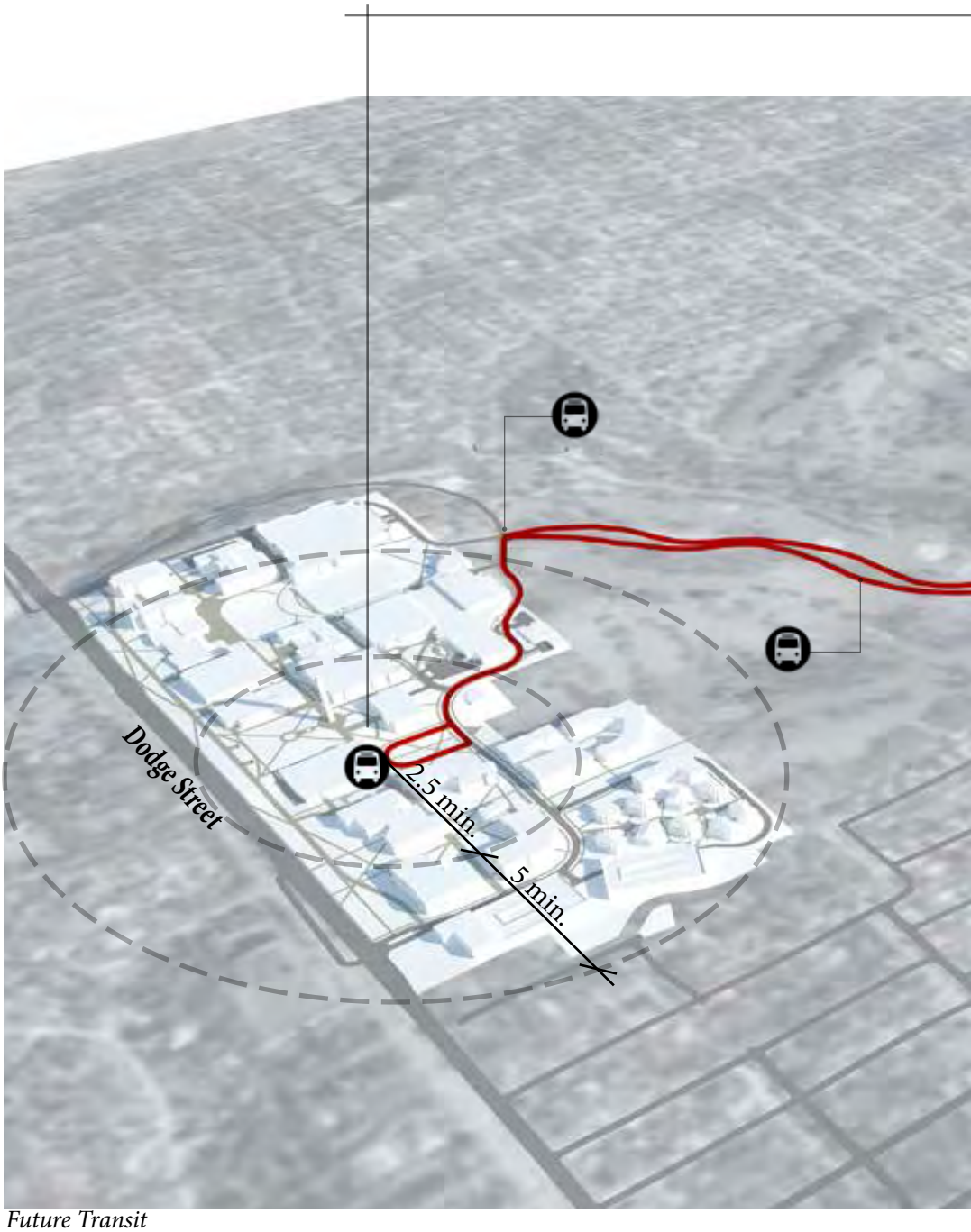
Minor Campus Vehicular Gateways


Center Street
Pacific Street
north

CAMPUS TRANSIT

The Facilities Development Plan Update introduces a transit strategy that builds upon existing transit connections by providing safe, regular and convenient connections between campus in a simple, identifiable out and back system. As the campus population increasingly utilizes transit and non-motorized transportation options, their actions will reduce pollutants and lead to a reduction in the demand for on-campus parking. Specific transit initiatives include:

- Establish a 2-mile (one-way) transit loop
- Provide opportunities for convenient transit headways from remote parking on the Center campus to the Dodge campus.
- Centrally locate bus stops for ease of access
- Consider operational changes to transit, including options to partner with Metro Transit or own the system. Either scenario should include improved system branding with UNO logos and/or school colors.

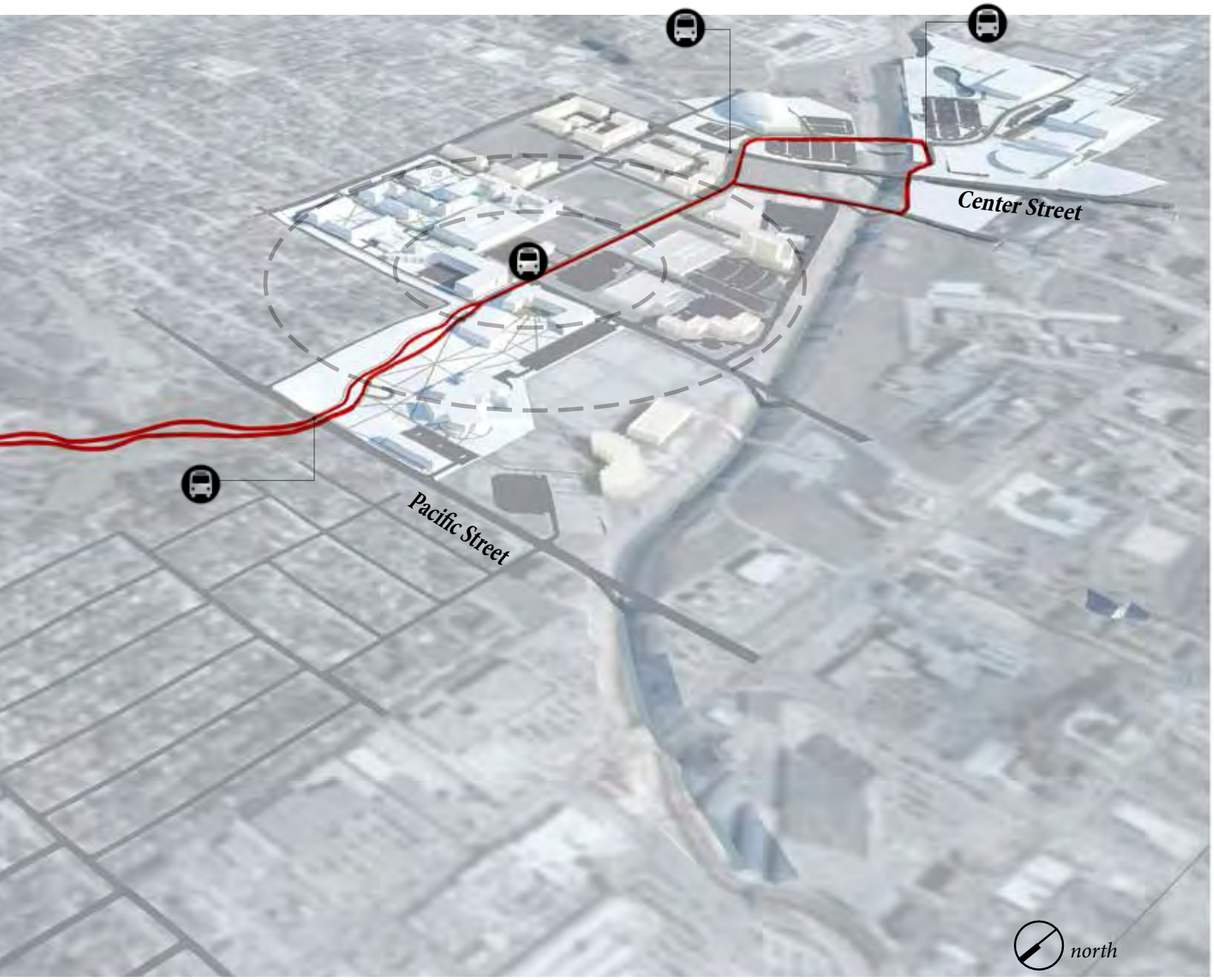


Future Transit

Transit Routes

Walking Radii

Campus Transit Stops

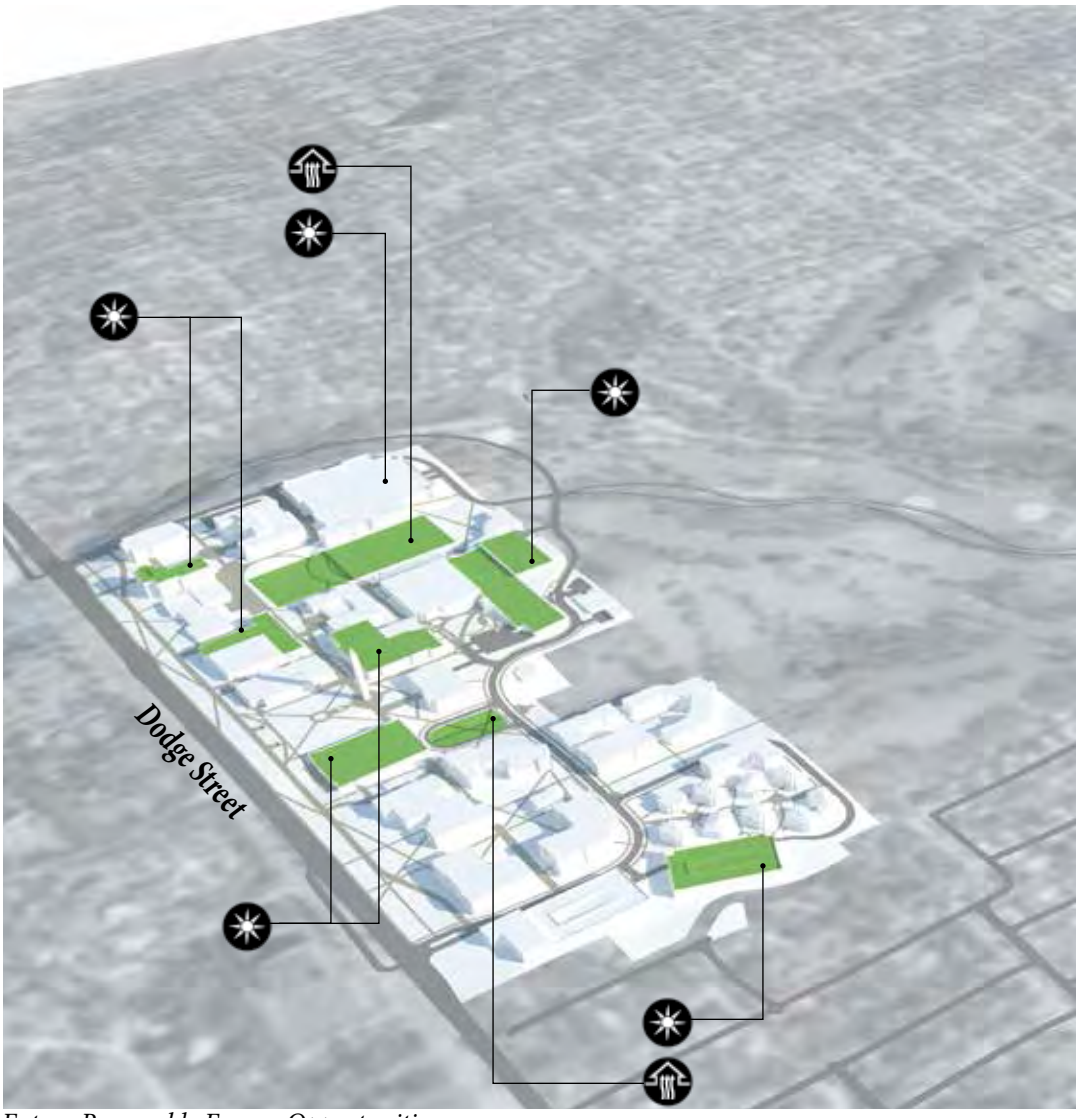

Center Street
Pacific Street
north

SUSTAINABILITY

In 2011, UNO developed a Renewable Energy Plan to serve as an overlay to the Facilities Development Plan. Completed in cooperation with Alvine Associates and Boyd Jones, renewable strategies studied include: photovoltaic, wind turbine, solar hot water heating and geothermal.

This diagram highlights the opportunities from the 2011 plan as they relate to the Facilities Development Plan Update, with emphasis on migration to renewable strategies including:

- Geothermal
- Solar
- Solar Hot Water
- Wind



Future Renewable Energy Opportunities

Future Renewable Energy Opportunities

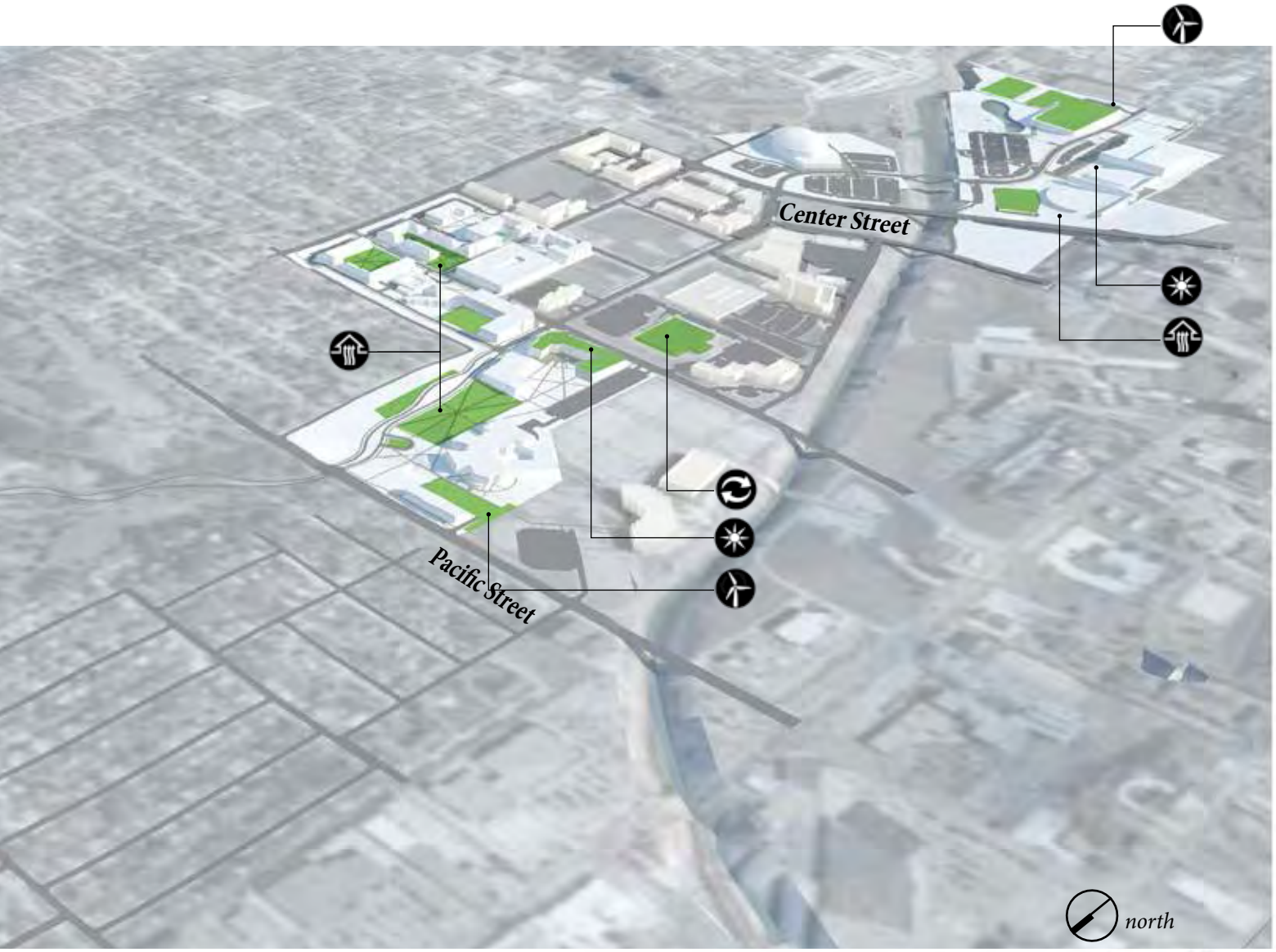
Energy Sharing Opportunity

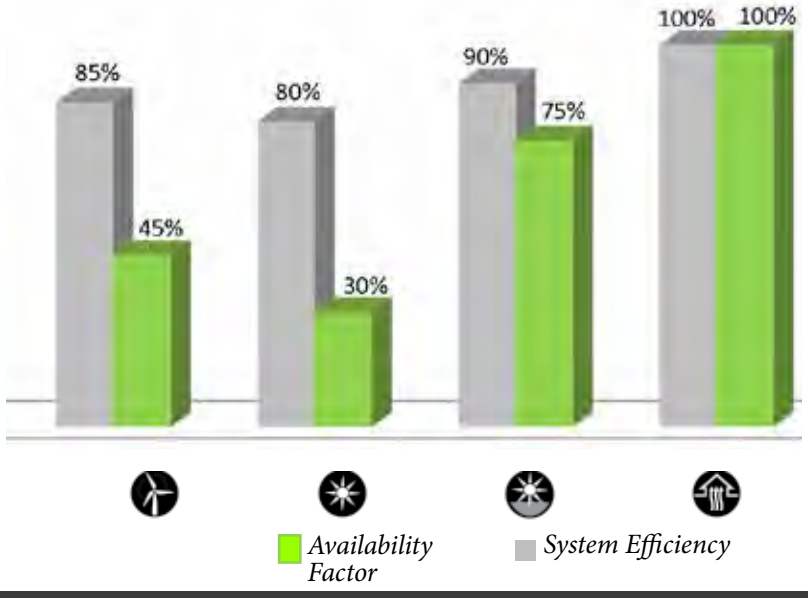
Geothermal Opportunities

Solar Power Opportunities

Solar Hot Water Opportunities

Wind Power Opportunities


Center Street
Pacific Street
north


85%
45%
80%
30%
90%
75%
100%
100%
Availability Factor
System Efficiency

IV. CAMPUS IDEAS

INTRODUCTION

The University of Nebraska Omaha (UNO) is comprised of three campuses. A primary goal of the Facilities Development Master Plan Update is to enhance physical connections and enhance UNO's campus as one university with many campus experiences. A strong physical presence and campus character will continue to distinguish UNO to students, faculty, visitors, prospective students, alumni and community members. Campus recommendations that reinforce the character and identity of the Dodge campus, Pacific campus and Center campus will anchor existing centers of excellence. Building upon successes at Elmwood Park, Aksarben Village, and the new University Community Arena, a cohesively branded academic corridor is envisioned linking the three campuses. This improved connectivity will allow for a seamless expression of UNO as a multi-faceted metropolitan university.

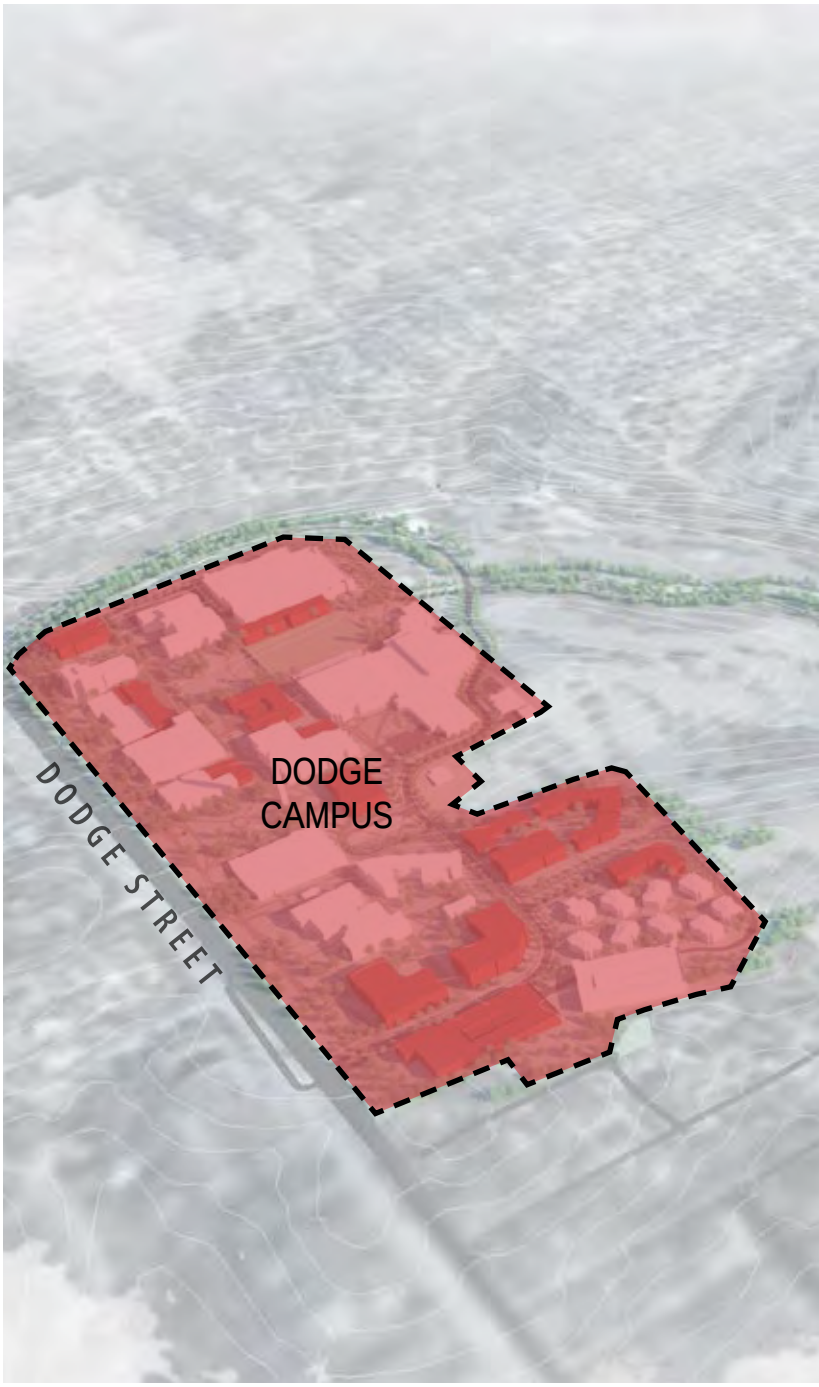
UNO's campuses have distinctive attributes that support diverse programmatic activities occurring within its bounds. These campuses establish a sense of place and structure UNO into identifiable environments. Future development on each campus should build upon existing centers of excellence and advance initiatives to provide a unified campus experience.

Campus ideas and initiatives described in this chapter include:

Dodge campus
- Pep Bowl and Student Center
- Pep Bowl and Athletics/Recreation
- Arrival and Visitor Parking
- Dodge Street Mall
- West Dodge Entry

Pacific campus
- Elmwood Park Connection
- New Academic Quadrangle
- Scott Village Residential Infill

Center campus
- Consolidated Athletics



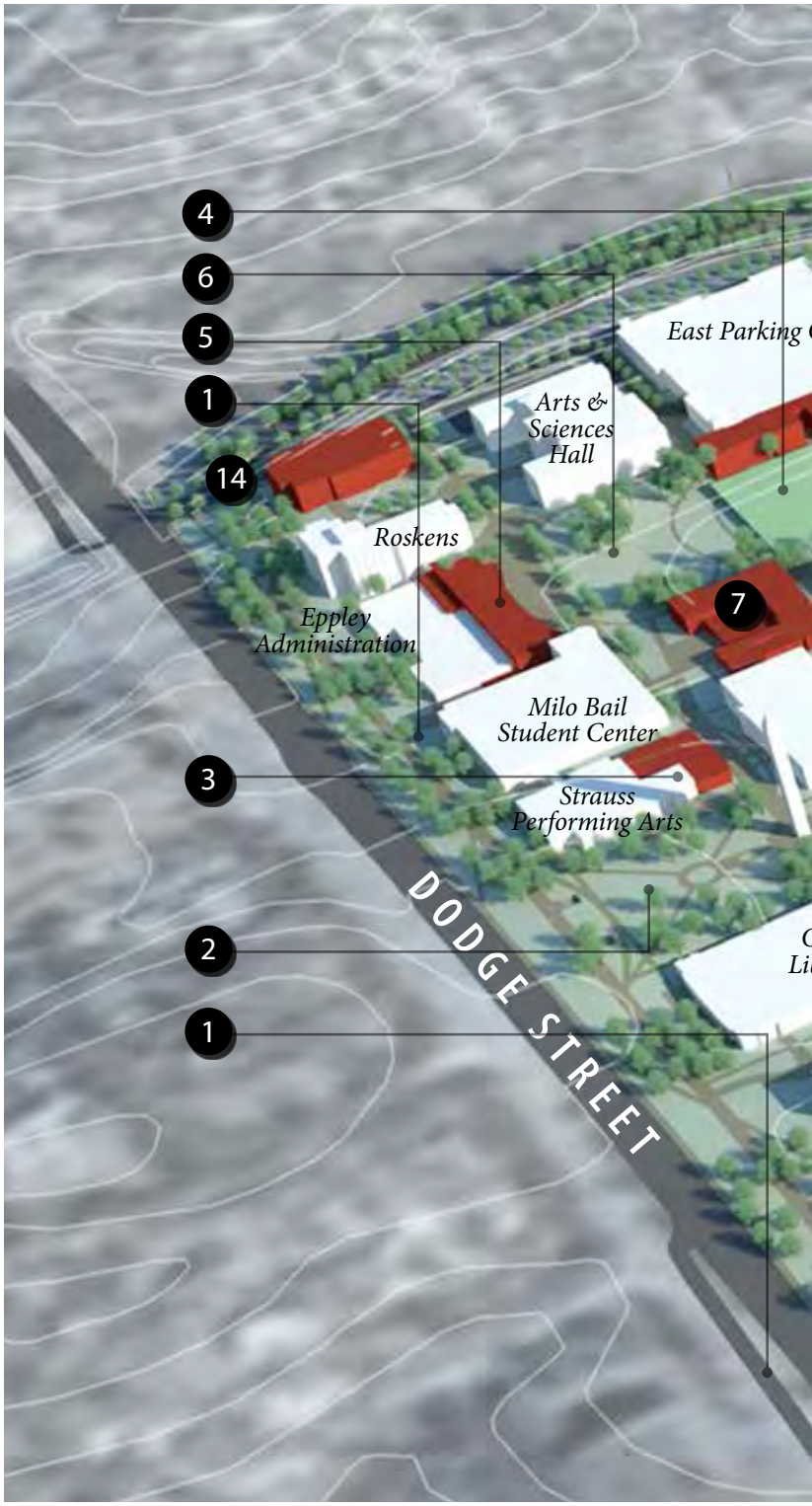
Three Campuses

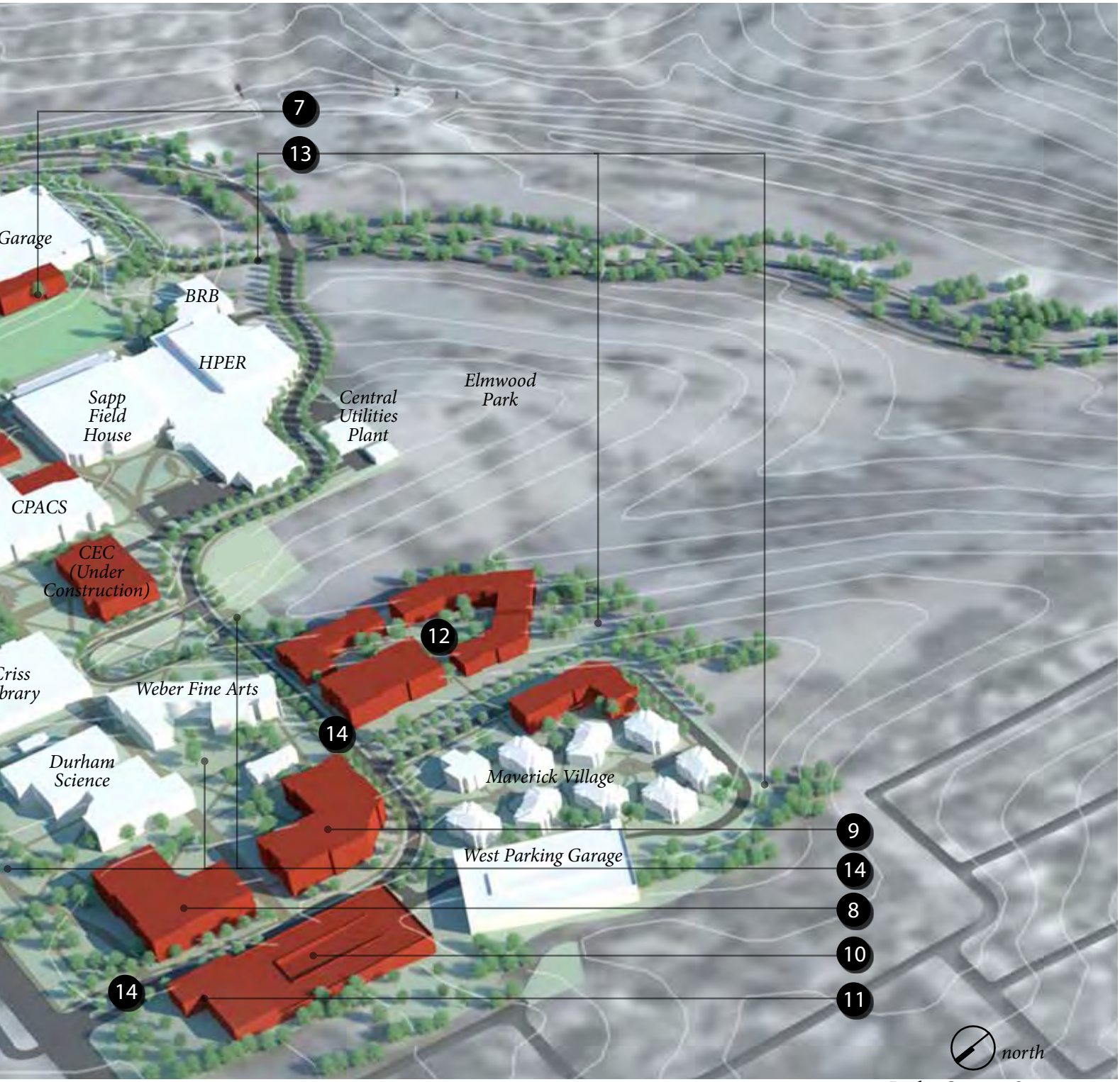
DODGE CAMPUS

DODGE CAMPUS CONTEXT

As the historic core of UNO facilities, the Dodge campus maintains a robust mix of academic, support, auxiliary and residential uses. With frontage on Dodge Street, one of the most visible corridors in the Omaha metropolitan area, the Dodge campus will remain a premier front door for the university into the future. Historically, as the institution has grown, surface parking resources have become sites for academic and residential expansion on the Dodge campus. This trend will continue as the university seeks to make the most of its land resources through parking structures on the perimeter and increased usage of alternative transportation modes. Future growth at the Dodge campus should:

