

UNIVERSITY OF NORTH DAKOTA

Academic Master Plan Report
April 2018



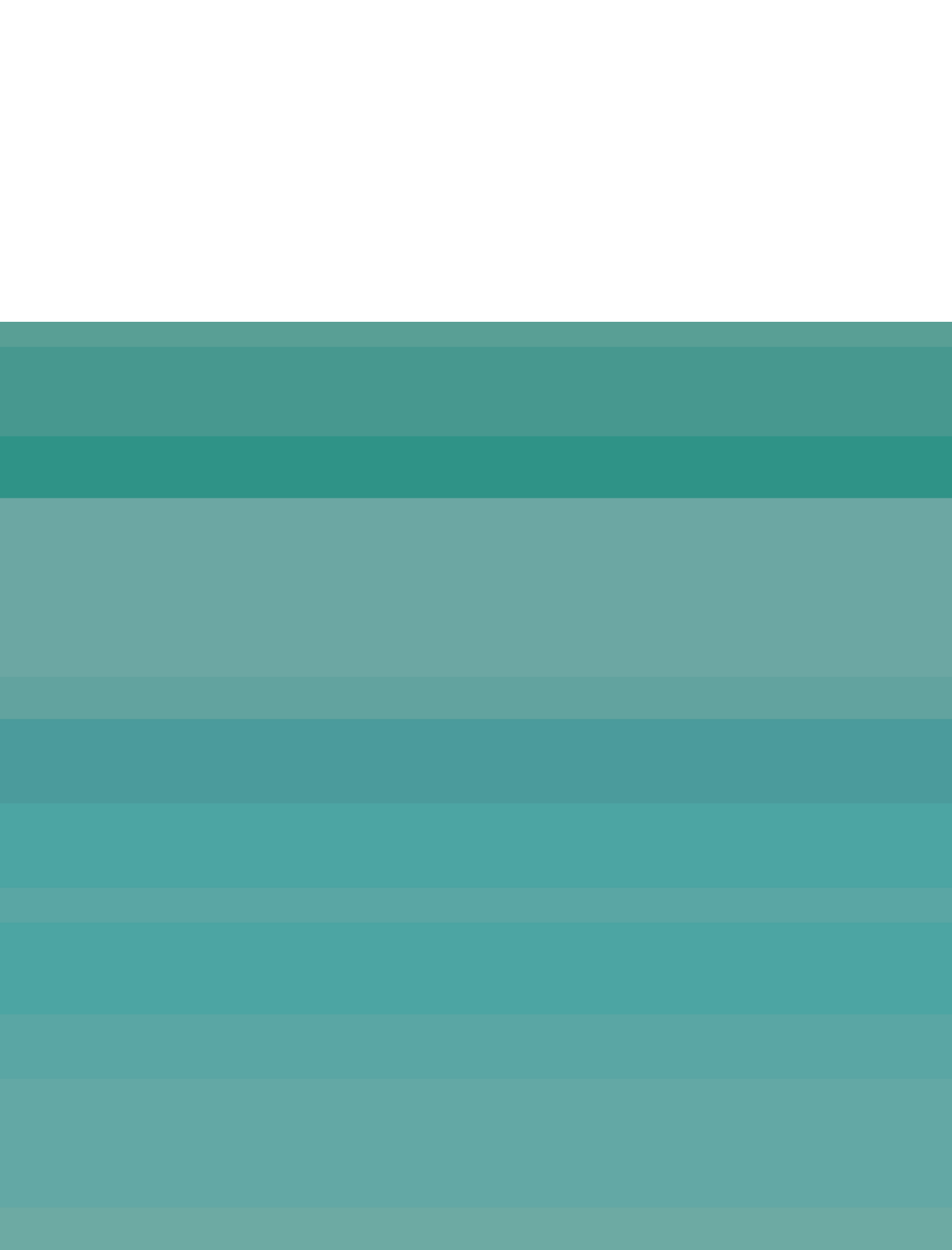
TABLE OF CONTENTS

INTRODUCTION TO THE PLAN	4
Academic Master Plan Purpose and Goals	6
Program and Enrollment Drivers	8
Planning Process and Engagement	10
30 Year Plan	16
 PLANNING CONTEXT	 18
Campus History and Development	20
Physical Analysis and Space Use	24
 MASTER PLAN VISION AND FRAMEWORK	 38
30 Year Plan	40
Vision	42
Framework	52
 PROPOSED PROJECTS AND PROGRAMMATIC STRATEGY	 62
Programmatic Strategy	64
Campus Core	66
 PHASING AND IMPLEMENTATION	 74
Phasing	76
Implemented Vision	94
 ACKNOWLEDGMENTS	 97

Section 01

INTRODUCTION TO THE PLAN





ACADEMIC MASTER PLAN PURPOSE AND GOALS

The goal of the Academic Master Plan is to establish a comprehensive framework for campus development consistent with the long-term vision set forth in the university's strategic plan, *One UND*.

Building upon the 2016 Master Plan while integrating the vision of *One UND*, the 2018 Academic Master Plan reconciles the commitment made to the State to reduce its deferred maintenance liability while, at the same time, reinforcing a strong and cohesive campus core. The 2018 Academic Master Plan focuses on accommodating academic space needs in coordination with other university-wide planning efforts.

Planning Integration

2016 Master Plan

Requested by the State Board of Higher Education (SBHE), the 2016 Master Plan focused on space utilization, building assessments and deferred maintenance, and academic programming. That plan determined that UND had a sufficient supply of classroom, labs, and offices spaces but that the quality of several spaces were inadequate. Citing the average age of buildings at 50 years old with a deferred maintenance backlog of over \$500 million in the next 10 years, the study concluded that a large number of buildings on campus require repairs

or upgrades. Ultimately, the 2016 plan recommends a consolidation and reduction of space in order to focus university resources. The 2018 Academic Master Plan builds on the findings of the 2016 Master Plan by maximizing programmatic adjacencies and academic collaboration while removing buildings with significant deferred maintenance. Importantly, the recommendations from this planning effort are rooted in the university's strategic plan, *One UND*.

Strategic Plan *One UND*

The university's Strategic Plan, *One UND*, serves as a foundational document to guide the academic planning effort. The university outlines the goals of the Strategic Plan through three major areas of focus.

1. Learning - deliver opportunity to students by preparing them for a lifetime of success in a rapidly changing world.
2. Discovery - generate opportunity for the state by diversifying its economy and addressing societal grand challenges through cutting-edge research.
3. Engagement - expand campus outreach to embrace extended alumni, friends, state, region, national, and international communities.

The Academic Master Plan embodies the spirit and intent of the Strategic Plan through the physical form of the campus by supporting *learning* through strengthening programmatic adjacencies, enhancing *discovery* by prioritizing the addition of new teaching and research space, and honoring *engagement* by fostering a welcoming campus environment for all.

Ongoing Planning Initiatives

UND currently has several ongoing planning initiatives running parallel to the Academic Master Plan. These planning initiatives are integral in the overall process have been considered in the development of the Academic Master Plan.

Coulee to Columbia Development Plan

Coulee to Columbia is an effort by the University to enhance and revitalize University Avenue from the English Coulee to Columbia Road. The plan focuses on unification and beautification of University Avenue through signage, plantings, streetscape, and other features. Ultimately, the goal of the plan is to strengthen the presence of the University along this major connector.

Memorial Union Master Plan

This planning effort will focus on the removal of the existing Memorial Union and the construction of a new Union located on the same site. In 2019 UND will be requesting legislative approval to invest up to \$80 million for a student funded revenue bond sale. The Union is the hub of campus with the highest level of daily traffic in, out and around the building. This plan will capitalize on that traffic creating a dynamic, energetic nucleus for this part of campus with a pedestrian promenade connection to the Quad, the campus' primary exterior space. Future skyway connections to a proposed mixed use development, parking ramp and core campus buildings will help invigorate and galvanize the Union as the heart of campus.

Athletics Facilities Master Plan

The *Athletics Facilities Master Plan* conducted in the fall of 2017 proposed additions to the High Performance Center, the Betty, and the Student Wellness Center. The intent of the High

Performance Center II (HCPH) is to improve on the overall athletics and recreational facilities, and replace many uses in Hyslop including the pool, which is a liability to the university due to its poor and irreversible condition. This plan also provides the opportunity to shift more recreational facilities to the north expanding on the Student Wellness Center and the Arenas adding an outdoor turf field for intramural sports and strengthening the Athletics and Recreation zone of the campus.

Dining Services Master Plan

Completed in 2014, the Dining Services Master Plan focuses on providing an exceptional student dining experience on campus. Ultimately, the plan resulted in the recommendation for the creation of more dining options and the construction of the Wilkerson Commons in 2016.

College of Business and Public Administration

The *College of Business and Public Administration Plan* aims to rethink the CoBPA teaching and learning space to support academic trends that require more space for collaboration and innovation. The College's current location, Gamble Hall, no longer serves the College's needs and, with significant deferred maintenance, the funds required to rehabilitate the building are greater than the benefits provided. Therefore, relocating the existing and new programs to a new facility incorporating, and at the site of, Montgomery Hall offers the college an opportunity to expand on programs and establish a presence on University Avenue and the central quad. Additionally, the new site has the opportunity to reuse Montgomery Hall and establish a connection to the Chester Fritz Library and Merrifield Hall, allowing for a potential reduced footprint of the new facility.

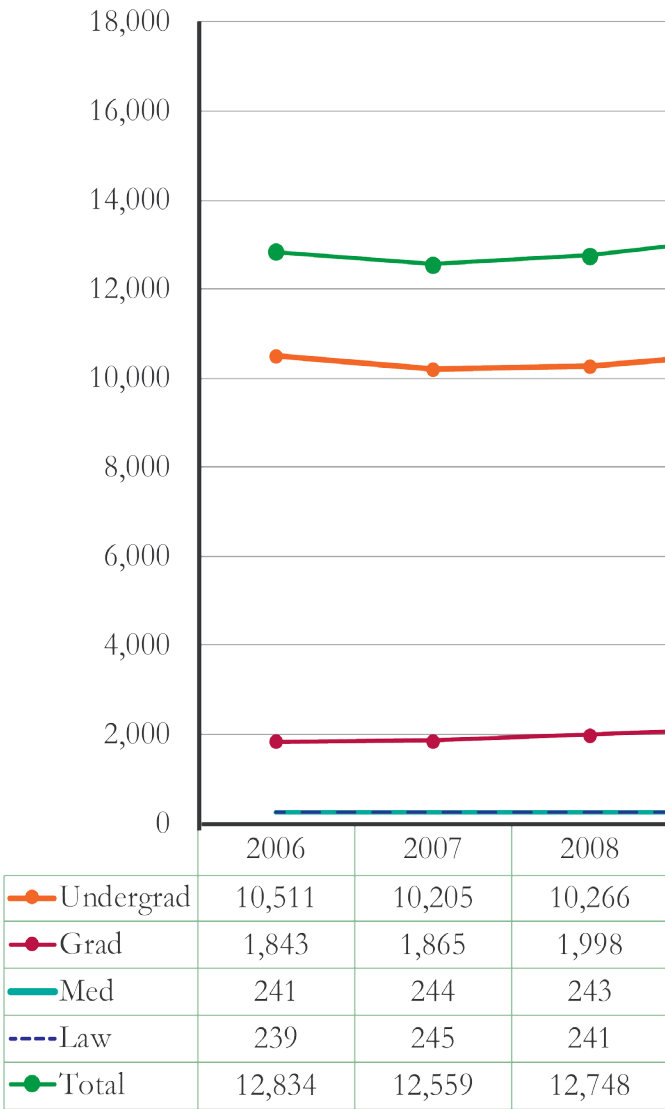
PROGRAM AND ENROLLMENT DRIVERS

Program

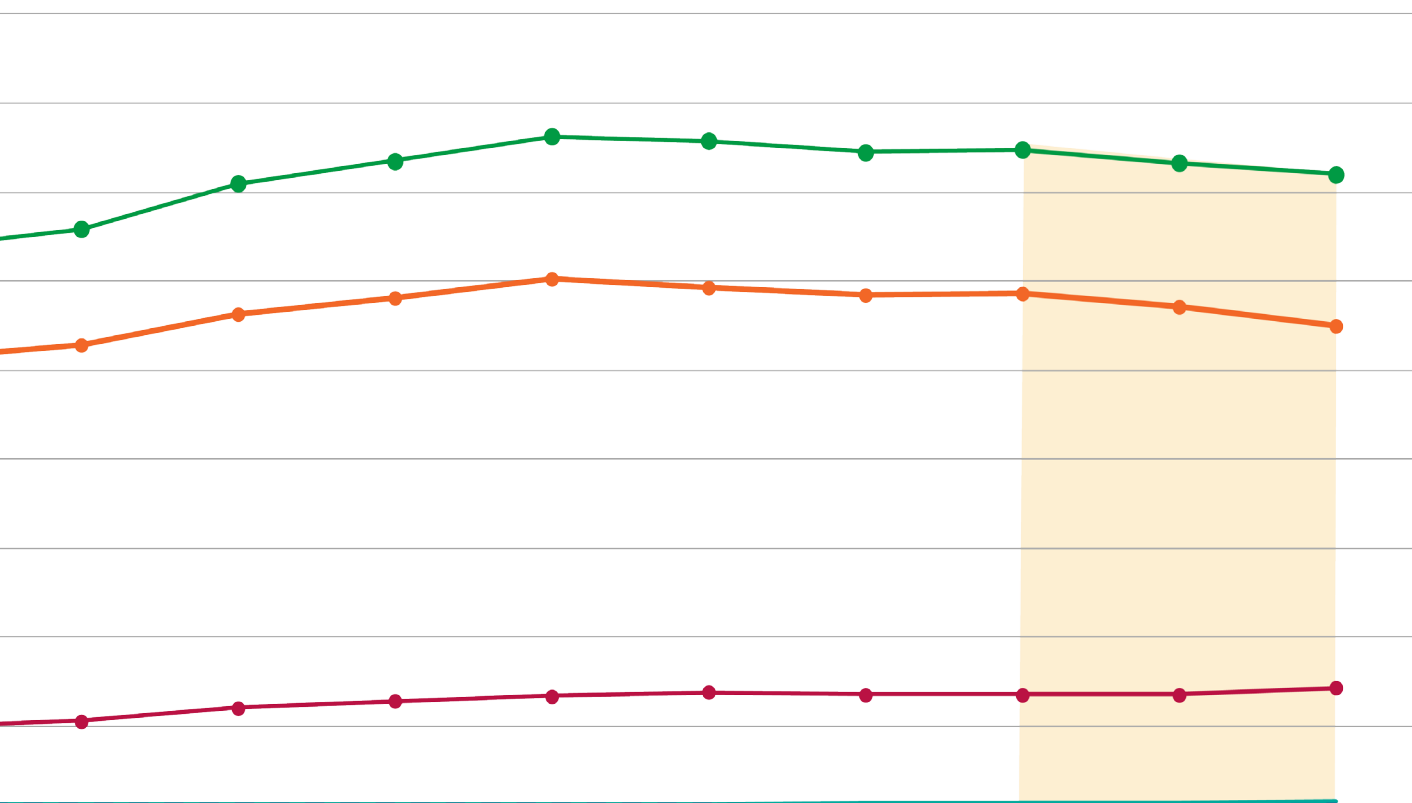
The University has established a goal to become a R1 Carnegie Research Institution. At the same time, the University is experiencing growth in its STEM-related disciplines. Both of these initiatives result in the need for more high-quality laboratory space and related support space. Due to the interdisciplinary nature of research and STEM, these programs can help to bridge the gap between the Schools and Colleges and serve as places of collaboration and shared ambitions

Enrollment

In the past eleven years, enrollment has generally increased from 12,834 to 14,406 students, for both undergraduate and graduate level. However, undergraduate student enrollment has fluctuated more than graduate student enrollment, and has seen declines in recent years. UND projects that student enrollment will stabilize at about 15,000 total students over the next few years (2016 UND Master Plan Executive Summary).



Recent Enrollment Trends



2009	2010	2011	2012	2013	2014	2015	2016	2017
10,555	11,269	11,627	12,066	11,871	11,687	11,722	11,413	11,000
2,133	2,430	2,568	2,688	2,767	2,716	2,717	2,714	2,862
241	241	252	258	265	274	290	291	302
243	254	250	238	240	229	222	230	242
13,172	14,194	14,697	15,250	15,143	14,906	14,951	14,648	14,406

PLANNING PROCESS AND ENGAGEMENT

Planning Process and Engagement

The Academic Master Plan process was organized into three phases.

Phase 1: Inventory and Analysis

During phase one, Sasaki conducted a broad investigation to understand existing conditions, key considerations, and planning drivers. Following the initial visit to conduct building tours and a visioning session, the team conducted an assessment of instructional space and an in-depth physical analysis of campus to better understand the university's assets and challenges, and examine campus landscapes, pedestrian and vehicular circulation, historical development, and space distribution. Released to the campus community in September, the MyCampus and Collaboration surveys provided an opportunity for campus constituents to offer feedback of the physical campus about day-to-day use and collaboration patterns. In October, the planning team conducted a series of interviews with academic stakeholders, and held the first workshop with the Steering Committee to review the findings of the analysis. These engagements helped to unearth recurring themes and informed the development of key drivers for the plan.

Phase 2: Academic Concept Alternatives

Based on Phase One analysis, the team developed a framework plan to identify campus zones, key open spaces, and circulation systems, as well as opportunity sites for future buildings and potential reuse or demolition of existing buildings. The framework plan served as the foundation for the exploration of three more-detailed development concepts. In December, the planning team conducted a workshop with the Steering Committee where the three concepts were tested and reviewed. Following that workshop, the planning team presented the three concepts to the

Key Findings from Interviews

- STEM is a collaborative hub that serves many units across campus. Its future location is critical.
- Collaboration between programs at Aerospace and Natural Science/Engineering happens digitally, but there is an opportunity to co-locate collaborative research hubs to enable interdisciplinary discovery.
- Currently dispersed, the College of Arts and Sciences needs a thoughtful long-term location.
- Visual and Performing Arts space is somewhat fragmented and there are concerns for the future of the Chester-Fritz Auditorium.
- Nursing benefits from its current location near the undergraduate core, but would also benefit from co-location with Medicine, particularly with regard to simulation.
- COBPA has undertaken a programming study, and has already honed in on a preferred location for their future expansion located on the Montgomery Hall site.
- Maker spaces will continue to be a draw to serve multiple disciplines/departments across campus.

President, and his cabinet for further reaction and feedback.

Each concept embodied a unique vision for the future of the campus and served as a provocative set of ideas. Not intended to be mutually exclusive, discussions related to merits and challenges associated with the aspects and ideas of each concept informed the development of the preferred plan and resulted in an amalgamation of the various options.



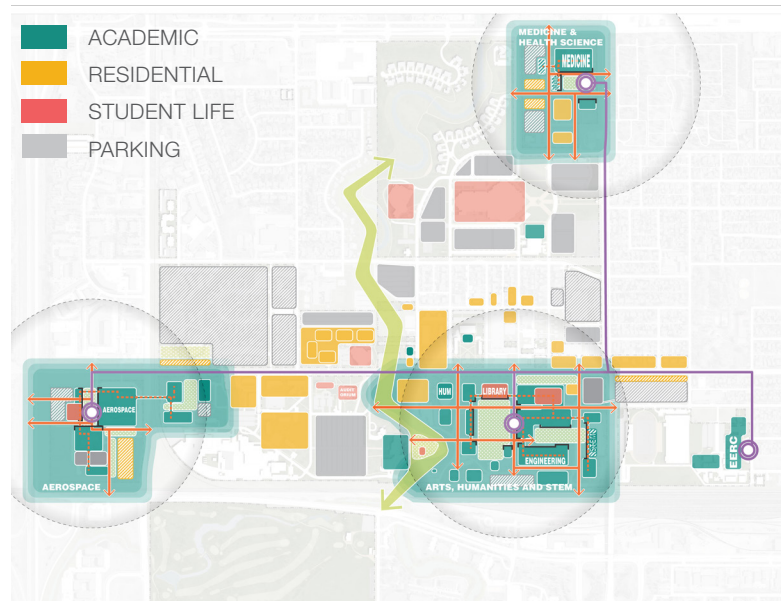
Building walk-throughs using 3D camera technology to photograph campus conditions in phase one



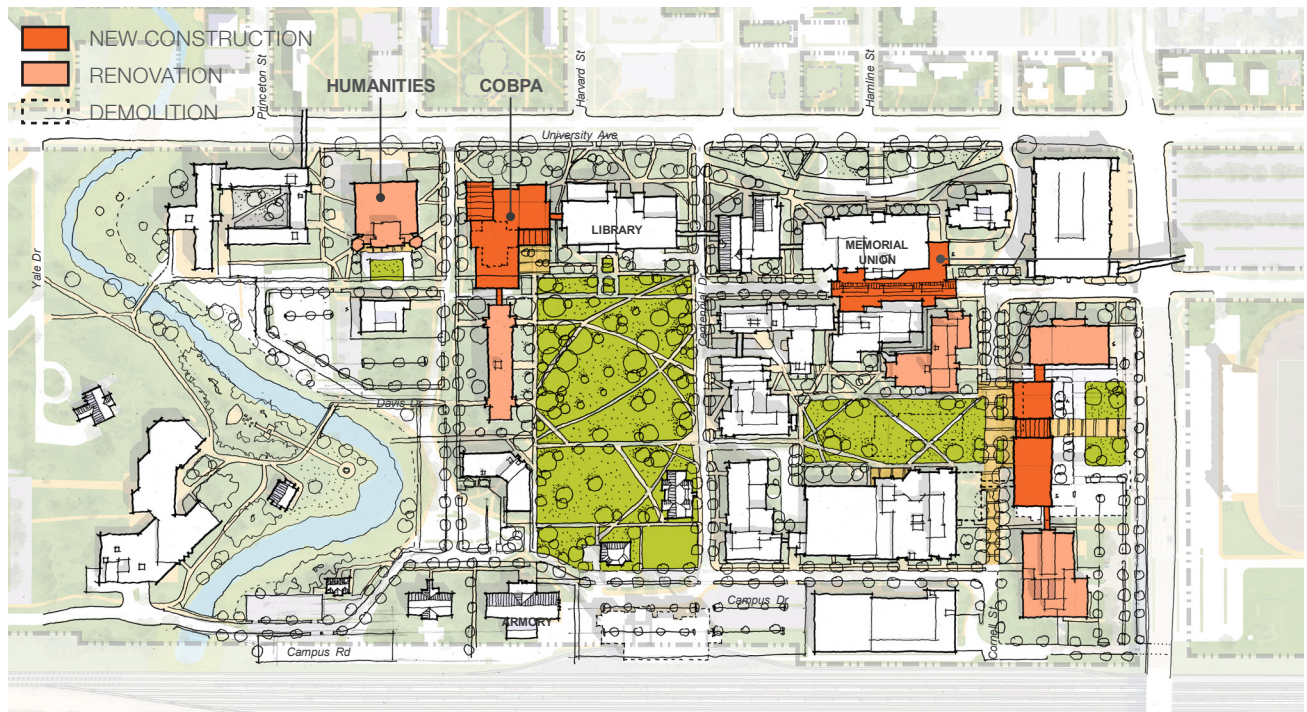
Steering committee workshop in phase two.

Concept 1 – Reinforcing the Anchors

establishes three distinct mixed-use districts, the Academic Core, Aerospace District, and School of Medicine District, to distribute campus amenities. This concept builds on the existing land use structure and maximizes the reuse of existing facilities. Within the core, closing a portion of Cornell Street to only pedestrians strengthens the connection between the new STEM (science, technology, engineering, and math) facility located on the Hyslop Sports Center site, and the new quad created from the demolition of Witmer Hall. Straightening Centennial Drive West to be parallel with Centennial Drive East created a clear vehicular circulation system for the core. Locating Social Sciences and Humanities in a renovated Gamble Hall allows for the demolition of Columbia Hall and strengthens the core as a key anchor. However, given that concept focuses on the development of each anchor it draws activity away from the core and does not fully support the tenets of *One UND*. Feedback from the Steering Committee included support for the location of STEM close to engineering programs, lack of support to reuse Gamble Hall for CAS, and mixed reaction on the long-term location of Nursing.



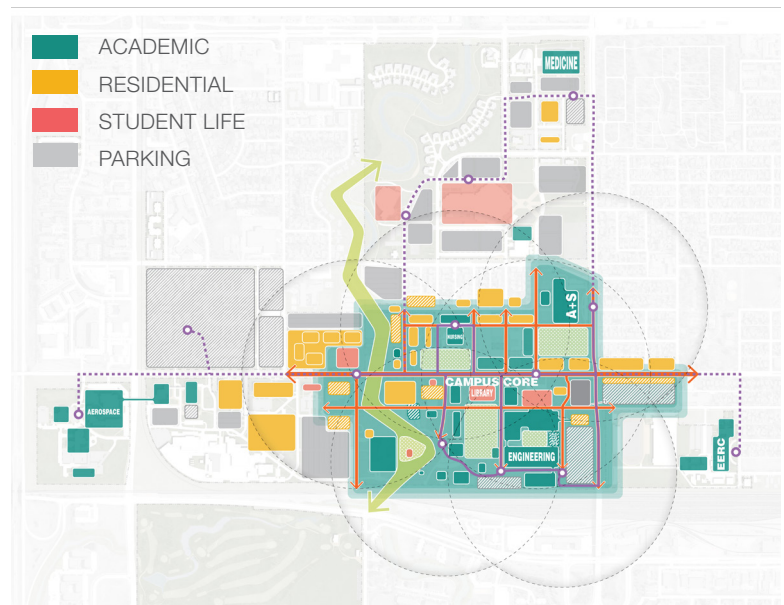
Concept 1 - Vision Diagram



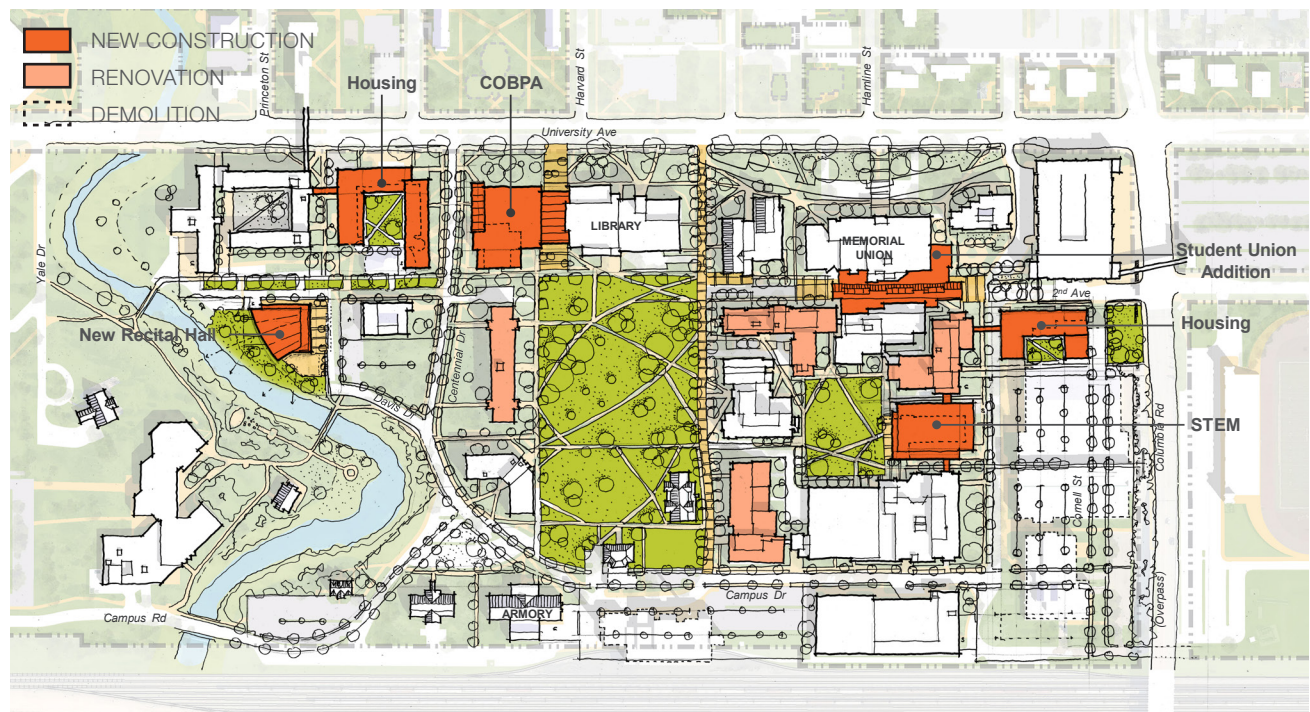
Concept 1 - Core Campus

Concept 2 – *Strengthen the Campus Core*

focuses investment in the core between North Columbia Road and Stanford Road, and Campus Drive and 6th Avenue North, and presents an opportunity for maximum physical connectivity between buildings in that district. Housing is located on the periphery of the core, while academics shift north of University Avenue. STEM is located on the Witmer Hall site, occupying a smaller footprint and connecting to Engineering and Abbott Hall. Demolition of Chester Fritz Auditorium allows for the construction of a new Recital Hall closer to the core. To achieve a developed campus core concept two requires significant renovation to buildings within or adjacent to the core, such as Columbia Hall, while the Medicine and Aerospace programs remain isolated and with few amenities. Feedback from the Steering Committee included support for a smaller perform arts venue and the direct physical connection between STEM and other engineering and sciences buildings. The future of Columbia Hall recieved mixed reactions. While the quality of space in Columbia Hall is better than other buildings on campus, it has more space than necessary to support the College of Arts and Sciences.

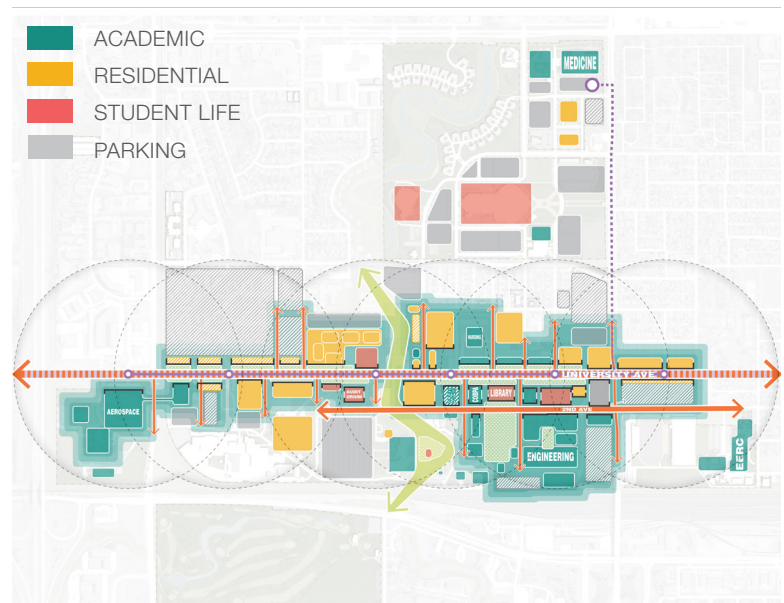


Concept 2 - Vision Diagram

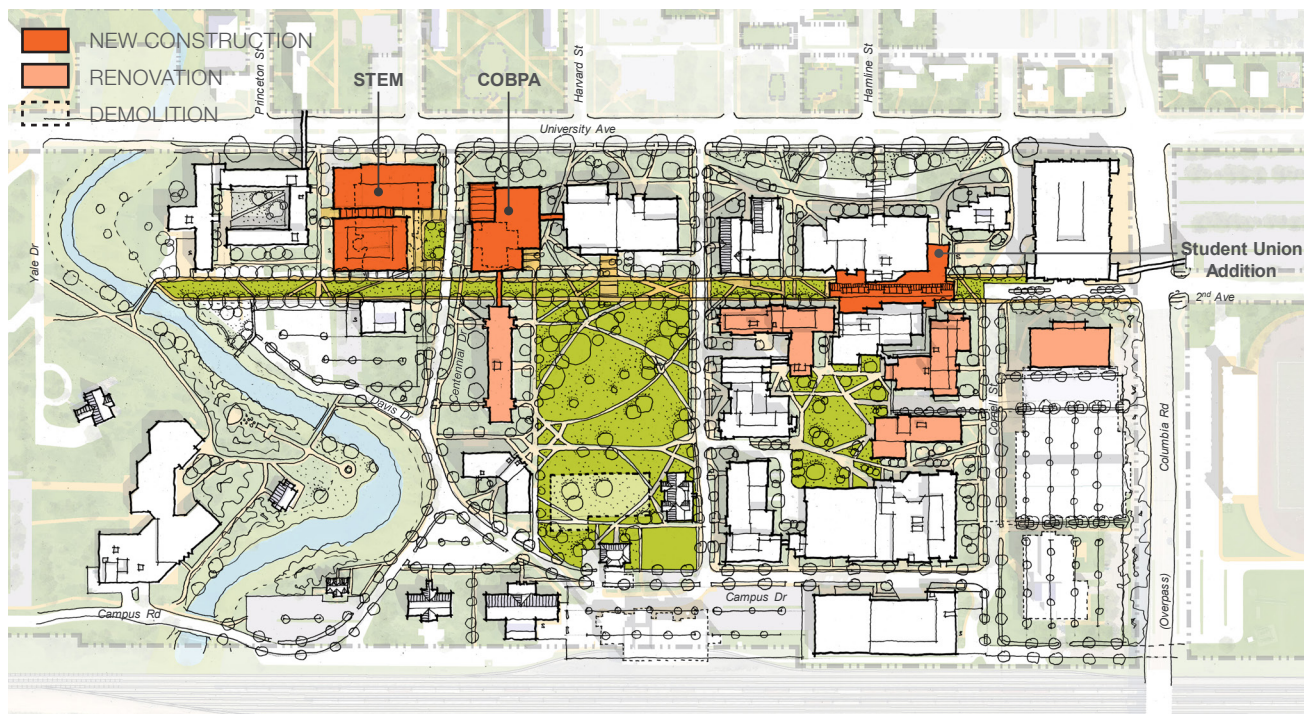


Concept 2 - Core Campus

Concept 3 – *Revitalize University Ave as the Central Spine* places key programs along the University Avenue “front door” and positions the major campus and City connector as a mixed use spine. Signature academics uses, such as the Law School, CoPBA, and the new STEM building, as well as housing with ground floor amenities, are located along University Avenue. Placing transit nodes along University Avenue connects the north/south axes adjacent to the spine. Concept three strengthens the activity along the Avenue; however, it elongates the sense of a “campus core” and relies heavily on an efficient shuttle system. Additionally, this concept requires the most amount of new construction to achieve the desired outcome. Feedback from the Steering Committee included support for 2nd Avenue as a pedestrian spine and bringing CAS back to the core, and a preference not to locate STEM at the Gamble Hall site given it would separate it from the existing engineering programs in the core.



Concept 3- Vision Diagram



Concept 3 - Core Campus

Engaging with stakeholders throughout the process unearthed recurring themes and informed the development of key drivers for the plan.

Following an assessment of the three concepts, the planning team worked to synthesize the feedback into a single preferred direction.

Phase 3: Final Development and Documentation

The final phase focused on the detailed development of the preferred plan and accompanying implementation strategy. In February, the planning team held a concluding workshop with the Steering Committee presenting phasing strategies, and district studies, which articulated key recommendations for precincts throughout the campus, and ensured the final planning direction was in line with earlier discussions with campus stakeholders.



Campus forum during phase three.

30 YEAR PLAN

Major Building Projects

Short term 1 - 6 years

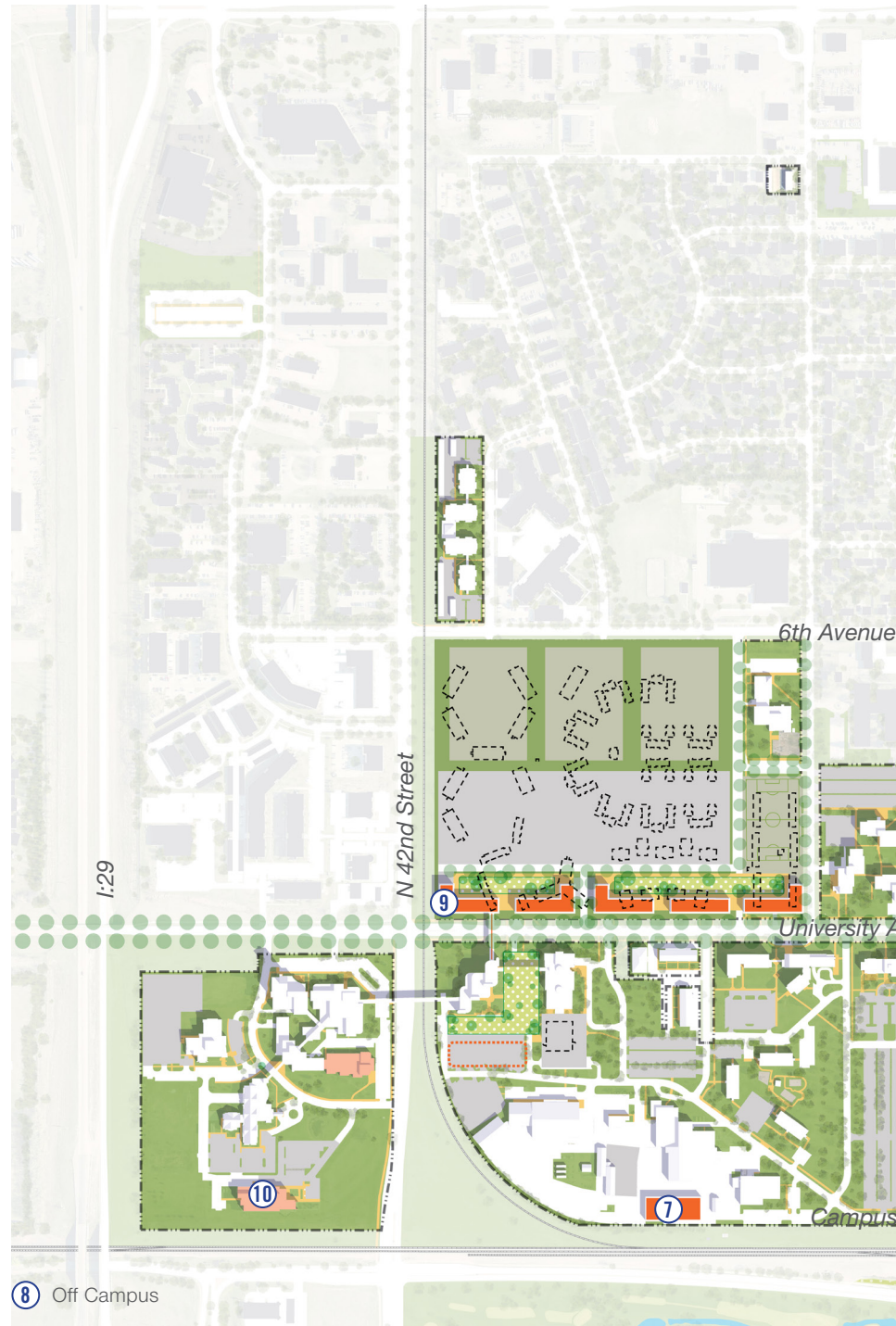
1. New College of Business & Public Administration building
2. Merrifield Hall Renovation
3. Engagement Center (relocation of the J Llyod Stone House)
4. New Student Union
5. New STEM building (Hyslop renovation and partial demolition, Starcher Hall renovation, Witmer Hall demolition, and new construction)
6. High Performance Center Phase II
7. New Steam Plant (P3)
8. UAS Airport (off campus)
9. Mixed-use Housing (P3)
10. Administration relocation

Mid term 7-12 years

11. Chester Fritz Library renovation
12. Relocation of programs from Columbia Hall to the Academic Core of Campus & Close Columbia Hall
 - Twamley Hall
 - O'Kelly Hall
 - Babcock Hall
 - Gustafson Hall
 - McCannel Hall

Long term 12 - 30 years

13. Expand the School of Medicine and Health Science Site
 - Relocation of Nursing
 - Research
 - Parking
14. Recital Hall (Dependant on future decisions around Chester Fritz Auditorium)



Campus Development Vision

In an effort to become a more navigable, and sustainable campus, the university's development plans include more demolition than construction projects. This is a driving factor of the Academic Master Plan, which will reduce the overall deferred maintenance liability, reduce operational constraints, and facilitate collaborations across the campus. Total proposed new construction is approximately 591,000 GSF, while total demolition is approximately 1,555,600 GSF, creating a net reduction of 964,600 GSF campus-wide.



Section 02

PLANNING CONTEXT





HISTORY AND DEVELOPMENT OF THE UNIVERSITY

Campus History and Development

Founded in 1883, the University of North Dakota (UND) is the state's oldest university. Created to provide students with a strong liberal arts foundation, UND has also evolved into a prominent scientific research university and strives to become an R1 institution in the near future. Today, UND offers the only schools of law and medicine in the state, and is renowned for the John D. Odegard School of Aerospace Sciences, supporting programs in aviation and aerospace.

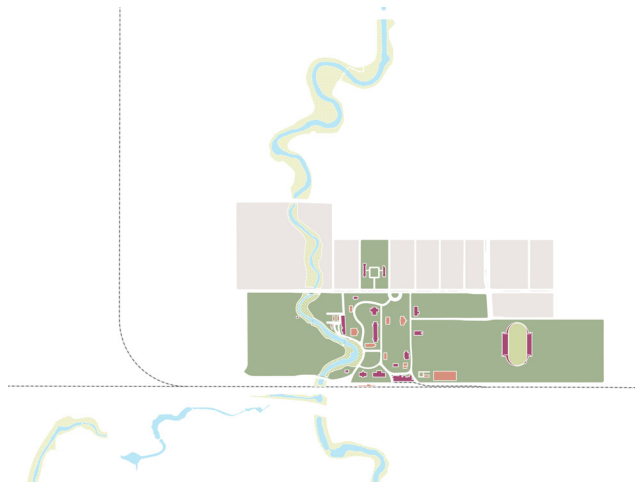
In its 135-year history, UND's academic programs have both influenced and been influenced by the changing economy of the State. UND founded its School of Medicine in 1905, only expanding to an MD program in 1975. Key buildings constructed before 1908 include Chandler Hall, the J. Lloyd Stone House, and the ND Museum of Art. During WWI, UND stopped classes to function as an army base, and offered free housing to students willing to do manual labor during the Great Depression. Between 1908 and 1929, UND constructed Babcock Hall, Carnegie Hall, Gustafson Hall, Robertson/Sayre Hall and Corwin/Larimore Hall (formerly Wesley College), the Steam Plant, Montgomery Hall, Gilette Hall, the Armory, the Law Building, Memorial Stadium, and Merrifield Hall. These buildings, in addition to those constructed prior to 1908, began to form what is still today the campus and academic core.

In the 1940s and 1950s, UND acquired and was bequeathed more land. This allowed UND to construct extensive on-campus housing to support military personnel, later used for family housing apartments, while allowing the campus to spread north of University Avenue. Established during the Cold War the Grand Forks Air Force Base (GFAFB) served as a training facility until the US Air Force took over operation in the 1970's. During that time UND established the School of Aerospace, one of its most predominate academic and research centers to date. Key buildings built between the late 40s and late 60s include Columbia Hall which until recently served as the Med School, the Hyslop Sports Center, Memorial Union, Harrington Hall, the Education Building, McCannell Hall, Chester Fritz Library, Abbott Hall, Twamley Hall, Burtness Theater, Leonard Hall, Gamble Hall, and Witmer Hall. Development between the early 70s and mid 80s resulted in the emergence of Upson I & II, the Chester Fritz Auditorium, the Hughes Fine Art Building, the, the College of Nursing, Starcher Hall, Laird Core & Sample Library, John D. Odegard Hall, and Bryce Streibel Hall. Continued oil boom and rising UND student enrollment at the time supported this rate of construction, with the university achieving record concurrent construction in 1982. This development formalized the campus's expansion to include an aerospace district to the west and its nursing college just north of the academic core.

By 1983, its centennial year, the UND campus occupied 470 acres and 76 buildings. Key buildings constructing between 1983 and the late 1990's included, Ryan Hall, Clifford Hall, and the Skalicky Tech Incubator further strengthening the aerospace district. Constructed between 2001 and 2007, the Ralph and Betty arena and the Student