1. Beautify and enhance Dodge Street edge and improve access from Dodge Street to campus with an additional entrance
2. Improve visitor arrival and parking experience at a consolidated location near Henningson Memorial Campanile
3. Provide opportunity for Strauss Performing Arts expansion
4. Develop competitive soccer field and shared recreation amenity at the core campus
5. Improve Student Center and one-stop experience
6. Enhance pep bowl as a significant campus open space
7. Encourage housing adjacent to the pep bowl and campus core
8. Develop new Science Building
9. Create consolidated Science and Arts neighborhood with future academic building including Weber Fine Arts expansion
10. Develop new parking garage to accommodate removal of surface parking, loss of off-site remote parking, and future growth
11. Consider new consolidated Visitors Center and Alumni Center on Dodge Street
12. Redevelop a mixed use residential and academic neighborhood at University Village
13. Enhance connections to Elmwood Park
14. Improve internal neighborhood vehicular, pedestrian and transportation circulation





Dodge Campus Opportunities

Existing Campus Building

Existing Off-Campus Building

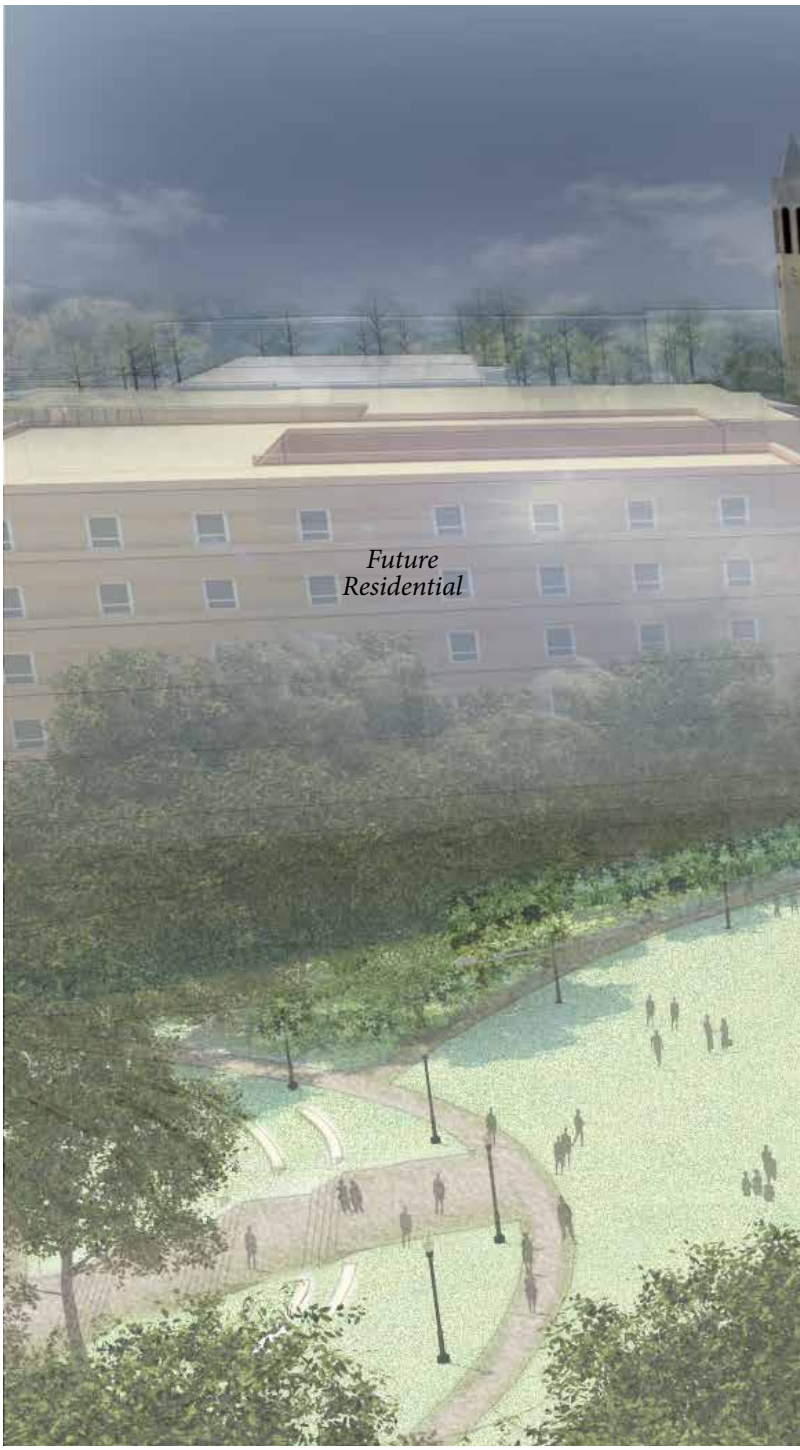
Future Campus Building Opportunity

THE PEP BOWL AND STUDENT CENTER

The Pep Bowl is located in the center of the Dodge campus and has the potential to become a signature open space on UNO's campus. Maintaining the green and open character of the Pep Bowl is imperative for passive and active recreation at the campus core. Minor edge modifications with staircase, ramp and seatwall enhancements offer the opportunity to enhance the pedestrian character of the area. Improvements should reinforce the character of this open space, providing quality open space that is iconic for the future of UNO. Plan initiatives and ideas include:

- Develop a signature open space or quadrangle for gathering, active and passive recreation adjacent to Eppley Administration Building, Milo Bail Student Center, Arts & Sciences Hall and new residential opportunities
- Enhance the Eppley Administration Building edge by providing opportunities for additional density, programmatic connection to the Milo Bail Student Center, and an axial terminus from the Soccer Field and through the Pep Bowl
- Provide east-west pedestrian realm and landscape improvements that improve connections from Arts & Sciences Hall to Durham Science Center
- Provide north-south visual and pedestrian connections via grand stairway that steps down the hill side, allowing the Pep Bowl to remain flat and maintain its sense of scale.
- Provide opportunities for quiet seating and signwall opportunities to enhance imageability of UNO's campus.

Existing Conditions of the Pep Bowl looking west

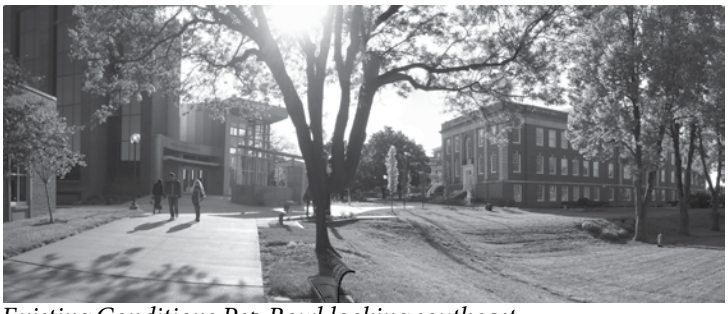


Pep Bowl looking west towards Henningson Memorial Campanile

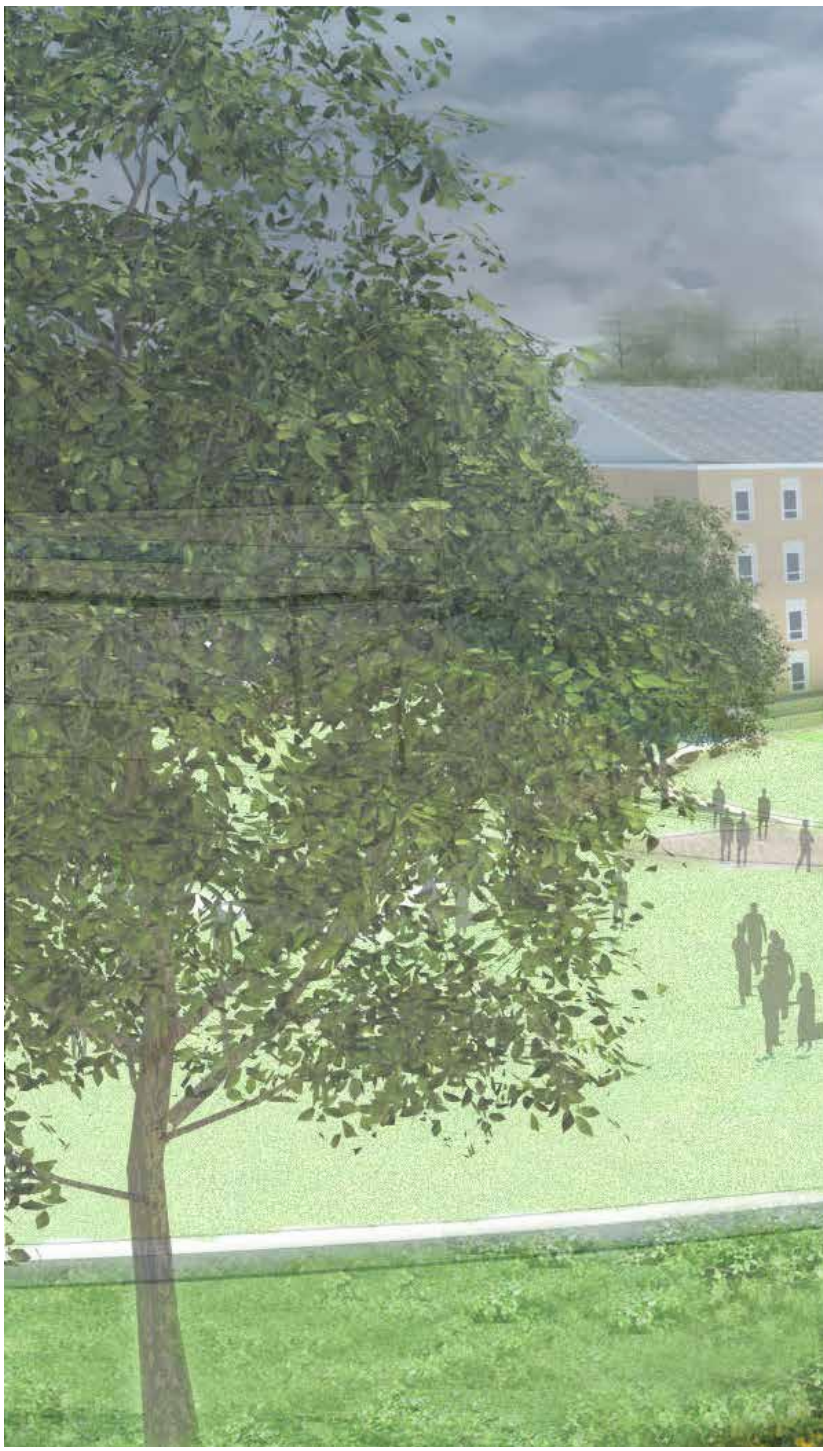
THE PEP BOWL AND ATHLETICS / RECREATION

The Pep Bowl will connect academic functions at Arts & Sciences Hall and Roskens Hall with support functions at Eppley Administration Building and Milo Bail Student Center. Additional opportunities to activate this space with residential uses should be pursued to ensure the types of activity required for this iconic space at all times of day. This diverse mix of surrounding uses will benefit from continuous active, passive and competitive athletic and recreation opportunities on the Pep Bowl. Priorities for connecting Pep Bowl to the Soccer Field and Stadium include:

- Provide opportunities for future residential use west of the parking structure and on the Allwine Hall site to frame the open space and provide a diversity of users and "eyes on the quad".
- Enhance the Pep Bowl edge treatment and reinforce walkways with seatwalls to step down the hillside and increase opportunities for chance interactions.
- Provide edge tree and landscape plantings consistent with existing plant palette to provide shade and a sense of scale for the enhanced open space.
- Maintain view lines (both axial and non-axial) to encourage a visual connection between open spaces as the landscape steps down the hill to the Soccer Field and Elmwood Park.
- Promote pedestrian and bicycle connections by providing appropriately scaled walkways and open spaces.
- Provide strong campus core interface with athletics and recreation through terraced seating and ramps.



Existing Conditions Pep Bowl looking southeast



Pep Bowl looking southeast towards Soccer Field, Future Residential and Elmwood Park

ARRIVAL AND VISITOR PARKING

Located north of the Henningson Memorial Campanile, lots D and E currently provide approximately 150 faculty and student surface parking spaces in the center of campus. The Facilities Development Plan Update envisions relocating these surface parking spaces to a new perimeter parking garage with easier access from Dodge Street. Visitor parking can still be accommodated in this high profile area proximate to Criss Library, Strauss Performing Arts, the College of Public Affairs & Community Service (CPACS) and the new Community Engagement Center. These visitor parking spaces should be located underground, with two levels of parking sited to take advantage of the existing grade. The new open space for UNO at the Henningson Memorial Campanile will:

- Create a distinctive edge framing the view to the campanile along Dodge Street, promoting connections between UNO and the community.
- Provide campus identity and outreach through accessible visitor parking and gathering space.
- Maintain the Henningson Memorial Campanile and Memorial Gardens while providing an appropriate greensapce to replace the former surface parking lot.
- Encourage continuous pedestrian connectivity along Dodge Street and to the campus core.

Existing Conditions Parking Lots D and E

Future Arrival and Visitor Parking at Henningson Memorial Campanile

DODGE STREET MALL

Over 60,000 cars traverse Dodge Street per day. The corridor has the opportunity to provide the university with an iconic campus edge that enhances the image of UNO within the city of Omaha. Specific initiatives for the Dodge Street Mall include:

- Enhance the Dodge Street edge to accommodate coordinated bus pull-off and seating areas that coordinate with primary pedestrian gateways.
- Relocate surface parking opportunities along University Drive North (immediately south of Dodge Street) to perimeter parking garages.
- Enhance University Drive North south of Henningson Memorial Campanile with special paving and Complete Street design initiatives that provide equal opportunities for pedestrian, bicycles, visiting automobiles and service vehicles.
- Replace University Drive North with a shared use pedestrian and service vehicle route north of Henningson Memorial Campanile.

Dodge Street Existing Conditions

Future Dodge Street Shared Pedestrian and Service Mall

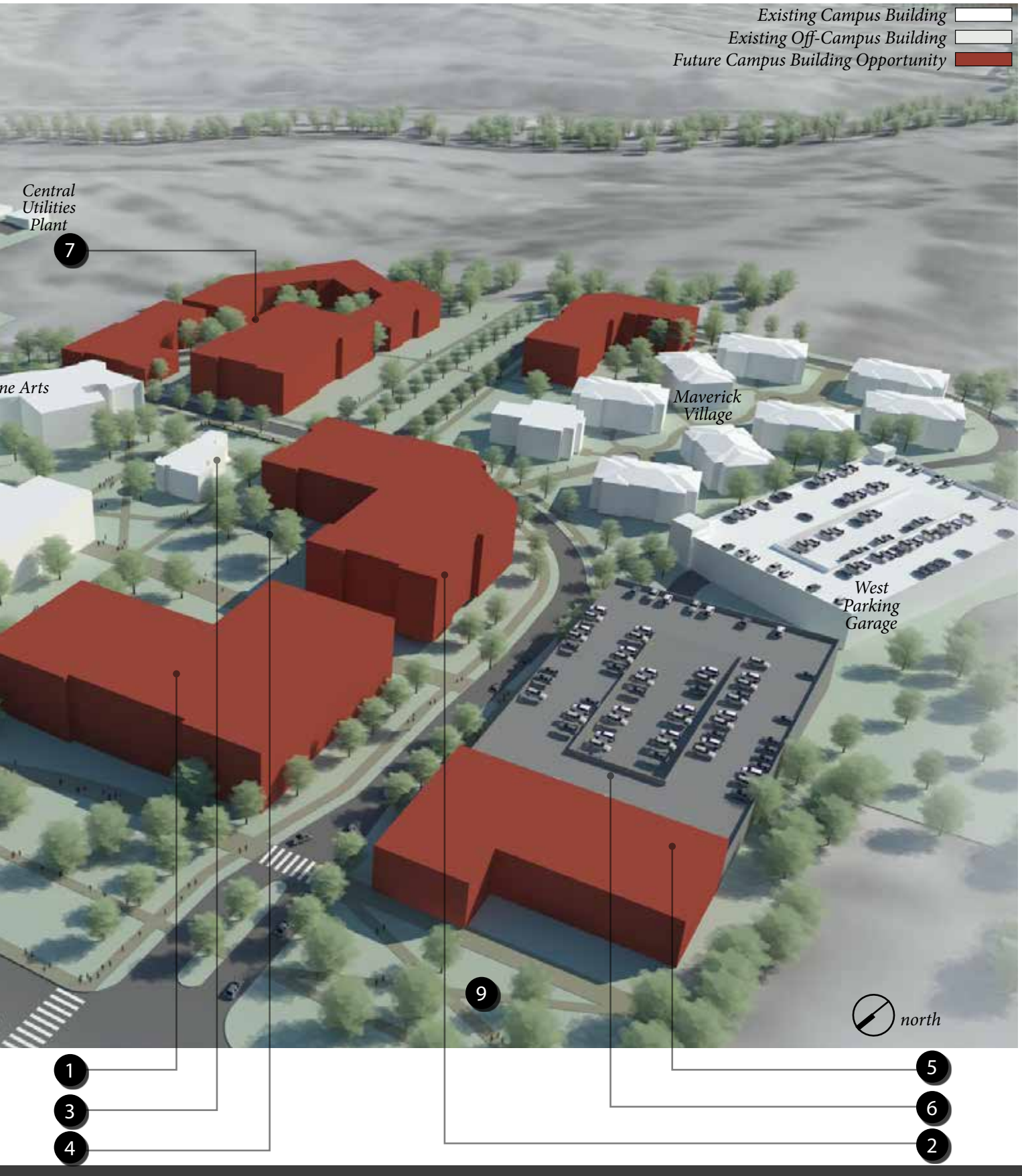
WEST DODGE ENTRY

The West Dodge entrance to UNO's campus is poised for substantial growth as part of the 2013 Facilities Development Plan Update. A new gateway entrance, consolidation of surface parking lots and future academic and residential footprints will continue growth of UNO's Dodge campus for years to come. Specific West Dodge Entry initiatives include:

1. New Science Building
2. Academic Expansion and Weber Fine Arts Expansion
3. Renovate Welcome Center as Faculty Club
4. Arts & Sciences Quadrangle
5. New Alumni Center and Welcome Center allowing a symbolic continuum from perspective student to Alumnus at a prime location along the iconic Dodge Street campus edge
6. New parking structure
7. University Village replacement and infill residential and future academic opportunities
8. Enhanced gateway at West Dodge allows visitors to enter campus from the east and west and provides an iconic entry to the Dodge Campus
9. Dodge Street Mall

Existing West Dodge Area

Future West Dodge Area

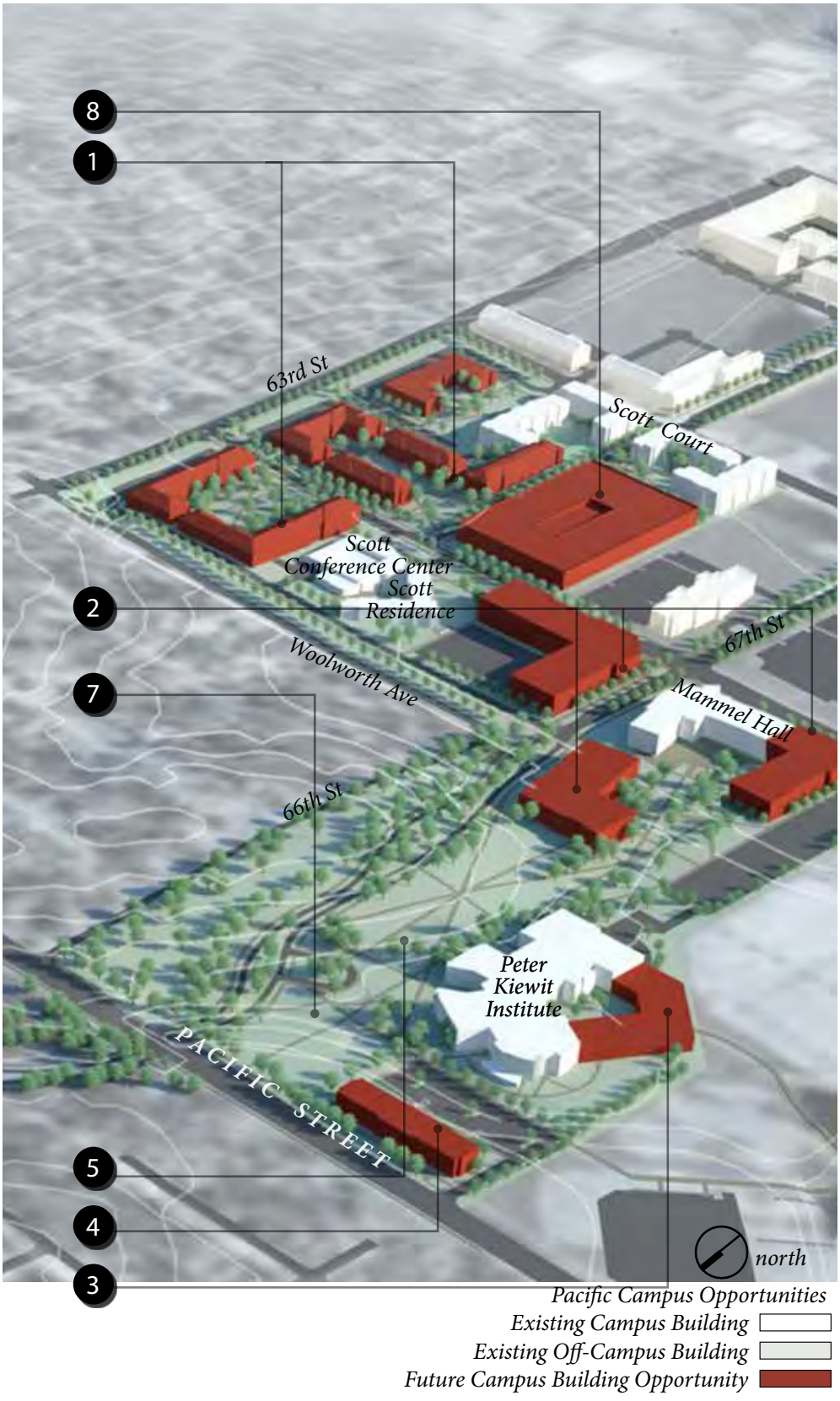

Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity
Central Utilities Plant
7
ne Arts
Maverick Village
West Parking Garage
9
north
1
3
4
5
6
2

PACIFIC CAMPUS

PLAN CONTEXT

The Facilities Development Plan Update highlights the Pacific campus as a rapidly developing new hub for activity at UNO. As Aksarben Village continues to build out and densify, coordinated growth opportunities at the Pacific campus include:

1. Increase building density in the Scott Village area and develop residential models that create space, provide for active and passive recreation, chance meetings and the exchange of ideas
2. Provide academic growth opportunities adjacent to Mammel Hall
3. Allow for PKI expansion
4. Allow for future academic or residential growth along Pacific Street
5. Create campus quadrangle along 67th Street to anchor the Pacific Campus neighborhood and frame academic growth
6. Improve connections to the Dodge campus, Elmwood Park, and the Center through enhanced multi-modal opportunities
7. Extend the park space character of Elmwood Park into the Pacific campus
8. Encourage parking garage to accommodate loss of surface parking and future growth
9. Improve internal neighborhood multi-modal circulation

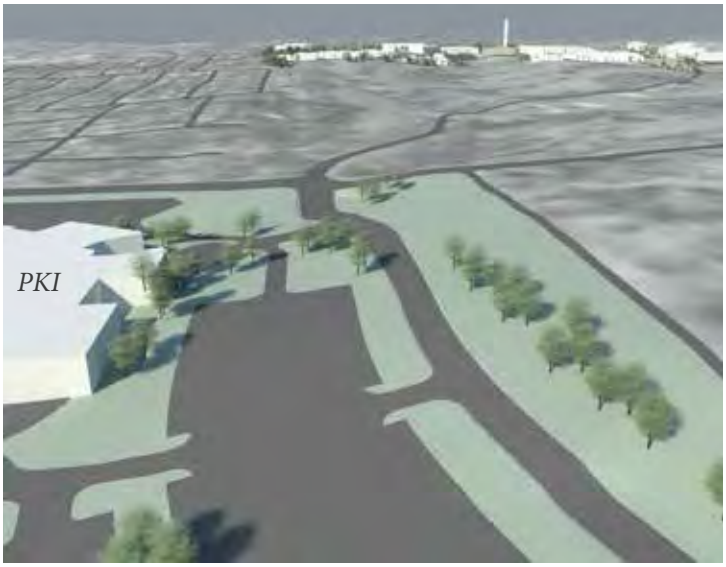


Aksarben Village

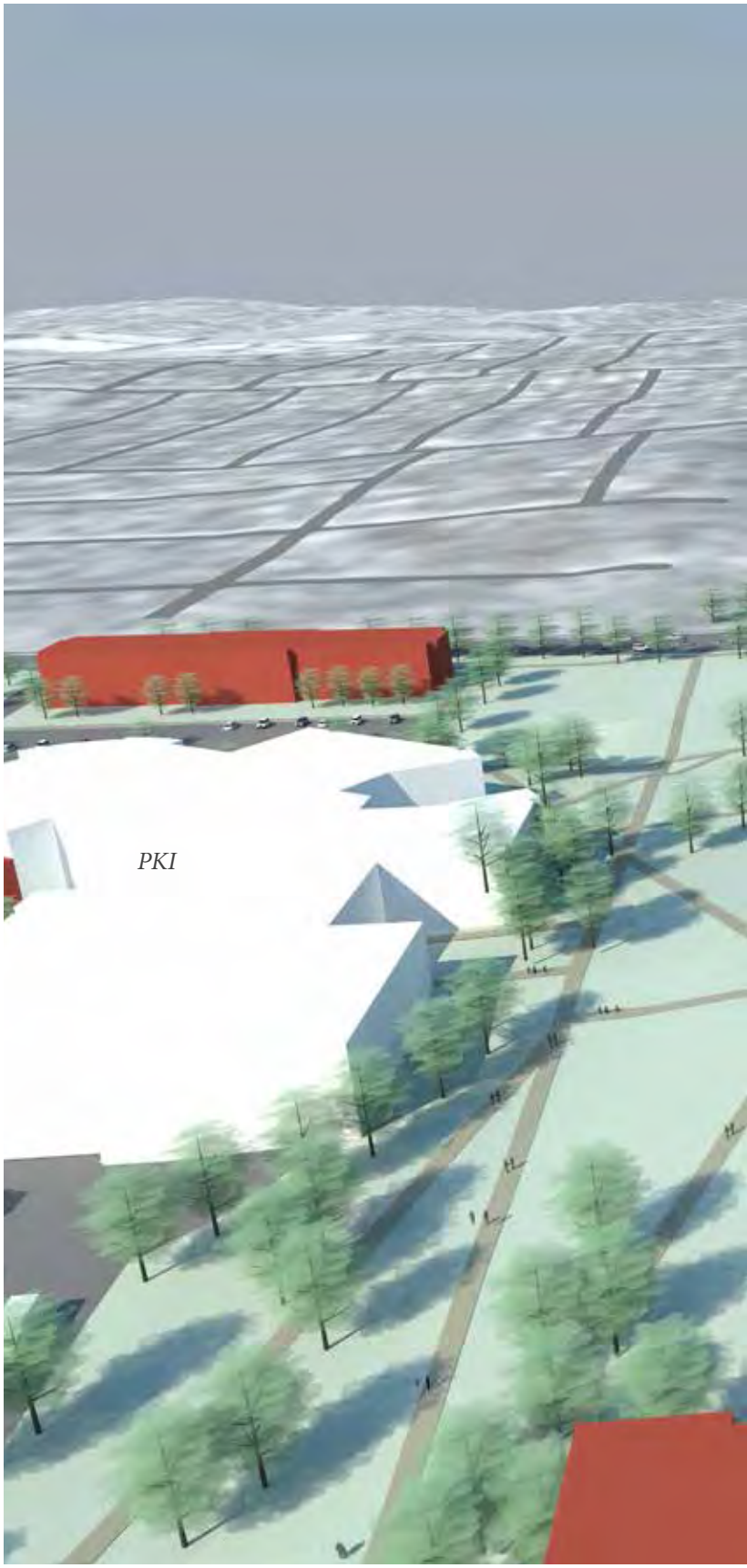
ELMWOOD PARK CONNECTION

An improved multi-modal connection between the Dodge and Pacific campuses is a primary transportation initiative of the Facilities Development Plan Update. Elmwood Park currently offers tremendous potential as a neighborhood green space and premier recreation destination for the city of Omaha. Future planning may consider partnership opportunities to better utilize this community and university asset. In the short term, specific Elmwood Park connection initiatives include:

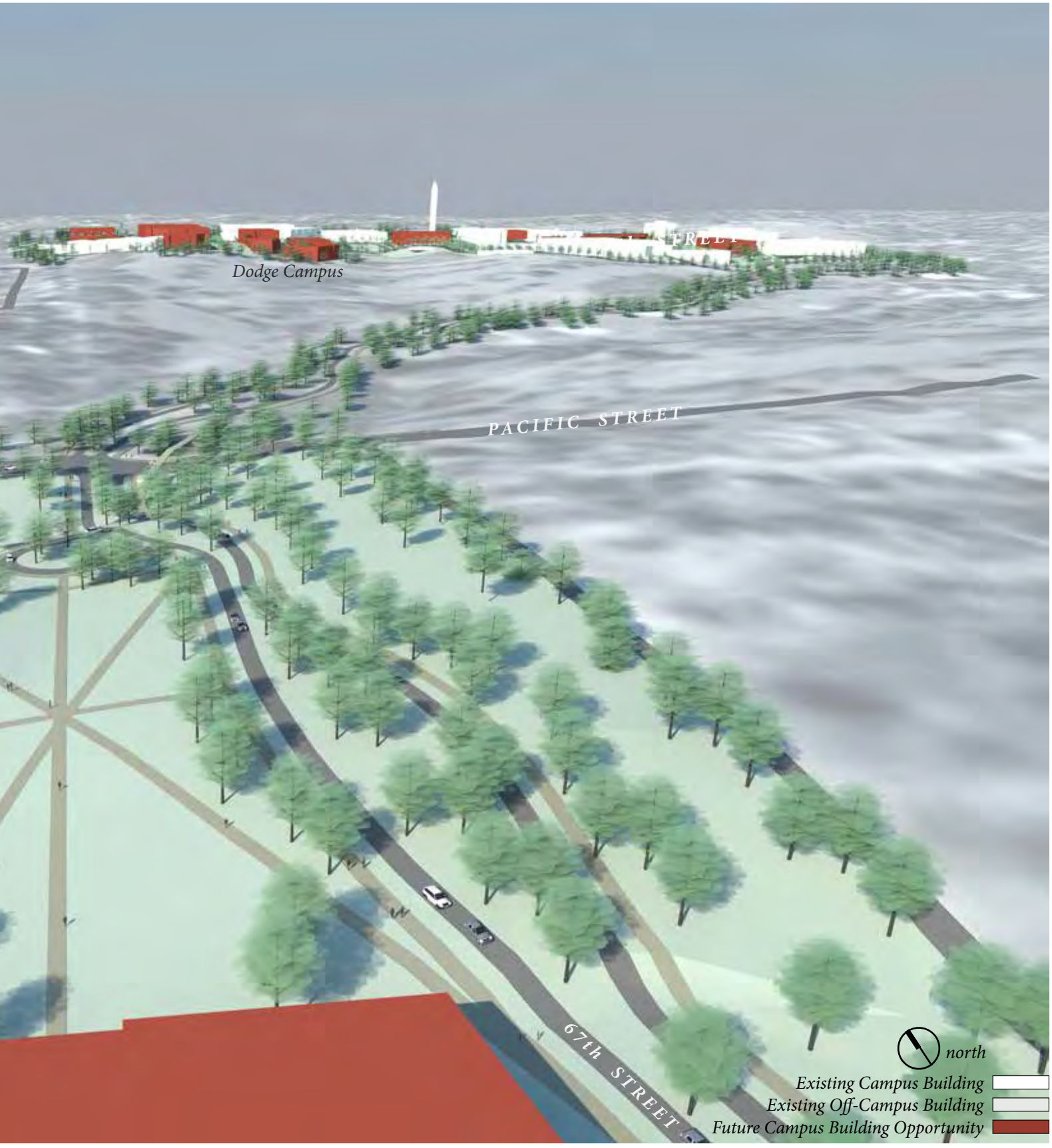
- Relocate faculty, staff and student surface parking east of the Peter Kiewit Institute (PKI) to structured parking opportunities or remote surface parking opportunities at the new University Community Arena.
- Develop grade separated pedestrian and bike connection from the Pacific campus to Elmwood Park over Pacific Street.
- Enhance public transit and/or shuttle opportunities along 67th Street between the Dodge campus and Pacific campus to minimize inter-campus vehicular trips through the park.
- Enhance pedestrian and bicycle route between the Dodge campus and Pacific campus via dedicated bike lane and multi-modal path.
- Consider development of 67th Street as boulevard to continue park-like character of Elwood Park to the Pacific campus.
- Create a distinctive edge along Pacific Street that frames views into the campus.
- Provide campus identity marker and appropriate landscape treatment at Pacific Street and 67th Street.



Existing Elmwood Park Connection



Future Elmwood Park Connection

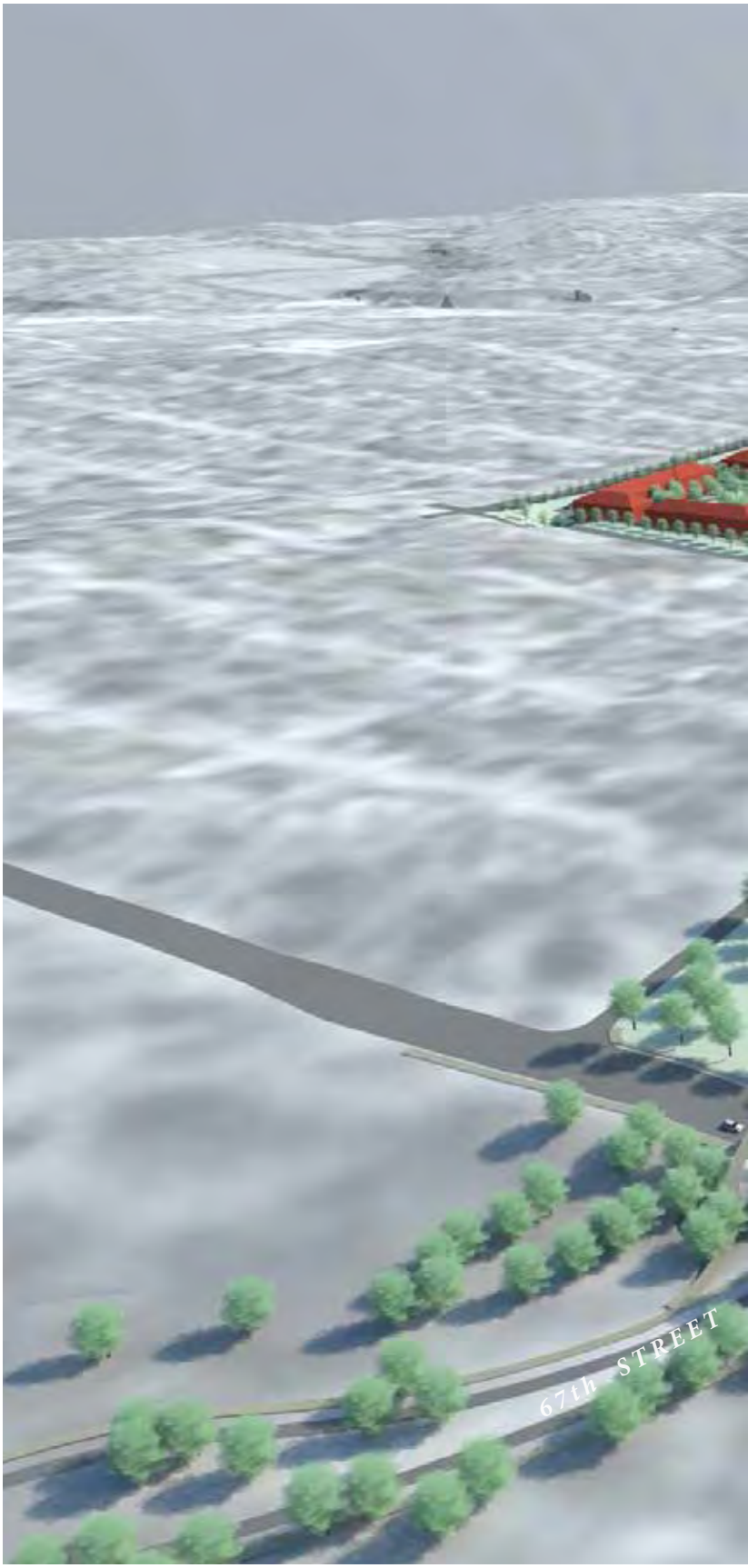

Dodge Campus
PACIFIC STREET
67th STREET
north
Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

NEW ACADEMIC QUADRANGLE

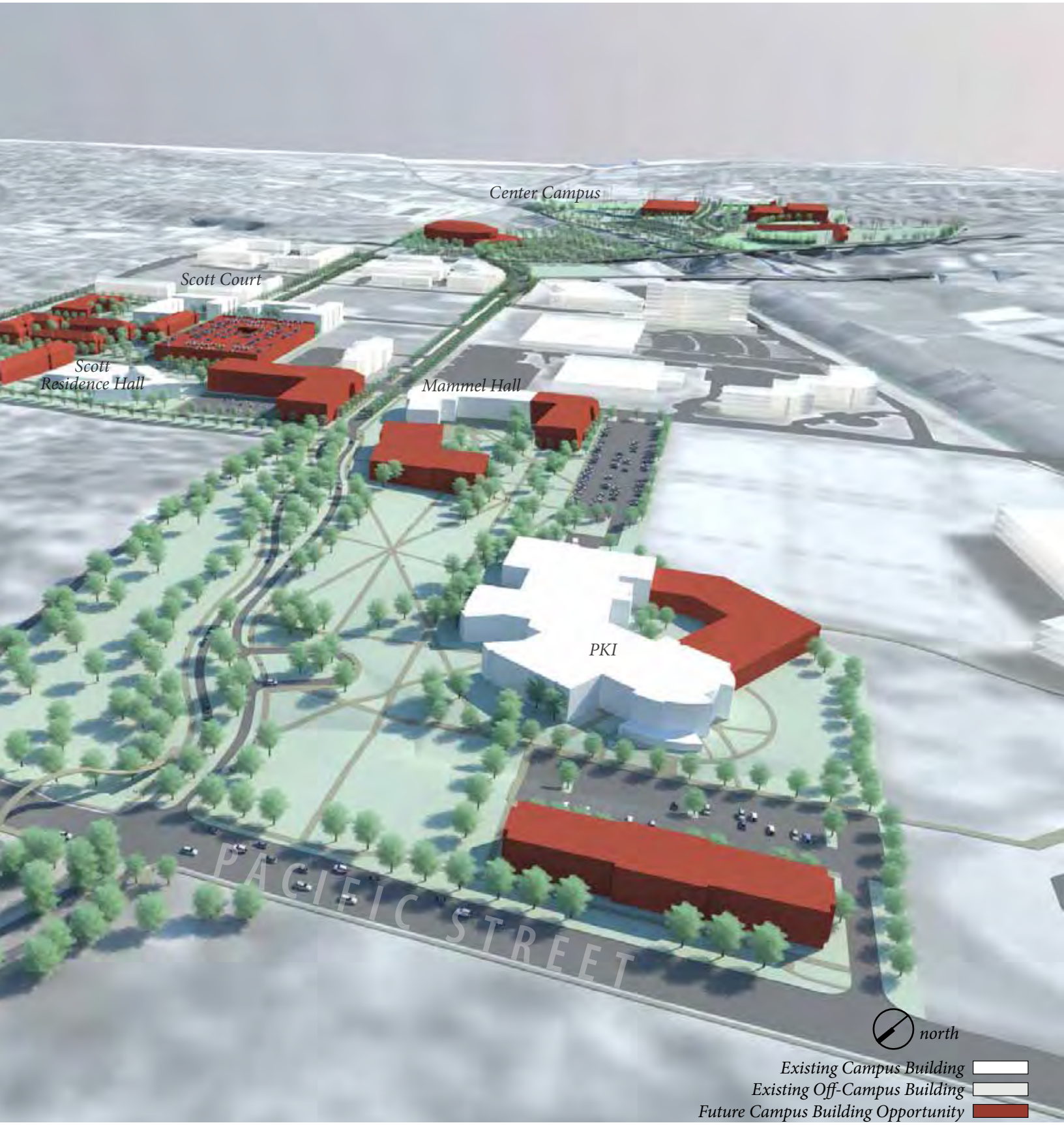
Academic expansion on the Pacific campus provides an opportunity to develop an iconic greenspace that will serve the university and City of Omaha as a place for chance meetings and cross-discipline exchange of ideas. As an extension to the already established landscape typology of Elmwood Park, a new Pacific campus Academic Quadrangle will provide a front door for UNO at Pacific Street and 67th Street. Existing surface parking for Mammel Hall and PKI will be relocated to perimeter surface parking and a new parking structure south of Scott Residence Hall. As a primary link between the Dodge and Center campuses, the Pacific campus Quadrangle will serve as a new destination at the geographic heart of UNO's campus. Specific elements of the academic quadrangle include:

- Extend boulevard treatment of 67th Street continuing the character of Elmwood Park into the Pacific campus.
- Provide gateway elements and campus identifiers for UNO at 67th Street and Pacific Street.
- Utilize existing topographic change to develop new overhead pedestrian route traversing Pacific Street.
- Relocate surface parking lots to allow for new academic quadrangle.
- Provide building site opportunities for Mammel Hall expansion north and/or west, new academic footprint east of 67th Street, PKI expansion to the west and new academic or residential footprint along 67th Street.
- Maintain view corridor from 67th Street and Pacific Street to PKI.
- Provide vehicular drop-off and transit stop serving the new academic quadrangle.
- Promote pedestrian and bicycle connections by providing appropriately scaled walkways and open spaces.

Existing Pacific Campus Quadrangle



Future Pacific Campus Quadrangle


Center Campus
Scott Court
Scott
Residence Hall
Mammel Hall
PKI
PACIFIC STREET
north
Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

SCOTT VILLAGE RESIDENTIAL INFILL

Scott Residence Hall, Scott Village and Scott Court comprise over 1,100 beds on the Pacific campus. As Aksarben Village continues to build out and densify, the Facilities Development Plan Update recommends additional housing density on the Pacific campus in the character of urban housing established by Scott Court. The plan recommends doubling the quantity of housing at UNO (with more than 2,500 total beds anticipated on the Pacific Campus through strategic demolition and replacement of Scott Village). Additional opportunities for academic infill and structured parking should also be planned for as the Pacific campus builds out. Scott Residence Hall and Scott Court will remain in place. Scott Village residential infill initiatives include:

- Increase building density and scale to promote a more urban and pedestrian character.
- Site and mass new residential buildings to create quads and shared community spaces.
- Enhance residential experience by integrating recreation space with housing and providing additional amenities for students living on campus.
- Consider opportunities for expanded and adjacent dining options to supplement Scott Residence Hall and Aksarben Village.
- Provide a mix of housing types to promote a diverse resident community.
- Consolidate parking to edges and in structures to provide greater efficiency of land use and promote an urban character.
- Extend UNO's campus landscape character as part of the Scott Residential infill projects.

Existing Scott Village

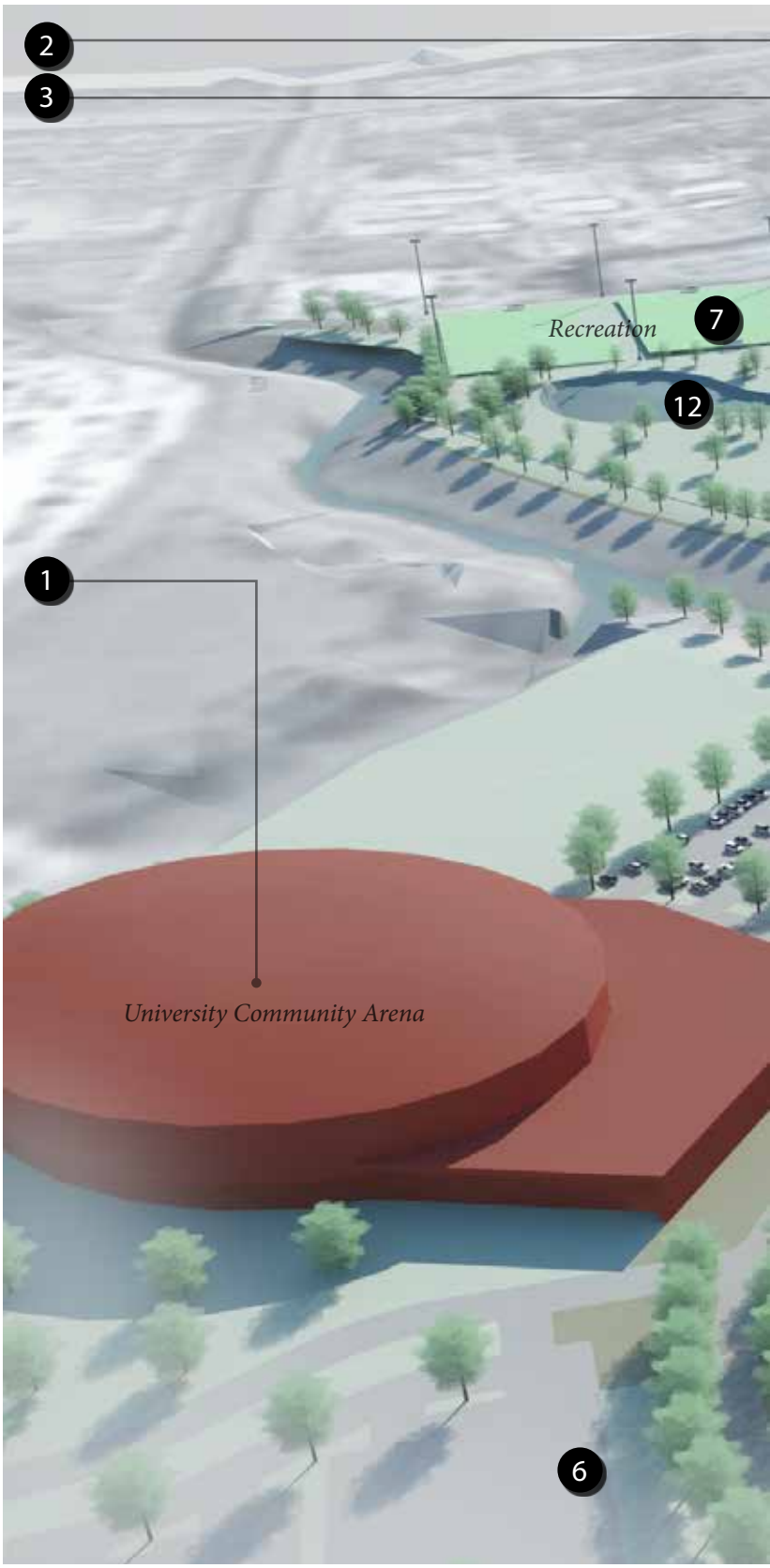
Future Scott Village

CONSOLIDATED ATHLETIC CAMPUS

The Center campus is currently utilized for indoor and outdoor field recreation and limited competitive athletic uses. The campus has tremendous potential for growth of athletic and recreation uses as Aksarben Village continues to build out. Future Arena siting and athletics parking at the Center campus can also serve daily parking demand through utilization of a transit link that connects the Center campus to the Dodge and Pacific campuses. The Center campus will also serve consolidated support, landscape and facilities service functions. Future growth at the Center campus should consider development initiatives including:

1. University Community Arena
2. Varsity Tennis Courts
3. Indoor Athletic and Recreation
4. Varsity Baseball Field
5. Varsity Softball Field
6. Additional athletics, recreation and campus parking
7. Campus recreation fields
8. Future Indoor Court Facility
9. Improved vehicular, pedestrian and bicycle circulation via 67th Street extension and Mercy Road connector
10. Improved transit connectivity to Aksarben Village, Dodge and Pacific neighborhoods
11. Consolidated facilities and landscape services
12. Improved stromwater management detention areas

Existing Center Campus



Future Center Campus


Indoor Athletic
Tennis
Baseball Stadium
Recreation
MERCY ROAD CONNECTOR
67th STREET
CENTER STREET
11
8
10
5
6
4
7
9
6
6
10
north
Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

V. PHASING & GUIDELINES

PHASING AND IMPLEMENTATION STRATEGY

The long-term value of the Facilities Development Plan Update will be its power to establish capital priorities and optimize limited and valuable resources. The master planning process identified nearly eighty potential projects, including site improvements, building expansions, replacements, renovations and new buildings.

As a component of the Facilities Development Plan Update, this phasing and implementation strategy distills several of the overarching plan recommendations and themes into a series of specific and action-oriented priorities for campus. The priorities are generally arranged in chronological order, grouped in initial (0-7 year), intermediate (8-15 year) and future (16+ year) subsets. Prioritization sequencing must remain flexible, thus priorities can happen out of order as opportunities arise. However, priorities have been grouped within phases as noted on the following pages, accounting for priorities that are intrinsically linked.

To provide further defensibility for the phasing and implementation strategy, priorities should be tested with strategic prioritization criterion, including:

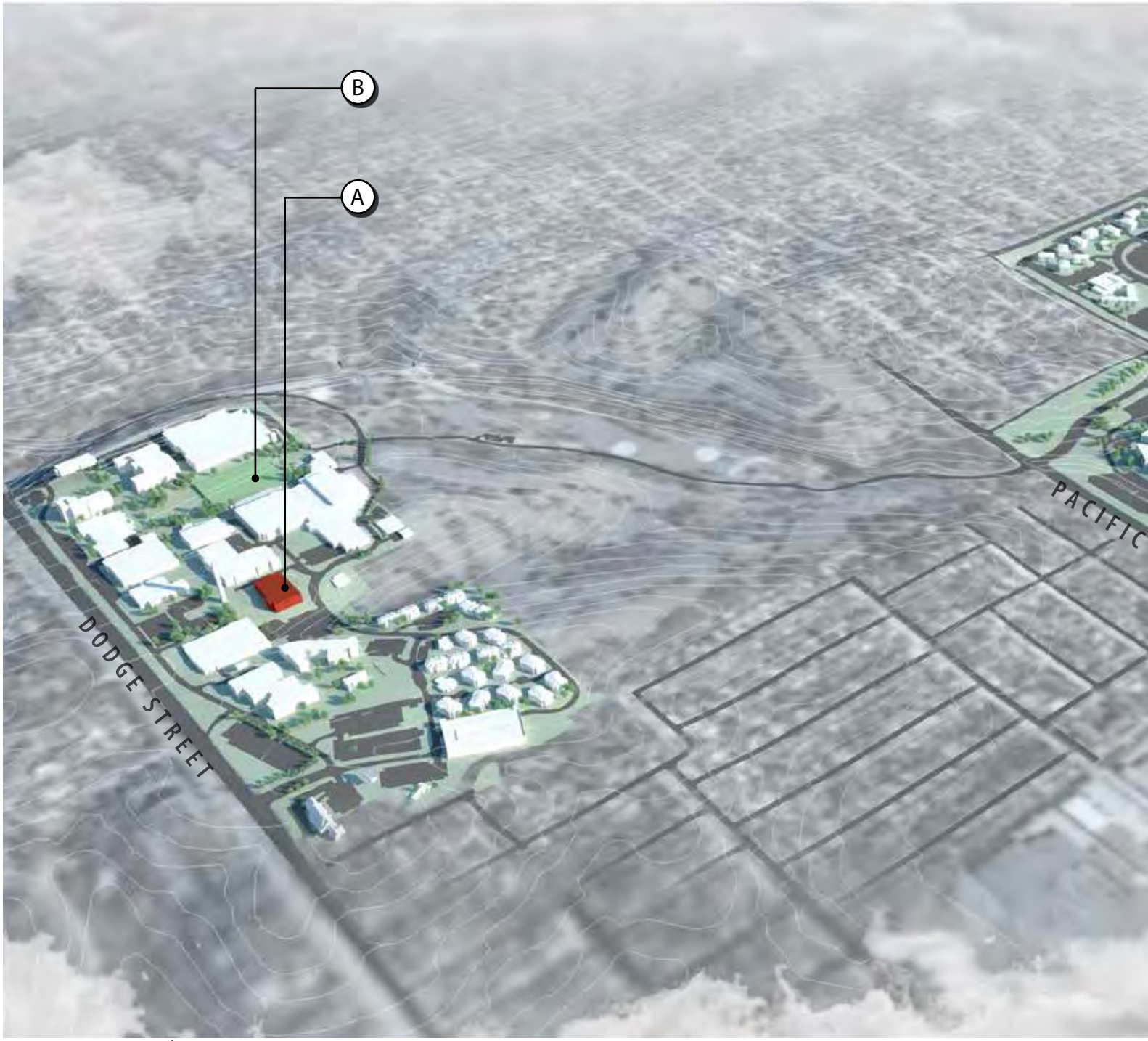
- Does the priority benefit one of UNO's signature programs?
- Is the priority part of the first year experience?
- Is the priority fundable?
- Is the priority part of UNO's strategic vision?
- Is the priority on current capital lists?
- Does the priority occur in a key campus location?
- Is the priority part of an area that was recently renovated?
- How does the priority relate to deferred maintenance?

In addition to on-campus opportunities for growth, the 2013 Facilities Development Plan Update provides accommodations for future acquisition opportunities to meet future needs when appropriate opportunities present themselves.

Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity

A Vision for the Future

EXISTING CAMPUS + PROJECTS IN PROGRESS



Existing Campus and Projects In Progress

Existing Campus Building
Existing Off-Campus Building
In Progress Campus Building

Projects in Progress

A Community Engagement Center

B Competitive soccer field

C University Community Arena and parking

INITIAL PRIORITIES

*Initial 0-7 Year Priorities**

In summary, the initial phase priorities include:

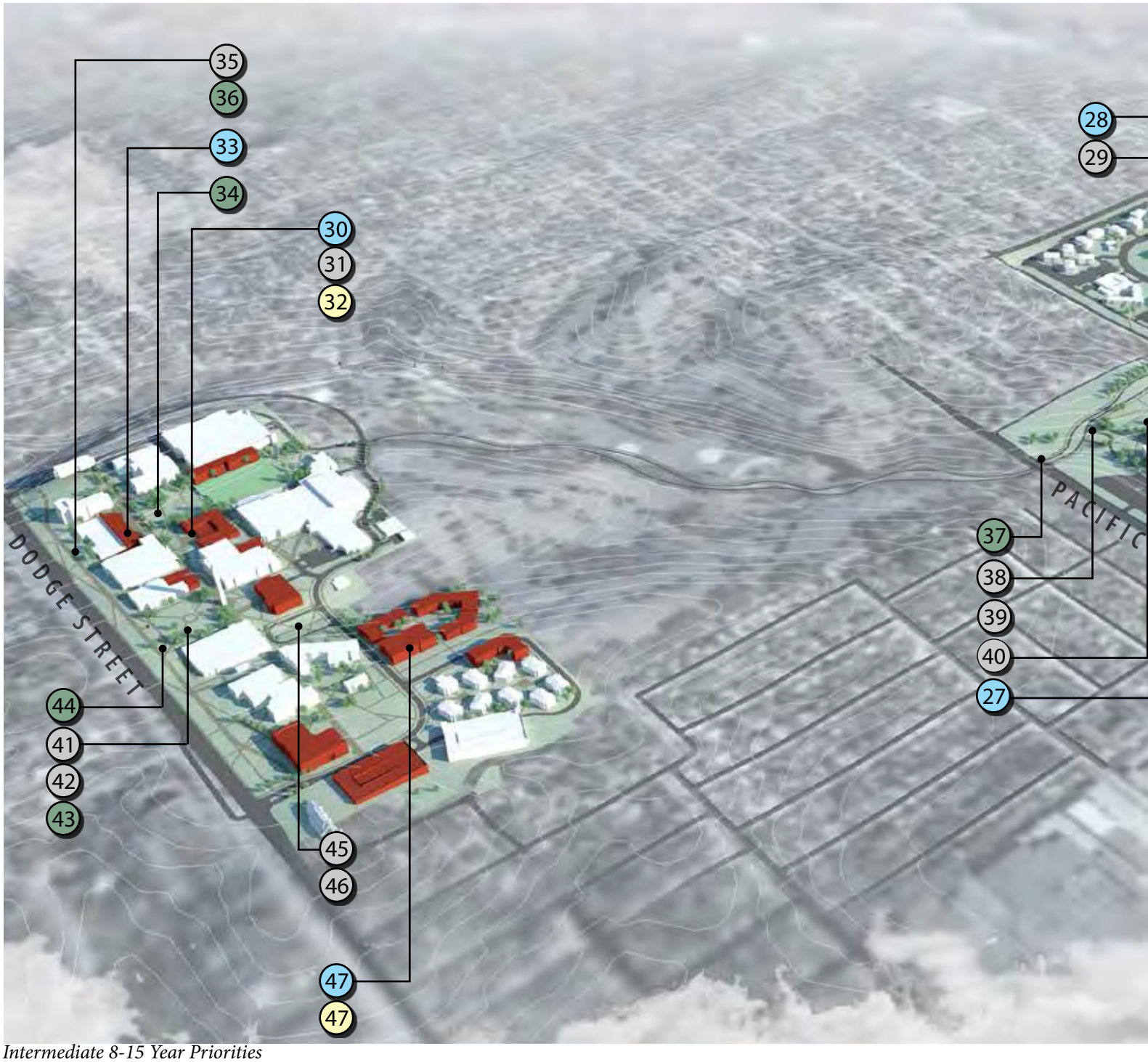
- University Community Arena and associated parking
- Consolidate athletics and recreation on Center campus
- Athletics sitework and new facilities, landscape services and central storage on Center campus
- Initial Dodge Street improvements
- Partner to improve connection through Elmwood Park
- Strategic housing infill on the Dodge campus and Pacific campus
- Community Engagement Center (Under Construction)
- Competitive soccer + recreation fields
- Strauss addition

Existing Campus Building
Existing Off-Campus Building
Initial Campus Building Opportunity
Sequenced Priorities to be Grouped
Academic/Support Building Project
Residential Building Project
Athletic, Recreation, or Open Space Project
Parking or Transportation Project
* *Not Identified on Plan*

0-7 Year Priorities

01 Mercy Road Connector
02 New entry at Alumni Center and Dodge St.
03 Housing at soccer field west of parking deck
04 General Services facility on Center campus
05 Relocate Landscape services to Center
06 Relocate Child Care to a new facility*
07 Remove lot I and G
08 Realign University Drive to from Dodge Street to Parking Structure J
09 Remove Lot H and southern portion of Lot X
10 New Parking Garage South of Alumni.
11 Remove Lot F and Realign University Drive North
12 New Academic/Science expansion at Durham Science Center
13 Pedestrian mall and site work at science expansion
14 Strauss Performing Arts addition
15 Indoor Athletics + Recreation
16 Outdoor Tennis
17 Athletics site work and stormwater enhancements
18 Parking
19 Baseball Field
20 Softball Field
21 Future indoor court facility
22 Partial Removal of Lot 9
23 Housing infill at Scott Court
24 Enhanced streetscape through Elmwood Park (By Others)
25 Student Center renovation
26 Student Center Plaza

INTERMEDIATE PRIORITIES



Intermediate 8-15 Year Priorities

In summary, intermediate priorities include:

- Student Center and one-stop renovation and expansion at Eppley
- PKI expansion
- Improve multi-modal connectivity between Dodge and Pacific campuses
- Secondary Dodge Street improvements
- Improve visitor arrival experience on Dodge campus at Henningson Memorial Campanile
- New University Village Housing
- Science expansion west of Durham Science Center
- Academic expansion on Pacific campus

north

Existing Campus Building
Existing Off-Campus Building
Intermediate Campus Building Opportunity
Sequenced Priorities to be Grouped
Academic/Support Building Project
Residential Building Project
Athletic, Recreation, or Open Space Project
Parking or Transportation Project

8-15 Year Priorities

27 PKI expansion

28 Future Academic at Pine St. and 67th St.

29 Parking behind Academic at Pine St. and 67th St.

30 Replace Allwine Hall

31 Remove lot R

32 New Housing/Student Services

33 Repurpose southern portion of Eppley for Admin. or potential Student Center expansion

34 Pep Bowl beautification

35 Remove Lots B and C

36 East Dodge Street pedestrian and service mall (ph.1)

37 Pedestrian bridge over Pacific St. at 67th St.

38 67th St. streetscape and boulevard between Pacific St. and Pine St.

39 Pacific Campus and PKI drop-off/ quadrangle ph.1. 1

40 Remove lot 4

41 Remove lot D, lot E

42 Underground parking and drop-off at Henningson Memorial Campanile

43 Site work on top of parking garage

44 West Dodge St. pedestrian and service mall (ph.1. 2)

45 Remove lot M

46 Drop-off and bus staging at Library with University Drive Re-alignment

47 New University Village (Academic + Residential)

FUTURE OPPORTUNITIES

Future 16+ Year Opportunities

In summary, the future phase opportunities include:

- Academic expansion at Mammel Hall
- Increased housing density at Pacific campus
- Pacific Campus parking garage
- Academic expansion at Dodge campus
- Housing infill at Dodge campus
- Alumni Center + Visitors Center on the Dodge campus
- Long range opportunity for indoor court facility

Existing Campus Building
Existing Off-Campus Building
Future Campus Building Opportunity
Sequenced Priorities to be Grouped
Academic/Support Building Project
Residential Building Project
Athletic, Recreation, or Open Space Project
Parking or Transportation Project

16+ Year Opportunities

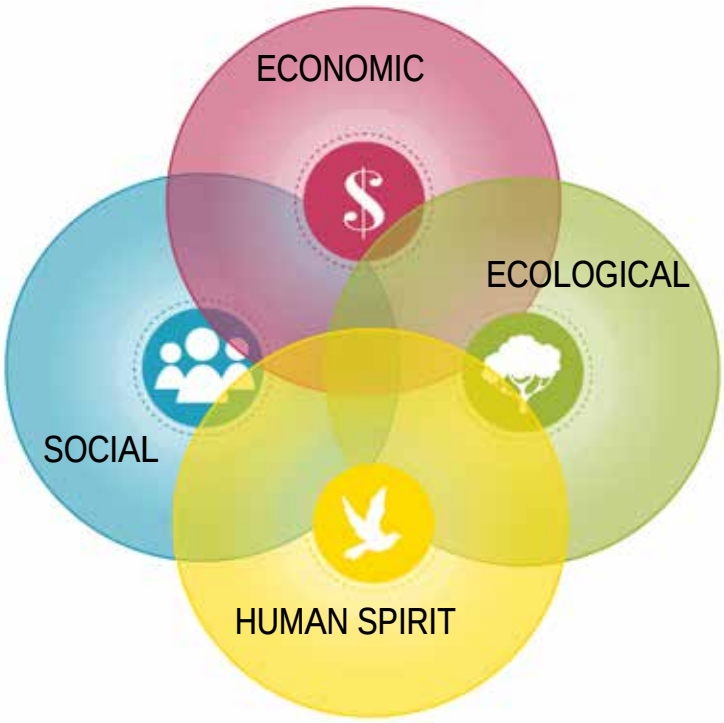
48 Remove lot 5, lot 6
49 Mammel Hall expansion
50 Pacific campus quadrangle ph.2
51 Partial demolition of lot 2
52 Housing or Academic at Pacific St. and 67th St.
53 Parking behind housing at Pacific St. and 67th St.
54 Densify Scott Village Housing (A, B, C)
55 Scott Village South Quad 3
56 Realign Pine St. west of 67th St.
57 Densify Scott Village Housing (D, E, F)
58 Scott Village North Quad 2
59 Remove lot 10
60 Housing at Scott Village/Pine St. (around existing)
61 Scott Village Quad 3
62 Remove lot 9, 13, 14
63 Pacific campus Parking Garage
64 Remove Kayser Hall
65 New Academic / Kayser Replacement
66 New Academic west of Fine Arts
67 Pedestrian mall / site work at Fine Arts
68 New Alumni Center and Visitors Building
69 Repurpose Alumni Center (Faculty Club)
70 Indoor court facility

EVIDENCE BASED DESIGN

The Facilities Development Plan Update is based on sustainable and holistic principles that grow out of UNO's mission statement and manifest in physical campus recommendations for the future. While every implementation project referenced in the master plan has a unique set of drivers, priorities identified in the Facilities Development Plan Update should be reinforced by non-prescriptive and evidence-based design guidelines that address architecture, urban design, site and landscape on campus. The goals, strategies, and metrics described on the following pages should serve as a framework for future design guideline development organized by the four attributes of sustainability:

- Ecological
- Economic
- Social
- Human Spirit

The introduction to evidence-based design as part of the Facilities Development Plan Update should not be interpreted as a comprehensive or complete look at guidelines for UNO's campus. UNO should pursue a strategy to develop design guidelines that evolve out of the Facilities Development Plan Update and address how the built environment is directly connected to economic, ecological, social and human spirit components of UNO's campus.



QUADRUPLE BOTTOM LINE SUSTAINABILITY

Sustainable design for a campus integrates multiple disciplines across the design process to result in more holistic and creative solutions. This holistic, interdisciplinary approach to sustainable design at UNO should integrate elements of all four attributes of sustainability into the design process. Metrics developed as part of an evidence-based design strategy should be used to qualitatively evaluate the site analysis, alternatives, concepts and designs for future campus development and can be based in established goals from:

- USGBC/LEED
- ASLA/SITES
- ASCE/ENVISION
- IFLI/Living Building Challenge
- Others

Metrics should first establish a baseline and target for development on campus that considers:

- Historic condition
- Existing condition
- Desired future condition
- An implementable path forward

EVIDENCE BASED METRICS

A metric application towards evidence based design is iterative in the design process and will allow for adequate opportunities to apply, measure, and document results.

Specific quadruple bottom line goals, design strategies and metrics should be discussed as part of broader design guideline considerations . Goals, strategies and metrics by attribute of sustainability for UNO could include:

ECOLOGICAL

Goals

- Protect and restore habitat
- Maximize conservation of natural resources
- Maximize open space
- Reduce stormwater impact
- Minimize the impact to natural systems

Design Strategies

- Utilize passive design strategies
- Minimize energy needs
- Conserve water and promote water quality
- Generate on-site energy

Metrics

- Meet LEED standards for all new construction
- Improve run-off rate
- Meet the 2030 Challenge to reduce carbon footprint by 60%

ECONOMIC

Goals

- Maximize return on investment (ROI)
- Align construction priorities with needs and centers of excellence
- Ensure building use exceeds life cycle cost

Design Strategies

- Design flexible buildings that can adjust to changing market demands
- Design for quality

Metrics

- Return on Investment

SOCIAL

Goals

- Provide equitable access to resources
- Encourage diversity
- Promote social connectedness
- Maximize flexibility and collaboration

Design Strategies

- Create a meaningful network of public spaces
- Provide common social gathering and collaboration spaces

HUMAN SPIRIT

This fourth component of a quadruple bottom line strategy is often overlooked. Because we tend to preserve and enhance places that are meaningful to us, these spaces are inherently more sustainable. While it is challenging to measure, this attribute suggests preserving cultural connections between people and place and inspiring a deeper connection with place.

Goals

- Reinterpret the authenticity of place through a modern expression
- Preserve viewsheds
- Create legacy projects that evoke powerful memories

ARCHITECTURAL APPLICATION

Nebraska in general and UNO in particular boast a wide variety of architectural styles. Local vernacular on UNO's campus has chronologically followed historic styles. The precedent affords a relatively open canvas with regard to architectural character at UNO. However, to maintain cohesion and aesthetic value, designs should adhere to certain basic principals that grow out of a quadruple bottom line approach to architecture and design.

Context

- Form and material choices should imbue and galvanize a sense of place and identity and be sustainable

Scale + Proportion

- Be sensitive to the surrounding structures and campus zones
- Take cues from the existing campus fabric to maintain its integrity
- Promote building height, massing and Floor Area Ratio (FAR) ranges that recognize surrounding development and campus structures while developing appropriate campus density
- Utilize narrower floor plates to help minimize perceived mass, reduce land use and impervious building area, and increase opportunities for daylight and natural ventilation (1/2 to 1/3 building footprint ratio)

Campus Organization

- Individual elements should lend to a pedestrian scale, help users to understand the building and/or space, and make up an attractive whole
- Proper arrangement of the elements should support wayfinding without signage (where to enter, and where to congregate)
- Projections, setbacks and variations in material should reduce the impact of otherwise imposing structures

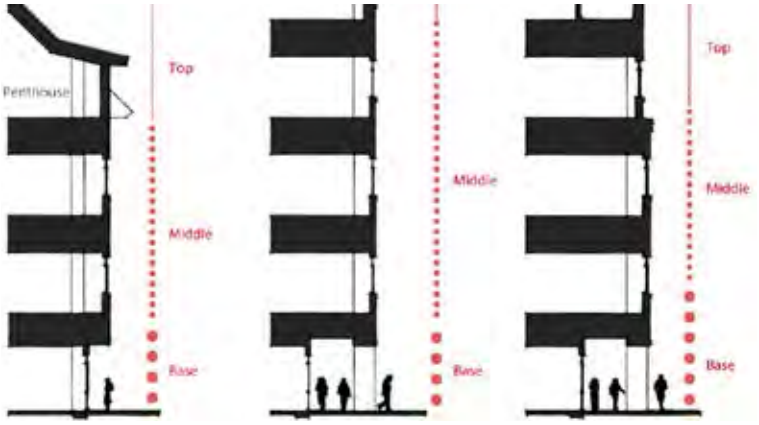
Access + Approach

- Define the entrance and promote understandable circulation
- Manage multi-fronted campus buildings (service vs. pedestrian)
- Promote indoor/outdoor connections through transparency

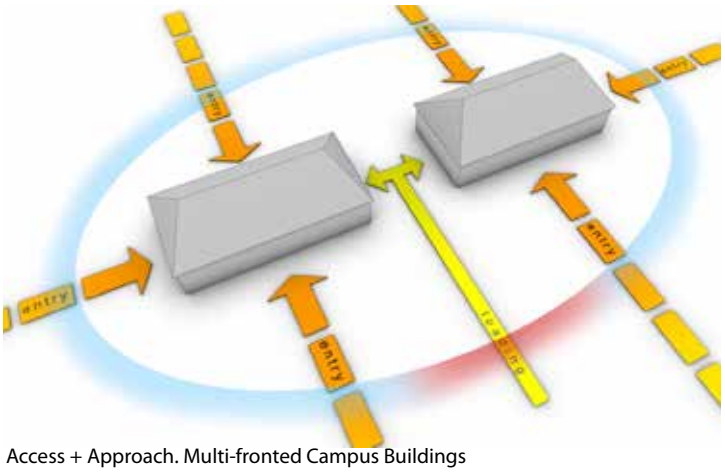
Materiality

- **Masonry**, including brick, is prevalent on campus. It will maintain a sense of contexuality and can be used to negotiate mass and provide a sense of scale. Utilize units with maximum compressive strength and Masonry Institute approved joints (concave, v-shaped, or weathered).

Context. Weber Fine Arts Building



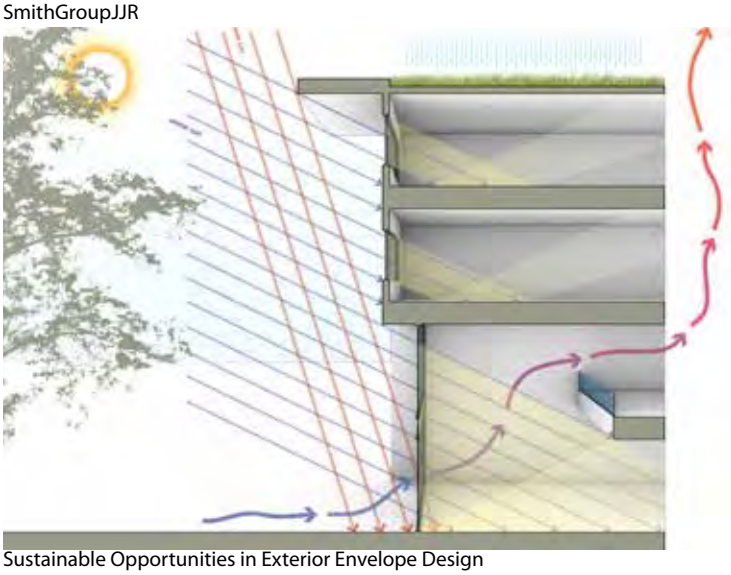
Scale + Proportion. Bottom. Middle. Top.



Access + Approach. Multi-fronted Campus Buildings

Detroit Zoo Environmental Education Conservation Center by SmithGroupJJR

Madonna University Franciscan Center for Science and Media by SmithGroupJJR



Sustainable Opportunities in Exterior Envelope Design

- **Limestone/Precast** has been used across UNO's campus in a variety of applications. It is a natural, attractive and durable material, but durability and longevity depend on proper selection of stone type and thickness per application.

- **Glass.** Glazing is a critical component in the success of modern buildings. Ample but strategically located glazing can enhance architectural hierarchy by identifying entry. Glazing can also provide visual connections between exterior and interior spaces, and promote sustainability through naturally day lit interior spaces. Additionally, natural daylighting and visual connection to the exterior have proven to enhance user productivity and satisfaction. Appropriate glass and glazing systems should be selected for thermal, moisture, glare management, reduced energy consumption, minimal maintenance and overall appearance.

- **Metal** is both sustainable and versatile. Application and type should be carefully considered on UNO's campus. Limited use of metal panel should reinforce context or vernacular at UNO.

- **Roofs** can have a strong impact on design. Low sloped roofs offer flexibility and are typically associated with the clean lines of contemporary design. Pitched roof designs on campus should be clad with standing seam metal for contextual character, ease of maintenance, life cycle, and longevity.

Durability

- Sturdy construction not only promotes economic viability, it has a direct relationship to health, enjoyment and success. Design, construction and material quality of future developments on campus shall be commensurate with institutional, university facilities. Construction materials and engineering systems should be expected to last at least 50-100 years and should consider life cycle and first costs.

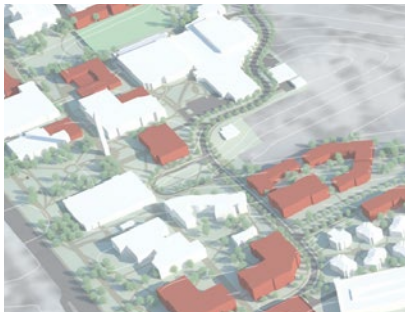
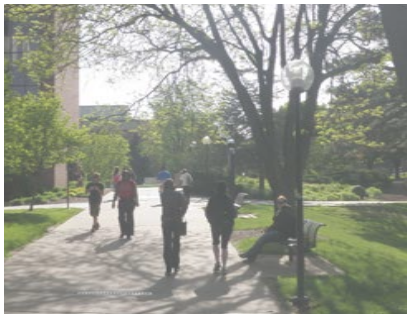
Passive Design

- Promote a positive, symbiotic relationship between building and nature to minimize carbon footprint and energy consumption. Passive techniques (building orientation, sunlight control, mass, etc) can be inexpensive but effective. More dynamic approaches can also foster greater impact.
- Consider strategies that improve thermal comfort, air quality, productivity and general user satisfaction.

SMITHGROUP JJR

UNIVERSITY OF NEBRASKA OMAHA

FACILITIES DEVELOPMENT PLAN UPDATE


APPENDICES | FALL 2013

VI. APPENDICES

The Facilities Development Plan Update is not a stand-alone document; rather, it expands upon ideas and recommendations from previous planning studies. Several of the studies utilized as references and summarized in chapter 2 of this report include:

- 2006 Master Plan Update
- 2008 Campus Mobility Study
- 2011 Dodge Campus Storm Sewer Study
- 2011 Signage and Wayfinding Study
- 2011 Parking and Traffic Master Plan
- 2011 Renewable Energy Plan
- 2012 Utility Master Plan
- 2011-12 Athletics Studies
- 2012 Student Center Master Plan

Copies of these reports can be obtained through UNO's Facilities Development and Planning Staff.

Integral to recommendations in the Facilities Development Plan Update is Space Needs Planning in Support of the Campus Master Plan Update. This document, authored by Paulien & Associates is included as an appendix to the Facilities Development Plan Update.

University of Nebraska Omaha

Space Needs Planning
in Support of the
Campus Master Plan Update

September 2012

Document prepared by:

Paulien & Associates, Inc.

899 Logan St., Suite 508
Denver, CO 80203-3156
(303) 832-3272 Phone
(303) 832-3380 Fax
www.paulien.com

Acknowledgements

Document prepared by:

Paulien & Associates, Inc.
Denver, Colorado

John Bengston, *Vice President and Principal*
Frank Markley, *Senior Associate*

In association with:

SmithGroup JJR
Doug Kozma, *ASLA, Principal*
Michael Johnson, *RLA, LEED AP*

and

HDR
Doug Bisson, *AICP, Vice President*

This document is the result of cooperation and assistance from the staff at the University of Nebraska Omaha. Every person's contribution of information, time, and effort is sincerely appreciated. A special thank you is given to the following individuals for their assistance.

Core Committee
John Amend, *Director Facilities Management and Planning*
George Killian, *Campus Architect*

Steering Committee
John Christensen, *Chancellor*
BJ Reed, Sr. *Vice Chancellor, Academic and Student Affairs*
Bill Conley, *Vice Chancellor, Business and Finance*
Gail Baker, *Executive Associate to the Chancellor, Dean, College of Communication, Fine Arts and Media*
Nancy Castilow, *Assistant to the Chancellor*
Julie Totten, *Associate Vice Chancellor, Business and Finance*
Tim Kaldahl, *Director, University Relations*
John Fiene, *Associate Vice Chancellor and CIO, Information Services*
Lanyce Keel, *Director of Academic Computing, Academic Partnerships for Instruction*
Rita Henry, *Interim Co-Associate Vice Chancellor Student Services*
Pelema Morrice, *Associate Vice Chancellor Enrollment Management and Marketing*

Campus Advisory Committee
BJ Reed, Sr. *Vice Chancellor, Academic and Student Affairs*
Bill Conley, *Vice Chancellor, Business and Finance*
Gail Baker, *Executive Associate to the Chancellor, Dean, College of Communication, Fine Arts and Media*
Julie Totten, *Associate Vice Chancellor, Business and Finance*
Deb Smith-Howell, *Associate Vice Chancellor Academic Affairs / Dean, Graduate Studies*
Pelema Morrice, *Associate Vice Chancellor Enrollment Management and Marketing*
Rita Henry, *Interim Co-Associate Vice Chancellor Student Services*
John Amend, *Director, Facilities Management and Planning*
George Killian, *Campus Architect*
Dave Nielsen, *President-Elect, Staff Advisory Council, Director College of Business Administration*
Jeanne Surface, *Asst. Professor Education Administration - Faculty*
Michael O'Hara, *Professor, Finance, Banking and Law - Faculty*

Acknowledgements

Jim Carroll, *Associate Professor of Chemistry - Faculty*
Devin Bertelsen, *President, Student Government, Regent*
Caleb DeWitt, *Student Senate, Chief Admin Officer*
Stan Schleifer, *Director, Support Services*
Mike Kemp, *Associate Athletic Director*
Bill Pickett, *Managing Director, University Housing*
Jim Welch, *Director, Milo Bail Student Center*
Lee Denker, *President and CEO Alumni Association*
Lori Byrne, *Vice President and UNO Director, Development University of Nebraska Foundation*
Joe Kaminski, *Director, Campus Recreation*
Nicole Massara, *NU Foundation*
Trent Fredericksen, *UNO Housing*
Ethan Anderson, *Athletics*

Community Advisory Committee
Todd Pfitzer, *City Engineer, City of Omaha*
Curt Simon, *Executive Director, Metro Transit*
Jay Noddle, *AFT, Aksarben Village*
Nancy Murphy, *Neighbor - Aksarben/Elmwood NA*
Dave Ciaccio, *Neighbor - Memorial Park NA*
Rick Cunningham, *Planning Director, City of Omaha*
Murthy Koti, *City Traffic Engineer, City of Omaha*
Ken Moreano, *Director, Scott Technology Center*

Deans/Administrators
John Bartle, *Acting Dean, College of Public Affairs and Community Services*
Hesham Ali, *Dean, College of Information Science and Technology*
Nancy Edick, *Dean, College of Education*
Louis Pol, Dean, *College of Business Administration*
David Boocker, *Dean, College of Arts and Sciences*
Stephen Shorb, Dean, University Library
Tom Gouttierre, *Dean, International Studies Program*
Gail Baker, Dean, *College of Communication, Fine Arts and Media*
Scott Snyder, *Associate Vice Chancellor, Research and Creative Activity*
Russel Smith, *Acting Director, Institutional Research*
Jonathan Orlich, *Scott Housing*

Table of Contents

1 | EXECUTIVE SUMMARY

Introduction

Paulien & Associates, Inc., in partnership with SmithGroup JJR and HDR Architects, was selected to provide campus planning services to the University of Nebraska Omaha (UNO) in support of their Campus Master Plan. The University determined that this plan would be driven heavily by the academic and academic support mission of the University.

Paulien & Associates facilitated discussions regarding enrollments, academic programs, alternative delivery and presented findings from the utilization and space needs analysis

Working closely with Facilities Management and Enrollment Management, estimates of on-campus enrollment at both the graduate and undergraduate levels were made at a Plan Horizon to drive the space needs analysis and physical plan. An identification of space needs was made in relation to existing facilities for the base year (Fall 2011) and for projected future enrollment and staffing levels of Fall 2020, or the Plan Horizon.

Process

Paulien & Associates was provided with facilities, enrollment, course, and staffing data for Fall 2011. Working with UNO representatives, a walk-through of most buildings on the campus was conducted. This process was to verify data fields in the University's facility inventory database to provide an updated snapshot in time of UNO campus-built resources.

Enrollment data consisted of Fall 2011 student headcount at the undergraduate and graduate levels. The course data contained course number and description, enrollment, start and stop times, and meeting location for all courses taught on campus in Fall 2011. Staffing data contained headcount by major employee category on a departmental basis. All of the data collected provided a snapshot of activities for Fall 2011 semester, which was used for the master planning base year.

The consultant conducted extensive meetings with University representatives to validate information provided by the University. During the onsite work sessions, Paulien & Associates interviewed representatives from all college units in order to gain insights into classrooms and laboratory utilization, space needs, and other issues of concern. Interviews were also conducted with University administration including the Provost, Vice Presidents, Deans, and other selected staff. Representatives of Student Affairs, Athletics, the University Library, and other academic support units on the UNO campus were also interviewed.

Planning Assumptions

Based on historical analysis and growth in distance delivery, the consultant worked with campus leaders to develop enrollment assumptions for the Plan Horizon of Fall 2020. The University is planning an on-campus undergraduate student increase of 32% and a 38% headcount increase at the graduate level. The on-campus student headcount at the Plan Horizon was estimated at approximately 19,184 students or an estimate of approximately 14,660 student full time equivalent (FTE).

Using the student FTE to faculty FTE ratio to project faculty and staffing needs, Paulien & Associates assumed the faculty growth will occur at the existing student/faculty ratio of 29 to 1. This will result in an increase of approximately 108 faculty between the base year and the Plan Horizon. Staff was projected to grow at half the rate of faculty growth or 13% over the master planning period.

From a facility perspective, it was anticipated that the Biomechanics Research Facility and the Community Engagement Center would both be operational by the Plan Horizon of 2020. It was also been assumed that the renovation of the Peter Kiewit Institute, which was scheduled for Summer 2012, will assist in realigning space needs analysis at the Plan Horizon.

.

Residence Life and Residence Life Dining were not included in the scope of work for this study. A complete list of planning assumption are discussed in Section 2 of this report.

Key Findings

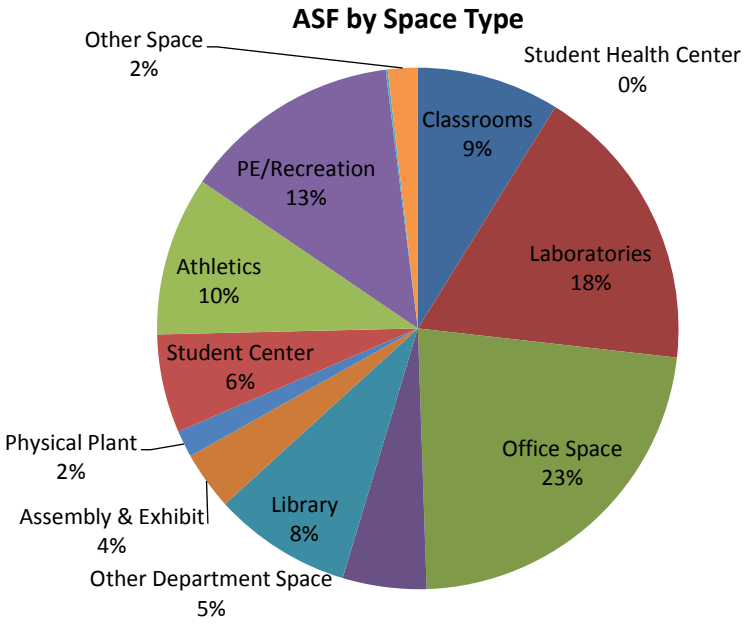
Existing Space

UNO has an approximate total of 1,425,636 assignable square feet (ASF) of space on the Dodge, Pacific, and Center campuses, not including Residence Life. Of this total, approximately 126,000 ASF or 9% is dedicated to classrooms while 255,561 ASF or 18% is dedicated to teaching, open or research laboratories. At 323,518 ASF, Academic and administrative offices represents the largest space category on the campus. Section 3 of this report lists space by building and space type.