1908



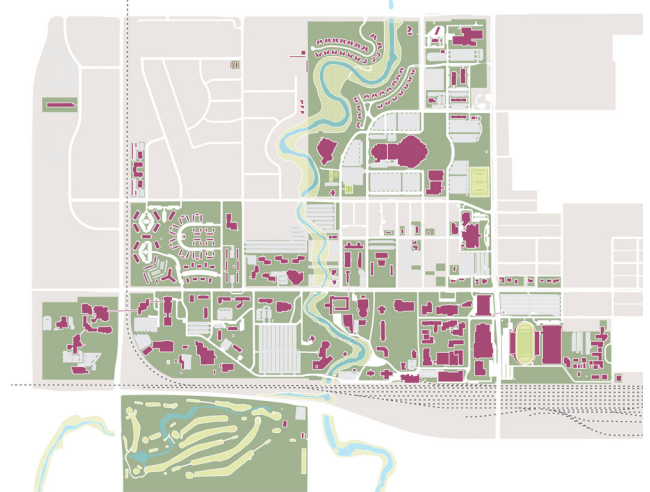
1936



1947

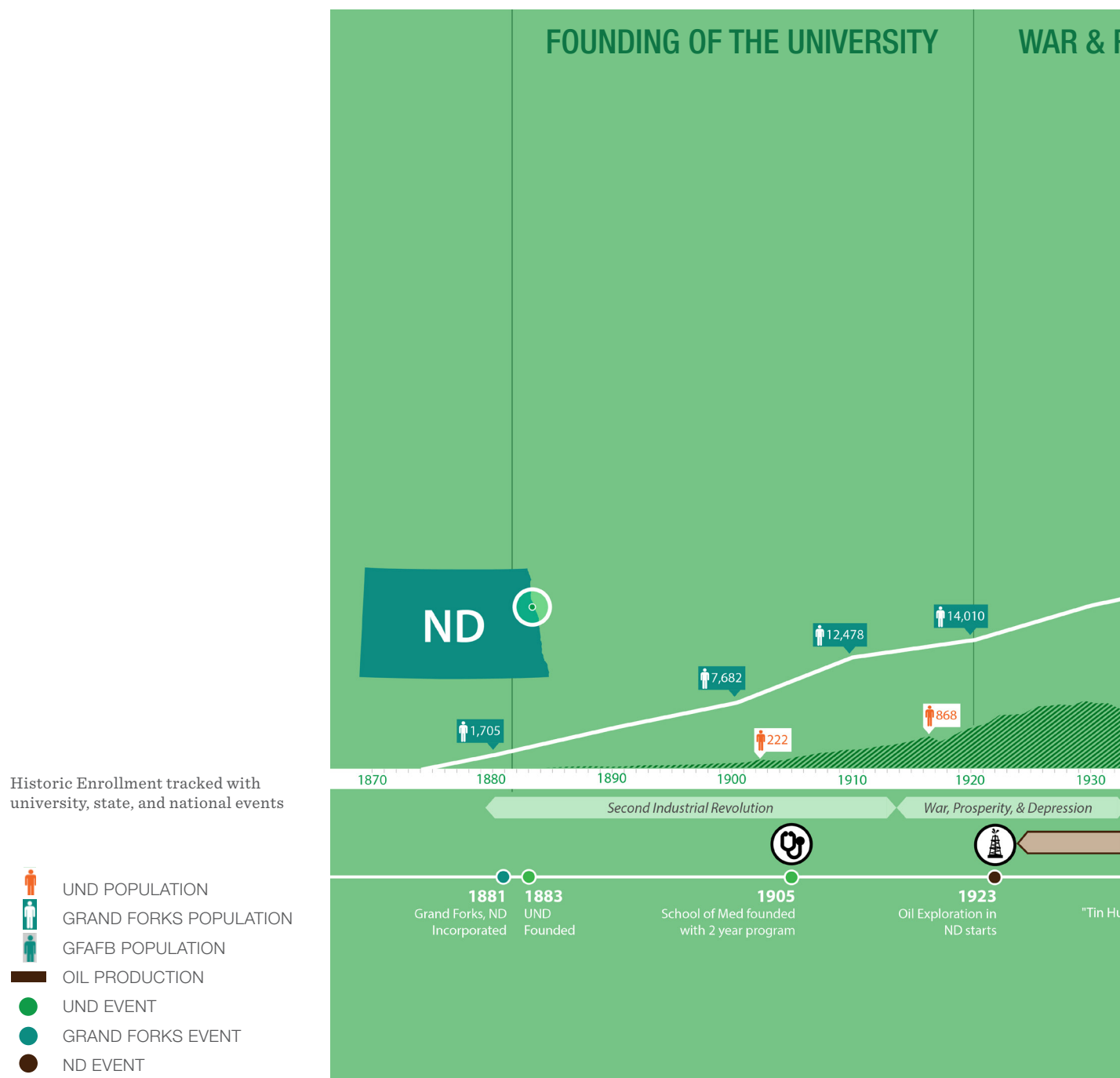


1985



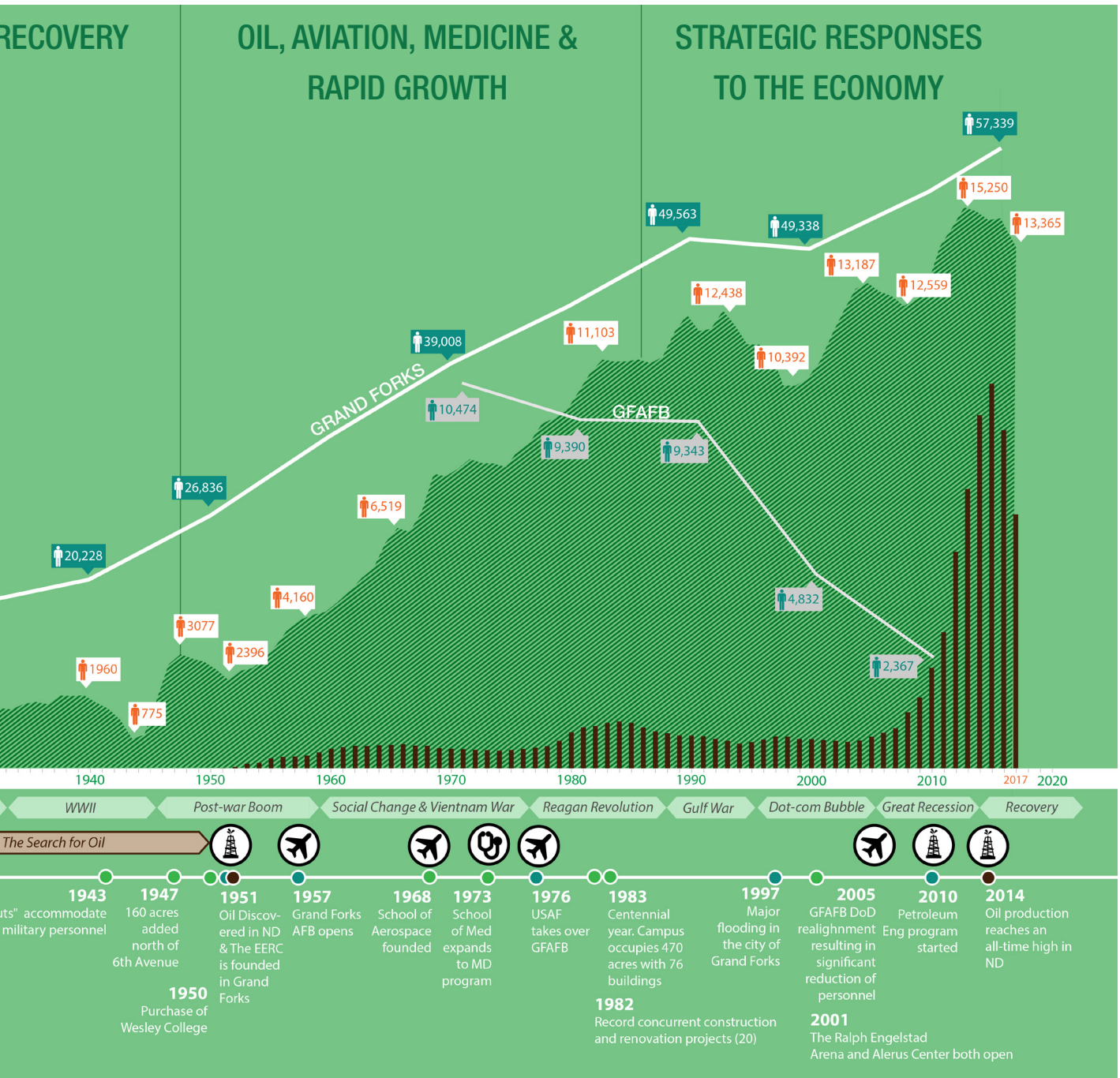
2017

In its 135-year history UND's academic programs have both influenced and been influenced by the changing economy of the state.

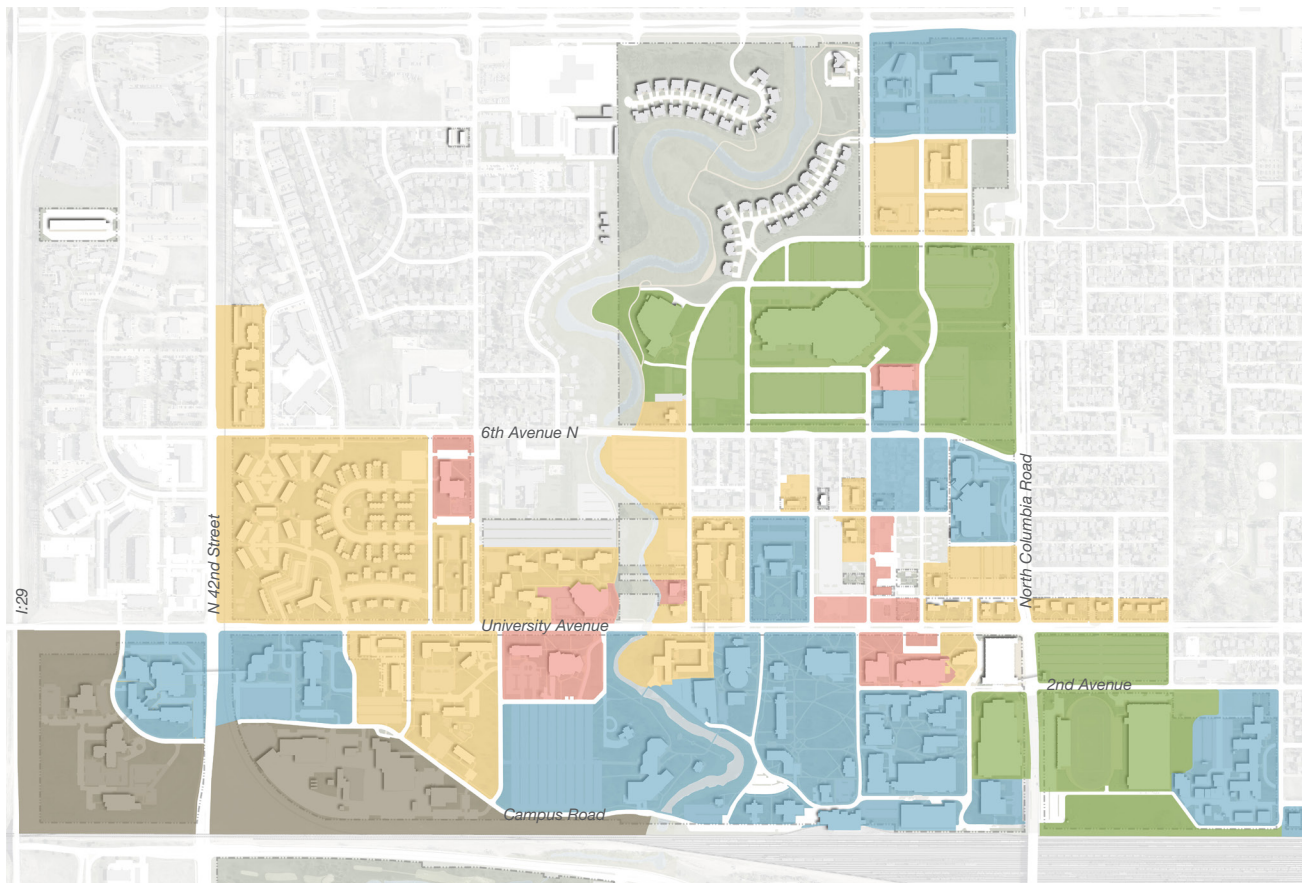


Wellness Center supported the rise in D1 athletics and commitment to student life. Additionally, the Northern Plains Center for Behavioral Research (NPCBR), Neuroscience Research Center, and the Biomedical Research Facility further solidified the university's mission for research excellence. 2010 saw an uptick in enrollment, paired with an exponential rise in ND oil production and the

beginning of the Petroleum Engineering program. In recent years the Gorecki Alumni Center and Wilkerson Commons were constructed along University Avenue, the Collaborative Energy Complex gave the School of Engineering and Mines new research and collaboration space, and the new School of Medicine & Health Sciences extended the campus north and created a potential for a separate medical district.



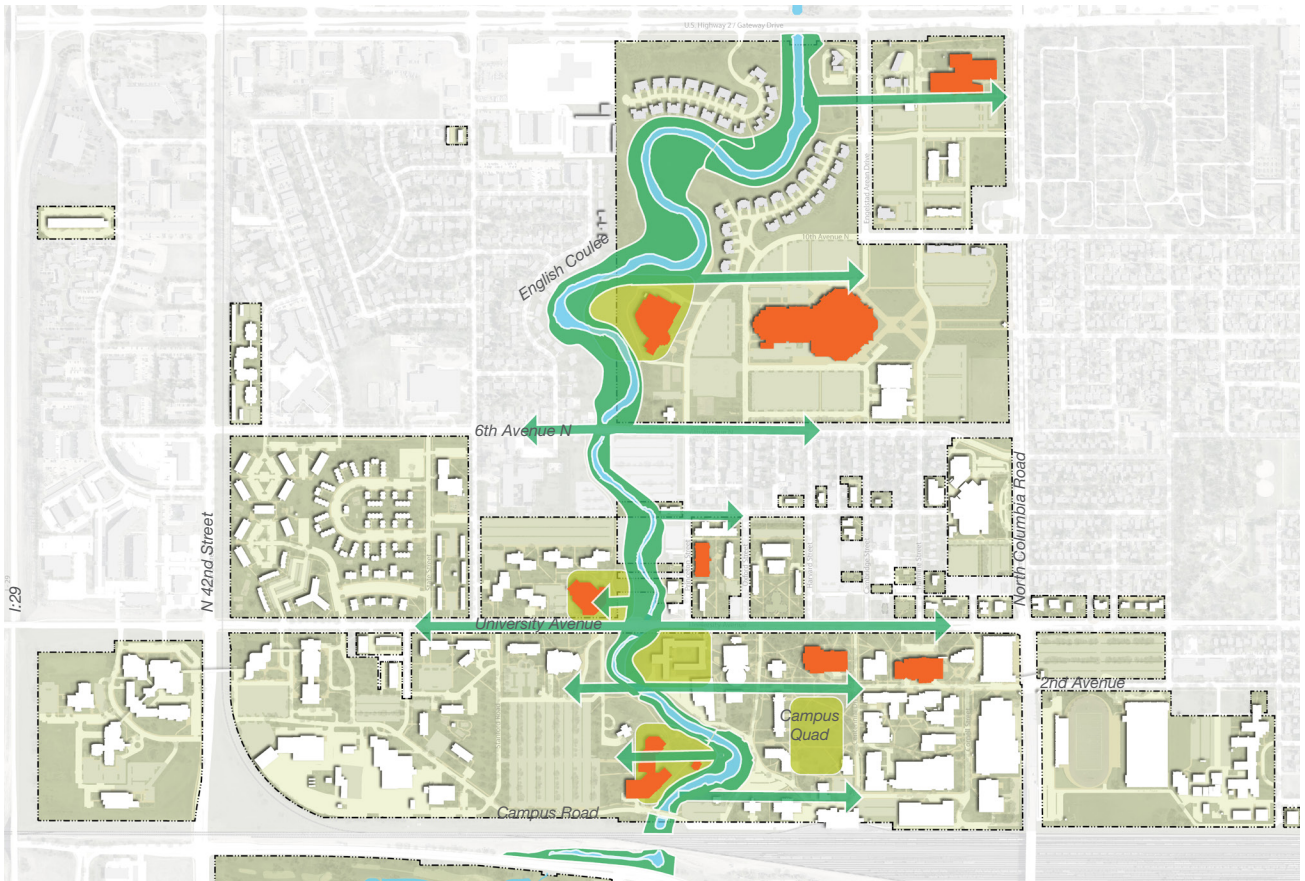
PHYSICAL ANALYSIS AND SPACE USE



Land Use

UND can be divided into five major land use zones, with the majority of campus falling within the academic/research zone, athletics zone, and residential life zone. Academic/research zones extend across campus, but the largest zone is located at the campus core bounded by University Avenue to the north, Campus Road to the south, North Columbia Road to the east, and 42nd Street to the west. Residential life zones are generally north-west of the campus core. There are two major athletics and recreation zones and one major facilities and support zone. Student Life zones are smallest and distributed next to larger residential and academic zones. There are few student life amenities in the Aerospace and School of Medicine districts, which are geographically distant from the key student life zones.

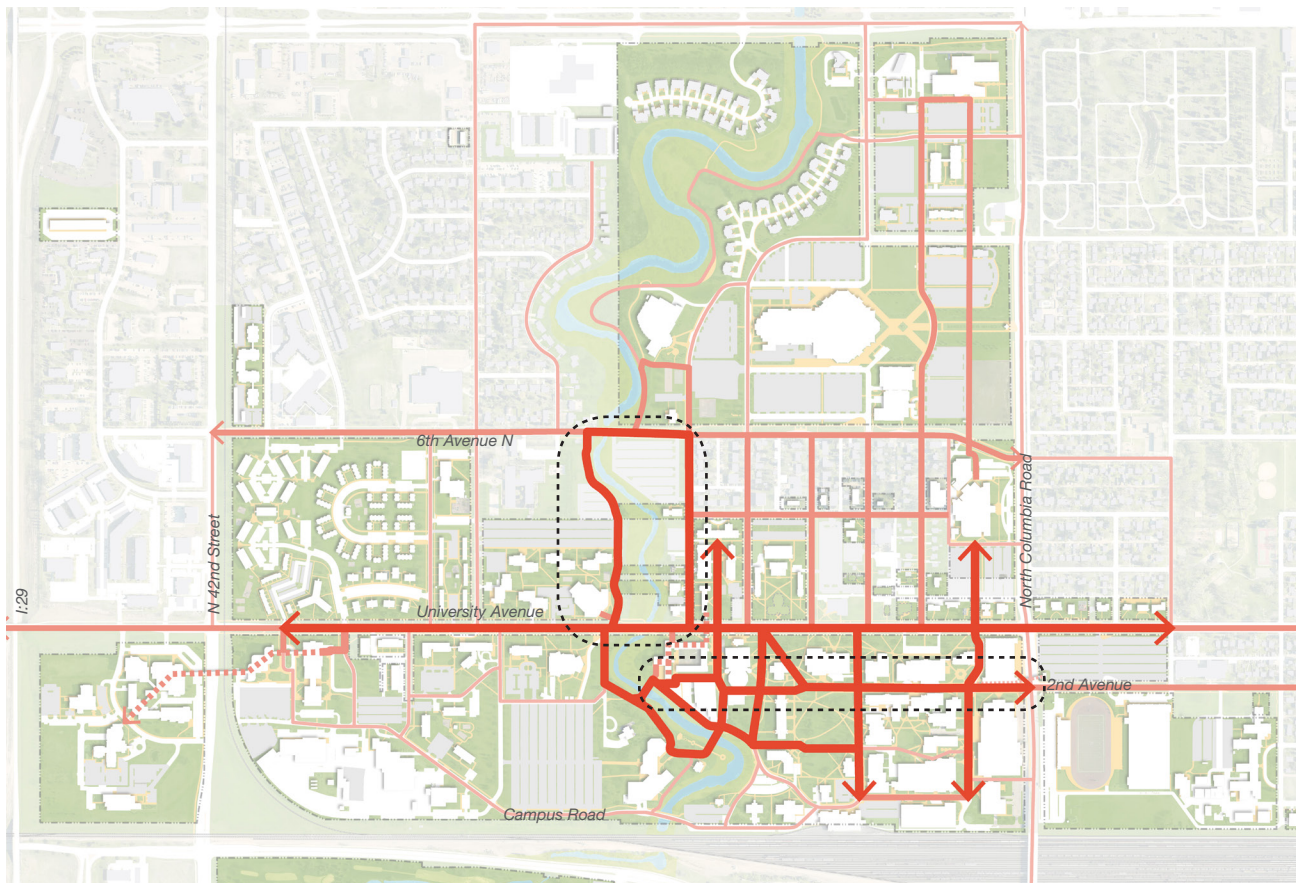
- RESIDENTIAL LIFE ZONES
- STUDENT LIFE ZONES
- ATHLETICS/RECREATION ZONE
- ACADEMIC/RESEARCH ZONE
- FACILITIES ZONE



Open Space Network

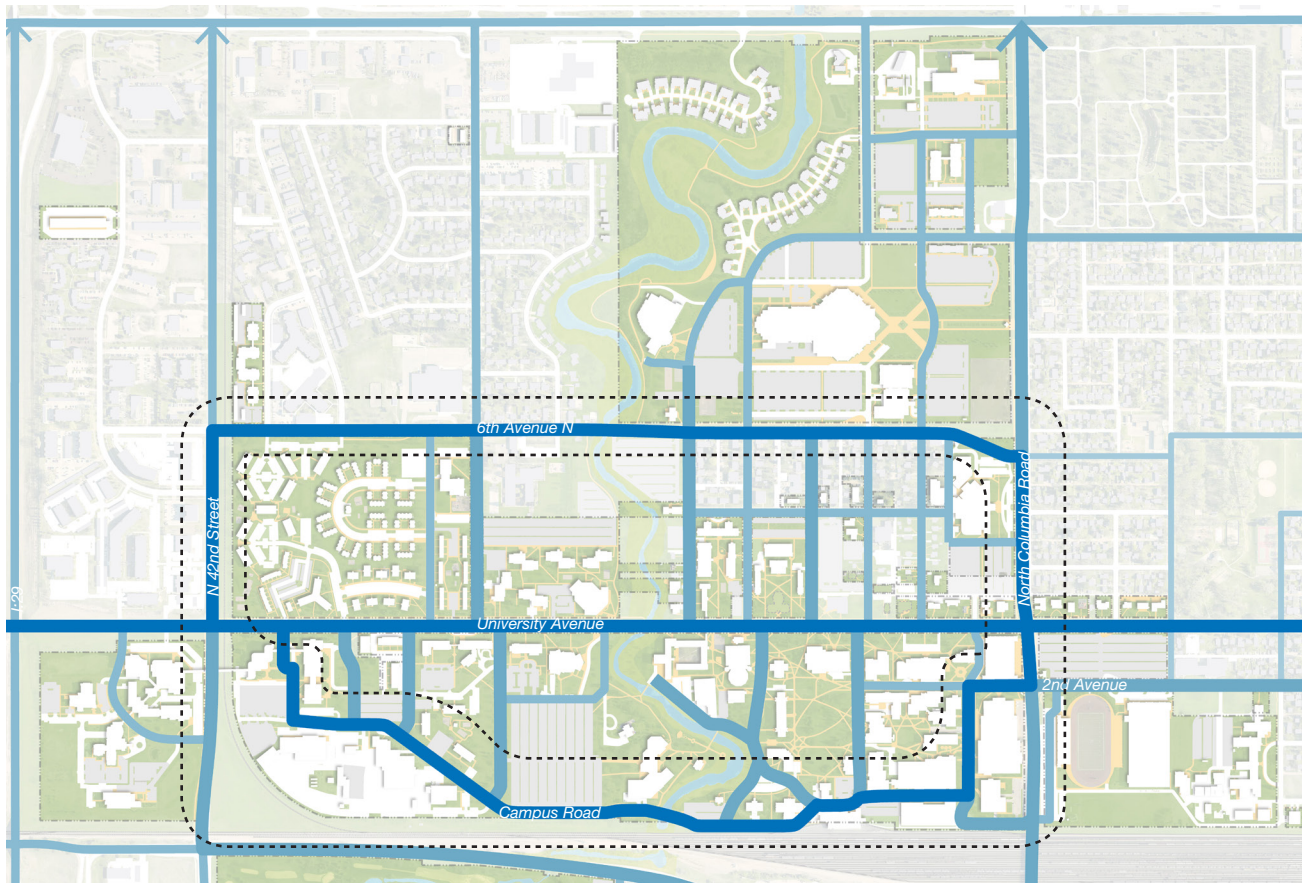
UND's open space network is comprised of academic greens and quads, residential open spaces, and the English Coulee landscape. The core of the campus has the most available open space, but the Coulee represents an important place-making element for the university. The removal of under-performing buildings offers an opportunity to expand the open space network and connect buildings to future greens and quads.

- ENGLISH COULEE
- WATERFRONT EXTENSION
- OPEN SPACE
- BUILDINGS WITH CONNECTION TO WATERFRONT



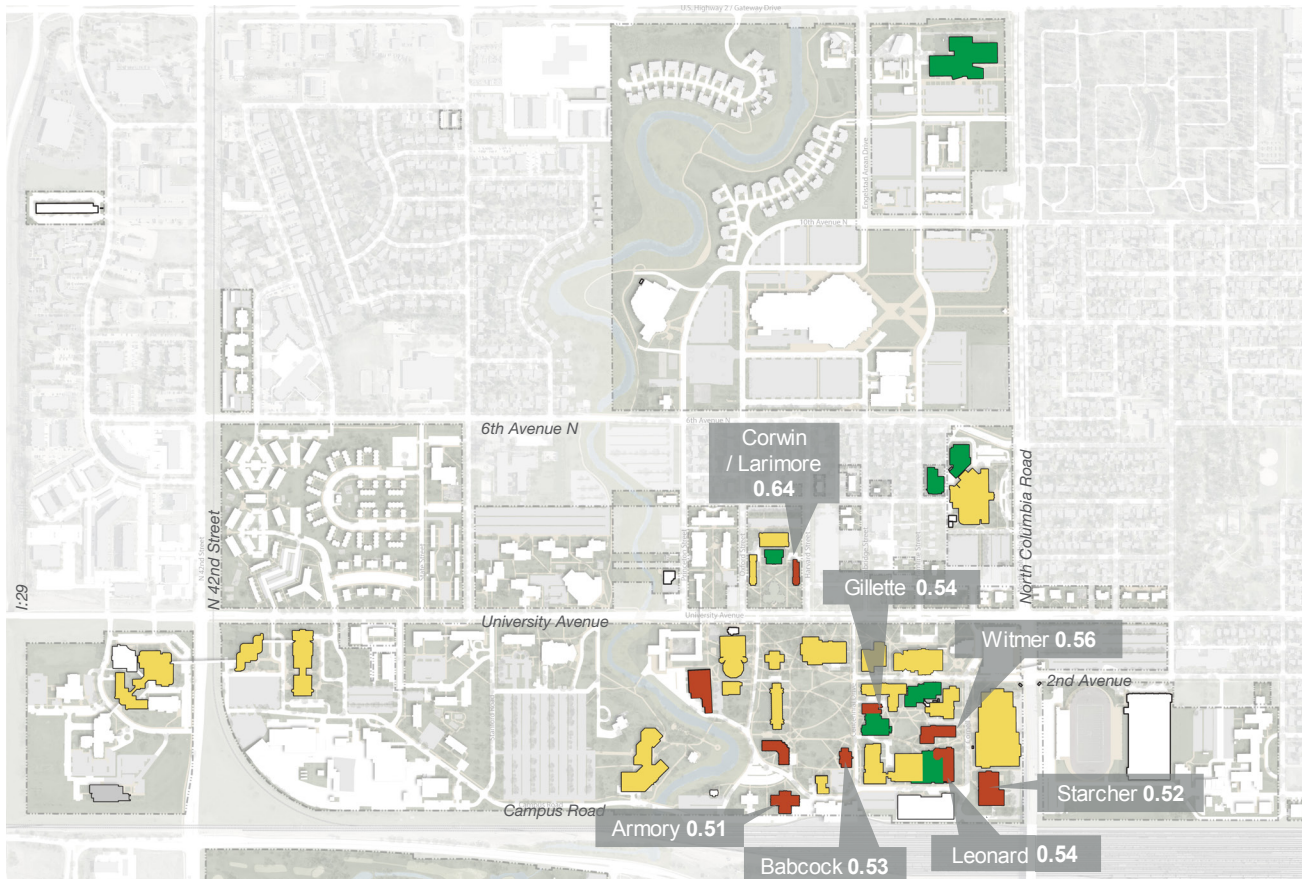
Pedestrian Network

Major pedestrian activities are limited to the academic core, which has the greatest number of pedestrian paths. The bike path that follows Princeton Street, 6th Avenue North, English Coulee, between Centennial Drive and North Columbia Road, as well as 2nd Avenue, have potential to become enhanced pedestrian paths. Pedestrian circulation must be a priority, with particular consideration for cold weather.



Vehicular Network

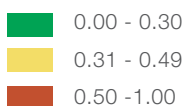
University Avenue is the main thoroughfare of the university connecting to other key campus circulating roads such as 6th Avenue and Campus Road, which could create a loop via North Columbia Road and North 42nd Street. Several small roads and a significant amount of Administrative parking lots occupy the core of the campus, between Campus Road and University Avenue. Consolidating parking and changing access to smaller roads within the core to service only can reduce vehicular traffic in the campus core and support greater pedestrian activity.