ASF by Space Category

Space Category	Total ASF
Classrooms	126,189
Laboratories	255,561
Office Space	323,518
Other Department Space	73,845
Library	122,488
Assembly & Exhibit	51,470
Physical Plant	23,945
Student Center	86,876
Athletics	141,007
PE/Recreation	192,670
Student Health Center	1,847
Other Space	26,220
TOTAL	**1,425,636**

ASF = Assignable Square Feet



Classroom and Teaching Laboratory Utilization

Classroom Utilization

There are 11 buildings that contain 140 classrooms used for instruction at UNO. During the Fall 2011 semester, these classrooms were used an average of 31 hours per week at 65% student station occupancy with 20 ASF per student station. Current classrooms utilization findings meet or exceed the 1987 University of Nebraska Space Guidelines. During the planning process, the consultant suggested that UNO to adopt more rigorous classrooms utilization guidelines based on recent benchmarking projects. For UNO, the consultant used 34 Weekly Room Hours at 68% Student Station Occupancy at 22 ASF per Station. The findings of the UNO classrooms utilization analysis are located in Section 4 of this report and in the appendices.

Classroom Utilization Summary

	UNO Campus Average	UN Space Guidelines	Rccommended Space Guidelines
Weekly Room Hours	31	30	34
Student Station Occupancy	65%	65%	68%
ASF per Student Station	20	16	22
Number of Rooms	140		

ASF = Assignable Square Feet

Teaching Laboratory Utilization

Campuswide, UNO's 77 teaching laboratories averaged 18 Weekly Room Hours, at 71% Student Station Occupancy. Unlike classrooms, the teaching laboratory weekly room hour average is slightly less than UN space guidelines while student station occupancy exceeded established guidelines. Again, the consultant applied more contemporary laboratory utilization guidelines based on recent benchmarking projects. For UNO, the consultant used 75% Student Station Occupancy for UNO laboratories. The findings of the UNO teaching laboratory utilization analysis are located in Section 4 of this report and in the appendices.

Teaching Laboratory Utilization Summary

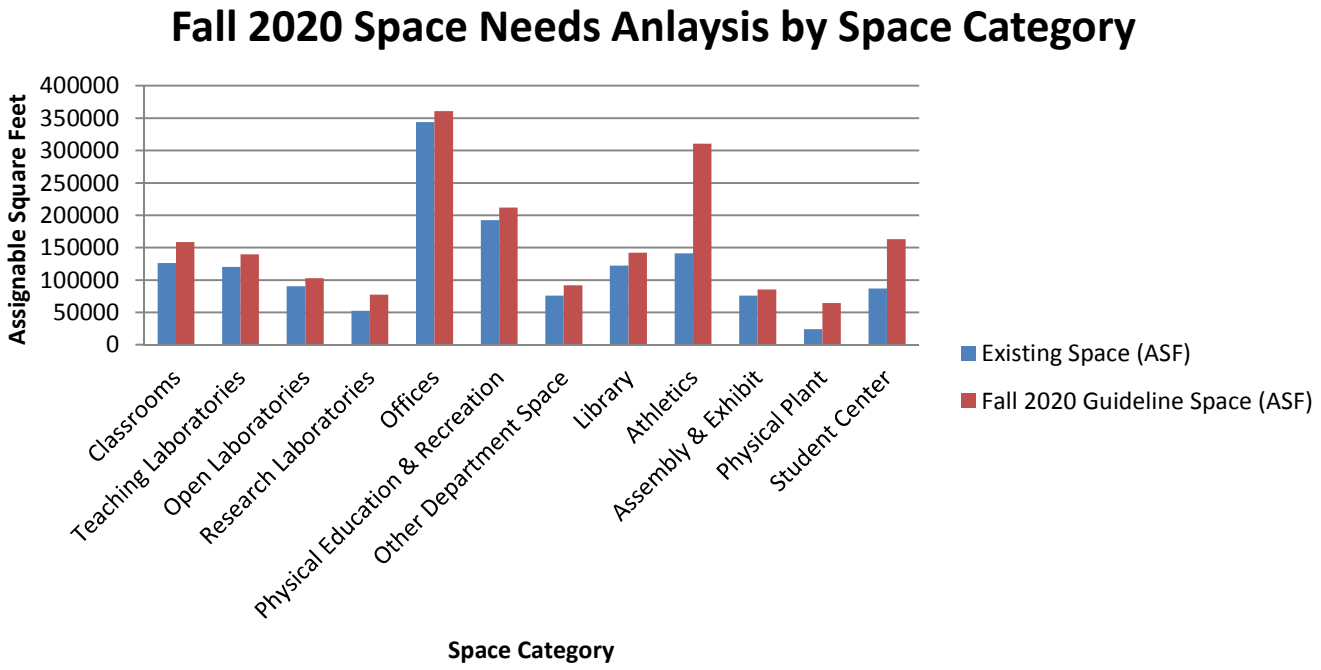
	UNO Campus Average	UN Space Guidelines	Recommended Space Guidelines
Weekly Room Hours	18	20	20
Student Station Occupancy	71%	65%	75%
ASF per Student Station	49	Varies	Varies
Number of Rooms	77		

ASF = Assignable Square Feet

Space Needs Analysis

The consultant reviewed 1987 University of Nebraska Space Guidelines and compared them to other guidelines typically applied by the consultants' in other studies of this nature. The guideline selected for each space category was the one deemed most appropriate for the University. Generally speaking the guidelines selected were within reasonable proximity of the UN guidelines if not the actual UN space guideline. In many instances, UN guidelines did not specify specific quantities of space but were based on programmatic need.

This analysis determined the magnitude of need for both the Base Year and Plan Horizon. At the campuswide level, the guideline generated a total need of slightly more than 1,505,324 ASF of space, a deficit of 104,908 ASF when compared to existing space. For Fall 2020, calculation of the guidelines generated a total need for slightly less than 1,912,000 ASF, a deficit of approximately 458,000 ASF. Athletics and Student Center space accounted for approximately 246,000 ASF or 54% of the total deficit at the Plan Horizon. If these two space categories are removed from the analysis, the campuswide deficit decreases to 212,000 ASF with the largest needs in Physical Plant and Classrooms & Service space. A thorough review of the space need analysis at the campuswide and college unit level is located in Section 6 of this report.



In the long term, UNO generated deficits of space that will require additional facilities to forward its strategic plan and academic mission. However, due to the different categories of space deficits, no one physical solution will suffice. While the Facilities Master Plan is intended to support the academic mission, the space needs findings provides a vision for completing the physical master plan towards an improved environment that will allow UNO to continue to fulfill its role as a leader in higher education.

2 | PLANNING ASSUMPTIONS

Enrollment Projections

The University of Nebraska Omaha provided the consultant with Fall 2011 delivery site student headcount and full-time equivalent (FTE) enrollment data. In addition, Fall 2011 UNO campus online course enrollments and student credit hours were provided by the Office of Institutional Research. Delivery site reporting counts all students, including those enrolled in University of Nebraska Lincoln programs delivered at UNO, but excludes UNO program delivered in Lincoln.

Based on UNO strategic enrollment goals, the consultant calculated enrollment projections for the Target Year of Fall 2020, as noted in the table. For master planning purposes, enrollment projections are illustrated as those students physically taking courses on the campus.

The University is projecting an overall on-campus undergraduate increase of 32% in student headcount and a 38% student headcount increase at graduate level. As enrollment projections were not available at the college level, College unit growth rates were assumed to increase at the campuswide rate. Using the current student FTE to headcount ratio, the projected student FTE is estimated at approximately 14,660.

Over the last ten years UNO has seen increases in student headcount. The main growth has been in undergraduate programs. The proposed enrollment assumptions alter this trend with the majority of growth proposed at the graduate level.

Master Plan Enrollment Assumptions

University of Nebraska Omaha On-Campus Student Enrollment

Category	Fall 2011 Headcount	Fall 2020 Master Plan Enrollment Assumption	% Change
Undergraduate Total (Note 1)	11,683	16,000	
Undergraduate - Online Course Only (Note 2)	444	1,144	
Undergraduate - On Campus Subtotal (Note 3)	**11,239**	**14,856**	32%
Graduate Total (Note 1)	2,762	4,000	
Graduate - Online Course Only (Note 2)	270	572	
Graduate - On Campus Subtotal (Note 3)	**2,492**	**3,428**	38%
UNL Total (Note 1)	919	950	
UNL - Online Course Only (Note 2)	30	50	
UNL - On Campus Subtotal (Note 3)	**889**	**900**	1%
Grand Total	**14,620**	**19,184**	**31.2%**

Notes:

1) Headcount is reported at Delivery Site and counts all students, including those in UNL programs delivered at UNO, but excludes UNO programs delivered in Lincoln.

2) Headcount represents students enrolled in online courses only and as a result are not physically present on the campus.

3) Subtotal is the total number of headcount students physically present on the campus. (Total headcount minus online course only).

Sources: Fall 2011 Data: Office of Institutional Research

Faculty and Staffing Projections

The number of full-time faculty was obtained from the UNO Fact Book. The consultants used the current student Headcount to full-time faculty ratio to project faculty and staffing needs for the Fall 2020 Plan Horizon. For Fall 2011, UNO had a student to faculty ratio of 29 to 1.

Staff was projected to grow at half the rate of the faculty growth. For key leadership positions (president, vice presidents, deans) no growth was assumed. For example, The University is projected to increase overall enrollments by approximately 31%. Full-time faculty are projected to grow at 26% while the staff employed at the college are projected to grow at 13%. Staffing growth assumptions are noted in the *Master Plan Staffing Assumptions* table.

Master Plan Staffing Assumptions

Category	Fall 2011 Headcount	Master Plan Assumption
Total Student Headcount (Note 1)	15,364	19,184
Total Full-time Faculty (Note 2)	522	660
Student Headcount to FT Faculty Ratio	29:1	29:1

Notes:

1) Headcount is reported at Delivery Site and counts all students, including those in UNL programs delivered at UNO, but excludes UNO programs delivered in Lincoln.

2) The number of full-time faculty, including UNL faculty in the College of Engineering

Sources: Fall 2011 Data: Fact Book for the University of Nebraska Omaha

Space Assumptions

New Construction and Renovations

Biomechanics Research Facility

The building will house the Nebraska Biomechanics Core Facility, which serves as a biomedical facility where engineers, scientists, and clinicians gather and gain insight on healthy and abnormal human movement patterns. The proposed facility will contain 14,891 ASF (22,820 GSF) of laboratories, research space, and offices and will be constructed next to the HPER Building. The building space was added to the facilities inventory and is included in the Plan Horizon analysis.

Community Engagement Center (CEC)

This new stand-alone facility will be dedicated to extending and expanding the campus' outreach efforts to new levels of national prominence. The CEC will be located between the Strauss Performing Arts Center and the Criss Library. A total of 39,240 ASF (60,000 GSF) was added to the facilities inventory and is included in the Plan Horizon analysis.

Peter Kiewit Institute Remodel

The project will repurpose and remodel 54,000 net square feet to enhance utilization of existing classrooms and teaching labs, create flexible research clusters, consolidate support space for the Holland Computing Center, create assembly and informal student spaces, relocate teaching laboratories, and create three conference rooms. As this project is a renovation, a room-by-room program would be needed to update the facilities inventory. This level of detail was unavailable at the time of the report.

Razed Facilities

There are currently no UNO buildings that will be demolished during the course of this study. Therefore, no facilities were excluded from the study.

Outside Organizations

There are no facilities owned by UNO that were being leased to outside agencies.

Ownership of Space and Scheduling

Findings in this study are classified by space type and school so as to identify the occupants of spaces and to clarify their needs in terms of recognized categories. Even though the space needs are illustrated by School, it is important to understand that space at the University of Nebraska Omaha is viewed as being university owned and controlled. Space is a university wide resource. Under the direction of the University's administration, it is assumed that classrooms and selected teaching laboratories are to be viewed as being centrally scheduled and that greater utilization of these facilities will be achieved by doing so.

3 | EXISTING SPACE ANALYSIS

Inventory of Existing Space

The University provided a room-by-room inventory of all non-residential buildings documenting departmental assignment, space use classification, and assignable square feet (ASF). During on-campus visits, the consultant field verified portions of the facility inventory and counted student stations in classrooms and laboratories. As part of the verification process, the consultants ran a series of computer reports that specifically looked for facility issues and discrepancies. These issues were addressed in subsequent trips to the campus.

One set of reports specifically identify classrooms and teaching laboratories with low or no scheduled usage. While on site, those rooms were reviewed during the field tours. In total, slightly more than 620 inventory records were adjusted. Either the space use code or station counts were changed. Departmental data was assumed to be accurate.

Existing Space by Building

Building Name	ASF
Allwine Farm	5,218
Allwine Hall	79,220
Arts and Sciences Hall	91,836
Center Building	7,510
Center Dome	48,002
Center Storage	2,233
Central Utilities	140
Child Care Center	3,823
CPACS	80,761
Criss Library	122,488
Durham Science Center	93,990
Eppley Administration Building	71,725
HPER	184,669
Kayser Hall	31,263
Landscape Services	2,625
Mammel Hall	67,642
Milo Bail	93,629
Parking Structure 2	1,001
Peter Kiewit Institute	113,968
RCRA	949
Roskens Hall	49,288
Sapp Field House	141,473
Scott Conference Center	15,818
Sculpture and Ceramics Studio	6,833
Solar	595
Stadium East	1,857
Strauss	40,533
Thompson Alumni	14,538
Weber Fine Arts	46,117
Welcome Center	5,892
TOTAL =	**1,425,636**

Space classification is as much an art form as a science. Often a room can be coded as one of several space use classifications. Choosing the best space use code requires someone that understands the implications of classifying a room in one manner over another not only from the point of the system or governing board, but utilization expectations, research management, etc. Knowing the types of activities being conducted in the space, the primary users of the space, understanding space use classifications and their nuances, as well as observing the physical limitations and attributes of the space, helps provide a more accurate inventory.

The table at left, *Existing Space by Building*, shows the buildings that are included in the study along with the ASF allocated to each building. It should be noted that this study did not address residence halls or the Scott Conference Center.

Existing Space Allocation

The UNO *Fact Book* (Table 46) notes that the campus contains 2,482,425 ASF of space on the Dodge, Pacific, and Center Locations. This includes parking structures and residential space. The following chart illustrates the University of Nebraska Omaha's ASF by Space Type Category as used in this analysis. The space needs analysis included just less than 1,400,000 assignable square feet (ASF) of owned spaced. Residential space or parking structure vehicle parking ASF was not included in this analysis.

While classroom and teaching laboratory space is often considered the most significant allocation of space on higher education campuses, it is only 27% of the total 1.4 million ASF at UNO. This is comparable to other institutions with a similar mission and program mix. Physical education and recreation space with athletics comprised 24% of the space in the study.

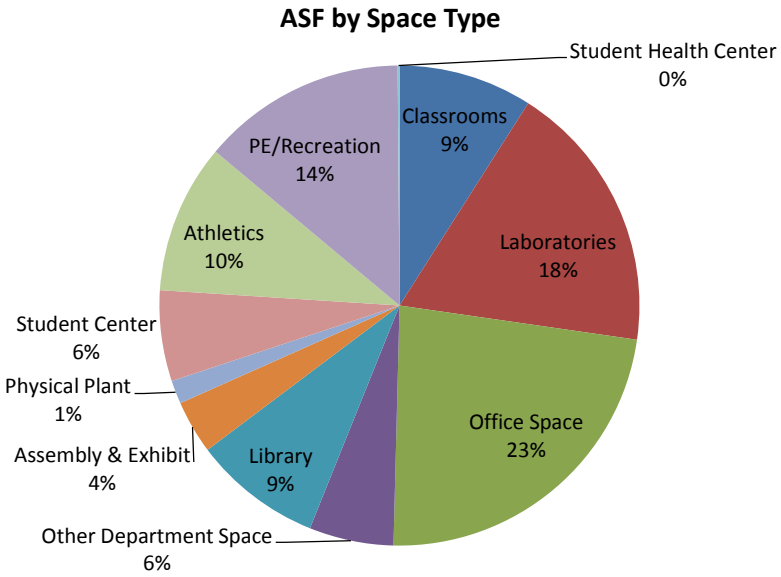
The largest individual space category is academic and administrative offices, comprising 23% of the space included in the space needs analysis.

The remaining space categories (Student Center, Physical Plant, Assembly & Exhibit, Library, and Other Department Space) comprise the remaining 26% of the space for this study.

ASF by Space Category

Space Category	Total ASF
Classrooms	126,189
Laboratories	255,561
Office Space	323,518
Other Department Space	79,599
Library	121,159
Assembly & Exhibit	50,335
Physical Plant	21,848
Student Center	85,683
Athletics	141,007
PE/Recreation	192,670
Student Health Center	1,847
TOTAL	**1,399,416**

ASF = Assignable Square Feet



Space Classifications

Facility space is calculated according to major space classifications as outlined in the *National Center for Education Statistics, Postsecondary Education Facilities Inventory and Classification Manual, 2006 Edition*. Some additional points of clarification are noted:

- Classrooms are those rooms that are regularly scheduled by an academic department or centrally scheduled by the Registrar.
- Teaching laboratories are laboratories that are regularly scheduled with specialized equipment.
- Open laboratories are laboratories that are irregularly scheduled. This category includes open computer laboratories. They may be laboratories used as combination teaching laboratories and open access laboratories. The Open Laboratory category includes music practice rooms, art studios, and laboratories built for one individual or a small group. It also includes senior capstone space and collaborative learning areas.
- Research laboratories are laboratories in which research is conducted. It also includes space that supports the main research laboratory.
- Office space includes offices, office supply and storage areas, workrooms, reception areas, conference rooms, and conference room service space.
- Library or study space is defined as space dedicated to the main and branch libraries, and not departmental study rooms that serve as an unofficial library.
- Assembly/Exhibit Space is space that accommodates many persons for events such as dramatic and musical activities or space that is used for exhibitions of materials or art such as a museum or an art gallery. It includes planetariums and herbariums.
- Other Academic/Administrative Department Space includes: departmental libraries; building or departmental student lounges, armories, media production rooms, clinics, demonstration rooms, meeting rooms, and central computer or telecommunications space. It also includes field buildings, animal quarters, and greenhouses that support instruction. Field buildings and greenhouses in support of physical plant and campus grounds are included as Physical Plant Space.
- Physical Education / Recreation space is indoor space that is used mainly for physical education as an academic program and for student recreation. Such spaces can sometimes be shared with physical education courses on a time-of-day basis.
- Athletic space is indoor space that is used primarily for competitive sports programs and includes spaces such as gymnasiums, natatoriums, fitness and training rooms, spectator seating, and support spaces.
- Student Health Care includes space that is used to care for students. It may include a pharmacy or wellness center.
- Student Space (Student Union or Center) is space used for university life and student activities functions. It includes the bookstore, non-residential student dining, student lounges, student organization and government space, and ballroom space.
- Physical Plant support facilities provide centralized space for support systems and services to a campus.
- Non-assignable areas include central utility/boiler plants that primarily house central utility production and/or distribution to more than one building on campus.

4 | CLASSROOM & TEACHING LABORATORY UTILIZATION

How is Utilization Determined?

The utilization of classrooms and teaching laboratories was examined using UNO's Fall 2011 course and facilities data. Understanding how classrooms and teaching laboratories are scheduled and utilized provides the foundation for and assists in the formulation of the guideline application for these two space categories. The number of student stations for each classroom and teaching laboratory was first provided in the facilities inventory. Supplemental data provided by the University Registrar, as well as field verification provided additional input. Scheduled use is defined as use verifiable through the Registrar's course data.

The utilization analysis includes scheduled classroom use by day and time of day, as well as classroom and teaching laboratory utilization analyzing average weekly room hour use and student station occupancy percentage. The following definitions are critical to understanding the finding in this section:

- A weekly room hour, not to be confused with a credit hour, is defined as the length of time a course meets (end time minus start time) times the number of days per week throughout the semester.
- Student station occupancy is defined as the number of student seats filled divided by the total number of student seats in the room when the room is scheduled.

The utilization of a room is determined by calculating the average enrollment of the courses taught in a room along with total weekly student contact hours, weekly room hours, and student station occupancy percentage. Weekly student contact hours are calculated by multiplying the enrollment of a course by the weekly contact, or room hours, during which the course is held. Weekly room/contact hours are determined by calculating the number of hours a course meets (start and end times) and multiplying the result by the number of days the course meets each week. Both of these factors are totaled on a room-by-room basis. If a course does not meet for a full term, the number of hours for a room is prorated by the number of weeks in a term.

Weekly Room/Contact Hours (WRH or WCH) = No. of Days X ((End Time - Start Time)/60)
Weekly Student Contact Hours (WSCH) = Students X Weekly Room/Contact Hours
Weekly Student Contact Hour Capacity = Student Stations X Weekly Room/Contact Hours
Student Station Occupancy % = WSCH / WSCH Capacity
Hours per Seat = WSCH / No. of Student Stations

The student station occupancy for a room is determined by dividing the room's weekly student contact hours by the room's weekly student contact hour capacity (a course's weekly contact hours times the room's number of student stations).

This study did not include an analysis of space quality, sight lines, acoustics, or media equipment in the rooms. However, these characteristics or, lack thereof, contribute to a room's popularity, functionality, and usability.

Classroom Utilization

Classrooms Defined

Classrooms are rooms that are regularly scheduled and suitable for instruction by any discipline. Classrooms are normally accessible from a major corridor. If a room is accessible by first circulating through another space, like a laboratory, another space classification should be considered. A conference room or meeting room used occasionally for regularly scheduled instruction should not be classified as a classroom. Auditoria with limited scheduling capabilities due to productions or reserved for special occasions should not be considered as classroom space. Once a room is classified as a classroom it usually has utilization expectations.

The University Of Nebraska Space Guidelines

The 1987 University of Nebraska *Space Guideline* utilization expectations for classrooms is 30 hours per week with a 65% student station occupancy (the percentage of seats filled when the room is in use). The 16 ASF per student (average station size) is considered low compared to more contemporary standards.

Classrooms in the Analysis

At the time of the study, UNO had 140 rooms identified as classrooms. Kayser Hall was in the process of some space modifications and classrooms in this building were not included the utilization analysis.

Scheduled Classroom Use by Day and Hour

Scheduled use by day and time are noted in the following table. On average, the most heavily scheduled timeslot is at 10:00 AM, with greatest use on Tuesdays and Thursdays when 88% of all classrooms are scheduled. The next most heavily scheduled time is at 11:00 AM also on Tuesdays and Thursdays. Not surprisingly, use on Friday afternoon starting at 3:00 PM is the lowest. There is minimal (1% to 6%) scheduled use on Saturday and Sunday.

In general, classrooms use increases during the morning hours, decreasing slightly over the noon hour before rebounding in the early afternoon. Classroom use decreases during the late afternoon, reaching lower levels around 4:00 pm. Evening students use reaches an apex around 6:00 PM before decreasing during later evening hours. By 9:00 PM, classroom use averaged 6%.

It is worth noting that when an institution consistently reaches and exceeds the 85% level of classrooms in use, the more difficult it becomes to find available classrooms in the right geographical locations with the right classroom capacities and instructional technologies. The graph illustrates the classroom use by most popular start times each day of the week. The average percent of classrooms in use is based on Monday through Thursday, as Friday and weekend use would skew the overall results.

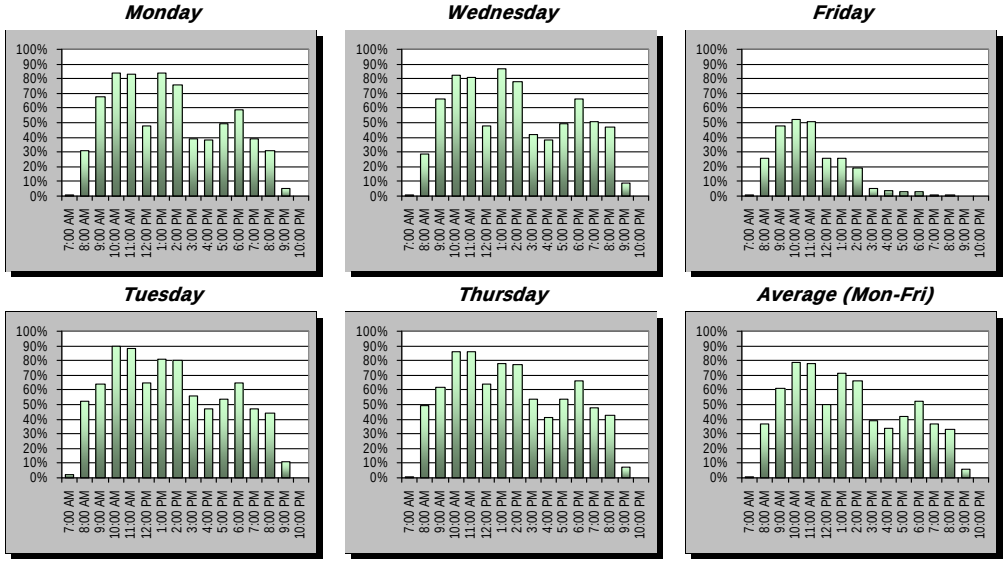
Scheduled Classroom Use by Day and Time

(Darker colors indicate a large percentage of rooms are scheduled.)

Time of Day	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Average	
	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use	Rooms in Use	% In Use
7:00 AM	2	1%	3	2%	2	1%	2	1%	1	1%	0	0%	0	0%	2	1%
8:00 AM	43	31%	73	52%	40	29%	69	49%	36	26%	2	1%	2	1%	52	37%
9:00 AM	95	68%	89	64%	92	66%	87	62%	67	48%	7	5%	2	1%	86	61%
10:00 AM	118	84%	126	90%	115	82%	121	86%	73	52%	9	6%	2	1%	111	79%
11:00 AM	116	83%	123	88%	113	81%	120	86%	71	51%	9	6%	2	1%	109	78%
12:00 PM	67	48%	91	65%	67	48%	89	64%	36	26%	2	1%	0	0%	70	50%
1:00 PM	117	84%	113	81%	122	87%	109	78%	37	26%	1	1%	2	1%	100	71%
2:00 PM	106	76%	112	80%	109	78%	108	77%	26	19%	1	1%	2	1%	92	66%
3:00 PM	55	39%	79	56%	59	42%	75	54%	7	5%	0	0%	2	1%	55	39%
4:00 PM	53	38%	66	47%	53	38%	58	41%	6	4%	0	0%	0	0%	47	34%
5:00 PM	68	49%	76	54%	69	49%	76	54%	4	3%	0	0%	0	0%	59	42%
6:00 PM	83	59%	91	65%	93	66%	92	66%	4	3%	0	0%	0	0%	73	52%
7:00 PM	55	39%	66	47%	72	51%	67	48%	2	1%	0	0%	0	0%	52	37%
8:00 PM	44	31%	62	44%	66	47%	60	43%	1	1%	0	0%	0	0%	47	33%
9:00 PM	7	5%	15	11%	12	9%	10	7%	0	0%	0	0%	0	0%	9	6%
10:00 PM	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

Total classrooms = 140

Percent of Classrooms In Use



Classroom Utilization by Building

There are 11 buildings containing 140 classrooms that are used for scheduled instruction at the University of Nebraska Omaha. Results are portrayed in the Classroom Utilization Analysis by Building Summary table. Approximately half, or 5 of the 11, campus buildings averaged 30 or more weekly room hours. Overall, classrooms were being used 31 hours per week at 65% student station occupancy, with 20 ASF per student station.

On average, classrooms in Arts and Sciences Hall had the highest scheduled use per week at 37 hours, while the three rooms in the Strauss Performing Arts building were scheduled an average of 15 weekly room hours. The University of Nebraska *Space Guideline* standard is 30 room hours per week.

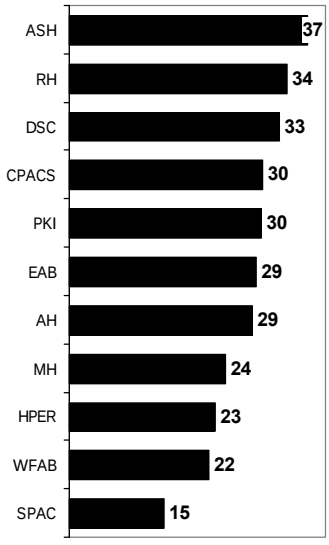
While Arts and Sciences Hall had the highest weekly room hour average, it also has one of the highest student station occupancies, with 70% of the seats filled on average. HYPER, with 82% student station occupancy, is high compared to the campus average of 65%. The University of Nebraska *Space Guideline* standard is 65% student station occupancy.

The average assignable square foot (ASF) per student station is 20 ASF, which is slightly higher than University of Nebraska *Space Guidelines*. For today's collaborative pedagogy and technology rich environments, a better average would be between 22 and 25 ASF per student station. Mammel Hall and HYPER, both newer UNO facilities, were at 24 ASF per station and 25 ASF per station respectively. The 9 ASF/student station is the Eppley Administration Building is a fixed seat lecture hall.

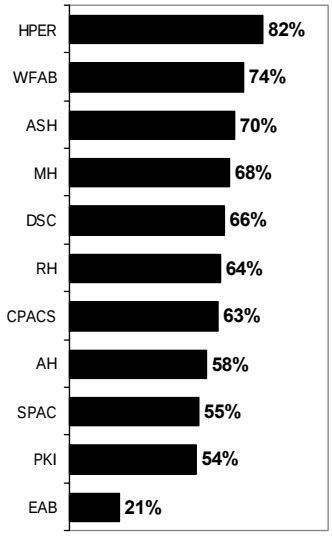
Classroom Utilization Analysis by Building Summary

Building Name and Id		No. of Rooms	Average Room Size	Average ASF per Station	Average Section Size	Weekly Seat Hours	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
Allwine Hall	*AH*	13	946	19	28	16.2	29	58%
Arts and Sciences Hall	*ASH*	30	635	15	31	24.4	37	70%
CPACS	*CPACS*	16	946	26	30	16.4	30	63%
Durham Science Center	*DSC*	15	829	15	40	22.9	33	66%
Eppley Administration Building	*EAB*	1	2,233	9	55	6.1	29	21%
HPER	*HPER*	6	941	25	30	14.9	23	82%
Mammel Hall	*MH*	19	1,180	24	35	15.1	24	68%
Peter Kiewit Institute	*PKI*	14	829	22	22	17.2	30	54%
Roskens Hall	*RH*	18	832	22	23	17.1	34	64%
Strauss	*SPAC*	3	580	20	17	9.3	15	55%
Weber Fine Arts	*WFAB*	5	571	22	20	18.8	22	74%
Total No. of Rooms = 140	**AVERAGE**		**860**	**20**	**30**	**18.3**	**31**	**65%**

Weekly Room Hours:



Student Station Occupancy:



Classroom Utilization Analysis by Room Capacity

Classrooms were divided into 13 categories based on size with results noted in the following table. Classrooms with 26-30 seats or stations were the largest category, containing 26 of the 140 rooms and were used an average of 34 hours per week. The three classrooms with capacities of 76-100 stations had the highest use with 38 weekly room hours.

The 20 rooms with 20 and under stations were only utilized 20 hours per week as many of these rooms are seminar rooms and conference rooms that are also used outside of scheduled instruction. Also with a lower average (23 WRH) are the two classrooms with capacities of 251 and over.

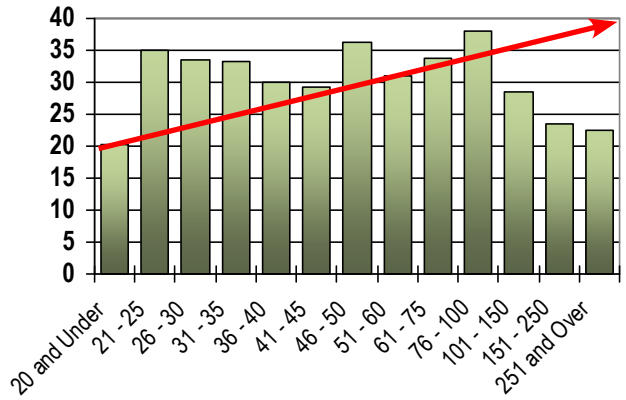
The five rooms with capacities of 21 to 25 had the highest student station occupancy rate of 89%, while the largest rooms (151-250 and 251 seats and Over) had the lowest overall student station occupancy with 25% and 48% of the seats filled during scheduled use. Overall, classrooms with capacities of over 101 station tend to have much lower occupancy rates.

Usual trends show that smaller capacity classrooms are not scheduled as much as the larger classrooms, so as the capacity of the classrooms increases, so do the weekly room hours. Conversely, smaller classrooms tend to have a greater student station occupancy ratio while the larger rooms have a lower student station occupancy ratio with many as low as 25%. As noted in the Weekly Room Hours by Classroom Capacity and Student Station Occupancy by Classrooms Capacity charts, the University of Nebraska Omaha does not follow completely follow the weekly room hour trends, however it does follow the student station occupancy trend found on most college campuses.

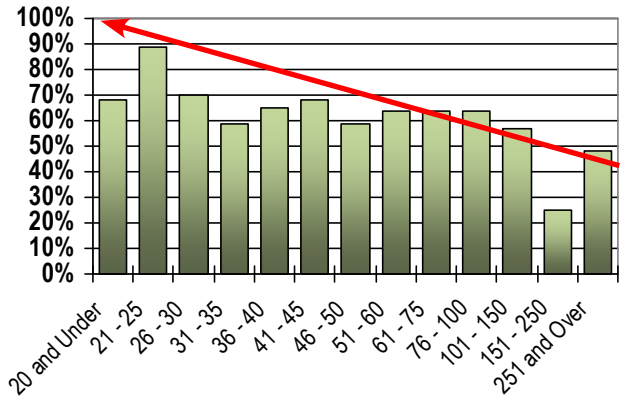
Classroom Utilization Analysis by Capacity Summary

Classroom Capacity Grouping	No. of Rooms	No. of Seats	Average Room Size	Average ASF per Station	Average Section Size	Weekly Seat Hours	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
20 and Under	20	359	484	27	12	13.7	20	68%
21 - 25	5	116	531	23	21	31.0	35	89%
26 - 30	26	755	616	21	20	23.5	34	70%
31 - 35	11	360	653	20	19	19.6	33	59%
36 - 40	9	350	804	21	31	19.3	30	65%
41 - 45	16	697	1,000	23	29	20.0	29	68%
46 - 50	17	830	896	18	29	21.5	36	59%
51 - 60	16	900	1,012	18	36	19.8	31	64%
61 - 75	6	421	1,023	15	40	21.4	34	64%
76 - 100	3	265	1,124	13	55	24.2	38	64%
101 - 150	7	867	1,782	14	62	15.6	28	57%
151 - 250	2	445	1,784	8	58	5.8	24	25%
251 and Over	2	576	2,315	8	140	10.7	23	48%
Total No. of Rooms = 140		**AVERAGE**	**860**	**20**	**30**	**18.3**	**31**	**65%**

Weekly Room Hours by Capacity:



Student Station Occupancy by Capacity:



National Perspective on Classroom Utilization

Approximately half the states either have a statewide expectation or there are system expectations in one or more of their public higher education systems. The lowest classroom target currently in use is 30 hours per week. Traditionally, this has been the most widely accepted standard and remains the most commonly used figure today. In many jurisdictions weekly room hours were based on day usage only, with evening and weekend usage being excluded from the expectation. Recently, the more common practice is to use that target as an all-hours expectation.

Classroom Utilization Summary

	UNO Campus Average	UN Space Guidelines	Rccommended Space Guidelines
Weekly Room Hours	31	30	34
Student Station Occupancy	65%	65%	68%
ASF per Student Station	20	16	22
Number of Rooms	140		

ASF = Assignable Square Feet

In a few states, much higher utilization targets have been adopted. The average of those systems which have classroom utilization targets is now 35 hours.

The consultants have performed utilization studies for over 100 campuses. The most common findings are between 25 average weekly hours per classroom and 35 average weekly hours per classroom. This is scheduled use for credit instruction.

The second utilization factor, which is normally part of the utilization expectation in those jurisdictions which have adopted them, is the percentage of seats filled when the rooms are in use. The most widely used number is 65%. There has recently been a strong push to increase the utilization factor to 68%. One jurisdiction, the Arizona Board of Regents, has gone to 75% for a particular subset of classrooms. In the many studies the consultant has conducted, the actual use tends to be between 60% and 70%. Because institutions do not ultimately control the final enrollment in a specific course, there will always be a degree of mismatch between estimated course size and the actual size of the course.

The University's average of 31 Weekly Room Hours and 65% Student Station Occupancy is consistent with the University of Nebraska *Space Guidelines* but slightly lower than other higher education institutions studied by the consultant.

Teaching Laboratory Utilization

Teaching Laboratory Utilization by Building

In Fall 2011, there were 77 rooms classified as teaching laboratories. The largest number of laboratories can be found in the Durham Science Center and Allwine Hall. As the tables and charts indicate, UNO teaching laboratories averaged 18 room hours per week, at 71% student station occupancy. The University of Nebraska *Space Guidelines* suggests 20 weekly room hours at 65% student station occupancy.

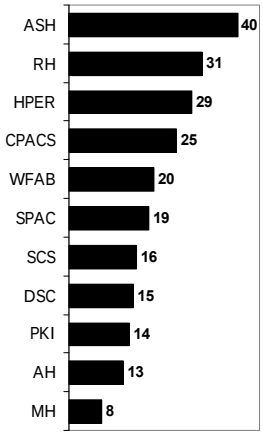
In reviewing the room-by room teaching laboratory results (See Appendix C), 27 (35%) of the laboratories were at or above the 20 weekly room hour standard while 50 (65%) of the laboratories meet or exceeded the 65% student station occupancy standard.

When results are sorted by building, laboratories in the Arts and Sciences building had the highest room usage, with an average of 40 hours per week. The two laboratories in Mammel Hall (Business) averaged eight hours per week. The Sculpture and Ceramics Studio, with 82% of the seats filled, had the highest student station occupancy.

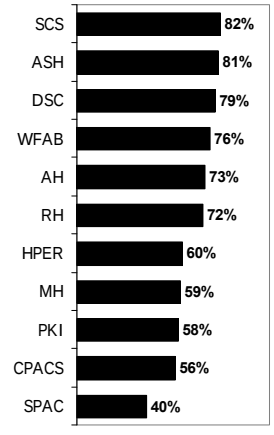
Teaching Laboratory Utilization Analysis by Building Summary

Building Name and Id		No. of Rooms	Average Room Size	Average ASF per Station	Average Section Size	Weekly Seat Hours	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
Allwine Hall	*AH*	14	1,232	47	21	10.8	13	73%
Arts and Sciences Hall	*ASH*	5	715	32	18	31.2	40	81%
CPACS	*CPACS*	1	738	31	14	14.2	25	56%
Durham Science Center	*DSC*	21	954	53	16	12.8	15	79%
HPER	*HPER*	3	2,817	55	28	16.0	29	60%
Mammel Hall	*MH*	2	1,044	47	14	4.8	8	59%
Peter Kiewit Institute	*PKI*	13	986	37	16	9.3	14	58%
Roskens Hall	*RH*	2	580	45	12	29.4	31	72%
Sculpture and Ceramics Studio	*SCS*	2	2,672	134	17	13.1	16	82%
Strauss	*SPAC*	4	1,606	35	19	7.7	19	40%
Weber Fine Arts	*WFAB*	10	1,311	56	18	13.5	20	76%
Total No. of Rooms = 77	**AVERAGE**		**1,182**	**49**	**18**	**12.6**	**18**	**71%**

Weekly Room Hours:



Student Station Occupancy:



Teaching Lab Utilization by College

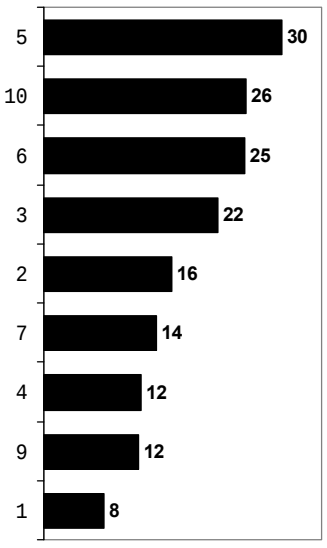
Based on departmental designation, the teaching laboratory utilization analysis was completed and is noted in the table below. A review of the findings indicates that four colleges exceeded the 20 weekly room hour UN space guideline. The five laboratories in the College of Education averaged 30 weekly room hours, the highest among the units. The College of Arts and Sciences, with 35 laboratories, averaged 16 weekly room hours. The slightly lower weekly room hours can be attributed to a lower utilization in upper division science laboratories, which is typical for a comprehensive university.

With regard to student station occupancy, laboratories in the College of Agricultural Sciences and Natural Resource (UNL) and the College of Arts and Sciences averaged approximately 80% student station occupancy. This is well above the University of Nebraska *Space Guideline* standard of 65%, but typical of more contemporary utilization standards.

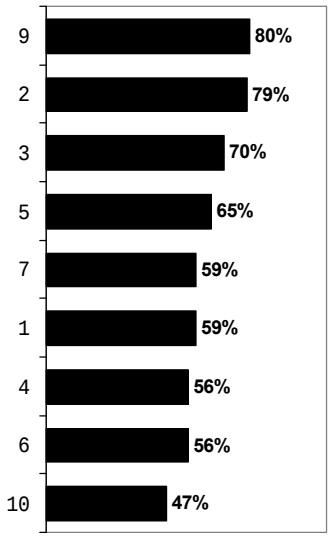
Teaching Laboratory Utilization Analysis by College / Unit Summary

College / Unit	No. of Rooms	No. of Seats	Average Room Size	Average ASF per Station	Average Section Size	Weekly Seat Hours	Average Weekly Room Hours	Hours in Use Student Station Occupancy %
College of Agricultural Sciences and Natural Resources	1	24	1,129	47	19	9.6	12	80%
College of Architecture	1	30	1,253	42	14	11.9	26	47%
College of Arts and Sciences	35	836	1,022	49	18	13.6	16	79%
College of Business Administration	2	45	1,044	47	14	4.8	8	59%
College of Communication, Fine Arts and Media	18	573	1,465	58	18	12.6	22	70%
College of Education	5	186	1,922	51	22	18.2	30	65%
College of Engineering	11	300	976	38	17	9.8	14	59%
College of Information Science and Technology	3	88	1,095	37	14	7.0	12	56%
College of Public Affairs and Community Service	1	24	738	31	14	14.2	25	56%
Total No. of Rooms = 77	**AVERAGE**		**1,182**	**49**	**18**	**12.6**	**18**	**71%**

Weekly Room Hours:



Student Station Occupancy:



National Perspective on Teaching Laboratory Utilization

As with classroom utilization, guideline targets are usually implemented by states, systems, or institutions within the public education sector. These targets tend to oversimplify the use of teaching laboratories. Some guideline targets are based on discipline while others are based on the intensity in which a discipline relies on laboratories for instructional delivery.

The most used guideline targets have expectations of 20 hours per week at an 80% student station occupancy rate. In an effort to increase the use of it laboratories, one state has raised its utilization goals to an extreme of 40 hours per week at 85% student station occupancy. One set of published guidelines recommends 11.25 weekly room hours for certain heavily equipped labs such as engineering, agriculture, and the health professions but maintains the 80% student station occupancy rate.

Teaching Laboratory Utilization Summary

	UNO Campus Average	UN Space Guidelines	Recommended Space Guidelines
Weekly Room Hours	18	20	20
Student Station Occupancy	71%	65%	75%
ASF per Student Station	49	Varies	Varies
Number of Rooms	77		

ASF = Assignable Square Feet

While 80% student station occupancy is the most used rate in guideline targets, most universities rarely achieve it. In reality, occupancy averages that the consultants have studied typically range between 60% and 75%.

Teaching laboratory usage has as much to do with course level, instructional methods, and student research activities and capstone experiences, as it does discipline or discipline type. It is not unusual to find lower scheduled use (ten hours and under) in upper division laboratories. On the other hand, entry level laboratories can have much higher levels of scheduled use – 24 hours or more.

When more than one laboratory is required and is equipped in the same fashion as another, serious consideration should be given to making sure that a higher level of usage is being achieved. Laboratories tend to be subject specific and do not lend well to sharing among disciplines. However, more laboratories are being used for interdisciplinary activities which can assist in achieving higher weekly room hour usage. Conversely, if customized labs are required for interdisciplinary activities then scheduled use may be low.

Laboratory utilization can be more difficult to measure through standardized course data. The reasons for this are many. A laboratory is sometimes a suite of rooms that are split into activity specific functions. The students arrive for class and then rotate through the different rooms. Sometimes a class is split into smaller cohorts where some use the lab through the first half of the semester and the others use the lab for the second half. Many upper division laboratories are also used for student research activities or capstone experiences and have very low regularly scheduled use.

Laboratories have additional time demands that classrooms typically do not have. For example, there is setup and preparation time required, sometimes for a class, sometimes for the day. Other laboratories require an experiment to stay set up for multiple lab sessions or the entire semester which excludes the room from other scheduled activity.

The consultant has conducted utilization studies for multiple higher education institutions over the last thirty years. The University's averages are at the middle range of the weekly room hours and upper end of the range for student station occupancy.

5 | SPACE NEEDS GUIDELINE APPLICATION

Process

Paulien & Associates was provided with enrollment, course, and staffing data from Fall 2011. The facilities inventory included information on square footages, space use codes, and departmental assignment on a room-by-room basis. The course data contained the course number and description, student enrollments, start and stop times, and meeting locations. The staffing data contained headcount by major employee category on a departmental basis. The data provided a snapshot of the activities for the Fall 2011 semester which was used as the campus master planning Base Year.

On-Site Work Sessions and Space Verification

Two separate visits were made to the campus. The first visit included works sessions with key academic and administrative units to discuss enrollment growth, vision, research goals, and space needs. During these sessions, visits were made to various buildings, grounds and spaces throughout the campus to gain familiarity and assess the overall reliability of the facilities inventory. The consultants performed random checks of square footage, verified space use codes, and counted the number of student stations in each room for classrooms and laboratories. Updates to the facility inventory were made accordingly. The second visit included a presentation of preliminary findings to the Steering Committee, and the Campus Advisory Group. The consultant also discussed the physical response to the space needs findings.

Guideline Assumptions and Application

This section summarizes the space needs by functional space category. The University of Nebraska Office of Facilities Planning & Management established space guidelines and land guidelines in 1985, with revisions published in 1987. Initially, these guidelines were used to determine space needs for the University of Nebraska Omaha.

As part of the scope of this analysis, Paulien & Associates was asked to review these guidelines as compared to space standards established in previous work of the consultants for similar institutions. A review of more contemporary space guidelines from multiple state systems also guided the consultant in establishing appropriate guidelines for UNO, especially in the areas of classrooms and teaching laboratories. Where the University of Nebraska *Space Guidelines* or recommendations were determined inappropriate or silent, the consultant used a modified application of the guideline or employed a different guideline method. The different methods include benchmarking, review of design and/or program plans completed for prior projects, and empirical data to project space needs.

The operating assumption in applying these guidelines was to provide the University with enough space to conduct its current and future activities. The sections below specify which guideline was applied to each space category and provides an explanation of the guideline application and, where pertinent, a comparison to the University of Nebraska *Space Guidelines*. In order to apply the various guidelines and conduct the space needs analysis, several assumptions were made in this report. Assumptions applied to specific space categories are listed in this section.

Classroom & Classroom Service Space

Classrooms are defined as any room generally used for scheduled instruction requiring no special equipment and referred to as a “general purpose” classroom, seminar room, or lecture hall. Classroom service space directly supports one or more classrooms as an extension of the classroom activities, providing media space, preparation areas, or storage. The classroom station size guideline is considered as including the classroom service area space. However, additional service space can be justified on a program or classroom basis.

Prior to 2000, many guidelines for classroom space were developed at a time when tablet armchair classrooms were the predominant seating preference. These guidelines called for approximately 15 to 16 ASF per student station which is significantly lower than what today's active classrooms require. As a note, the University of Nebraska *Space Guidelines* suggested 16 ASF per station for classrooms.

Collaborative learning environments and technology require more space per student than traditional classroom arrangements. Classrooms that have good sight lines which are required by technology and flexible seating arrangements usually average between 20 and 25 ASF per student station. As new classrooms are constructed or renovated that do not have traditional tablet armchairs, more space will be required than in the past.

For this exercise, the consultants used 22 ASF per student station (20 ASF per Station multiplied by 1.1 to account for a classroom service factor). This factor will provide enough space for a variety of seating arrangements across the University.

Review of the classroom utilization analysis presented previously in this document showed that, on average, the University of Nebraska Omaha schedules its classrooms close to stated utilization expectations. However, the average ASF per student station exceeded the UN guideline of 16 ASF per student station. In addition, states with classroom guidelines have been increasing utilization standards to achieve greater space efficiencies. The consultant recommends 32 weekly room hours and 68% student station occupancy for classroom utilization goals as well as a space guideline of 22 ASF per classroom student station to determine classroom needs. Guideline parameters are noted in the *Classroom Utilization Summary* table.

Classroom Utilization Summary

	UNO Campus Average	UN Space Guidelines	Rccommended Space Guidelines
Weekly Room Hours	31	30	34
Student Station Occupancy	65%	65%	68%
ASF per Student Station	20	16	22
Number of Rooms	140		

ASF = Assignable Square Feet

Classroom space requirements are determined by a formula that takes the target utilization of 34 hours per week, multiplies it by the target student station occupancy of 68% and divides the result into the 22 square feet per student station. This calculation produces a guideline of 0.9516 ASF per weekly student contact hour (WSCH) for lecture courses. Assignable square feet per weekly student contact hour (ASF/WSCH) is calculated as follows:

Lecture Guideline per Weekly Student Contact Hour (WSCH):

$$\frac{22 \text{ ASF/STATION}}{34 \text{ WEEKLY ROOM HOURS X } 68\% \text{ STUDENT STATION OCCUPANCY}} = 0.9516 \text{ ASF/WSCH}$$

As further explanation, the total number of weekly contact hours for a lecture course section is obtained by multiplying the enrollment of the course section by the number of meeting hours in one week. For example a history course with 55 students enrolled which meets three (3) times a week for one hour produces 165 weekly student contact hours (WSCH). Multiplying the 165 weekly student contact hours by the classroom guideline of 0.9516 generates 157 ASF of classroom space.

EXAMPLE OF CLASSROOM GUIDELINE APPLICATION

Step 1 • Calculate Weekly Student Contact Hours for Lecture Section
Enrollment (55) X Weekly Room Hours (3) = Weekly Student Contact Hours (165)

Step 2 • Calculate Classroom Guideline
22 ASF/Station / 34 Weekly Room Hours X 68% Student Station Occupancy = 0.9516 ASF/WSCH

Step 3 • Calculate Guideline Square Footage
Weekly Student Contact Hours (165) X ASF/WSCH (.9516) = Guideline Square Footage (157.0)

It should be noted that there is no true comparison of existing classroom space to guideline space on a college-by-college basis. This is due to the fact that the guidelines are applied by course and the departmental classroom needs can then be calculated; however, most classrooms are viewed as a campuswide resource and are centrally scheduled. In practice, most departments do not control the classrooms they use but have first choice of hours when they can schedule the room.

Teaching Laboratories & Service Space

Teaching laboratories are defined as rooms used primarily for regularly scheduled classes that require special purpose equipment to serve the needs of particular disciplines for group instruction, participation, observation, experimentation, or practice. Station sizes in teaching laboratories vary by discipline. Space requirements are calculated with a formula that is similar to those used to determine classroom space requirements, except that the ASF per student station varies by discipline.

Teaching Laboratory Utilization Summary

	UNO Campus Average	UN Space Guidelines	Recommended Space Guidelines
Weekly Room Hours	18	20	20
Student Station Occupancy	71%	65%	75%
ASF per Student Station	49	Varies	Varies
Number of Rooms	77		

ASF = Assignable Square Feet

As noted in the *Teaching Laboratory Utilization Summary* table, the University has a lower weekly room hour average (18 hours) than the UN guideline target of 20 hours per week while it exceeds the student station occupancy expectation by 6%.

For this analysis the consultants used modified UN Guidelines and employed a space per student station guideline based on approximately 15 different subject areas. Traditionally, the guideline systems which use this type of approach express the space guideline as a range often including and excluding service space. Based on the consultant's experience, both at the master plan level and at a program plan level, guidelines were selected for the disciplines shown in the table on the following page and are comparable to those contained in Appendix B of the University of Nebraska *Space Guidelines*.

The scheduled weekly room hour average for teaching laboratories is generally found to be less than scheduled use of classrooms due to the need for preparation time of specialized equipment prior to class. Conversely, the student station occupancy is normally higher as the number enrolled in a laboratory exercise is more closely monitored, safety being a key issue as well as the limitations of faculty observation. In keeping with the spirit of the UN guidelines, the utilization goals of 20 weekly room hours and 75% student station occupancy were used for all disciplines.

Teaching Laboratory Guideline

Program	Weekly Room Hours	Student Station Occupancy	ASF per Student Station
Architecture	20.00	75.00%	80.00
Architectural Engineering	20.00	75.00%	140.00
Art	20.00	75.00%	90.00
Astronomy	20.00	75.00%	60.00
Biological Sciences	20.00	75.00%	60.00
Business & Management	20.00	75.00%	40.00
Chemistry	20.00	75.00%	75.00
Civil Engineering	20.00	75.00%	140.00
Communications	20.00	75.00%	50.00
Computer & Information Science	20.00	75.00%	60.00
Computer Electronics Engineering	20.00	75.00%	90.00
Construction Management	20.00	75.00%	280.00
Education	20.00	75.00%	40.00
Electrical/Electronics	20.00	75.00%	100.00
Engineering	20.00	75.00%	120.00
Geography	20.00	75.00%	60.00
Geology	20.00	75.00%	60.00
Music	20.00	75.00%	60.00
Physics	20.00	75.00%	64.00
Psychology	20.00	75.00%	50.00
Public Administration	20.00	75.00%	40.00
Social Sciences	20.00	75.00%	50.00
Social Work	20.00	75.00%	40.00
Theatre	20.00	75.00%	90.00

ASF = Assignable Square Feet

In the consultant's experience a range of 18 to 20 hours per week is adequate depending on the discipline. For certain disciplines in which a variety of laboratories are needed, it is very difficult to achieve over 18 hours of weekly use. These disciplines may include but are not limited to Art, Biology, and Chemistry. At small to medium-sized comprehensive universities, it is especially difficult to reach an economy of scale. It is important to understand that the amount of teaching laboratory space actually required may be greater than what these guidelines generate at a master planning level.

Special-Class or Open Laboratories

The space classified as Open Laboratories includes rooms that are open for student use and that are not used on a regularly scheduled basis. These rooms may provide equipment to serve the needs of particular disciplines for group instruction in informally or irregularly scheduled classes. Alternatively, these rooms are used for individual student experimentation, observation, or practice in a particular field of study.

The size of these laboratories is based on equipment size, the station size, and student count desired, and therefore should be determined on an individual basis. The types of rooms included in this category are computer laboratories, language laboratories, independent art studios, music practice rooms, and tutorial and testing facilities. For purposes of this analysis, any senior capstone space was also considered open laboratory space as well as collaborative or group learning spaces.

Open laboratories are not specifically addressed by most guideline systems, including the University of Nebraska Space Guidelines. In recent benchmarking studies and consulting work with several statewide systems, the consultant found between five (5) and ten (10) ASF per student FTE allocated for space in this category. The consultant notes that the amount of space the University has classified in this category is approximately 8 ASF per student FTE, on

par with what the consultant typically expects to find at institutions similar to UNO (i.e., comprehensive universities with similar missions).

The consultants believe that a reasonable guideline for the University in open laboratory space is eight (8) ASF per student FTE at the base year. At the Plan Horizon (Fall 2020), the guideline was reduced to seven (7) ASF per FTE as open computer laboratories are being reduced in number and size on most campuses. This guideline is sufficient to provide the existing programs with space in this category as well as provide some senior capstone space throughout campus. The guideline was portioned out among the existing programs based upon needs expressed during the on-site work sessions.

Research Laboratories

Research laboratories (space use code 250's) are rooms used for unscheduled laboratory experimentation or training in research methods and observation. The research may be conducted by either faculty or students for both funded and non-funded purposes. This room type does not have utilization expectations.

The computation of research space is a complex issue, especially for a comprehensive university that is not research intensive. There are different approaches that could be used at the master planning level – a space factor per $100,000 in research expenditures; or a space factor per research team; or a space factor per tenured/tenure track faculty.

Because research expenditures are not large enough at the University of Nebraska Omaha to predict an adequate amount of research space and there are few "research teams" at the University, the consultant selected a space factor per full-time faculty, as prescribed by the University of Nebraska *Space Guidelines*.

Only those programs or disciplines which require research space (per Appendix B of the UN Space Guidelines) are included in the analysis. To determine space needs, faculty with the title of professor (full, associate, and assistant), research (associate, specialist and fellow), and student (post-doctoral, advanced graduate research assistant) were used to generate space.

Research space was calculated by multiplying the research space generators (faculty, research, student headcount) by the variable research allowance. The allowances are noted in the *Research Space Allowances* table.

Research Space Allowances

Discipline	Research Space (ASF Per Adjusted Headcount)
College of Arts & Sciences	
Biology	300
Chemistry	430
Geology	385
Geography	100
Mathematics	20
Physics/Astronomy	380
Political Science	20
Sociology	25
Psychology	220
College of Communications, Fine Arts and Media	
Art	225
Communications	60
Theatre	15
College of Information Science and Technology	
Computer Science	40
Information Systems	140
College of Public Affairs and Community Service	
Public Administration	20
Gerontology	20
Social Work	20
College of Engineering	
Computer and Electronics Engr.	140
Civil Engineering	450
Architectural Engineering	160
College of Education	
Health, Physical Education & Recreation	100
Education/Communication Disorders	40

Office Space (Academic and Administrative)

The guideline application for office space needs is based upon employee types and the additional application of space amounts for office service and conference space needs, as noted in the UN Space Guidelines. UNO provided staffing information with individual job title, EEO code, department, headcount, and full-time or part-time status. The consultant then organized each into major categories as shown in the Office Guidelines table.