Building Inventory

According to the 2016 UND Master Plan, the university had a backlog of capital renewal and deferred maintenance needs of \$298M with a projected growth to \$506M in ten years. The current on-campus classroom and laboratory building inventory consists of 32 buildings and totals 2.5 million GSF. Of that inventory 14 buildings are 50 years or older with an average facilities condition needs index(FCNI)* of .45 out of 1.

*Facility Condition Needs Index (FCNI) is calculated by dividing the 10 year capital renewal need (deferred maintenance) by the current replacement value. A FCNI rating of 0.3 or below indicates that the building is in good condition, a rating of 0.31 to 0.49 indicates the building is in fair condition, and a rating of 0.5 or above indicates the building is in poor condition. The closer the FCNI gets to 1 the more likely the building is positioned for demolition rather than renovation.





Building Use

The campus core of UND has the highest number of academic buildings in comparison to the Aerospace and School of Medicine districts. The humanities, physical sciences, arts, and some social sciences departments are concentrated in the core, as is the School of Law and the College of Business & Public Administration. The College of Nursing, some science research institutes, and additional social sciences departments are located just north of the campus core. The School of Medicine is in the northern-most academic district, while the Aerospace programs occupy their own district to the west of the campus core.

■ CAS: FINE & PERFORMING ARTS	■ BUSINESS & PUBLIC ADMINISTRATION
■ CAS: GENERAL	■ EDUCATION & HUMAN DEVELOPMENT
■ CAS: HUMANITIES	■ ENGINEERING & MINES
■ CAS: MATH & SCIENCE	■ LAW
■ CAS: SOCIAL SCIENCES	■ MEDICINE & HEALTH SCIENCE
■ AEROSPACE	■ NURSING & PROFESSIONAL DISCIPLINES

SPACE UTILIZATION

Process and Assumptions

By conducting regular assessments of existing space, institutions gain insights into how efficiently their stock is being used, which informs optimization opportunities and future needs.

The main questions a space utilization study seeks to answer are:

- How well are learning environments (classrooms and teaching laboratories) used today?
- What factors influence low utilization?
- Are there opportunities to more efficiently and effectively utilize existing space?

These questions are answered through a data informed approach. Several primary metrics are

calculated and visualized in charts, which include:

- Histograms that depict the percentage of rooms in use across each hour of day of the week.
- Weekly Room Hours (WRH) analyses that explore the total number of hours a classroom and lab is utilized during the busiest week in the course schedule.
- Seat utilization analysis that explores whether the class schedule is meeting the target for seat utilization.
- Section size analysis that compares actual course enrollment to room capacity, which informs the classroom right-sizing analysis based on real demand for enrollment section sizes.

The 2016 course schedule data serves as the baseline for the space utilization analysis, while the 2017 course schedule data is used to compare trends in space utilization. To create a comparable room inventory for analysis, the Medical and Law School spaces are removed, since those spaces were built after 2016.

Schedule capacity (hour utilization) is calculated based on a 40-hour week. Typical national standards for classroom utilization are in the 65-75% range, which equates to approximately 30 hours of room use per week. For the purposes of this analysis, the state of North Dakota considers 30 hours of use full utilization, or 100%. For teaching laboratories, 20 hours is an acceptable target, and represents 100% utilization as defined by the state of North Dakota.

Utilization

The North Dakota University System has established a methodology for calculating classroom and teaching laboratory utilization. The methodology takes into account target room hour and seat utilization targets for classrooms and teaching labs. The specific calculations are summarized here:

Classrooms

Schedule Capacity (hour utilization: 75%) = *Total hours scheduled / 30 hours*

Occupancy Capacity (seat/station utilization: 80%) = *Class enrollment / 80% of seats/stations available*

Class Labs

Schedule Capacity (hour utilization: 50%) = *Total hours scheduled / 20 hours*

Occupancy Capacity (seat/station utilization: 75%) = *Class enrollment / 75% of the seats/stations available*

Additional Calculations

Scheduled Seat Count Utilization = *Schedule capacity x occupancy capacity x seat count*

Room Utilization Percentage = *Schedule Seat Count Utilization Total / Total seat count*

For classrooms, the target room hour utilization rate is 75%, whereas the seat occupancy target is 80%. For labs, the target room hour utilization rate is 50%, with a 75% seat utilization rate. The summary of hour utilization and seat/station utilization for each room type is summarized in the left-hand side of the chart below. For classrooms, UND achieves a 38% hour utilization rate (compared to the 75% target) and a seat utilization rate of 55% (compared to the 80% target). For teaching laboratories, UND achieves an average hour utilization rate of 52% (compared to the 50% target) and a station utilization rate of 69% (compared to the 75% target).

For the purposes of documentation and comparison, NDUS normalizes the standards to a target rate value of 100%. The NDUS Capacity Analysis is summarized on the right-hand side of the chart below. This analysis reveals that there are still opportunities to increase room utilization within classrooms but that teaching laboratories are either approaching or exceeding 100% utilization.

Space Type	Utilization Analysis (avg of)		NDUS Capacity Analysis (avg of)		
	Hour Utilization	Seat/station Utilization	Average Schedule Capacity	Average Occupancy Capacity	Room Utilization
GENERAL CLASSROOM	43%	62%	57%	77%	46%
DISTANCE ED/INTERACT CLASSRM	68%	66%	91%	83%	80%
SPECIAL CLASS LAB SERVICE	19%	48%	25%	61%	15%
SPECIALIZED CLASSROOM	24%	45%	31%	56%	16%
Classroom Series Average	38%	55%	51%	69%	39%
CLASS LAB REG CONTROLLED	83%	68%	167%	91%	177%
CLASS LABORATORY	73%	74%	146%	99%	177%
COMPUTER LABORATORY	76%	78%	151%	104%	163%
NON-CLASS (RESEARCH) LAB	15%	63%	30%	83%	25%
SPECIAL CLASS LAB	48%	82%	97%	110%	92%
SPECIALIZED CLASS LAB	19%	46%	38%	62%	3%
Class Lab Series Average	52%	69%	105%	91%	106%

Current utilization and capacity based on NDUS guidelines, all rooms includes (registrar and non-registrar for 2016 data)

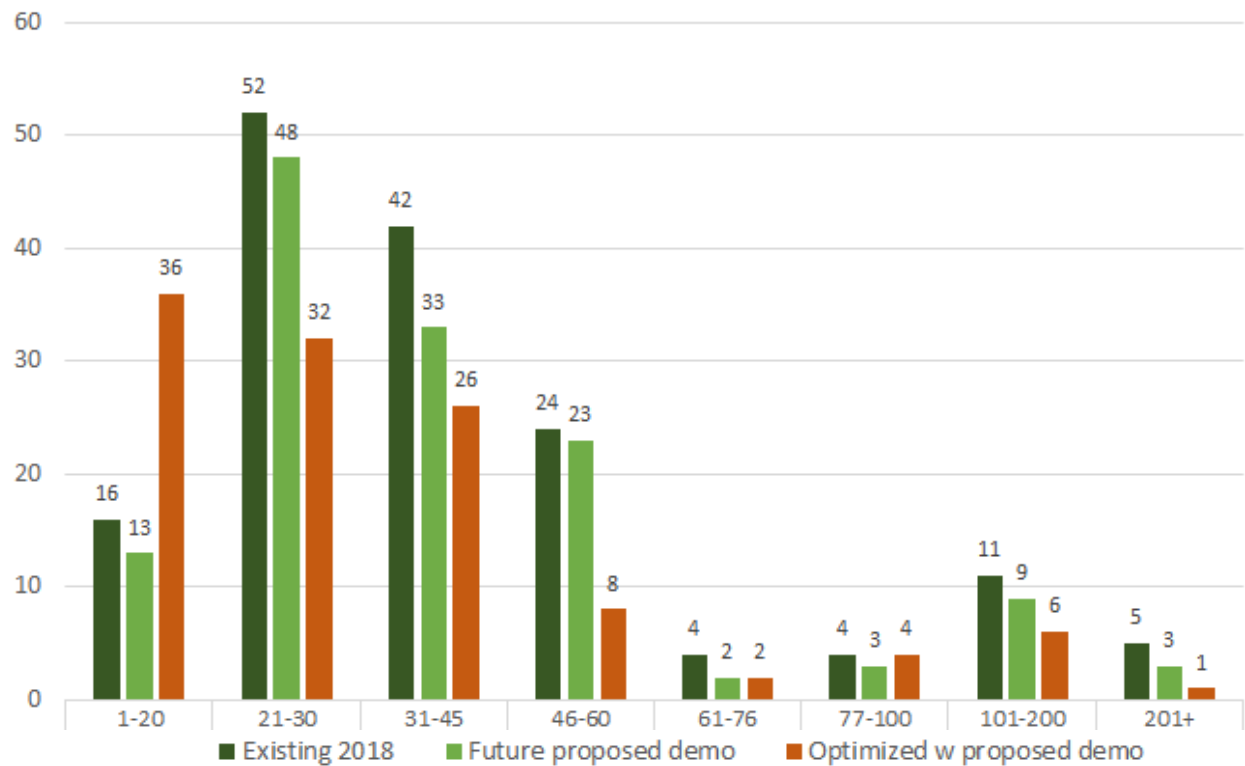
Current and future utilization is calculated using a hypothetical scheduling model that assumes scheduling occurs first in small rooms, targeting 30 hours for each room where possible, and then moves courses into larger rooms. This methodology shows the best possible utilization for current and future scenarios.

As of 2018, a number of academic buildings have been taken offline. These include Babcock Hall, Chandler Hall, floors 3 through 6 of Columbia Hall, Corwin/Larimore Hall, Montgomery Hall, and Robertson/Sayre Hall. The proposed 30 year plan removes the academic buildings Witmer Hall, Columbia Hall, and Stribel Hall, and replaces Gamble Hall and Nursing Building with new buildings which can be better utilization than the existing buildings.

Changes from 2016 have increased classroom utilization from 48.7% in 2016 to 51.4% in 2018. Taking more academic buildings off-line in the future provides the opportunity for the university to increase utilization to 60.5% a 11.8% change from 2016. However, because of the need for smaller classrooms in the scheduling the proposed 30 year plan has a deficit of 23 1-20 seat rooms and an excess of 38 21-60 seat rooms. The imbalance of need to supply can be resolved by de-densifying the larger rooms through renovation.

Year	Rooms	Utilization %*
2016	167	48.7
2018 Completed and Planned Demolition/Decommission	158	51.4
30 Year Plan Demolition	134	60.5

Theoretical utilization change based off of completed, planned, and proposed demolition.
 *Utilization is calculated using 2016 scheduling data for registrar scheduled rooms only.



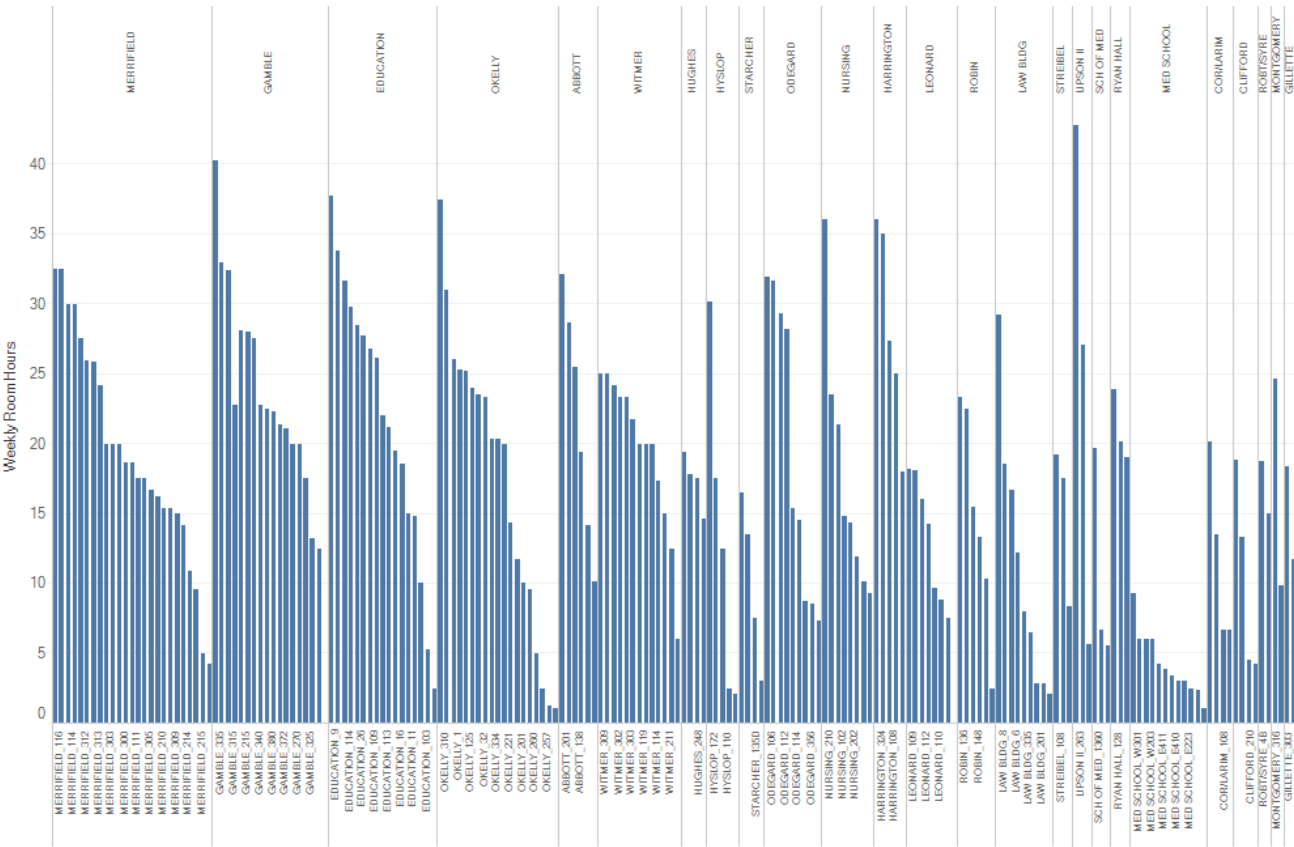
Optimized Classrooms – Current and Proposed

Classrooms and Class Labs

On the UND campus, the buildings with the largest quantity of classrooms include Gamble Hall, Merrifield Hall, and O’Kelly Hall, all located in the core campus. O’Kelly Hall has the most number of departmental classrooms represented, at seven, while Gamble and Merrifield Halls have four each. Although these buildings host scheduled classes for multiple departments, each building is also majority-scheduled for a specific department. Eight academic buildings on campus host classes for one department only; these include the Aerospace and Engineering & Mines buildings. The buildings with the largest quantity of labs (including studios) are

the School of Medicine, Robin Hall, the Hughes Fine Arts Center, Harrington Hall, Jodsaas Engineering Leadership Center, Starcher Hall, and Abbott Hall.

While Gamble Hall, the Education Building, O’Kelly Hall, and Upson Hall II have individual rooms with the highest utilization, Merrifield Hall is, on average, the highest utilized classroom building. Education Building room 112 is the highest utilized classroom, followed by Upson Hall II room 261, Education Building room 9, Gamble Hall room 145, and O’Kelly Hall room 61. O’Kelly Hall recently received renovations and those rooms saw an increase of utilization from 2016 to 2017.



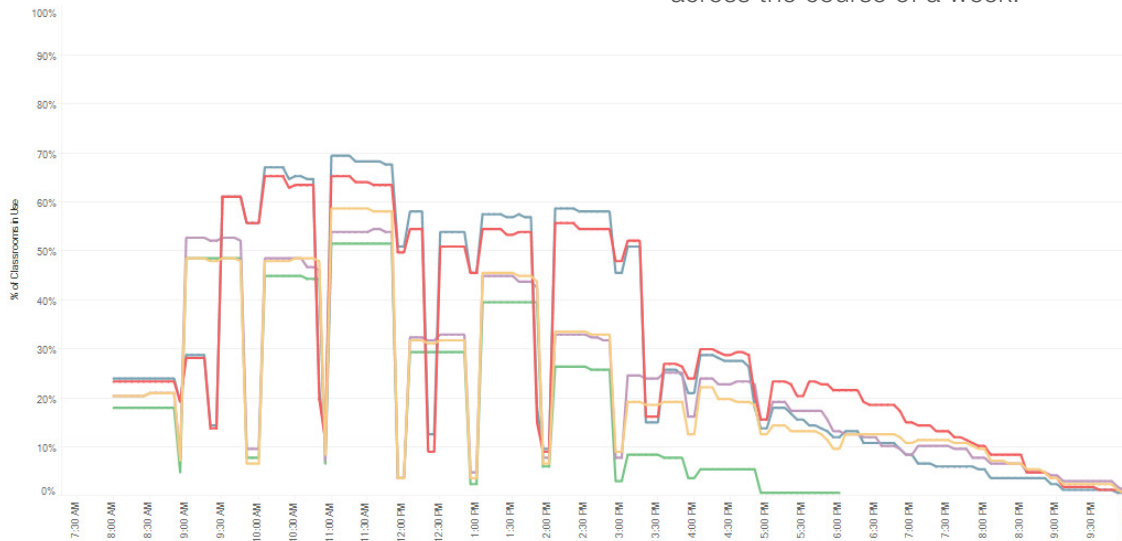
Classroom utilization ranked by building

Weekly Room Use

Peak classroom use on Mondays and Wednesdays occurs between 11:00 am and 12:00 pm and the lowest classroom utilization on Mondays and Wednesdays occurs in early mornings, lunch times, and late afternoons. Peak classroom use for Tuesdays and Thursdays occurs between 9:30am and 12:30pm, while early mornings and late afternoons experience low utilization. These times of day represent opportunities for schedule capacity, and should be considered before building new classrooms. When compared to the target

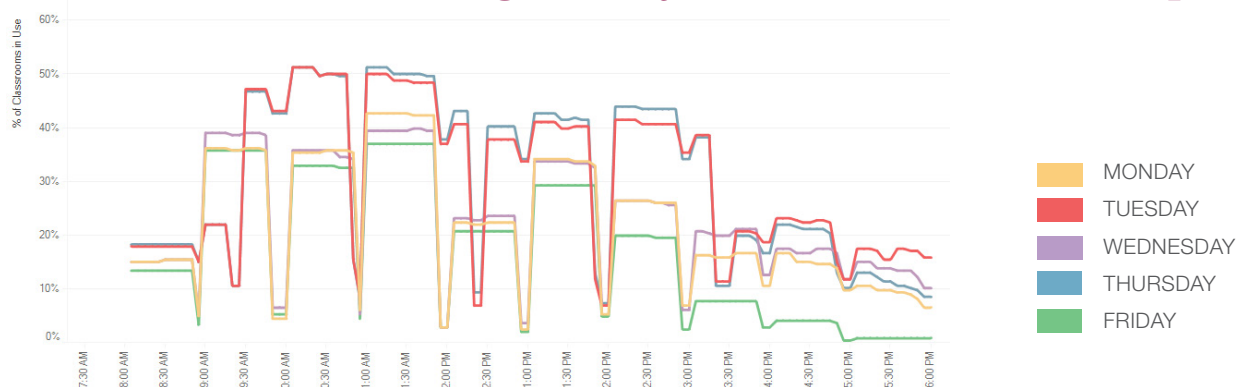
utilization rate of 30 hours, Mondays, Wednesdays and Fridays are close to meeting the target, while Tuesdays and Thursdays exceed the target. Despite the decrease in utilization by the end of the week, Friday's classroom use is still higher than many of its peer institutions.

Labs, unlike classrooms, have some of their highest use later in the day. When looking at the weekly summary of lab use, labs have fewer peaks and valleys than do classrooms. This indicates lab courses have more consistently scheduled hours across the course of a week.



2016 Classroom Use - Weekly Summary, Registrar Rooms Only

Departmental-scheduled rooms are significantly less utilized than Registrar-scheduled rooms. Additionally, they generally achieve lower seat occupancy.



2016 Classroom Use - Weekly Summary, All Rooms

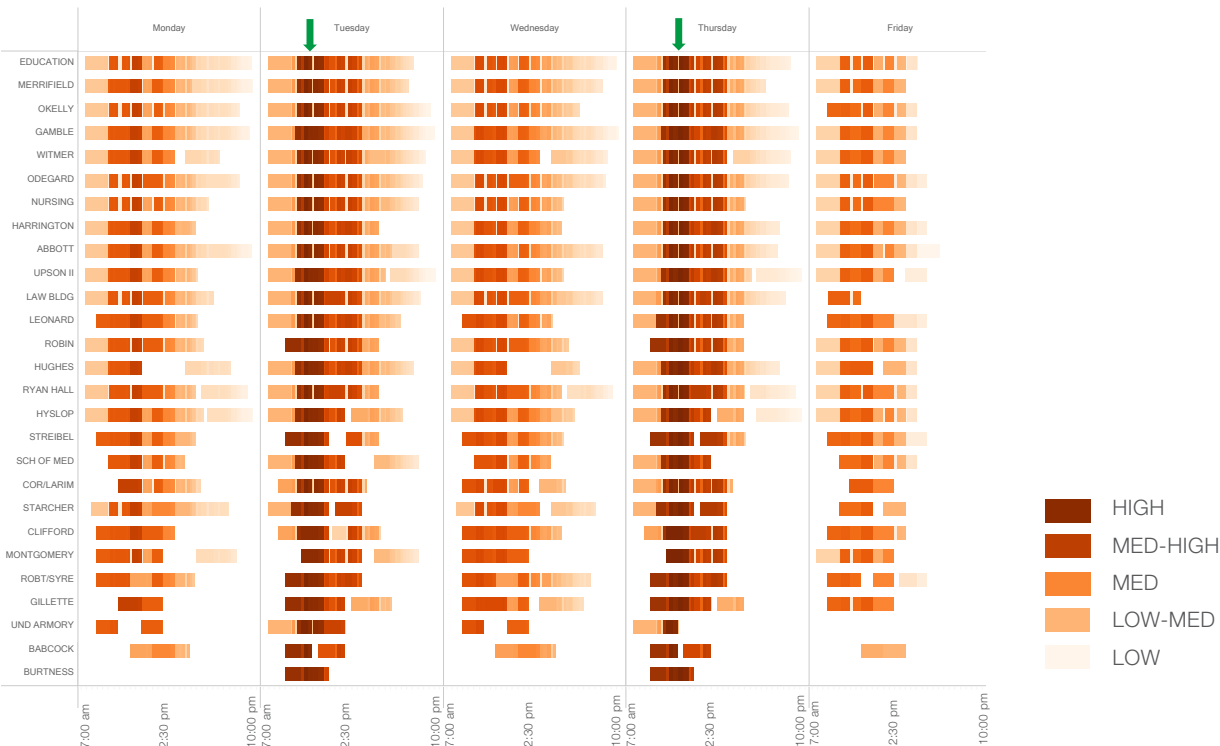
Primetime Scheduling

Comparing each building’s scheduled classes by room utilization reveals that almost every building experiences high utilization on Tuesdays and Thursdays, from 9:30am – 12pm, and that each could relieve this time period by spreading its scheduled classes more evenly throughout the day.

52 departments schedule courses during prime time (10am – 4pm window), half of which schedule 75% or more of their classes during this time, and 8 schedule 100% of their courses during this time. UND can consider implementing policies to restrict departments from scheduling more than 60 – 70% of their class hours during peak time.

Each department has different scheduling habits. The Art and Design department has the most scheduled courses out of any other department on

Monday, with peak lab use occurring between 1pm and 3pm. Tuesdays experience highest lab use, with many Chemistry courses occurring between 8am and 8pm that day, alongside multiple Art and Design courses. Chemistry creates the greatest burden on Tuesday labs, particularly on first floor labs of Abbott Hall. UND can consider distributing some Chemistry course hours to Mondays and Fridays in order to relieve Tuesday overload, while shifting some courses to 2nd floor labs in Abbott Hall. Chemistry, Criminal Justice, and Art and Design have more scheduled hours than any other department on Wednesdays and Thursdays. Accountancy and Geology courses are scheduled for the majority of their total scheduled hours on Wednesdays. All Microbiology & Immunology and Anatomy & Cell Biology courses are scheduled on Tuesdays and Thursdays. Very little activity occurs on Fridays.



Building Heat Ramp by Day
Across all buildings, intense room use T/R from 9:30 to noon.

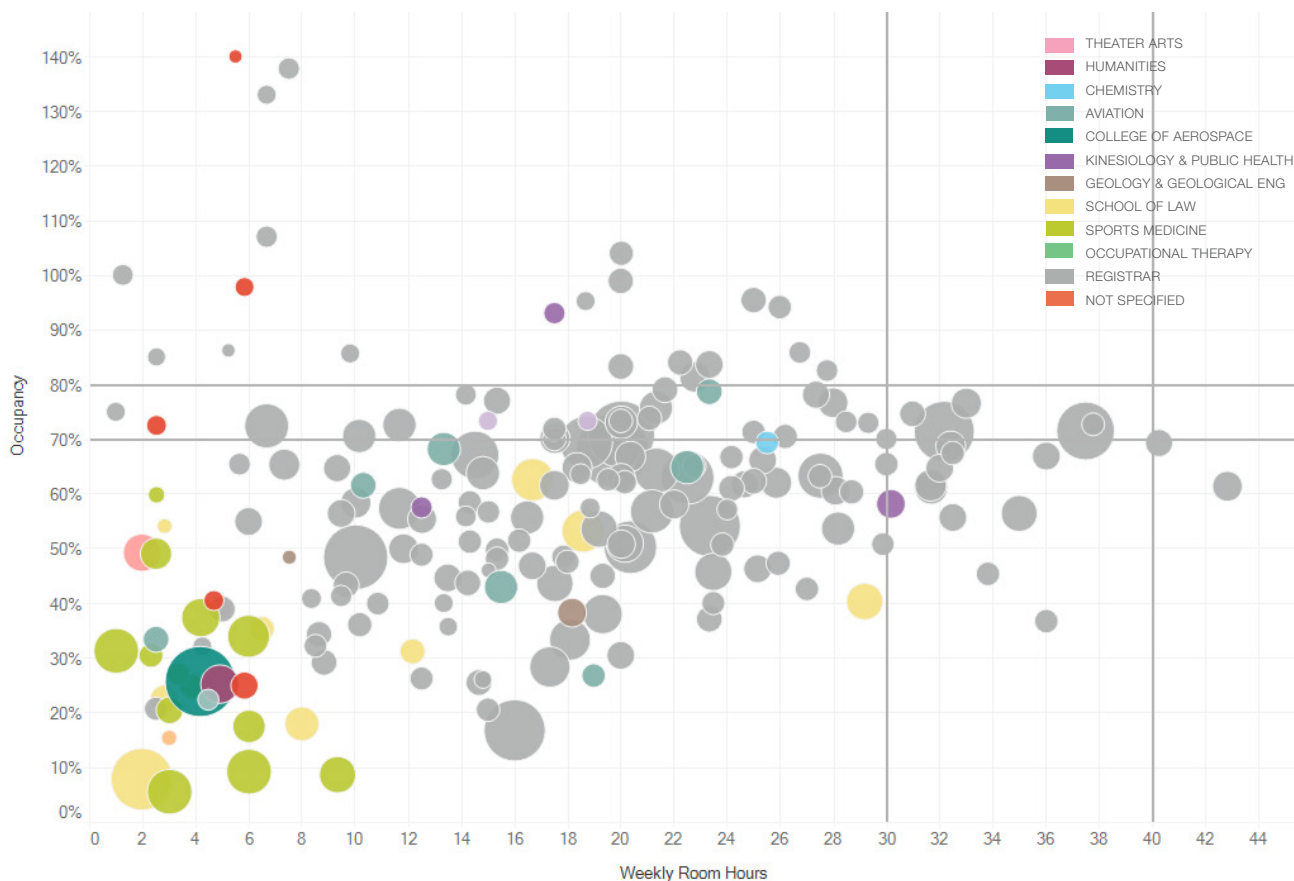
Seat Occupancy

Departmentally-controlled classrooms have, on average, much lower utilization than registrar-controlled rooms. Therefore, centralized scheduling results in more efficient room use.

Rooms with a 1 to 20 seat capacity generally have low utilization, and seat occupancy rates are inconsistent. Classrooms with a 21 to 30 seat capacity have inconsistent room utilization rates as well as inconsistent seat occupancy rates. This remains the same for classrooms with 31 to 45 seats. Classrooms with 46 to 60 seats have largely high seat occupancy rates, with most nearing or exceeding the recommended target range. Still, few meet target classroom use. Rooms with 61 to 76 seats have low seat fill, suggesting low demand for classrooms of this size range. Classrooms with 77 to 100 seats experience similarly low classroom use and seat occupancy rates. The second-largest classrooms, with capacities of 101 to 200 seats, generally hit target seat occupancy, while two also meet target

classroom use. The largest classrooms, of 201+ seats, likely carry the burden of large survey courses, with two Registrar-scheduled rooms meeting target seat occupancy and five fall below both target seat occupancy and target classroom use.

In a seat migration exercise, it is clear that classes are being scheduled in rooms of inappropriate capacities. Classes for 1 to 20 students are scheduled across every possible room range, suggesting that there are an insufficient number of classrooms with 1 to 20 seats. This trend is true for classes of 21 to 30 students, classes of 31 to 45 students, classes of 46 to 60 students, classes of 61 to 75 students, classes of 76 to 100 students, and classes for 101 – 200 students. Classes of 75 students or less are scheduled in rooms both too small and too large for the stated section size. Classes of 76 students and above are generally scheduled in larger classrooms than are necessary for the class section size. Only classes for 201+ students are scheduled in appropriately sized classrooms of 201+ seats.



Scatter plot measuring seat occupancy with weekly room hour use. Target for seat occupancy in 80% and 30 weekly room hours.

Policy Considerations

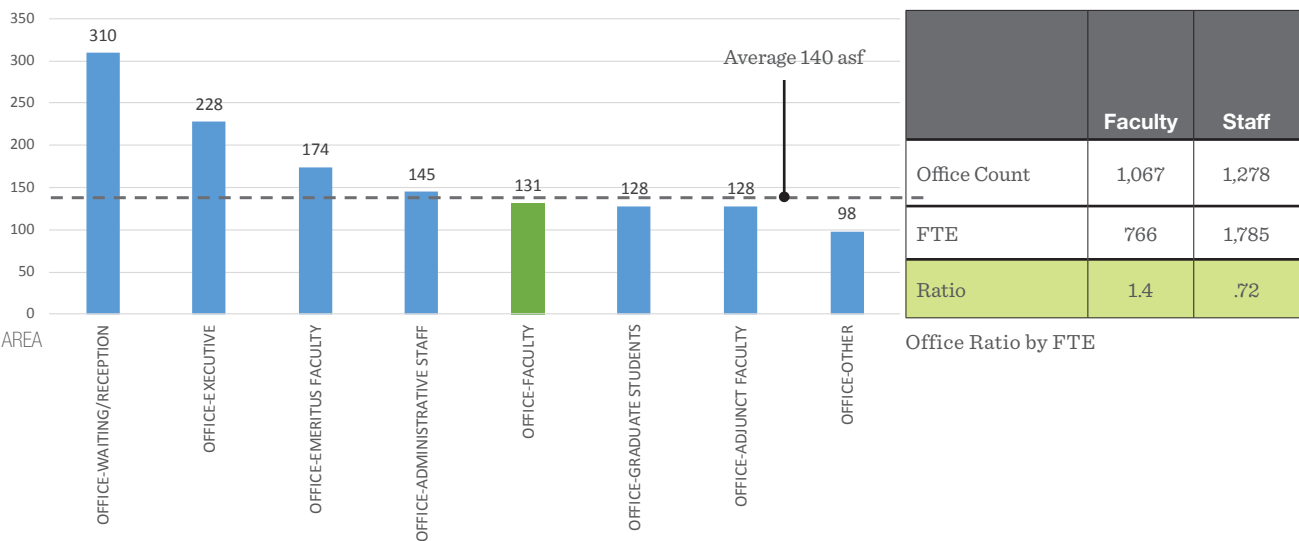
Based on current classroom scheduling habits, UND can consider policies to improve classroom utilization:

- Optimize its inventory by matching classroom size to actual demand.
- Flatten peak periods of classroom utilization by requiring a certain percentage of all classes, such as 60%, be scheduled outside of peak time (10am – 4pm).
- Schedule all courses through the registrar to achieve both the state-required 95% of centrally tracked classes as well as to improve classroom utilization. *
- Update all classroom technology in order to distribute demand for technology-outfitted classrooms and guarantees equity of access.
- Reference historic trends in enrollment for educated recommendations for class enrollment caps, creating a better fit between room capacity and seat fill.
- Prioritize section size and room capacity fit over departmental proximities.

*Since 2016, UND has shifted some of its department-scheduled classrooms over to the Registrar, increasing the number of classrooms scheduled by the Registrar from 68% to 69% between 2016 and 2018. Since classrooms are unspecialized spaces, the Registrar has an opportunity to centrally-schedule a higher percentage of rooms to increase efficiency and classroom utilization. UND's increasing trend for Registrar-scheduled classes suggests that it can achieve the 95% state-requirement of classrooms that must be centrally tracked.

Offices

The average median office size across the university is 140 asf, which is slightly above national standards of 120 asf; however the distribution of the office sizes vary quite a bit, from 228 asf for Executive offices to 98 asf for other users. Additionally, the ratio for faculty FTE's and offices is 1.4 suggesting an oversupply of faculty offices. There is over 100,000 asf of administrative office space within the core of the campus, much of that administrative office space is considered back-of-house and could be relocated from the core to free up space for academic needs.

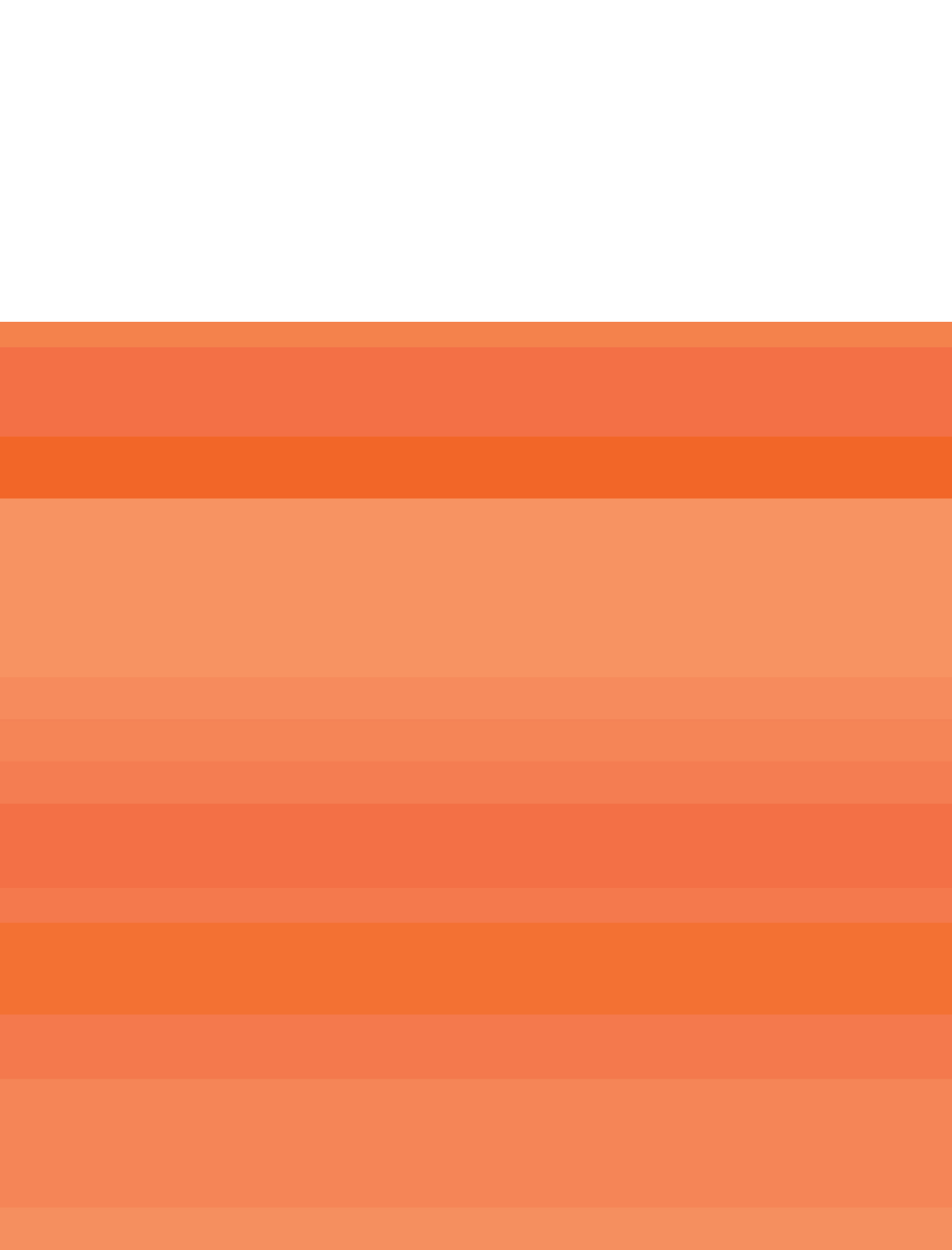


Median office space by user

Section 03

MASTER PLAN VISION AND FRAMEWORK





30 YEAR PLAN

Major Building Projects

Short term 1 - 6 years

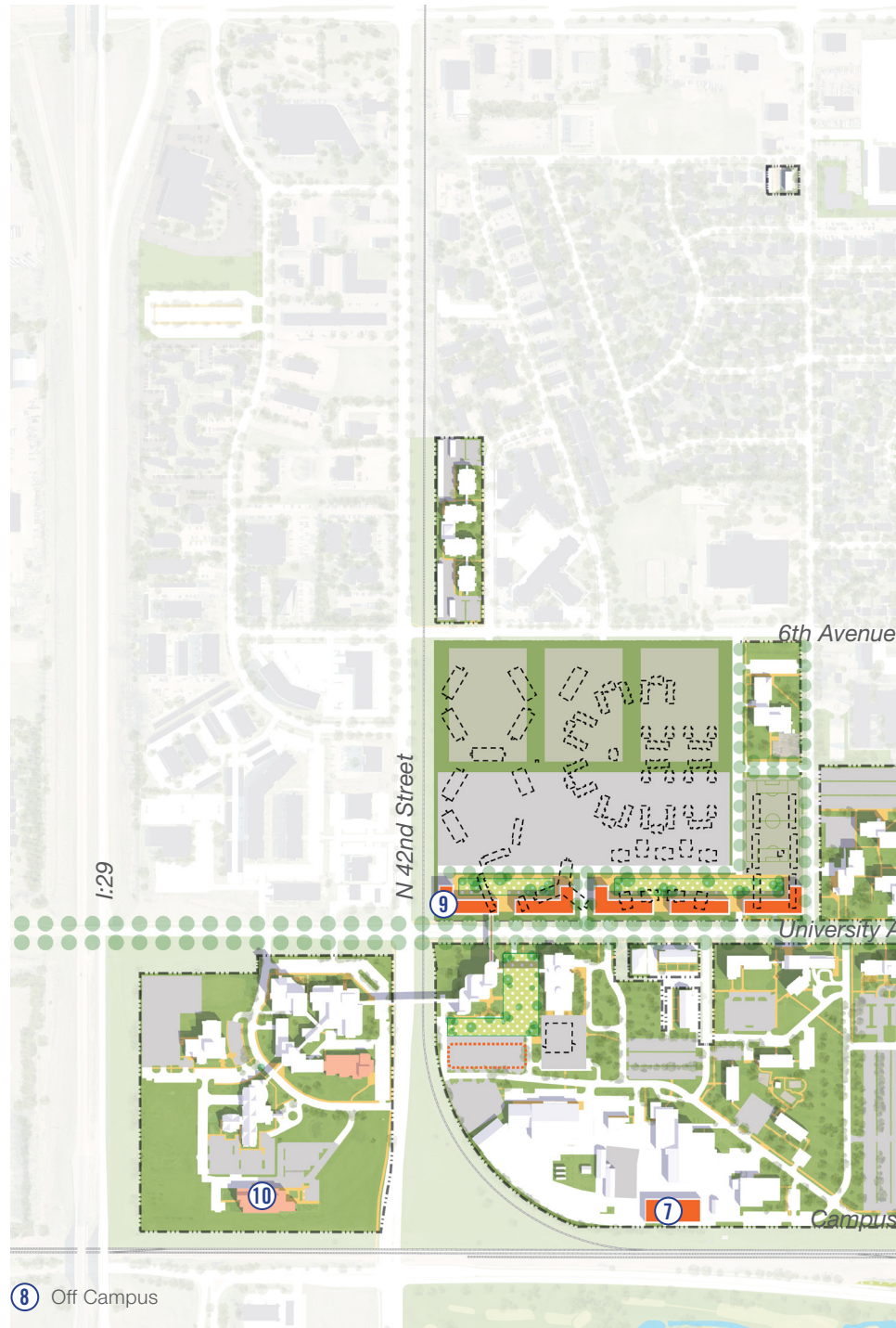
1. New College of Business & Public Administration building
2. Merrifield Hall Renovation
3. Engagement Center (relocation of the J Llyod Stone House)
4. New Student Union
5. New STEM building (Hyslop renovation and partial demolition, Starcher Hall renovation, Witmer Hall demolition, and new construction)
6. High Performance Center Phase II
7. New Steam Plant (P3)
8. UAS Airport (off campus)
9. Mixed-use Housing (P3)
10. Administration relocation

Mid term 7-12 years

11. Chester Fritz Library renovation
12. Relocation of programs from Columbia Hall to the Academic Core of Campus & Close Columbia Hall
 - Twamley Hall
 - O'Kelly Hall
 - Babcock Hall
 - Gustafson Hall
 - McCannel Hall

Long term 12 - 30 years

13. Expand the School of Medicine and Health Science Site
 - Relocation of Nursing
 - Research
 - Parking
14. Recital Hall (Dependant on future decisions around Chester Fritz Auditorium)



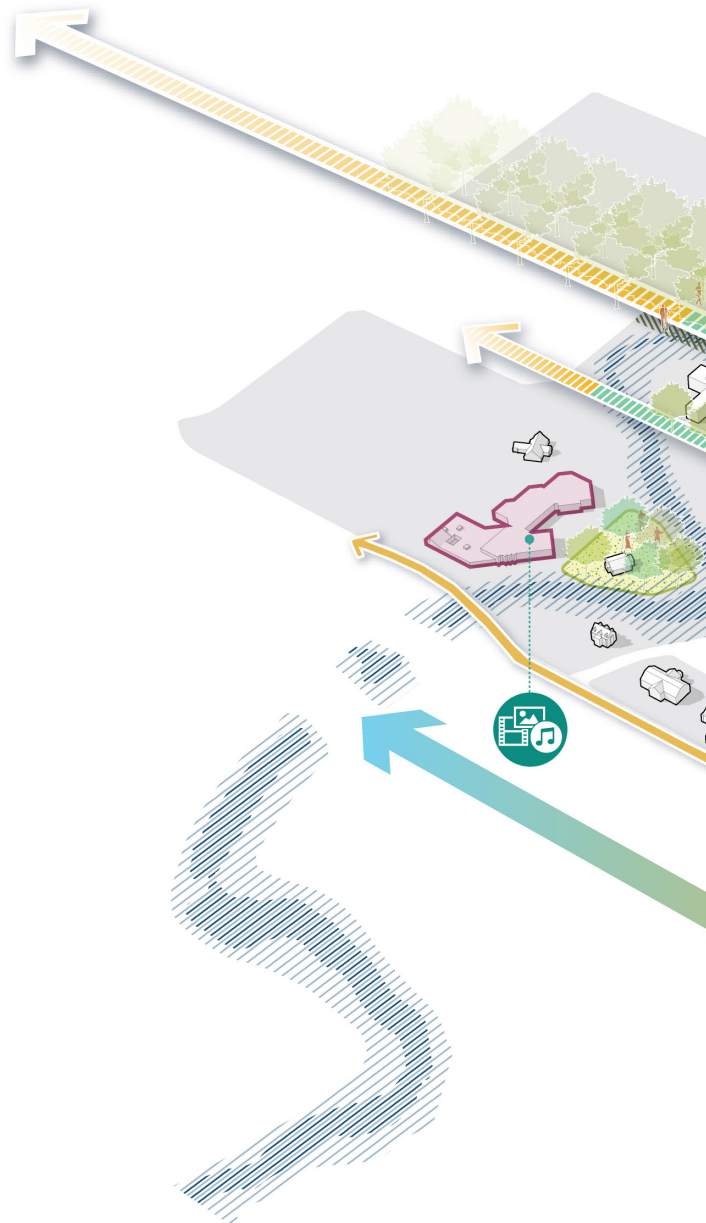


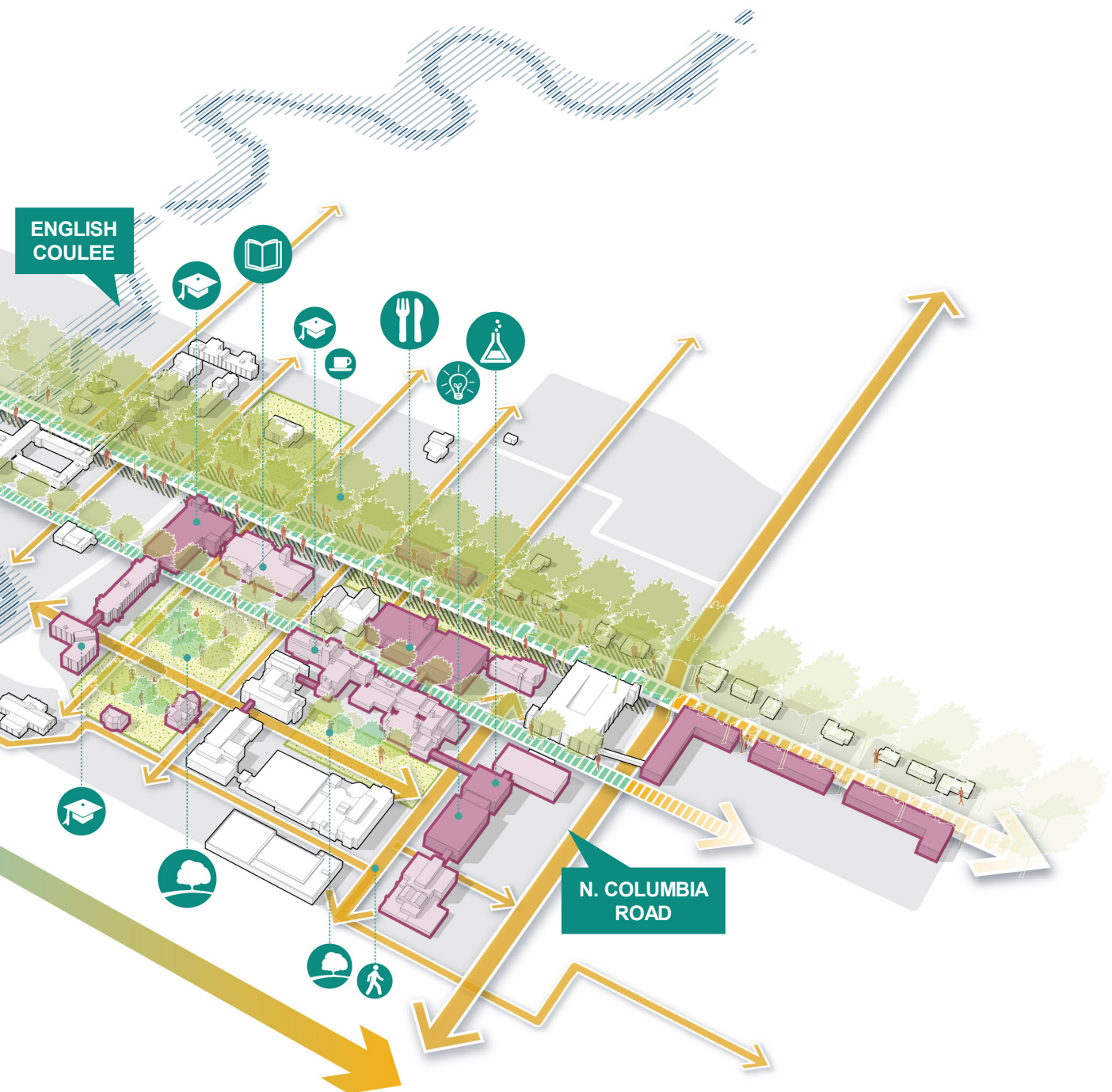
VISION

In the fall of 2016, President Kennedy addressed the Greater Grand Forks Chamber for the annual “Wake Up to UND” breakfast. In his presentation, he outlined the vision of *One UND* to become the premier Flagship University of the Northern Plains, which includes service to the community, teaching and learning excellence, and innovation and research with a goal to move from a R2 to a R1 research status as an institution. Additionally, President Kennedy introduced six concepts to frame the future of campus development, known as The Six “C’s”: Coulee to Columbia; Consistency; Compactness; Cohesiveness; Connectedness; and Captivating. The six “C’s” became an inspiration to the Academic Master Plan and served as a guide to the overall vision of campus evolution.