Using the University of Nebraska *Space Guidelines* for office facilities as a foundation, the consultants used office allowances per adjusted headcount. Office service guidelines allocated space for service areas (files, record rooms, supply rooms, copy rooms), reception, staff lounges and conference rooms. Some units also had a need for additional conference or service space (such as Admissions and Financial Aid). The chair and faculty in music were given an additional space allowance, as their offices contain musical instruments and their studios where private lessons are provided.

Office Space Allowances

Employee Type	Office ASF
President/Chancellor	300
Vice President/Deans	240
Assistant Vice Chancellor/ Assistant and Associate Deans and VPs	180
Directors	140
Faculty and Professional Staff	120
Research Associate	100
Managerial	120
Clerical/Assistant	100
Multiple Occupancy Staff	50
Students (GRA's & GTA's)	60
Student Office Assistants	30
Library Personnel (Office Space in Library Service Guidelines)	-

ASF = Assignable Square Feet

Library Space

Most of the guideline systems for library space utilize one set of factors for collections, another for readers, and a third for service space. The University of Nebraska *Space Guidelines* has a set of library guidelines that are very similar. In most guideline systems, office space for library personnel is included in the service space factor as is the study service space. Open stack study space is not an additional factor but a portion of the total reader stations/study space generation.

Libraries at the University of Nebraska Omaha include the Criss Library. Overall, there are 1,407 total unrestricted seats (soft chairs, standard seating and booths) for student use. There are no off-site storage/retrieval units. There is a café and seating area on the lower floor of the library. The guideline analysis takes into account this space.

Library Collections

Currently, the University library maintains approximately 1,641,000 volume equivalents in books/serials, microforms, audiovisual materials, and serial subscriptions. That figure is expected to increase on average by 10% based on historical acquisition and discard trends. The Plan Horizon volume equivalents total just over 1,790,000.

Space guidelines typically assume that 0.07 ASF per volume is used for the first 150,000 volumes, at which point the factor drops to .06 ASF per volume. After 300,000 volumes are reached, the factor goes down to .05 ASF and then down again to .03 ASF for more than 600,000 volumes as the Criss Library has some compact storage in place.

Study Space

The University of Nebraska *Space Guidelines* suggests that reader/study stations be provided for 15% of the student FTE (undergraduate and graduate) and 5% faculty FTE. Study space is then calculated at 30 ASF per reader/study station. This portion of the UN guideline was applied for the Criss Library with one exception. A 10% factor was used for graduate students.

Service Space

University of Nebraska *Space Guidelines* state that 5.0% of the total of stack and study space are for general library processing space, which includes not only processing space, but office space for library personnel.

Lounge Space

University of Nebraska *Space Guidelines* do not have a guideline for lounge space. For this analysis, one (1) ASF per study station was provided for lounge space in the library to offset the space contained within the café.

Physical Education / Indoor Recreation

This category includes rooms that have space use codes of 520, 523, 525, 670, and 675 which are used for physical education programs student recreation, and intercollegiate athletics. At many universities these three functions tend to have some sharing of facilities. Because of this overlap, it is sometimes difficult to attribute the space to one area over another. To further confound the issue, the funds used to pay for these types of facilities are very

distinct. In the most cases, E&G funds normally pay for the facilities to support the physical education program. Athletic space is normally auxiliary funded and student recreation space varies between auxiliary and E&G funding depending on the type of institution.

Traditionally, the space standards used to generate this type of space covers physical education and student recreation but not athletics. The need for athletic space is based on the number, type, and level of competitive sports played.

The University of Nebraska *Space Guidelines* for recreation and physical education and are based upon a core of 68,000 ASF plus six (9) ASF per student FTE over 5,000 headcount students. In addition, 1 ASF is allocated per faculty and staff adjusted headcount. Each PE major receives 35 ASF and each PE minor receives 20 ASF per student. Enrollment and student data by major were obtained which allowed the consultant to calculate space needs in this area.

Intercollegiate athletic space requirements are based on programmatic needs and are addressed under the Athletics heading of this section.

Other Department Space (Academic and Administrative)

The space classified as Other Department Space includes all other space assigned to a department that has not been included in the other classifications of classrooms, teaching laboratories, open laboratories, research, or office. These areas consist of a variety of spaces including:

- study rooms
- locker rooms
- demonstration rooms
- learning center space
- food facilities
- media production
- animal quarters
- lounges
- meeting rooms
- clinic space
- greenhouses
- computer rooms

Due to the diversity of these spaces and the different ways various campuses might classify these spaces, they are not specifically addressed by recognized guideline systems. The University of Nebraska *Space Guidelines* addresses these spaces by space category, including media production and service (530/535), clinic and clinic service (540/545), demonstration and service (550/555), animal quarters and service (570/575), greenhouse and service (580-585), lounges/merchandising (650/660), meeting rooms and service (680/685), and data processing/ computer and service (710/715). In most cases, the University of Nebraska *Space Guideline* notes that standards for these types of spaces are based on programmatic need.

Other Academic Department Space

Some of the University specific spaces in this category include: animal quarters and animal quarters service, greenhouses, lounges and meeting rooms, study rooms and clinical spaces.

Other academic space at the University averaged approximately 5.4 ASF per student FTE. The consultants believe that a reasonable guideline to apply in this category is approximately 5.5 ASF per student FTE at the base year. The guideline was reduced to 4.75 at the Plan Horizon to reflect space efficiencies as the campus increases to approximately 20,000 headcount students. This factor reflects the needs of all academic units for additional spaces of this nature across the campus and the midpoint of the benchmark range of space at other similar universities.

As with the open laboratory space category, the guideline was portioned out among the existing programs based upon needs expressed during the on-site work sessions, current and projected student FTE enrollments, and existing building and program plans.

Other Administrative Department Space

As with Other Academic Department Space, Other Administrative Department Space consists of the same types of spaces except they are allocated to administrative units. These spaces include non-office related work and processing rooms, telecommunications/server rooms, lounge areas, and general meeting rooms. No specific UN

guideline exists to deal in a generalized way with such a diverse set of space needs. In recent benchmarking studies, the consultant found other administrative department space as small as one (1) ASF and as great as 18 ASF per student FTE which illustrates that the needs in this area are institution specific.

Other Administrative Space at the University of Nebraska Omaha averaged approximately 1.6 ASF per student FTE. The consultant applied a guideline of 1.5 ASF per student FTE at the Base and Plan Horizons.

As with Other Academic Department Space some specific allocations of space were provided to various units. In particular, additional space was provided for campus computing.

Assembly and Exhibit Space

Assembly and Exhibit Space is defined as any room designed and equipped for the assembly of large numbers of people. This includes theaters, auditoriums, concert halls, and arenas. Exhibit spaces are used for exhibition of materials, works of art, or artifacts intended for general use by students and the public. The University of Nebraska *Space Guidelines* acknowledges that there is no single controlling guideline for these types of spaces.

In recent years Paulien & Associates has been using a guideline originally promulgated by the Council of Educational Facility Planners International. This guideline has a core allowance of 22,450 ASF for institutions with a minimum of 5,000 student FTE and an active fine arts program. It then allows for an additional six (6) ASF per student FTE over the 5,000 FTE minimum. This guideline also adds 5,000 ASF for institutions with an active music program. As UN guidelines are silent, the consultants used the described guideline for the analysis.

Athletic Space

Due to the varied space requirements of indoor intercollegiate athletics programs, there is no one universal guideline that addresses this space category. Athletic space needs are usually based on the number of teams and competitive level of the intercollegiate athletic activities.

The amount of space generated for this space type does include offices for coaches and staff. It includes athletic or physical education room use codes (520, 523, and 525) plus space for concessions, training facilities, locker/shower rooms, and meeting/viewing/conference facilities required to support intercollegiate athletics. Space needs calculated in this report are for indoor space only and do not include the needs for outdoor athletic fields.

The consultant calculated the athletic/physical education space needs based on a work session with the Director of Athletics. Specific space needs for Athletics include a proposed basketball/ice arena with seating for 7,000 and an indoor field house.

Physical Plant

Physical Plant Space includes room use codes 720 through 765 and excludes parking decks. If central storage space (730's) is not space assigned to and controlled by physical plant operations, it is counted in other space categories such as other academic or administrative department space, library, or athletics.

Most guidelines suggest a percentage of all square footage on campus, minus existing physical plant and residence life space, be used to drive master plan needs in this category. In most cases, these percentages generate a space need that is greater than the amount of physical plant space typically found at an institution.

The University of Nebraska *Space Guidelines* uses the following methodology for determining physical plant, central storage and shop space:

1) Building Maintenance: 0.75 ASF for campus area served by physical plant. For UNO, residential life space was excluded as these facilities are maintained by an outside entity. Parking structures were included in the overall analysis as they have a need for routine maintenance and cleaning.
2) Grounds: 50 ASF per campus acre served by the Grounds Department.
3) Central/General Storage: 1.0 ASF per freshman and sophomore headcount student, 1.5 ASF per junior and senior student, and 2.0 ASF per graduate student. For ease of application, the consultant used 1.25 ASF for each undergraduate student and 2.0 ASF for each graduate student for the central storage guideline.
4) Shop Space: Based on programmatic need.

Given adjusted campus ASF, acreage, and existing shop space, the consultant calculated the space needs for physical plant at the Base and Plan Horizon. The Plan Horizon space need was generated based on guideline ASF and anticipated acreage.

Physical Plant facilities are currently located in Kayser Hall with shops in the College of Public Affairs and Community Service building. It should be noted that in future programming efforts the approximate amount of facilities required for the physical plant at the University would be the total of this guideline plus the office space required for personnel who are assigned offices in that unit.

Student Center (excluding Residential Dining)

Widely used guideline formulas recommend nine (9) or ten (10) ASF per student for generating student center space. These guidelines for space application provide space for the various functions and the space use code designations that are typically found in a comprehensive student center including: food service (630s), bookstore (660s), lounge (650s), recreation space like video game rooms, billiards, etc. (670s), meeting space (680s), student government/club space (300s and 680s), and other student service type space categories.

The existing space counted in this guideline included the Milo Bail Student Center. The University of Nebraska *Space Guidelines* have a guideline for student union and bookstore. Both were used to generate the space needs for student union space.

For the student union, 6.5 ASF per delivery site headcount student with an additional 2.0 ASF per delivery site headcount student bookstore allowance were used to generate space for the student center. Existing space counted in this category averaged about 7.5 ASF per headcount student. The guideline applied by the consultants was 8.5 ASF per delivery site headcount student.

Student Health Care Facilities

Based on national comparisons, the University of Nebraska *Space Guideline*, with 1.0 ASF per delivery site headcount, is generous for a student health center. At UNO, this guideline would generate a space need of approximately 15,000 ASF at the base year. UNO currently has 1,847 ASF dedicated to this purpose. The 1987 guideline is more representative of a large campus with a significant residential life population where a full medical clinic is warranted.

Based on benchmarking studies of similar universities, the consultant used 0.15 ASF per delivery site student headcount to generate space at the base year. The factor was increased to 0.20 ASF per delivery site student headcount as UNO has a goal of constructing additional student housing over the master plan period.

The UNO Student Health Center is located in Health, Physical Education and Recreation Building. It should be noted that in future programming efforts the approximate amount of facilities required for the Health and Wellness Services at the University would be the total of this guideline plus the office space required for personnel who are assigned to that unit.

Inactive/Conversion Space

For Fall 2011, this space category includes space that is coded as inactive or under renovation. Room 022 in the Durham Science Center was included in this category. This space was listed as available in the Plan Horizon as there was no decision for its reuse at the time the analysis.

Off Campus

This category includes spaces that are being occupied by entities away from the three UNO major campuses. Facilities include the Allwine Farm and the Solar Research building for a total of 5,813 ASF. These facilities were not part of the space needs analysis study.

6 | SPACE NEEDS ANALYSIS

Guideline Assumptions and Application

This section summarizes the space needs by functional space category. The different methods include the *University of Nebraska Space Guidelines* (1987), and benchmarking of campuses with similar missions. Paulien & Associates has also completed space need analyses for several other similar universities.

Interpretation of Space Needs Analysis Outcomes

For each space category, four columns illustrate the findings at the Base Year (Fall 2011) and Fall 2020. The Existing ASF at the Base Year and Plan Horizon includes all current academic and administrative facilities. Only assignable square feet (ASF) were included, which is the usable area of a building and does not include circulation areas such as corridors, mechanical/electrical areas, building structure space, custodial closets, or restrooms. As an illustration, on the UNO campus there was 126,189 ASF of existing Classrooms & Service space in Fall 2011 (see *Campuswide Space Needs Analysis* table). At the Plan Horizon of Fall 2020, the 126,439 ASF of existing space includes additional space due to renovation and new construction projects.

Reviewing the second column, the Guideline ASF is a calculation of how much space is ideally needed in each space category at the Base Year and Plan Horizon, given accepted enrollment, program, and staffing assumptions. The consultant reviewed UN space guidelines and benchmarks and applied appropriate guidelines relative to an institution of UNO's enrollment, program mix, and mission. Referring to the table, the guideline calculation produced a need for 122,765 ASF of Classroom & Service space at the Base Year (Fall 2011).

The Surplus/(Deficit) column is the difference between the Existing ASF and Guideline ASF totals, while the Percent Surplus/(Deficit) column is the magnitude of the difference expressed as a percent. For each column, deficits are in parentheses and indicate a space need in that category. Referring to the space needs analysis, UNO had a 3,424 ASF or 3% surplus of Classroom & Service space in Fall 2011. In Fall 2020, enrollment growth will generate a 32,014 ASF deficit of space in the Classroom & Service category. The space needs analysis is quantitative only and does not take into account the quality of existing classrooms space.

Space Needs Analysis Overview

The Space Needs Analysis by space category is noted in the following table. At the Fall 2011 Base Year, there was an overall deficit of slightly less than 105,000 ASF of space at the University of Nebraska Omaha Campus. Athletics (69,600 ASF) and Student Center (37,395 ASF) comprise the two space categories with the largest space deficits at the base year. If these two categories are removed from the analysis, a small surplus of space exists on the campus. As the campus grows to an institution of 19,184 headcount students, the need for additional space is illustrated in the table. At the Plan Horizon of Fall 2020, deficits exist in every space category, with a campus total need of slightly less than 458,000 ASF. The largest deficits are in Athletics, Student Center, and physical plant. Again, if Athletics and Student Center space categories are removed from the analysis, the total deficit is reduced to approximately 212,000 ASF.

In summary, if Athletic and Student Center space needs are set aside, the campus is in relative balance with regard to space at the campuswide level. Moving toward 2020 or the master planning period, UNO generated deficits of space that will require additional facilities to meet the future academic mission. However, due to the different

categories of space deficits, no one physical solution will suffice. It must be noted that space surpluses and deficits in one space category generally cannot be offset by surpluses and deficits in another category.

Campuswide Space Needs Analysis
University of Nebraska Omaha

SPACE CATEGORY	Fall 2011 Existing ASF	Fall 2011 Guideline ASF	Fall 2011 Surplus/ (Deficit)	Fall 2011 Percent Surplus/ (Deficit)	Fall 2020 Existing ASF	Fall 2020 Guideline ASF	Fall 2020 Surplus/ (Deficit)	Fall 2020 Percent Surplus/ (Deficit)
	Student Headcount = 14,620 Staff Headcount = 1,503				*Student Headcount = 19,184 Staff Headcount = 1,762*			
Academic Space								
Classroom & Service	126,189	122,765	3,424	3%	126,439	158,453	(32,014)	(25%)
Teaching Laboratories & Service	113,211	112,354	857	1%	120,457	139,858	(19,401)	(16%)
Open Laboratories & Service	90,406	89,652	754	1%	90,406	102,638	(12,232)	(14%)
Research Laboratories & Service	51,944	53,410	(1,466)	(3%)	52,354	77,307	(24,953)	(48%)
Academic Offices & Service	230,851	210,010	20,841	9%	237,682	249,225	(11,543)	(5%)
Physical Education & Recreation	192,670	167,251	25,419	13%	192,670	211,943	(19,273)	(10%)
Other Academic Department Space	60,016	61,637	(1,621)	(3%)	60,936	69,649	(8,713)	(14%)
Academic Space Subtotal	*865,287*	*817,079*	*48,208*	*6%*	*880,944*	*1,009,073*	*(128,129)*	*(15%)*
Academic Support Space								
Administrative Offices & Service	92,667	98,190	(5,523)	(6%)	106,187	111,380	(5,193)	(5%)
Library	122,488	121,469	1,019	1%	122,488	142,164	(19,676)	(16%)
Athletics	141,007	210,607	(69,600)	(49%)	141,007	310,707	(169,700)	(120%)
Assembly & Exhibit	51,470	64,688	(13,218)	(26%)	75,860	85,422	(9,562)	(13%)
Physical Plant	23,945	49,017	(25,072)	(105%)	23,945	64,612	(40,667)	(170%)
Other Administrative Department Spac	13,829	16,810	(2,981)	(22%)	15,159	21,994	(6,835)	(45%)
Academic Support Space Subtotal	*445,406*	*560,781*	*(115,375)*	*(26%)*	*484,646*	*736,279*	*(251,633)*	*(52%)*
Auxiliary Space								
Student Center	86,876	124,271	(37,395)	(43%)	86,876	163,064	(76,188)	(88%)
Health Care Facilities	1,847	2,193	(346)	(19%)	1,847	3,837	(1,990)	(108%)
Auxiliary Space Subtotal	*88,723*	*126,464*	*(37,741)*	*(43%)*	*88,723*	*166,901*	*(78,178)*	*(88%)*
CAMPUS TOTAL	**1,399,416**	**1,504,324**	**(104,908)**	**(7%)**	**1,454,313**	**1,912,253**	**(457,940)**	**(31%)**
Childcare Center	*3,823*				*3,823*			
Inactive/Conversion Space	*766*				*0*			
Off Campus	*5,813*				*5,813*			
Scott Conference Center	*15,818*				*15,818*			

ASF = Assignable Square Feet

Space Needs Analysis by Space Categories

The Fall 2011 space need analysis provided a means of understanding guideline application and the extent of current space related issues on the campus. As the master plan is a forward thinking document, the following section will focus exclusively on the Fall 2020 space needs analysis.

Academic Space

Slightly less than one-third of the space deficits are contained within the seven categories that make up the Academic Space portion of the space needs analysis.

Classrooms are defined as any room generally used for scheduled instruction requiring no special equipment and are referred to as a general purpose classrooms, seminar rooms, or lecture halls. It must be noted that classroom space is generated based on weekly student contact hours. The calculation of space is based on students attending classes at UNO, and excludes students learning at a distance and hybrid courses where a portion of the class is taught online. For UNO classrooms, space was generated based on 34 Weekly Room Hours at 68% student station occupations with 22 ASF per student station. These guidelines exceed classroom utilization parameters established by the University of Nebraska in 1987. The space needs analysis generated total need of slightly more than 158,000 ASF in Classroom & Service space, a 32,00 ASF deficit when compared to existing space.

Existing teaching laboratories at UNO included computer, art, science, materials, and specialty labs. Similar to classrooms, teaching laboratory space is calculated from Weekly Student Contact Hours. A guideline of 20 weekly room hours at 75% student station occupancy was used to generate space in this category. Section 5 of this report notes ASF per student station for the various laboratory types.

The 19,400 ASF deficit in Teaching Laboratory & Service Space includes inadequacies of space in existing laboratories, especially in the physical sciences, and space for additional enrollment growth. Specifically, many science laboratories and support areas space are too small for faculty to teach newer pedagogies.

The space classified as open laboratories includes rooms that are open for student use and are not used on a regularly scheduled basis. At the Plan Horizon, the space needs analysis generated a need for an additional 12,000 ASF of Open Laboratory space on campus. Examples of Open Laboratory spaces included open computer labs, specialized laboratories at PKI, Writing Center labs, music practice rooms, planetarium and the herbarium.

There is an increased emphasis being placed on research at UNO, with current awards of $17 million growing to approximately $25 million over the planning period. The space needs analysis generated a deficit of more than 24,000 ASF at the Plan Horizon as additional faculty and graduate students engage in research and current spaces are expanded as research and development expenditures are steadily increased over the planning period. The analysis takes into account research space planned in the proposed Biomechanics Research Facility.

The Academic Offices & Service category includes office space for full-time and adjunct faculty and any staff that are working under academic colleges or Academic Affairs. The Office category also includes conference rooms and service areas such as workrooms, file rooms, copy rooms, and office supply storage areas. At the Plan Horizon, the campus will require more Office space (11,500 ASF) than currently available. The factor driving the deficit is related to the growth of full-time faculty to accommodate increased enrollments, as well as the need for additional meeting rooms for faculty. The guideline also included additional space for part time or adjunct faculty. Areas for part time faculty are typically spread throughout the campus, but located within proximity to full-time faculty and the division office to foster collaboration and unity as well as to avoid duplication of resources.

At UNO, physical education and recreation have dedicated spaces but also share facilities with the College of Education's Health, Physical Education and Recreation program. The Health, Physical Education and Recreation building (HPER) is a newer facility on the campus and adequately serves the needs of students at current enrollment levels. A 31% enrollment growth rate will generate the need for an additional 19,000 ASF of space. This could be located at the Pacific or Center campus locations.

Facilities classified as Other Academic Department space include all other areas assigned to an academic department that were not included in the other classifications of Classrooms, Teaching Laboratories, Open Laboratories, Research Laboratories or Office. Other Academic Department space at the UNO Campus included faculty lounges, departmental reading and study rooms, greenhouses, meeting rooms, academic resource and media center spaces, clinical areas, shops, and breakout rooms. A deficit of slightly more than 8,700 ASF of space was generated at the Plan Horizon. The consultant recommends portioning the guideline among the units that require this space type as this macro level analysis does not programmatically identify individual needs for this space type.

Academic Support Space

Academic Support Space includes spaces that directly or indirectly support the academic mission of UNO. Overall, the guidelines generated a total need for slightly more than 736,000 ASF of space in these categories, a deficit of 251,600 ASF when compared to existing space.

Similar to the Academic Offices & Service category, the Administrative Offices & Service category includes space for administrators and staff who are working outside of the academic units. This includes the Chancellor, Academic and Student Affairs, Business and Finance, and University Relations. The Plan Horizon indicates a 5,000 ASF deficit of space as new positions are needed to manage planned enrollment growth and to compensate current for position vacancies.

In October 2006, the Criss Library reopened after a renovation and a 31,000 gross square foot expansion. In addition to existing stacks area, casual seating, on-line resource area, and staff offices, the library has added a reading room, home theatre, exhibition gallery, study cabins, faculty study area, and a café. Currently, 15% of the collection is housed in compact shelving. The purchase of E-books, on-line resources, and bibliographic instruction in electronic databases are a major focus for the library. The guideline application, as illustrated in the table, generated a deficit of 19,676 ASF in this type of space at the Plan Horizon. This space could be located off of the Dodge campus.

There are no universal guidelines that address the Athletics space category. Specific space needs for Athletics include a proposed basketball/Ice arena with seating for 7,000 and an indoor field house of approximately 80,000 ASF for a total need of approximately 170,000 ASF. The amount of space generated for this space type does not include offices for the staff, which is included in the administrative office space guidelines.

Assembly & Exhibit space is defined as any room designed and equipped for the assembly of large numbers of students or community members. This includes the experimental theatre and gallery in Weber Fine Arts Building, the recital hall is Strauss Performing Arts Center, the Lecture Hall in Mammel Hall, the exhibition gallery in Criss Library, and several meeting/board rooms in the Thompson Alumni facility and CPACS. The guideline generated a need for an additional 9,500 ASF at the Plan Horizon.

Physical Plant space includes carpenter, plumbing, HVAC, electrical, and painting, printing shops and tool rooms, as well as any centralized storage space. At the time of this report, facilities are housed in Kayser Hall, CPACS, Center Storage, and the Landscape Services Building. Facilities Management maintains buildings on each of the UNO campus sites. The maintenance of residential life facilities on the campus is privatized. As the campus grows, additional shops and central storage spaces will be needed at the various campus locations. The guideline generated a need for an additional 41,000 ASF at the Plan Horizon using University of Nebraska Space Guidelines.

As with Other Academic Department space, Other Administrative Department space consists of the same types of spaces with the exception that the areas are allocated to administrative units. These spaces include non-office related work and processing rooms, telecommunication/server rooms, phone rooms, lounge areas, and general meeting rooms. The guideline generated a 6,835 ASF need in this space category at the Plan Horizon. Additional space will need to be dedicated to technology areas (i.e., sever rooms, telecommunications). The consultant recommends portioning the remaining guideline among the units that require this space as this macro level analysis does not programmatically identify individual needs for this space type.

Auxiliary Space

With a total need for 166,901 ASF, the Auxiliary space includes two categories and accounts for 18% of the space generated in the analysis.

The dedicated facilities within the Milo Bail Student Center include food services and dining, bookstore, student meeting rooms, offices for student government and clubs, and student lounges. Any areas that contain Student Affairs personnel and Student Services were included in the administrative office guideline. The small café and dining area in Mammel Hall were also included in the Student Center analysis. Given the goal of increasing the number of student's residing on the UNO campus, the consultants applied the full UN Space Guideline. The guideline generated a need for an additional 76,188 ASF of space at the Plan Horizon. This space could be distributed among the UNO campus sites.

Student health facilities are located in the Health, Physical Education and Recreation building (HPER). The current UN Space Guideline for this category was developed based on the assumption that a large percentage of students reside on campus. A reduced guideline was applied which resulted in a minimal deficit of 1,990 ASF at the 19,184 student headcount level.

College Level Space Needs Analysis

The consultant met with College Deans and multiple faculty chairs at the campus. A preliminary space needs analysis was performed at the College level and summarized for UNO as a whole. While the previous section described the outcomes campuswide by type of space, this section describes overarching outcomes on a college unit basis.

The space needs analysis in the previous section show surpluses and deficits by functional space categories on a campuswide basis. The application and review of guidelines in relation to existing space at each College unit uncovers surpluses and deficits that may exist that are not obvious on a campuswide study.

The remainder of this section concentrates on describing academic space needs at the academic unit level for the Plan Horizon of Fall 2020. Independent of the analysis, a large majority of information contained in this section was obtained during interviews and work sessions with academic deans and faculty chairs. Enrollment growth over the master plan period was noted earlier in this report and it must be noted that each College was assumed to grow at the same rate at the institution for undergraduate and graduate students. These percentage increases were factored into the space needs analysis.

College of Arts and Sciences

The College of Arts and Sciences provides many of the courses for general education and the core curriculum, including English, Foreign Languages, Mathematics, Physical Sciences (Biology, Chemistry, Physics, and Geology), Social Sciences, History, Political Science, Psychology, and Sociology. Taken together, the administrative-site headcount for Fall 2011 was 4,083 students.

The College of Arts and Science is located in numerous facilities. Arts and Science Hall is the "Old Main" on campus. Arts & Sciences Hall contains departments such as English, Foreign Languages, History, Philosophy, Political Science, Psychology, Sociology, and International Studies. The building houses mainly classrooms and offices.

Allwine Hall is the primary home for Biology and Psychology. The facility can be considered functionally obsolete for these programs. The desire to increase research in the sciences as well as develop new Ph.D. programs in Biology will exacerbate the functionality of this facility. Conversations with several individuals during meetings suggested that new Biology and research facilities be need to be considered in the master plan, and a repurposing with significant renovation of this facility should occur.

The Durham Science Center contains the departments of Chemistry, Mathematics, and Physics. The facility was constructed in the mid-1980's with some renovation to laboratories occurring recently. The building contains classroom, teaching laboratories, research laboratories, and offices. The utilization and space needs analysis provides some indication of better utilization and increased needs for this facility. It was mentioned during one conversation with Chemistry faculty that there is a potential need for a Biochemistry addition to the facility, which needs to be taken into context with the conversation around Allwine Hall and Biology and the need for additional research space.

The space needs analysis generated a need for an additional 6,800 ASF of teaching laboratories, especially in the Physical Sciences and Psychology as undergraduate enrollments are expected to increase in the sciences. As Physical Sciences and Psychology are significant drivers of research, there will be a need for an additional 15,000 ASF of Research Laboratories & Service space at the Plan Horizon. As with each of the Colleges, an additional 22,500 ASF of faculty offices, part-time faculty areas, conference rooms and office support spaces will be needed at the Plan Horizon. Overall, the College of Arts and Sciences generated a need for 231,000 ASF, a deficit of approximately 51,000 ASF at the Plan Horizon, excluding classrooms.

College of Business Administration

The College of Business Administration houses programs in Accounting, Economics & Real Estate, Finance, Management and Marketing. Administrative–site headcount for Fall 2011 was 2,283 students. The College recently moved to Mammel Hall, a new facility located on the Pacific Campus. The new facility, equipped with the latest technology and active learning spaces, is expected to meet the needs of the College over the short term. Currently, the College is hosting more than 1,000 community events per year in the new facility and has started a new program in executive management education.

Existing and anticipated programs are expected to increase enrollments by 25% or more at the undergraduate and graduate level. Program such as the Center for Innovation and Entrepreneurship, Nebraska Business Development Center, and the Scotts Scholars Program are expected to grow, placing new demands for space within the building. As a result, the Plan Horizon space needs analysis generated a need of slightly less than 2,000 ASF of space. The space need is contained predominately within open labs, faculty offices and other academic department space categories.