Coulee to Columbia

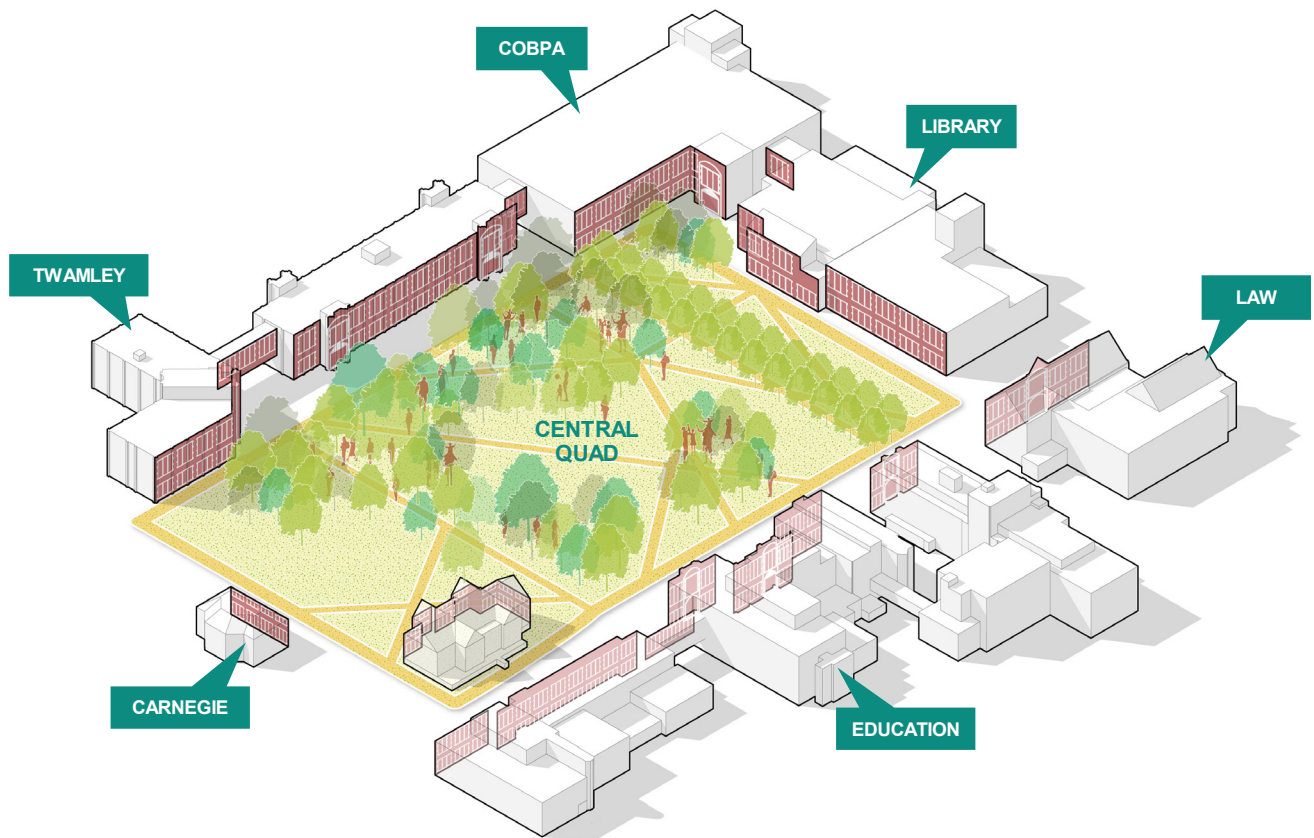
To support connections between the English Coulee and North Columbia Road, UND can both transform University Avenue into a Main Street and reinvigorate the campus core. The presence of the new College of Business and Public Administration building, improvements to the Chester Fritz Library, and a new Student Union, and the addition of open spaces along the Avenue strengthens the stretch of University Avenue from the Coulee to Columbia. Additionally, the campus core has potential for revitalization via landscape gestures, strategic renovations and new development, including the demolition of Witmer Hall and construction of a new STEM building. An enhanced quad next to the new STEM building can be designed to replicate the experience of the existing, larger campus quad, contributing to a more visually unified campus core.





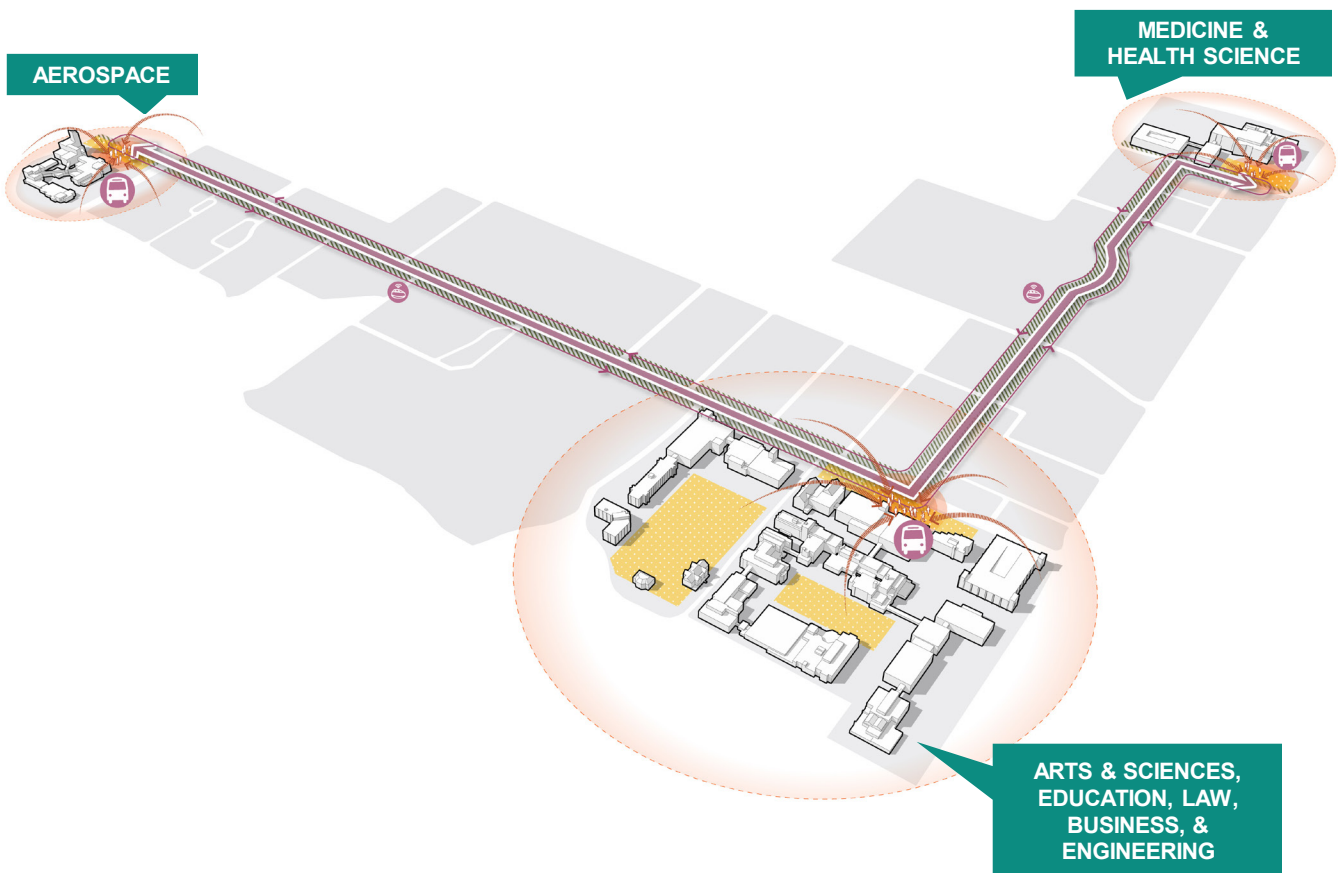
Consistent

First impressions of a campus are very important to prospective students. The University of North Dakota's collegiate-gothic architecture and picturesque landscape contribute to a campus character that attracts future students and provides a strong identity for the UND community. Moving forward, the university can continue to create a strong campus identity by utilizing consistent architectural materials and designing the landscape as a series of unique open space experiences that connect that university environment.



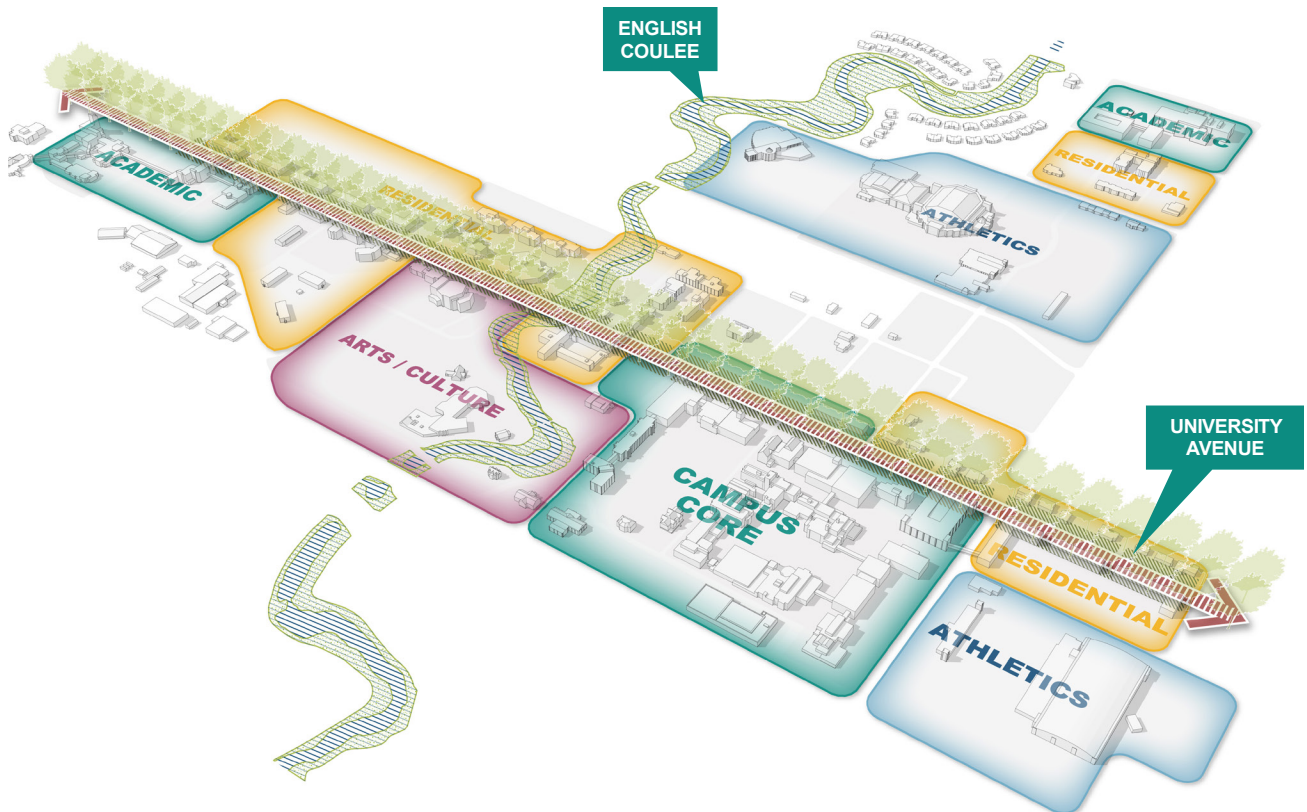
Compact

Becoming a compact campus will help the university become a sustainable campus. The university has an opportunity to densify the core of the campus and strengthen connection to both the Aerospace and School of Medicine districts through enhanced shuttle and pedestrian connections. Moreover, the university can consider discouraging any future development more than a 5-minute walking distance from any of the major campus districts (core campus, Aerospace, School of Medicine) in order to restrict campus sprawl. These changes will help each campus district better respond to the North Dakota climate and accommodate students moving between the districts in harsh weather.



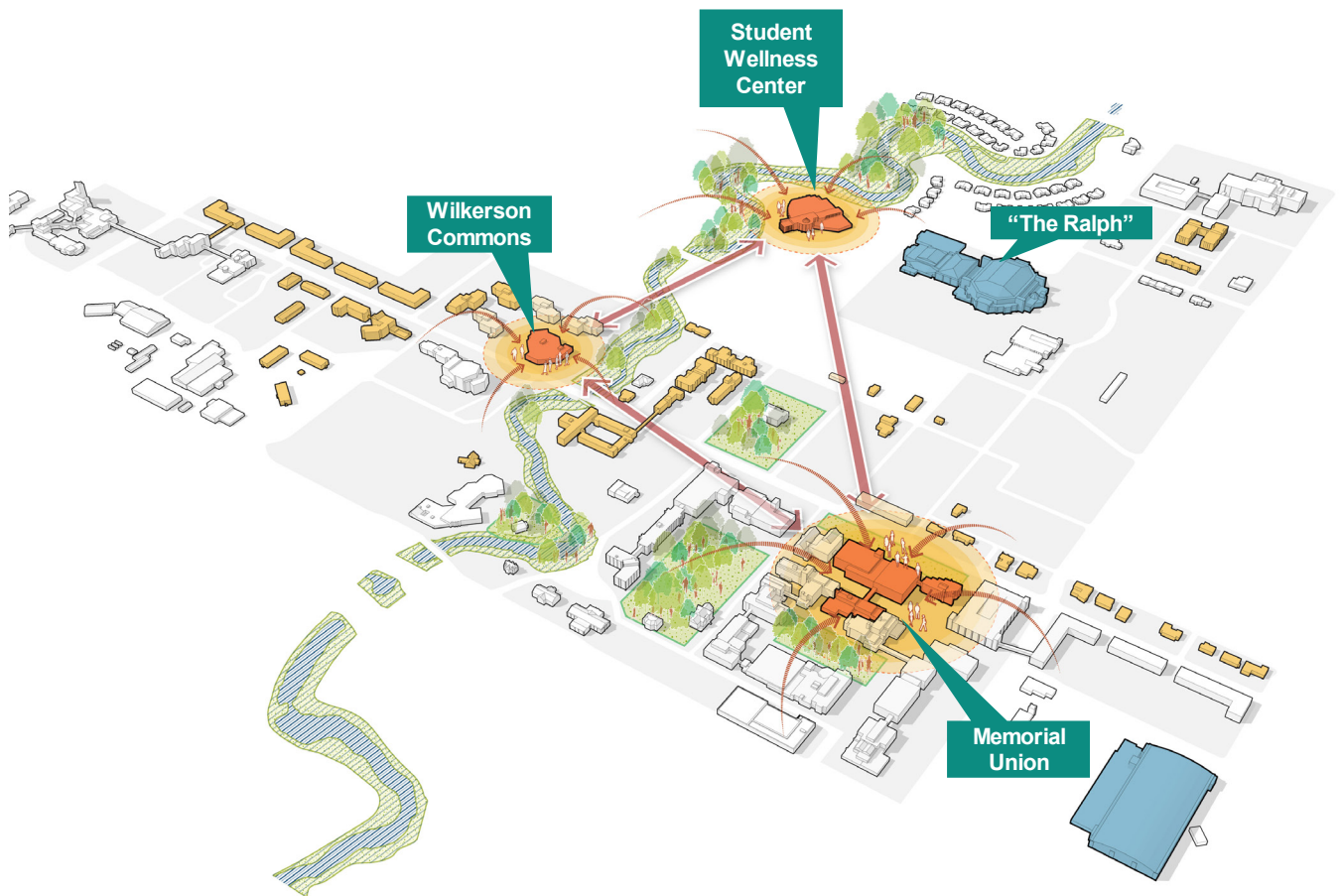
Cohesive

Although the university has a consistent character, each district and the zones within the districts, have their own identity. Circulation and programming contribute to cohesive district experiences. Related programs, such as the visual arts and performing arts, occupy the same district since they are likely to have collaborative opportunities and frequent student exchange. There is also the added benefit of less walking between related programs in the winter. Closely connecting sports and recreation facilities, which the Athletics Facilities Master Plan can achieve, as well as housing facilities, further supports the cohesive district objective. This approach will guide the university as it shapes unique experiences throughout each of the campus districts and zones.



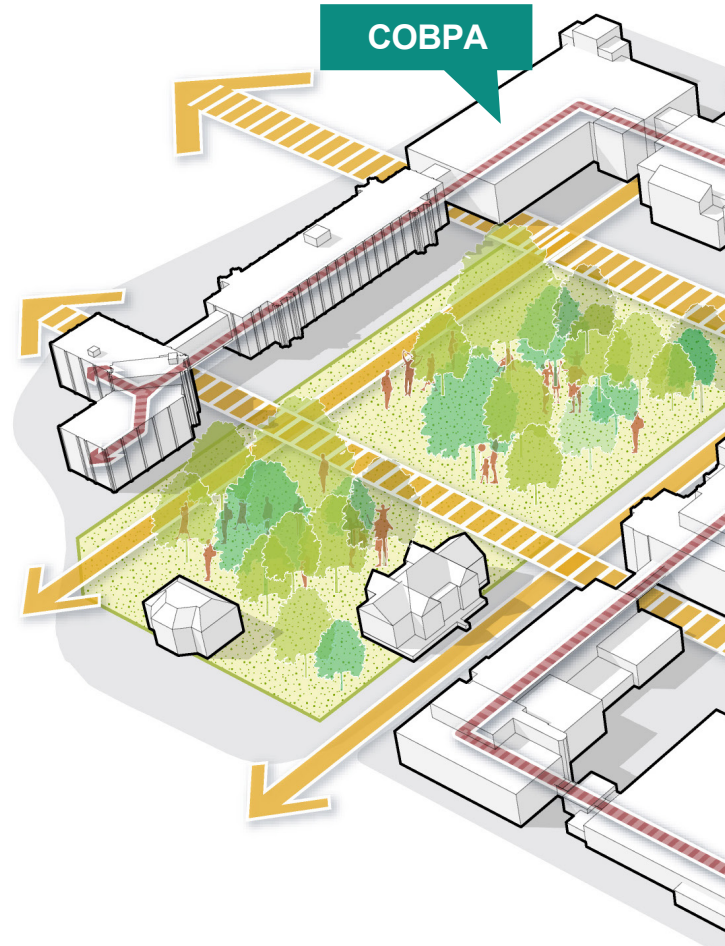
Captivating

A captivating UND reflects the culture of the campus and includes celebrating the major hubs and informal experiences for socializing. Athletics and recreation also play a major role, while the ambience of campus can become more student-friendly by removing the Steam Plant, reducing undesirable housing, and introducing new buildings that encourage smaller congregations in the large campus district hubs.

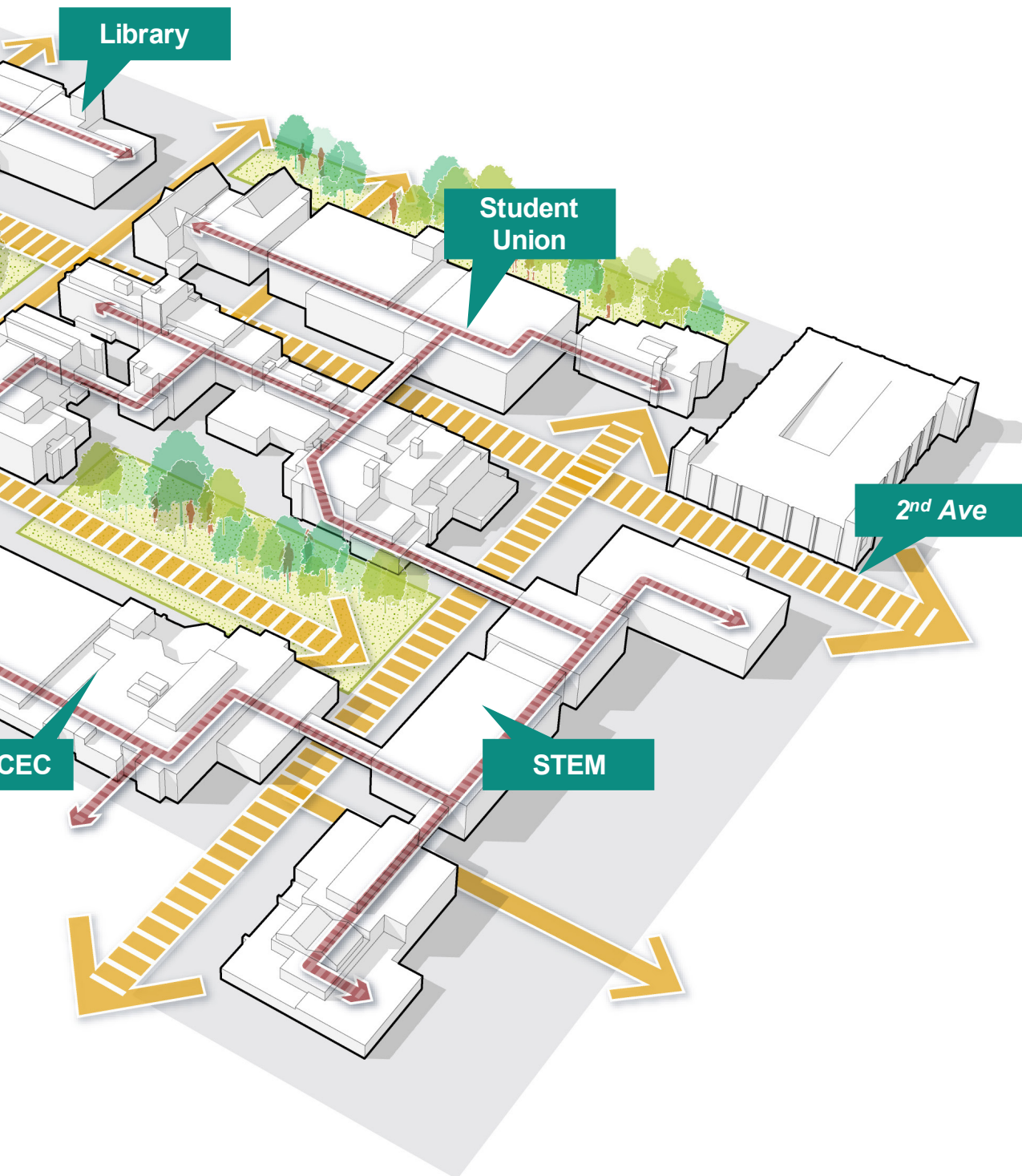


Connected

The university's vision for connectedness highlights the importance of mobility through buildings and open space, including enhanced accessibility for everyone to move comfortably through campus. The introduction of sky bridges in the campus core to connect buildings not only helps to ease circulation for students in the winter, they also create opportunities to broaden the internal network's function beyond circulation to include "collision spaces" for study and relaxation. Additionally, the university can knit its interior and exterior circulation networks to create dynamic spaces that are not limited to a single building. Leveraging the relationships between courtyards and the backs of buildings can further contribute to enhanced exterior circulation. Improving connectedness also means closing in on excessively large spaces, providing more windbreak and more long-term development space.



Pedestrianizing Cornell Street and Centennial Drive builds on the efforts to redefine the academic quads via creating better ground-level connections, and strengthens 2nd Avenue as a major East-West pedestrian corridor, making the campus core a truly pedestrian zone.