College of Education

The College of Education, with a Fall 2011 administrative-site enrollment of 2,272, is expected to increase on-campus enrollments over the master plan period. Programs include Counseling, Educational Administration and Supervision, Health, Physical Education & Recreation, Special Education and Communication Disorders, and Teacher Education. Most programs and clinics are housed in Roskens Hall, which was recently renovated for the College of Education. The renovation is a prime example of creating collaborative learning spaces such as their "Ideas Room" with study, student gathering, and group work stations. The building includes well defined spaces for active learning and group work on each level.

The College also has substantial space in the Health, Physical Education and Recreation Building (HPER). A new Biomechanics Research Facility of approximately 15,000 ASF will contain multiple laboratories, graduate and undergraduate workstations, and support spaces. This facility was factored into the space needs analysis at the Plan Horizon.

The space needs analysis generated a total college-wide need for 134,500 ASF at the Plan Horizon, excluding classroom and seminar rooms. This is a deficit of approximately 18,000 ASF when compared to existing space and exist in Physical Education & Recreation and Other Academic Department Space categories.

College of Communication, Fine Arts and Media

The College of Communication, Fine Arts and Media offers degrees and programs in Art and Art History, Music, Radio/TV, and Theatre, with an administrative-site enrollment of 1,217 students during Fall 2011. The College also contains the School of Communication and the Writer's Workshop. On-campus enrollment growth was established at 31% for undergraduates.

The College is housed in three facilities across the Dodge Campus. Weber Fine Arts is a newer facility. It contains Fine Arts laboratories, faculty offices, and a black box experimental theatre. Strauss Performing Arts is home to the Music Program and contains a concert hall, practice rooms, and band and choral rehearsal laboratory spaces. Interviews with the dean and faculty noted the need for additional rehearsal facilities and some practice rooms for primarily larger groups. The Sculpture/Ceramics Laboratory is two large spaces for sculpture and ceramics and support space with outside areas for firing. Overall, the building is in a good location for these programs since they generate dust and are not conducive to being located in Weber Fine Arts.

Many of the programs in the College are laboratory intensive. As such, there will be a need for an additional 9,600 ASF of space in teaching laboratories and service space. This need not only includes additional laboratory and support space for existing laboratories, but new labs to support enrollment growth and new programs. The space needs analysis also generated a need for slightly more than 2,000 ASF in Research Laboratories & Service space. As there is no proscenium theatre on the campus, the space need analysis generated a need for an additional 4,500 ASF in Assembly & Exhibit space. Faculty also expressed a need for more performance space availability as all senior students perform recitals. The College also needs more collaborative spaces and studio spaces for students in the form of open labs at approximately 1,350 ASF.

In summary, the space needs analysis for the College generated a need for slightly more than 134,000 ASF, excluding classrooms at the Plan Horizon. This is a deficit of more than 30,200 ASF when compared to existing space.

College of Information Science & Technology

The College of Information Science and Technology is located at the Peter Kiewit Institute (PKI) on the Pacific Campus. PKI is an umbrella for multiple programs at UNO. The College offers five degree programs. The building that houses the College is in the process of renovation. The renovation is expected to correct spaces that are currently underutilized by creating more mobile environments for teaching and research. Places to meet for interdisciplinary work are also in demand.

For Fall 2011, administrative-site headcount for the College was 833 students. It was noted that the graduate student enrollment is expected to increase faster than undergraduate rate. Distance education courses are significant and continue to grow with the ability to complete a degree on-line.

Excluding classrooms, the space needs analysis generated a college wide need of approximately 39,000 ASF at the Plan Horizon, a deficit of 1,200 ASF. The space needs analysis does not reflect the renovation as room-by-room data were not available at the time of this study. The greatest need was generated in the Open Laboratories & Service space and Academic Offices and Service space at the Plan Horizon.

College of Public Affairs and Community Service

The College of Public Affairs and Community Service contains the Division of Continuing Education, the School of Criminology and Criminal Justice, School of Public Administration, and School of Social Work. The College also offers degrees and programs in Gerontology, Urban Studies, and Aviation with an administrative-site enrollment of 1,327 students during Fall 2011.

The majority of these programs for the College are housed in the College of Public Affairs and Community Service (CPACS) building. The facility was renovated in 2009 with state of the art community meeting spaces located on the main floor. Physical Plant occupies a portion of the building. The College would like to see this space vacated

and renovated to accommodate future growth in criminal justice and emergency management. As enrollments and new programs continue to growth, there was an expressed need for faculty offices.

Excluding classrooms, the space needs analysis generated a college wide need of approximately 38,600 ASF or a deficit of 3,300 ASF when compared to existing space.

7 | LIMITATIONS

The consultant analyzed campus data provided by the University of Nebraska Omaha for staffing, scheduled courses, and facilities information. The data provides a "snapshot in time" of staff, course enrollments, and facilities at the University.

The Space Needs Analysis is a quantitative analysis only. All permanent existing space is counted regardless of its quality. Because several rooms in the facilities inventory have multiple functions (i.e., one room containing a reception space, clerical workstation, storage and filing), it is infeasible to accurately distribute the existing space among the appropriate room use and functional categories. Therefore, the relationship between existing space and proposed guideline space for individual categories should be considered as rough comparisons. The only true comparison is between a unit's total existing space and proposed guideline space.

Space needs analysis for the purpose of master planning is a process that estimates space amounts likely to be needed by various units of an institution at current and projected enrollment, staffing and activity levels. Reliability of the findings of any space needs study depends on several factors including the quality of the data, the appropriateness of the space standards used, and the validity of the projections. Data used in this study was updated and refined to a high level of accuracy and currency as possible.

The consultant, therefore, believes that the findings and recommendations of this study may be considered reliable and may be used with confidence by the University for its master planning effort. The scope of this study did not identify every individual department requirement and did not include detail normally developed in room-by-room program planning of specific facilities. This study is not intended to replace program level analysis. Further, this study only analyzed space needs and did not evaluate the quality of existing space or the suitability of the space. Unless otherwise noted, all findings are in assignable square feet (ASF). ASF is defined as the area measured within the interior walls of a room that can be assigned to a program. It does not include circulation, mechanical or building service spaces.

8 | APPENDICES

Appendix A – Assignable Square Feet by Building

Assignable Square Feet by Building *for Fall 2011*

Classroom	Teaching Labs	Open Labs	Research Labs	Acad Offices	Admn Offices	Library Library	Phys Ed/ Rec	Athletics Athletics	Assembly /Exhibit	Student Center	Central Cmptr	Physical Plant	Other Dept Space	Residence Life	Health Care	Child Care	Inactive Inactive	Off Campus	Outside Agencies	TOTAL ASF
Allwine Farm																		5,218		5,218
Allwine Hall	12,488	22,023	6,719	22,480	11,905							297	3,308							79,220
Arts and Sciences Hall	19,153	3,701	7,095	2,869	50,280	131						385	8,222							91,836
Center Building							4,775					2,677	58							7,510
Center Dome							48,002													48,002
Center Storage					232							2,001								2,233
Central Utilities					140															140
Child Care Center																3,823				3,823
Community Engagement Center					0				0											0
CPACS	15,522	1,319	2,410	888	37,667	1,501			5,820	323		6,079	9,232							80,761
Criss Library						122,488														122,488
Durham Science Center	12,442	30,262	18,699	4,894	17,528	502						828	8,069				766			93,990
Eppley Administration Building	2,233		725		2,922	59,230			107			354	6,154							71,725
HPER	5,643	9,023	508	5,501	10,306	4,748	139,893			160		2,462	4,578		1,847					184,669
Kayser Hall	3,735		4,146		8,435	8,815						3,533	2,469							31,133
Landscape Services					370							2,385								2,755
Mammel Hall	22,426	2,087	4,233		27,871				1,995	444			8,586							67,642
Milo Bail					9,474					84,155										93,629

Assignable Square Feet by Building for Fall 2011

Classroom	Teaching Labs	Open Labs	Research Labs	Acad Offices	Admn Offices	Library Library	Phys Ed/ Rec	Athletics Athletics	Assembly /Exhibit	Student Center	Central Cmptr	Physical Plant	Other Dept Space	Residence Life	Health Care	Child Care	Inactive Inactive	Off Campus	Outside Agencies	TOTAL ASF
Parking Structure 2																				
												1,001								1,001
Peter Kiewit Institute																				
12,096	16,525	33,684	14,555	32,359						266		551	3,932							113,968
RCRA																				
												949								949
Roskens Hall																				
15,632	1,263	3,179		19,195									10,019							49,288
Sapp Field House																				
					427			139,733		945			368							141,473
Scott Conference Center																				
																			15,818	15,818
Sculpture and Ceramics Studio																				
	6,656			177																6,833
Solar																				
																		595		595
Stadium East																				
								1,274		583										1,857
Strauss																				
1,739	6,832	4,477		4,981					20,753				1,751							40,533
Thompson Alumni																				
					2,697				7,266				4,575							14,538
Weber Fine Arts																				
3,080	13,520	4,531	757	7,225					15,529			443	1,032							46,117
Welcome Center																				
					4,400								1,492							5,892
GRAND TOTAL																				
126,189	113,211	90,406	51,944	230,851	92,667	122,488	192,670	141,007	51,470	86,876		23,945	73,845		1,847	3,823	766	5,813	15,818	1,425,636

Appendix B – Classroom Utilization Analysis by Building

Classroom Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
Allwine Hall									***No. of Rooms = 13***
AH 301	110	2,140	132	16	65	2,062	15.6	29	54%
AH 302	110	545	30	18	23	563	18.8	25	76%
AH 303	110	705	40	18	22	632	15.8	28	57%
AH 304	110	705	49	14	21	634	12.9	31	41%
AH 305	110	585	32	18	20	555	17.4	28	62%
AH 308	110	667	28	24	18	387	13.8	21	66%
AH 309	110	875	30	29	18	609	20.3	37	55%
AH 310	110	1,441	72	20	36	1,285	17.8	30	59%
AH 312	110	710	48	15	18	516	10.8	28	39%
AH 313	110	540	28	19	18	574	20.5	32	64%
AH 314	110	690	30	23	20	448	14.9	25	60%
AH 315	110	544	26	21	18	520	20.0	28	73%
AH 316	110	2,152	132	16	64	2,161	16.4	32	51%
	Average	*946*	*52*	*19*	*28*		*16.2*	*29*	*58%*
	Total	*12,299*	*677*			*10,947*		*372*	
Arts and Sciences Hall									***No. of Rooms = 30***
ASH 100	110	717	40	18	23	791	19.8	33	60%
ASH 101	110	1,198	91	13	61	2,744	30.2	44	68%
ASH 141	110	371	18	21	14	341	18.9	24	79%
ASH 143	110	600	25	24	24	871	34.8	36	98%
ASH 148	110	427	26	16	18	694	26.7	40	67%
ASH 149	110	389	27	14	22	847	31.4	38	83%
ASH 188	110	475	30	16	24	1,059	35.3	44	81%
ASH 210	110	758	45	17	32	1,676	37.2	50	75%
ASH 211	110	483	30	16	23	940	31.3	41	77%
ASH 214	110	575	35	16	22	1,050	30.0	48	63%
ASH 215	110	475	30	16	24	889	29.6	37	80%
ASH 216	110	910	62	15	52	2,401	38.7	45	86%
ASH 217	110	642	42	15	33	1,399	33.3	42	79%
ASH 220D	110	284	20	14	14	162	8.1	12	68%
ASH 220E	110	280	20	14	14	140	7.0	11	66%
ASH 279	110	481	30	16	20	735	24.5	36	68%
ASH 290	110	1,121	75	15	53	2,352	31.4	44	71%
ASH 302	110	368	30	12	19	673	22.4	34	67%
ASH 306	110	1,138	92	12	48	2,076	22.6	41	56%
ASH 308	110	376	21	18	16	803	38.2	50	77%
ASH 310	110	726	60	12	37	1,724	28.7	46	62%
ASH 313	110	641	48	13	28	1,173	24.4	42	59%
ASH 339	110	230	18	13	17	348	19.3	21	92%
ASH 378	110	722	40	18	26	1,191	29.8	44	68%
ASH 380	110	749	54	14	29	1,188	22.0	41	54%
ASH 384	110	755	50	15	30	1,260	25.2	40	63%
ASH 388	110	582	40	15	22	779	19.5	36	54%
ASH 390	110	563	30	19	22	715	23.8	33	72%
ASH 392	110	737	49	15	30	1,317	26.9	44	61%

Classroom Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
ASH 438	110	1,272	264	5	142	2,859	10.8	21	52%
Average		*635*	*48*	*15*	*31*		*24.4*	*37*	*70%*
Total		*19,045*	*1,442*			*35,194*		*1,114*	
CPACS									***No. of Rooms = 16***
CPACS 101	110	3,358	312	11	138	3,300	10.6	24	44%
CPACS 104	110	987	20	49	10	228	11.4	23	50%
CPACS 110	110	371	16	23	12	419	26.2	35	75%
CPACS 117	110	793	30	26	17	694	23.1	41	56%
CPACS 120	110	750	38	20	88	264	6.9	3	232%
CPACS 121	110	767	30	26	18	760	25.3	41	62%
CPACS 122	110	453	18	25	11	297	16.5	25	66%
CPACS 122A	110	453	16	28	8	227	14.2	31	46%
CPACS 124	110	505	20	25	12	254	12.7	20	62%
CPACS 124A	110	446	16	28	7	199	12.5	29	42%
CPACS 125	110	878	30	29	21	794	26.5	38	69%
CPACS 126	110	859	30	29	19	665	22.2	35	63%
CPACS 220	110	1,097	48	23	24	802	16.7	32	52%
CPACS 221	110	1,263	48	26	39	1,344	28.0	35	81%
CPACS 222	110	1,254	48	26	34	1,180	24.6	34	72%
CPACS 223	110	907	36	25	26	959	26.6	37	72%
Average		*946*	*47*	*26*	*30*		*16.4*	*30*	*63%*
Total		*15,141*	*756*			*12,384*		*484*	
Durham Science Center									***No. of Rooms = 15***
DSC 109	110	414	30	14	18	727	24.2	43	56%
DSC 110	110	846	60	14	35	1,028	17.1	28	62%
DSC 111	110	1,023	74	14	45	1,623	21.9	35	62%
DSC 115	110	1,392	120	12	95	3,934	32.8	41	81%
DSC 116	110	1,036	82	13	55	1,599	19.5	29	68%
DSC 164	110	669	48	14	44	1,175	24.5	27	91%
DSC 165	110	721	50	14	33	943	18.9	32	59%
DSC 169	110	1,460	102	14	72	2,809	27.5	40	68%
DSC 170	110	924	59	16	41	1,311	22.2	32	69%
DSC 254	110	748	50	15	40	1,320	26.4	35	75%
DSC 255	110	500	32	16	22	588	18.4	27	68%
DSC 256	110	705	59	12	39	1,120	19.0	32	60%
DSC 285	110	913	35	26	14	583	16.7	39	43%
DSC 304	110	696	56	12	29	1,001	17.9	33	54%
DSC 305	110	395	25	16	22	423	16.9	21	81%
Average		*829*	*59*	*15*	*40*		*22.9*	*33*	*66%*
Total		*12,442*	*882*			*20,182*		*493*	
Eppley Administration Building									***No. of Rooms = 1***
EAB 102	110	2,233	247	9	55	1,498	6.1	29	21%

Classroom Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
Average		*2,233*	*247*	*9*	*55*		*6.1*	*29*	*21%*
Total		*2,233*	*247*			*1,498*		*29*	
HPER									***No. of Rooms = 6***
HPER 109	110	767	40	19	23	515	12.9	22	59%
HPER 112	110	2,089	130	16	69	1,296	10.0	19	52%
HPER 138	110	713	20	36	20	404	20.2	20	101%
HPER 139	110	620	18	34	13	214	11.9	17	72%
HPER 211	110	783	44	18	29	688	15.6	24	66%
HPER 234	110	671	24	28	28	1,007	42.0	36	118%
Average		*941*	*46*	*25*	*30*		*14.9*	*23*	*82%*
Total		*5,643*	*276*			*4,124*		*137*	
Mammel Hall									***No. of Rooms = 19***
MH 113	110	1,335	198	7	61	1,089	5.5	18	31%
MH 117	110	1,166	52	22	34	576	11.1	17	66%
MH 118	110	1,292	52	25	29	570	11.0	20	55%
MH 119	110	1,178	52	23	30	694	13.3	23	59%
MH 120	110	1,294	52	25	41	1,313	25.2	32	79%
MH 121	110	1,161	52	22	33	1,043	20.1	32	64%
MH 122	110	1,272	52	24	38	981	18.9	26	73%
MH 215	110	1,122	44	26	26	659	15.0	26	59%
MH 216	110	1,247	44	28	29	724	16.5	25	65%
MH 218	110	1,250	44	28	31	799	18.2	26	70%
MH 220	110	1,213	44	28	32	808	18.4	26	72%
MH 319	110	1,324	44	30	35	298	6.8	9	78%
MH 320A	110	919	60	15	46	1,343	22.4	29	78%
MH 320B	110	933	60	16	46	1,225	20.4	26	78%
MH 321	110	1,120	44	25	29	972	22.1	33	67%
MH 322	110	1,182	44	27	36	968	22.0	27	82%
MH 323	110	1,138	44	26	30	960	21.8	31	70%
MH 324	110	1,162	44	26	31	717	16.3	23	72%
MH 325	110	1,118	44	25	27	453	10.3	17	61%
Average		*1,180*	*56*	*24*	*35*		*15.1*	*24*	*68%*
Total		*22,426*	*1,070*			*16,191*		*462*	
Peter Kiewit Institute									***No. of Rooms = 14***
PKI 155	110	698	50	14	21	982	19.6	46	43%
PKI 157	110	652	31	21	19	822	26.5	44	60%
PKI 160	110	915	32	29	15	454	14.2	30	48%
PKI 161	110	769	30	26	13	134	4.5	13	35%
PKI 164	110	1,188	60	20	35	1,111	18.5	34	55%
PKI 252	110	1,144	60	19	36	1,581	26.4	46	58%
PKI 256	110	767	41	19	24	922	22.5	39	58%
PKI 260	110	1,354	48	28	23	420	8.8	18	49%
PKI 261	110	565	32	18	23	530	16.6	23	71%

Classroom Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
PKI 270	110	467	32	15	21	500	15.6	24	66%
PKI 279	110	974	20	49	9	97	4.8	11	44%
PKI 359	110	853	50	17	28	944	18.9	34	56%
PKI 377	110	567	32	18	13	435	13.6	32	42%
PKI 383	110	699	35	20	22	581	16.6	27	62%
Average		*829*	*40*	*22*	*22*		*17.2*	*30*	*54%*
Total		*11,612*	*553*			*9,512*		*420*	
Roskens Hall									***No. of Rooms = 18***
RH 010A	110	2,155	139	16	32	560	4.0	18	22%
RH 010B	110	840	69	12	29	774	11.2	27	42%
RH 010C	110	1,089	112	10	37	710	6.3	19	33%
RH 010D	110	804	69	12	27	563	8.2	20	40%
RH 102	110	696	28	25	22	781	27.9	35	79%
RH 112	110	742	32	23	21	964	30.1	44	68%
RH 302	110	1,031	48	21	24	1,188	24.7	48	51%
RH 303	110	718	28	26	22	1,017	36.3	46	78%
RH 304	110	1,133	48	24	23	1,240	25.8	54	48%
RH 305	110	731	36	20	22	1,058	29.4	46	64%
RH 319	110	669	30	22	22	1,022	34.1	45	76%
RH 401	110	512	42	12	27	1,442	34.3	52	66%
RH 402	110	1,359	40	34	25	556	13.9	23	62%
RH 403	110	472	16	30	11	247	15.4	22	70%
RH 408	110	687	28	25	24	853	30.5	35	87%
RH 501	110	446	16	28	15	305	19.1	21	90%
RH 503	110	447	16	28	12	335	20.9	26	80%
RH 507	110	437	18	24	10	327	18.1	30	61%
Average		*832*	*45*	*22*	*23*		*17.1*	*34*	*64%*
Total		*14,968*	*815*			*13,941*		*612*	
Strauss									***No. of Rooms = 3***
SPAC 129	110	299	15	20	13	39	2.6	3	87%
SPAC 131	110	658	43	15	20	422	9.8	21	47%
SPAC 239	110	782	30	26	18	360	12.0	20	59%
Average		*580*	*29*	*20*	*17*		*9.3*	*15*	*55%*
Total		*1,739*	*88*			*821*		*44*	
Weber Fine Arts									***No. of Rooms = 5***
WFAB 126	110	474	26	18	22	285	11.0	12	91%
WFAB 201	110	370	18	21	11	219	12.2	18	68%
WFAB 208	110	528	20	26	16	120	6.0	8	80%
WFAB 214	110	871	50	17	37	1,422	28.4	38	74%
WFAB 218	110	613	21	29	15	486	23.1	33	70%

Classroom Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
	Average	*571*	*27*	*22*	*20*		*18.8*	*22*	*74%*
	Total	*2,856*	*135*			*2,532*		*109*	
	AVERAGE	**860**	**50**	**20**	**30**		**18.3**	**31**	**65%**
	TOTAL	**120,404**	**6,941**			**127,326**		**4,278**	
	NO. OF ROOMS	**140**							

Appendix C – Teaching Laboratory Utilization Analysis by Building

Teaching Laboratory Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
Allwine Hall									***No. of Rooms = 14***
AH 108	210	1,200	30	40	32	288	9.6	9	107%
AH 136	210	1,200	24	50	24	190	7.9	8	99%
AH 201	210	2,063	66	31	30	1,095	16.6	36	46%
AH 219	210	1,203	36	33	35	633	17.6	18	98%
AH 223	210	1,129	24	47	19	231	9.6	12	80%
AH 225	210	1,200	24	50	19	57	2.4	3	79%
AH 229	210	705	24	29	15	147	6.1	10	61%
AH 235	210	1,200	30	40	26	672	22.4	26	86%
AH 307	210	1,253	30	42	14	357	11.9	26	47%
AH 408	210	1,200	24	50	20	183	7.6	9	85%
AH 423	210	1,226	32	38	21	192	6.0	9	67%
AH 426	210	1,200	18	67	13	26	1.4	2	72%
AH 501	210	1,200	18	67	16	48	2.7	3	89%
AH 525	210	1,264	18	70	16	165	9.2	10	92%
Average		*1,232*	*28*	*47*	*21*		*10.8*	*13*	*73%*
Total		*17,243*	*398*			*4,284*		*181*	
Arts and Sciences Hall									***No. of Rooms = 5***
ASH 110	210	780	23	34	18	830	36.1	46	79%
ASH 112	210	722	20	36	14	584	29.2	40	73%
ASH 145	210	663	21	32	18	743	35.4	40	88%
ASH 181	210	657	20	33	19	780	39.0	41	95%
ASH 304	210	755	30	25	20	625	20.8	32	65%
Average		*715*	*23*	*32*	*18*		*31.2*	*40*	*81%*
Total		*3,577*	*114*			*3,561*		*199*	
CPACS									***No. of Rooms = 1***
CPACS 219	210	*738*	24	31	14	340	14.2	25	56%
Average		*738*	*24*	*31*	*14*		*14.2*	*25*	*56%*
Total		*738*	*24*			*340*		*25*	
Durham Science Center									***No. of Rooms = 21***
DSC 141	210	821	26	32	15	445	17.1	28	61%
DSC 143	210	784	26	30	23	1,050	40.4	46	88%
DSC 145	210	822	24	34	22	348	14.5	16	91%
DSC 147	210	745	20	37	7	26	1.3	4	33%
DSC 156	210	840	24	35	23	362	15.1	16	94%
DSC 280	210	840	22	38	8	144	6.5	17	39%
DSC 281	210	657	25	26	17	85	3.4	5	68%
DSC 284	210	823	22	37	22	44	2.0	2	100%
DSC 287	210	930	20	47	17	279	14.0	16	87%
DSC 290	210	1,041	6	174	6	30	5.0	5	100%
DSC 292	210	924	10	92	13	39	3.9	3	130%
DSC 296	210	1,181	28	42	13	65	2.3	5	46%

Teaching Laboratory Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
DSC 310	210	1,094	24	46	24	588	24.5	25	100%
DSC 314	210	1,097	24	46	24	425	17.7	18	99%
DSC 318	210	1,085	24	45	24	516	21.5	22	99%
DSC 320	210	1,070	24	45	20	277	11.5	14	82%
DSC 347	210	1,124	24	47	19	263	10.9	14	78%
DSC 355	210	795	14	57	12	256	18.3	21	87%
DSC 356	210	1,154	10	115	8	53	5.3	7	75%
DSC 357	210	1,093	24	46	10	144	6.0	14	43%
DSC 359	210	1,116	24	47	12	252	10.5	21	50%
Average		*954*	*21*	*53*	*16*		*12.8*	*15*	*79%*
Total		*20,036*	*445*			*5,688*		*318*	
HPER									***No. of Rooms = 3***
HPER 213	210	2,298	64	36	28	742	11.6	26	44%
HPER 214	210	1,847	42	44	30	1,296	30.9	42	74%
HPER 228	210	4,305	50	86	26	465	9.3	19	49%
Average		*2,817*	*52*	*55*	*28*		*16.0*	*29*	*60%*
Total		*8,450*	*156*			*2,503*		*87*	
Mammel Hall									***No. of Rooms = 2***
MH 115	210	1,360	30	45	15	162	5.4	11	50%
MH 302	210	727	15	48	12	54	3.6	5	80%
Average		*1,044*	*23*	*47*	*14*		*4.8*	*8*	*59%*
Total		*2,087*	*45*			*216*		*15*	
Peter Kiewit Institute									***No. of Rooms = 13***
PKI 130	210	1,527	48	32	17	198	4.1	12	34%
PKI 212	210	318	10	32	4	54	5.4	15	36%
PKI 248	210	1,358	38	36	26	805	21.2	32	66%
PKI 263	210	1,093	52	21	25	905	17.4	37	47%
PKI 276	210	982	30	33	18	444	14.8	24	62%
PKI 278	210	955	28	34	14	117	4.2	8	52%
PKI 305	210	968	28	35	14	162	5.8	12	48%
PKI 311	210	971	20	49	17	207	10.4	12	86%
PKI 312	210	656	20	33	18	105	5.3	6	88%
PKI 314	210	657	20	33	18	105	5.3	6	88%
PKI 340	210	992	20	50	12	111	5.6	9	62%
PKI 361	210	1,347	30	45	12	57	1.9	5	38%
PKI 375	210	998	20	50	17	99	5.0	6	83%
Average		*986*	*28*	*37*	*16*		*9.3*	*14*	*58%*
Total		*12,822*	*364*			*3,370*		*184*	
Roskens Hall									***No. of Rooms = 2***
RH 502	210	701	22	32	20	820	37.3	41	92%
RH 509	210	459	8	57	3	62	7.8	22	35%

Teaching Laboratory Utilization Analysis by Building

Room Id	Room Use Code	Assignable Sq. Ft.	No. of Stations	Assignable Sq. Ft. Per Station	Average Enroll-ment	Weekly Student Contact Hours	Weekly Seat Hours	Weekly Room Hours	Hours in Use Student Station Occupancy %
	Average	*580*	*15*	*45*	*12*		*29.4*	*31*	*72%*
	Total	*1,160*	*30*			*882*		*63*	
Sculpture and Ceramics Studio									***No. of Rooms = 2***
SCS 101	210	3,312	20	166	16	256	12.8	16	80%
SCS 111	210	2,032	20	102	17	269	13.5	16	84%
	Average	*2,672*	*20*	*134*	*17*		*13.1*	*16*	*82%*
	Total	*5,344*	*40*			*525*		*32*	
Strauss									***No. of Rooms = 4***
SPAC 105	210	2,280	100	23	32	844	8.4	23	37%
SPAC 109	210	2,716	100	27	24	706	7.1	28	26%
SPAC 130	210	661	16	41	9	54	3.4	6	56%
SPAC 232	210	767	16	48	10	178	11.1	19	59%
	Average	*1,606*	*58*	*35*	*19*		*7.7*	*19*	*40%*
	Total	*6,424*	*232*			*1,782*		*75*	
Weber Fine Arts									***No. of Rooms = 10***
WFAB 006	210	1,211	60	20	22	246	4.1	16	26%
WFAB 018	210	1,014	20	51	9	84	4.2	9	47%
WFAB 107	210	487	18	27	15	438	24.3	30	81%
WFAB 124	210	1,219	16	76	14	168	10.5	12	88%
WFAB 128	210	1,437	30	48	23	426	14.2	18	79%
WFAB 220	210	946	20	47	18	476	23.8	28	85%
WFAB 222	210	1,287	20	64	20	602	30.1	30	100%
WFAB 225	210	666	20	33	15	392	19.6	26	75%
WFAB 226	210	3,729	24	155	22	258	10.8	12	90%
WFAB 333	210	1,111	30	37	20	387	12.9	21	61%
	Average	*1,311*	*26*	*56*	*18*		*13.5*	*20*	*76%*
	Total	*13,107*	*258*			*3,477*		*202*	
	AVERAGE	**1,182**	**27**	**49**	**18**		**12.6**	**18**	**71%**
	TOTAL	**90,988**	**2,106**			**26,628**		**1,381**	
	NO. OF ROOMS	**77**							

SMITHGROUP JJR