Existing Campus Quad area adjacent to the Library



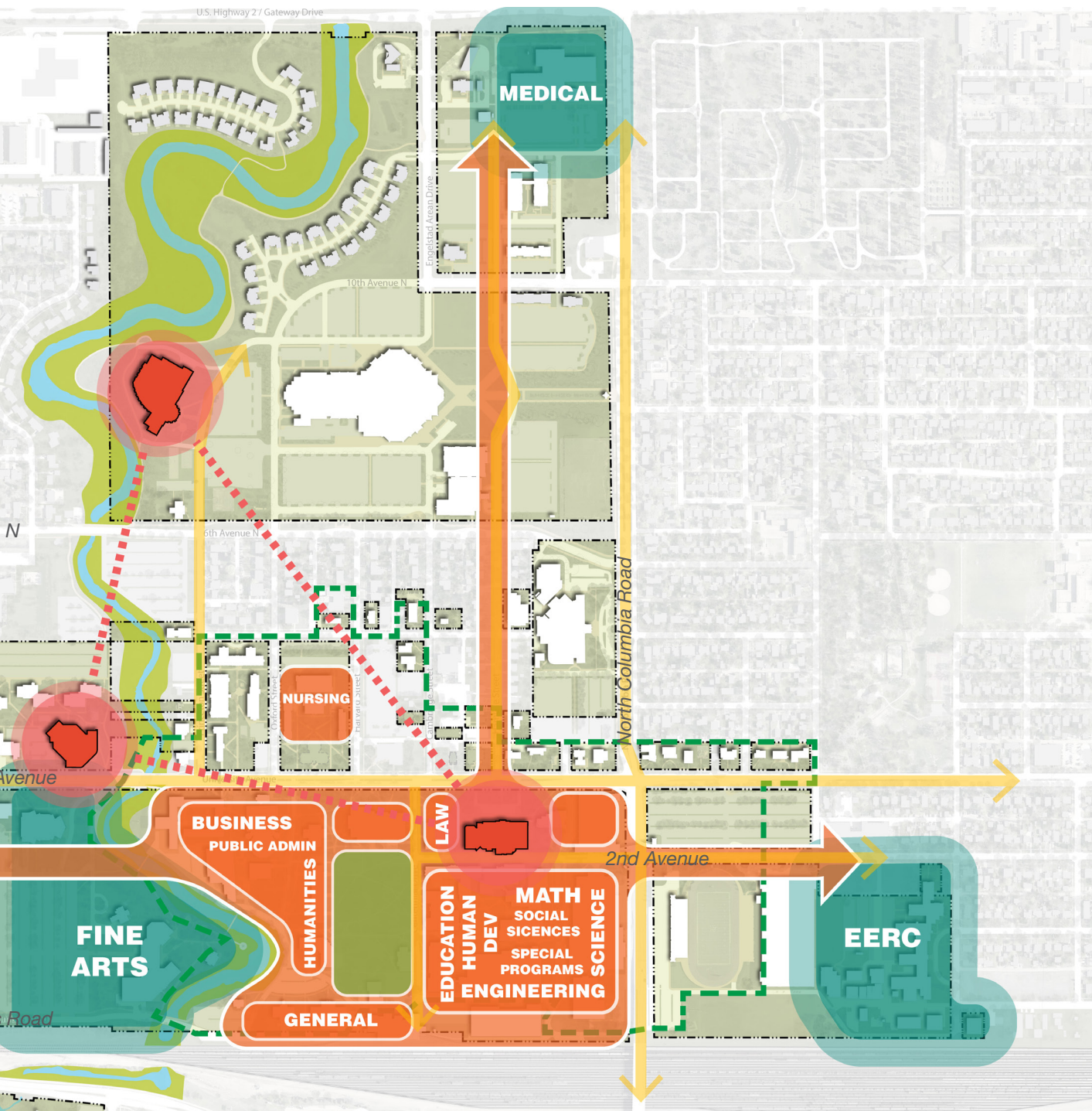
Proposed 2nd Ave pedestrian walkway and new Student Union



FRAMEWORK

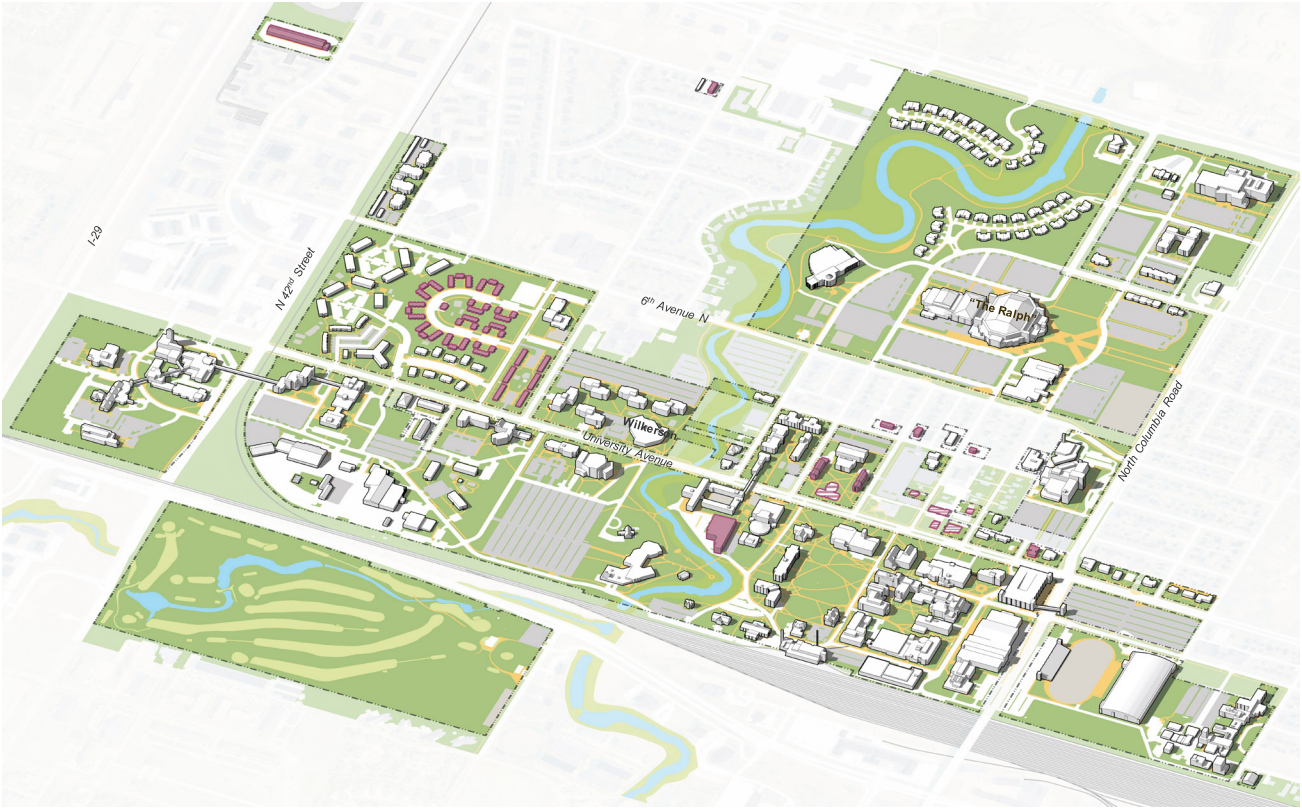
- CAMPUS CORE & CONNECTIONS
- STUDENT LIFE ANCHORS
- CAMPUS CONNECTORS
- NON-CORE ACADEMIC/RESEARCH ZONES
- HISTORIC DISTRICT





Existing Conditions

In the summer of 2017, following the 2016 Master Plan, the university demolished several buildings including the Strinden Center, and smaller buildings along University Ave. At the start of this planning effort the University consisted of 90 buildings and approximately 4.3 million gross square feet (GSF). An additional 250,000 GSF in demolition and decommission is planned for 2018 which includes Chandler Hall, Corwin/Larimore Hall, Roberston/Sayer Hall, Dakota Hall, and nearly 80,000 GSF of Housing.



- 2016 DEMOLITION
- 2018 DEMOLITION
- EXISTING BUILDINGS

Development Opportunities

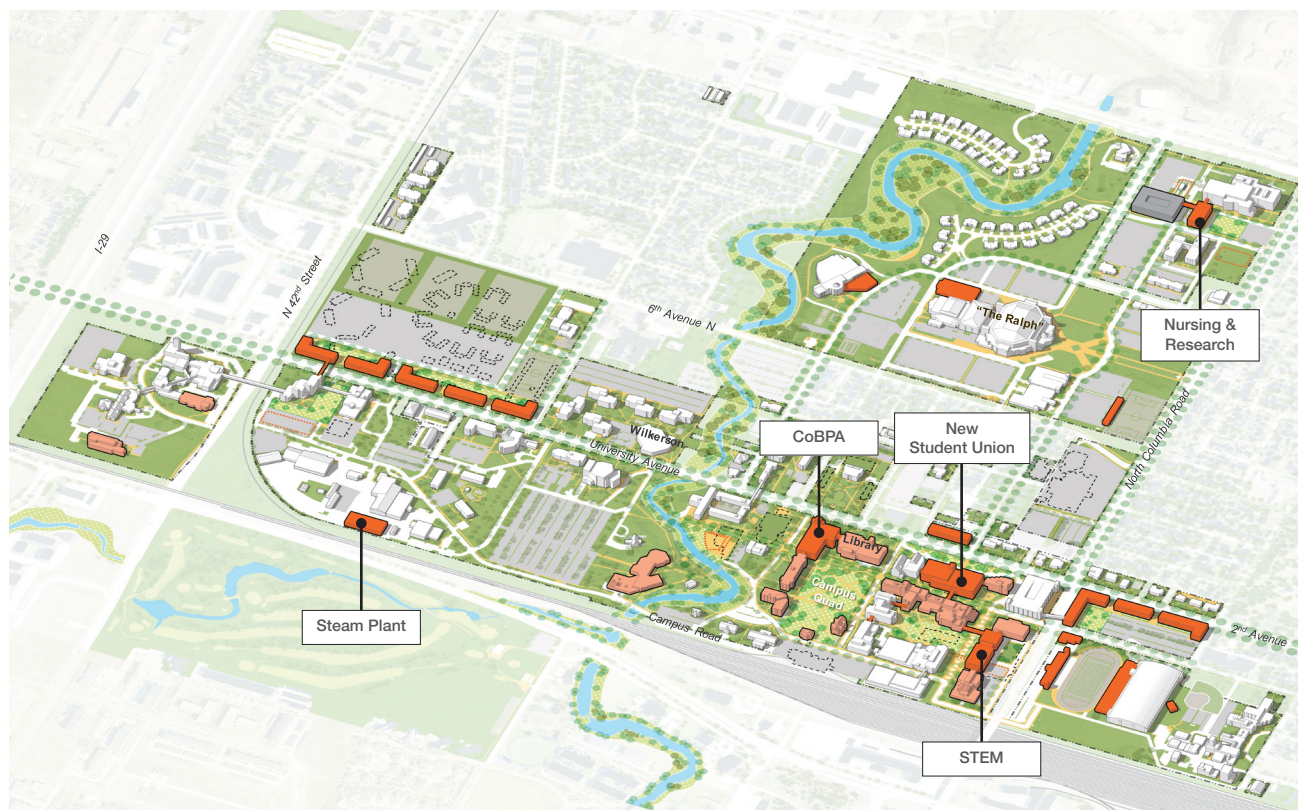
There are many opportunities for development and enhancement within the existing campus environment. The Historic District offers the opportunity to invest in the core of campus through the renovation of key buildings and honor the heritage of the university through consolidation. While the English Coulee provides a natural north/south spine through the campus for recreation and refection, planned demolition and renovation along University Avenue presents opportunity to create an active mixed-use east/west spine.



-  2016 DEMOLITION
-  2018 DEMOLITION
-  EXISTING BUILDINGS
-  ENGLISH COULEE ZONE
-  HISTORIC DISTRICT
-  POTENTIAL DEVELOPMENT ZONES

Proposed Development

New construction includes several infill projects within the academic core, including: a new CoBPA building at Montgomery Hall, a new STEM building, a new Student Union, a replaced Steam Plant, P3 mixed use housing, and the High Performance Center Phase II. Long-term development includes a Recital Hall to replace Chester Fritz Auditorium uses and an addition to the existing School of Medicine planned to accommodate the relocation of Nursing and expansion for research.



- NEW CONSTRUCTION
- RENOVATION
- POTENTIAL FUTURE PARKING STRUCTURE
- DEMOLITION
- POTENTIAL DEVELOPMENT SITE

Planned 2017-2018 Demolition

Phase	Category	Building	GSF	Building Age	FCNI	Avoided Capital Renewal Needs*
Short-term	Academic	Robertson/Sayer	22,760	110	0.49	\$ 3,780,480
Short-term	Academic	Corwin/Larimore	22,110	110	0.65	\$ 5,107,408
Short-term	Academic	Chandler	37,333	119	0.64	\$ 8,276,787
Short-term	Housing	2912 University	3,146	104	0.41	\$ 439,842
Short-term	Housing	301-411 Stanford Road (3)	24,144	59	0.42	\$ 2,937,447
Short-term	Housing	302-412 State Street (3)	24,144	59	0.42	\$ 2,937,447
Short-term	Housing	111-1118 Northwestern Dr (32)	66,016	52	0.53	\$ 12,785,392
Short-term	Student Support	314 Cambridge	15,046	91	0.41	\$ 2,103,581
Short-term	Student Support	Center for Community Engagement	3,353	94	0.41	\$ 5,792,328
Short-term	Student Support	International Center	7,959	104	0.41	\$ 1,112,748
Short-term	Student Support	Era Bell Thompson Center	2,747	78	0.41	\$ 384,058
Short-term	Student Support	Strinden Center	12,879	31	0.41	\$ 1,800,613
Short-term	Student Support	Women's Center	3,367	49	0.41	\$ 470,740

Planned 2018 Decommission (Sell)

Phase	Category	Building	GSF	Building Age	FCNI	Avoided Capital Renewal Needs*
Short-term	Housing	Dakota	41,430	42	0.42	\$ 5,011,373
Short-term	Auxiliaries	Ray Richards Clubhouse	5,494	77	0.64	\$ 548,647
Short-term	Auxiliaries	Golf Maintenance House	1,000	51	0.40	\$ 64,361
Short-term	Auxiliaries	Golf Maintenance Shop	2,100	12	0.30	\$ 67,090

Proposed Demolition

Phase	Category	Building	GSF	Building Age	FCNI	Avoided Capital Renewal Needs*
Short-term	Administration	Carnegie Additions	7,000	75	0.57	\$ 1,345,483
Short-term	Academic	Gamble	120,120	50	0.51	\$ 18,271,579
Short-term	Academic	Streibel	26,930	33	0.64	\$ 5,801,098
Short-term	Utility	Steam Plant	37,900	109	0.72	\$ 49,637,862
Short-term	Academic	Witmer	66,910	50	0.58	\$ 12,099,296
Short-term	Academic	Hyslop (partial)	300,000	44	0.41	\$ 31,380,079
Short-term	Student Support	Memorial Union	145,059	67	0.46	\$ 21,211,457
Short-term	Athletic Support	Memorial Stadium	82,676	91	0.36	\$ 8,260,712
Mid-Term	Academic	Columbia	280,200	68	0.40	\$ 47,965,366
Long-Term	Academic	Nursing	61,800	42	0.45	\$ 8,669,131
Long-Term	Auxiliaries	Chester Fritz Auditorium	89,593	46	0.49	\$ 13,368,285
Long-Term	Research	Biomedical Research Facility	24,880	17	0.34	\$ 4,525,323
Long-Term	Research	Neuroscience Research Facility	17,480	14	0.14	\$ 1,289,492
Total Demolition/Decommission			1,555,576	65	0.46	\$ 277,445,506

Proposed New

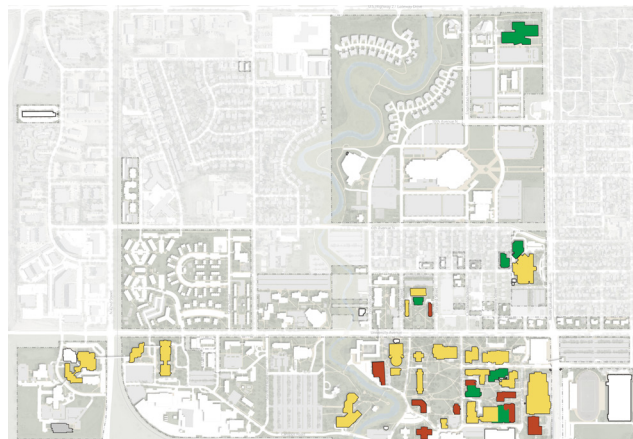
Phase	Category	Building	GSF	Building Age	FCNI	Avoided Capital Renewal Needs*
Short-term	Academic	College of Business & Public Admin	78,810	0	0	0
Short-term	Academic	STEM	110,000	0	0	0
Short-term	Student Support	Memorial Union Replacement	125,000	0	0	0
Short-term	Utility	Steam Plant Replacement	16,000	0	0	0
Short-term	Athletic Support	High Performance Center Phase II	117,000	0	0	0
Short-term	Academic Support	UAS Off-Campus Airport	10,000	0	0	0
Long-Term	Academic Support	Recital Hall (replacement of CFA)	30,000	0	0	0
Long-Term	Academic/Research	Nursing+Research Relocation	104,200	0	0	0
Total New			591,000			
Net New			(964,566)			

* Data from ISES Corporation's Facility Condition Assessments of UND buildings in 2016 and 2017

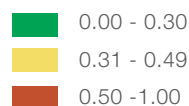
Chart of demolition and new construction

Facility Condition Needs Index (FCNI)*

A combination of demolition, renovation and new construction offers the opportunity to reduce the university deferred maintenance liability and FCNI campus-wide. The 2017-2018 planned demolition and decommission reduce the campus by 17 facilities with an average building age of 73 years, and average FCNI of .46. Furthermore, the 30 year vision removes an additional 13 facilities with an average age of 54 and average FCNI of .47.

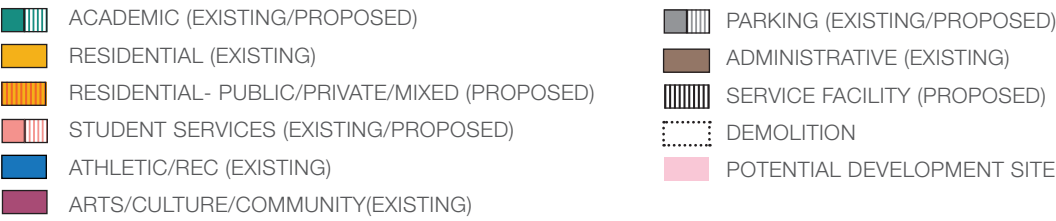
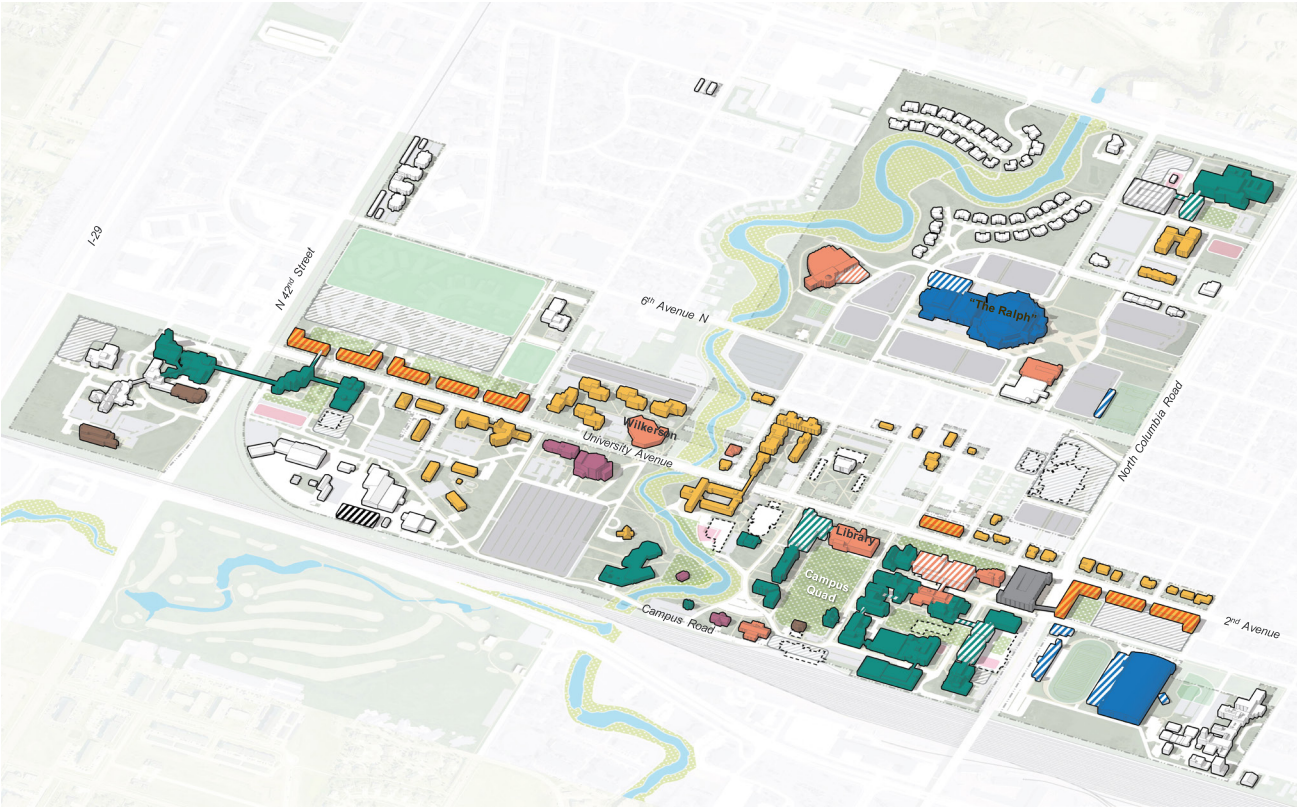


*Facility Condition Needs Index (FCNI) is calculated by dividing the 10 year capital renewal need (deferred maintenance) by the current replacement value. A FCNI rating of 0.3 or below indicates that the building is in good condition, a rating of 0.31 to 0.49 indicates the building is in fair condition, and a rating of 0.5 or above indicates the building is in poor condition. The closer the FCNI gets to 1 the more likely the building is positioned for demolition rather than renovation.



Building Use






The buildings in the core campus are for academic and student life use, while ones outside of the core along University Avenue are dedicated to residential, mixed use and community uses. Non- student facing administrative uses are located west of 42nd Street.



Open Space

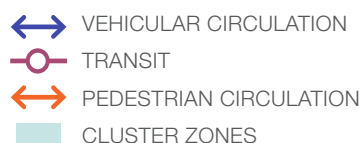
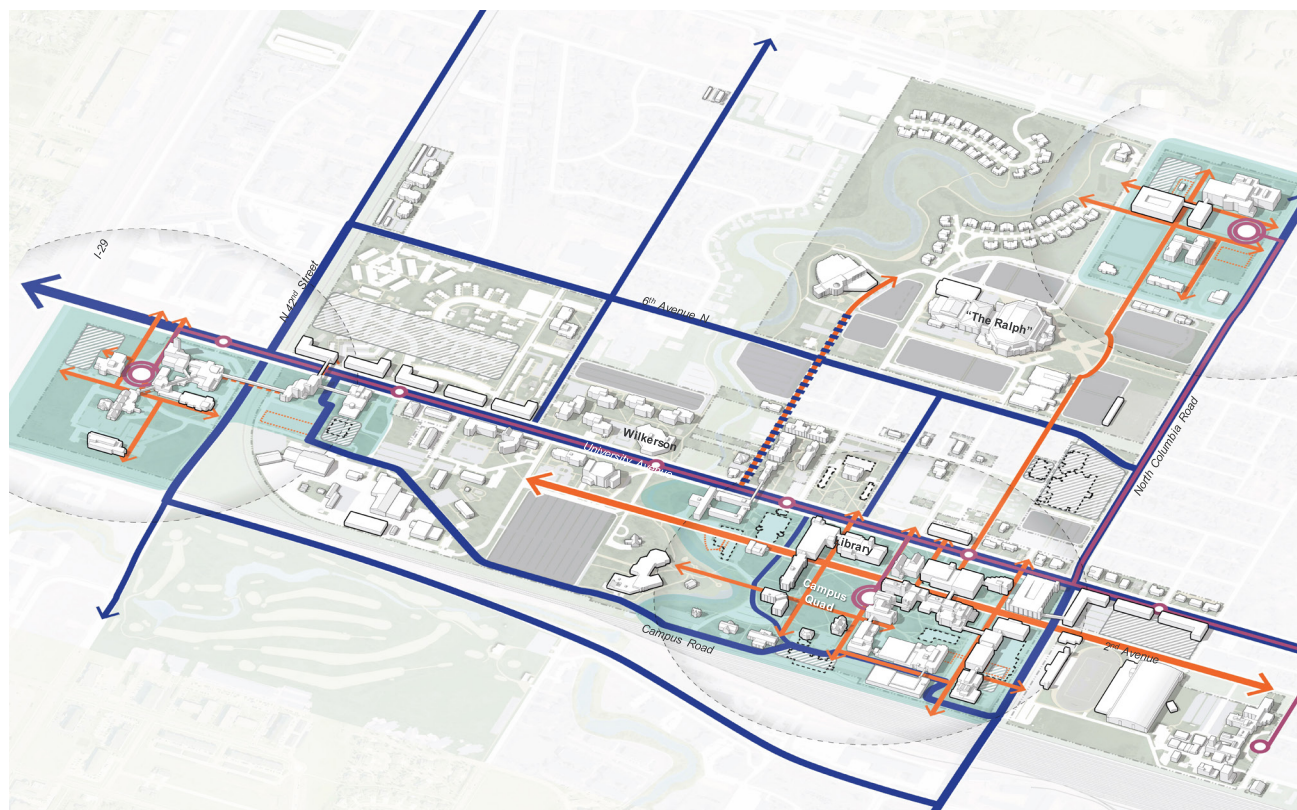
The university can enhance its existing academic quads to better knit the compact campus together, which will support efforts to locate related-departments close together and create opportunities to enhance the current pedestrian network. There is also potential to activate the English Coulee as a major landscape by creating a circulation corridor through campus. Creating a series of connected open spaces, the transformation of the East quad strengthens the core open space and pedestrian network.



-  QUADS/ COURTYARDS/ FRONT LAWNS
-  RECREATIONAL
-  CLUSTER ZONES
-  PARKING (EXISTING/PROPOSED)
-  BUILDING (EXISTING/PROPOSED)

Mobility

Through restricting vehicular access by converting 2nd Avenue into the major pedestrian corridor, the campus core is transformed into a pedestrian-dominant experience. Interconnected buildings to allow for pedestrian movement during extreme weather, minimizing people's exposure to the cold. On a broader scale, the districts are connected by creating major transit hubs throughout campus and accommodating increased pedestrian movement along Princeton Street, 2nd Avenue and University Avenue through additional safety and landscape features.



Section 04

PROPOSED PROJECTS AND PROGRAMMATIC STRATEGY





PROGRAMMATIC STRATEGY

Administrative

In an effort to shift the focus of the core campus non-student facing administrative uses are relocated west of 42nd Street freeing up space to expand and enrich the academic and student life experience in the core. This move will free up more than half of the space in Twamley for academic programs.

Student Services

With planning for a new Student Union underway, the focus for student services in the core, remains along University Avenue. Administrative space located in Twamley focused on academic and student services moves to Swanson, leaving Twamley fully open for academics programs. Repurposing the first two floors of Swanson's for the "one-stop" strengthens the student services connection and creates a synergy between student life and academics in the Campus Core.

CoBPA

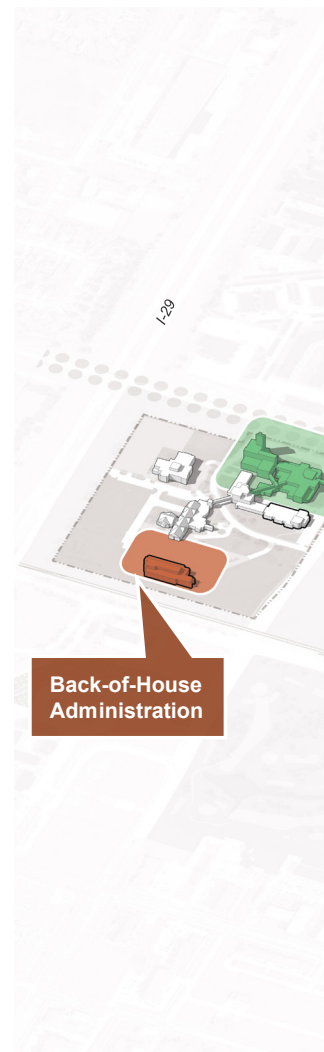
The College of Business and Public Administration plans to move and expand into a new building located at Montgomery Hall along University Avenue. The College will continue to leverage classroom space in Merrifield scheduled by the Register while occupying a new facility that supports the college's growth and pedagogy. Creating a new presence on University Avenue the new CoBPA building acts as a connection point from student services north of University Avenue to the Campus Quad and academic core.

STEM

Located in the core of campus on the Hyslop site adjacent to existing science and engineering buildings, the STEM building offers enhanced collaboration and a reduced footprint of the new building through the connection and use to existing facilities. Wet labs for Biology and Chemistry occupy the new STEM building and connects to the front Hyslop and Starcher, containing the classrooms and offices for varies STEM related programs. Math and Physics occupy a renovated Abbott allowing Witmer to be demolished making room for a new quad. Relocating programs out of Hyslop to other buildings within the core allows for the demolition of the courts and pool and renovation of the offices and the educational gym. Further assessment of the needs and location of the academic programs of the pool is a vital part of future planning of the STEM building.

College of Arts and Sciences in the Core

In addition to strengthening the STEM side of CAS, this plan consolidates the College of Arts and Sciences into the core and gives the opportunity for the university to focus on renovations of historic buildings on campus such as Merrifield, Babcock, and Carnegie. Emptying and retrofitting Twamley and other spaces in the core allow them to support the College of Arts and Sciences Social Science and Humanities departments and relocate from Columbia and other distant parts of the campus. Visual and Performing arts remain in Hughes and Burtness with a future Recital Hall planned for the art zone of the core. The Recital Hall can replace the Chester Fritz Auditorium if the university



chooses to sell or demolish it. The Recital Hall can be proximate to the other visual and performing arts programs of the university however; exploring the exact location can take place once further planning is underway.

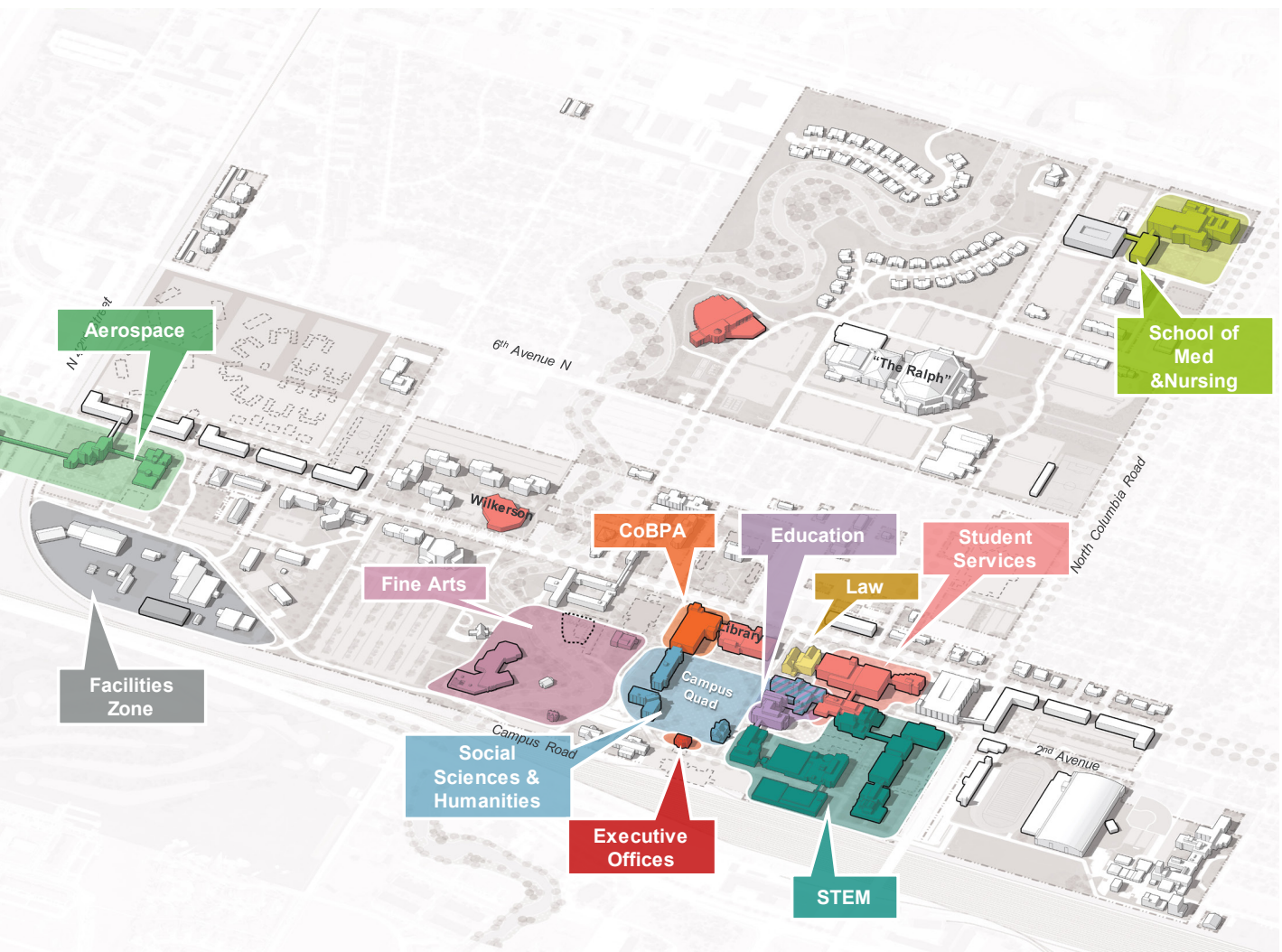
Nursing and Medicine

Co-location with the School of Medicine and Health Sciences is a long-term vision for to support the growing needs of accreditation, particularly with regard to simulation. Social Work is currently part of the College of Nursing and Professional Disciplines and benefits from its current location

near the undergraduate core. Social Work could remain in the core with the departments it collaborates with frequently; administratively the department may benefit from relocation under a new School or College.

Facilities and Support

Rebuilding the Steam Plant in the facilities zone allows for the relocation of parking in the core to the edges. Additionally, it provides the opportunity to organize vehicular circulation at the south end of the campus core.



CAMPUS CORE

Vision

The reimagined Campus Core is a compact district with research, academics, and student life. Through redefining open space, enhancing the pedestrian experience, and strengthening the indoor connectivity the Campus Core becomes a dynamic intersection of activity and collaboration.

One key aspect of the campus core are the redefined academic quads as major landscape amenities via expansion and indoor-outdoor connections. Demolishing Witmer Hall is an opportunity to establish a larger, better-defined East Quad that supports its adjacent academic buildings. Promoting buildings along the quads via enhanced architectural frontages, particularly those with collegiate-gothic facades, strengthens the indoor-outdoor connections and establishes a consistent language in the core. Furthermore, open plans with social learning and gathering space on the ground floors establishes a transparency between the quads and academic buildings activating fluid, indoor-outdoor connections.

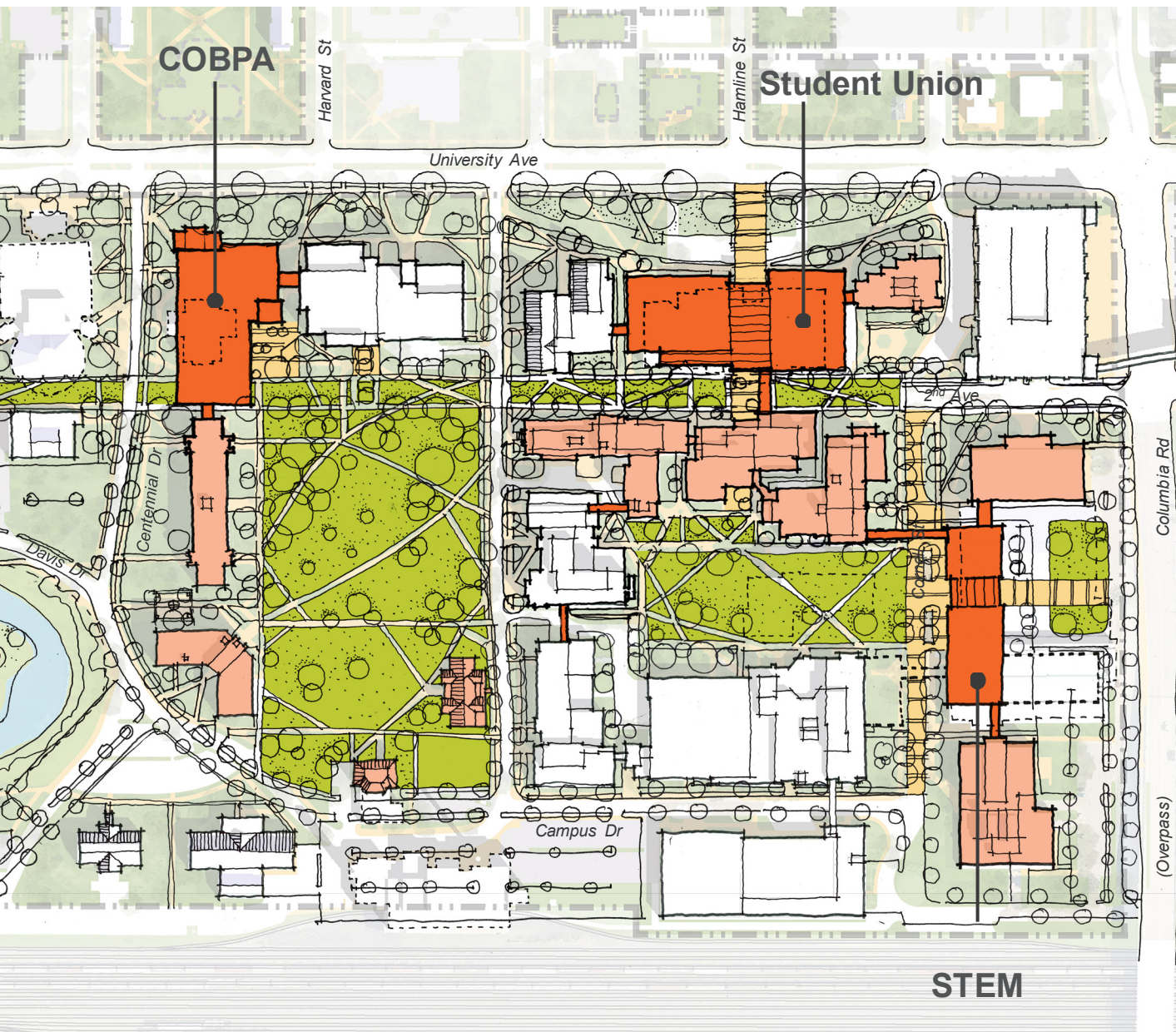
The pedestrian experience at UND is as essential indoors as it is outdoors, given Grand Forks's severe winter weather. Pedestrianizing Cornell Street and Centennial Drive builds on the efforts to redefine the academic quads via creating better ground-level connections, and strengthens 2nd Avenue as a major East-West pedestrian corridor, making the campus core a truly pedestrian zone. A new Student Union strengthens the pedestrian connection from University Avenue to the core while creating an elevated pedestrian experience along 2nd Avenue. A renovated Library seamlessly connects University Avenue to the Campus Quad and repositions what was once the "back" of the Chester Fritz Library as an energetic and transparent connection between inside and out.

Indoor connectivity opportunities are most prevalent in the campus core. In the East Quad, academic buildings' existing ground level and 2nd level hallways can be enforced as pedestrian corridors. Meanwhile, pedestrian bridges can be added at strategic locations to "close gaps" within the academic building internal circulation network, such as between O'Kelly Hall and Gillette Hall, and between the Education Building and Harrington Hall. In the West Quad, the future CoBPA building presents an opportunity to construct a bridges connecting to the Chester Fritz Library and Merrifield Hall.



Vision of the Core Campus

- NEW CONSTRUCTION
- RENOVATION
- DEMOLITION



Demolishing Witmer is an opportunity to establish a larger, better-defined East Quad that supports its adjacent academic buildings.



Proposed East Quad, demolition of Witmer and construction of STEM at Hyslop si



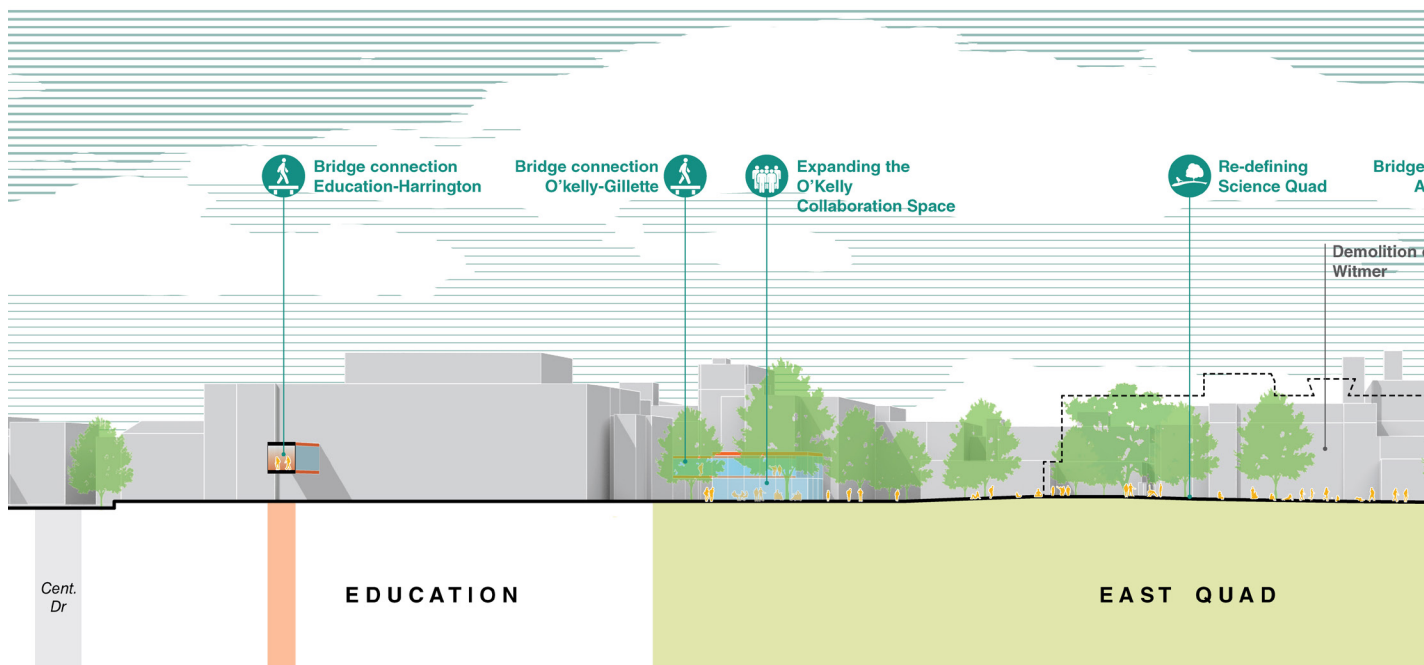
Existing East Quad with Witmer

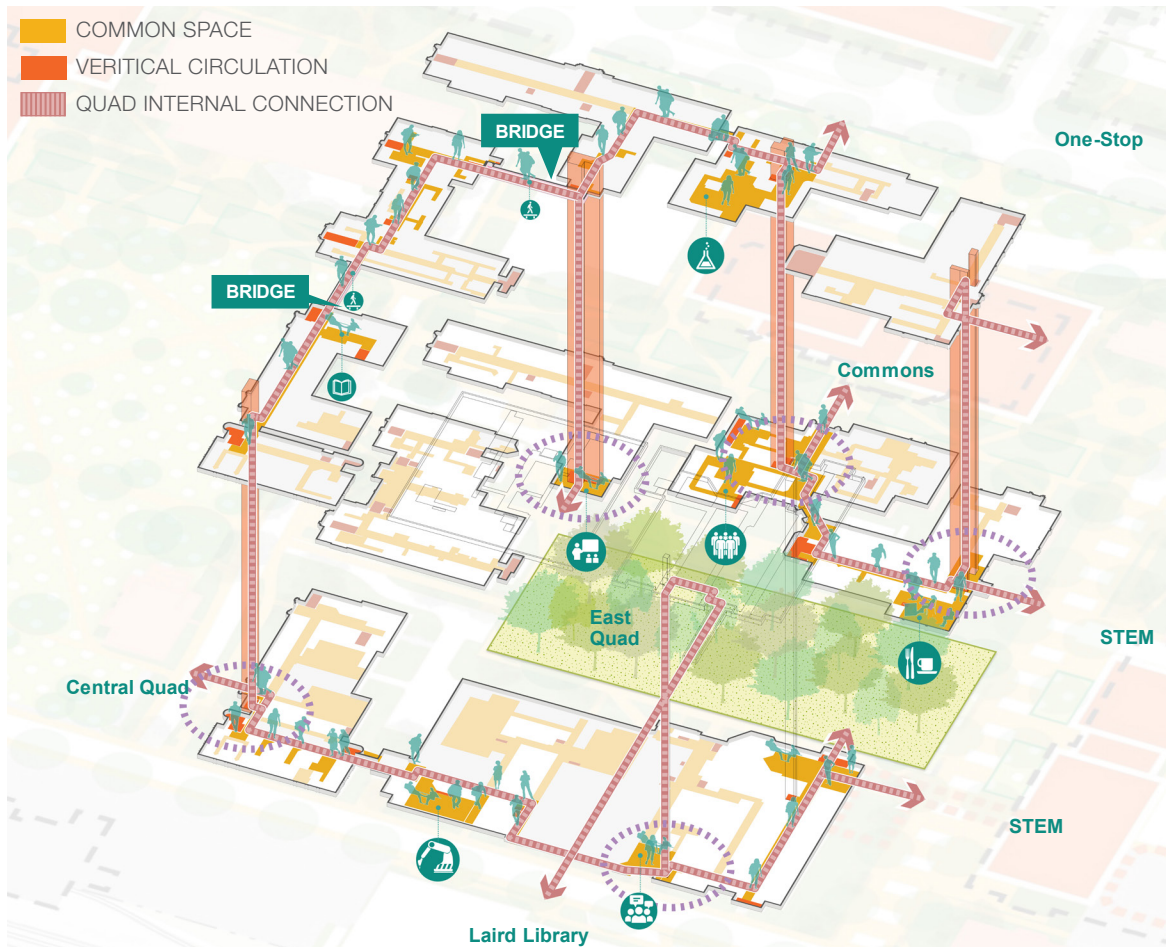


te

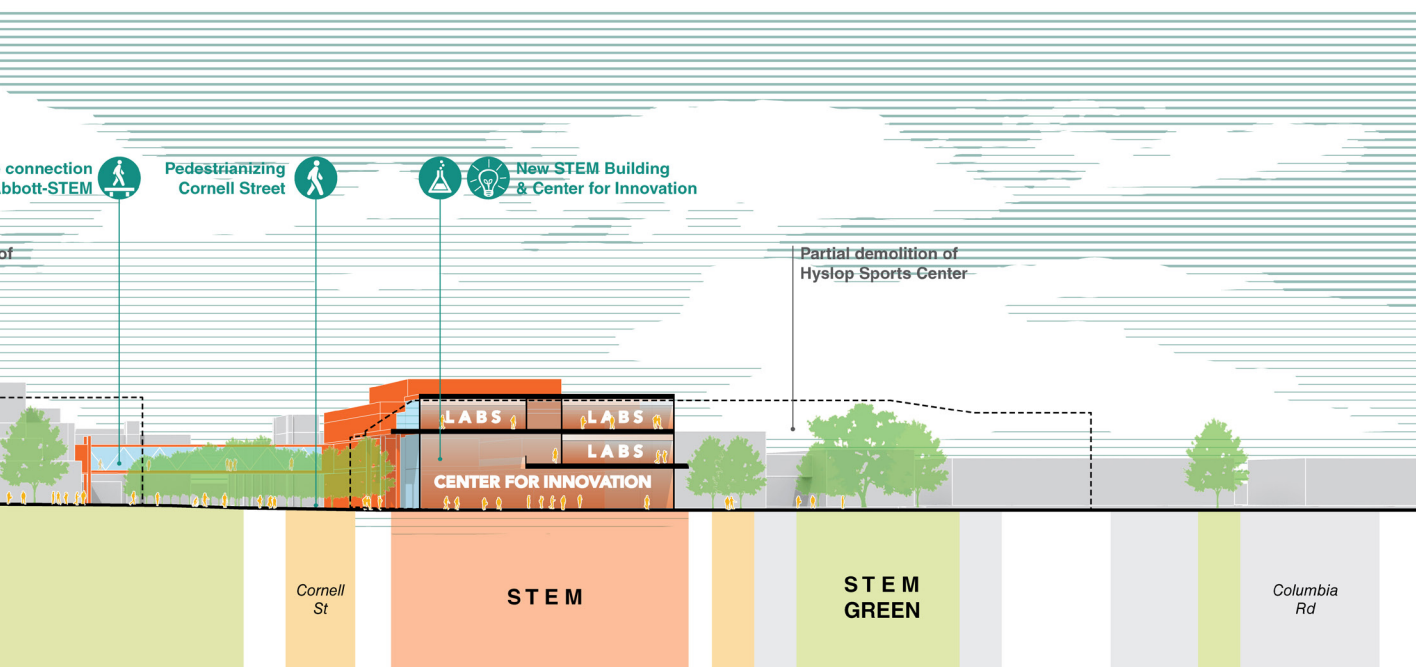
Through redefining open space, enhancing the pedestrian experience, and strengthening the indoor connectivity the Campus Core becomes a dynamic intersection of activity and collaboration.

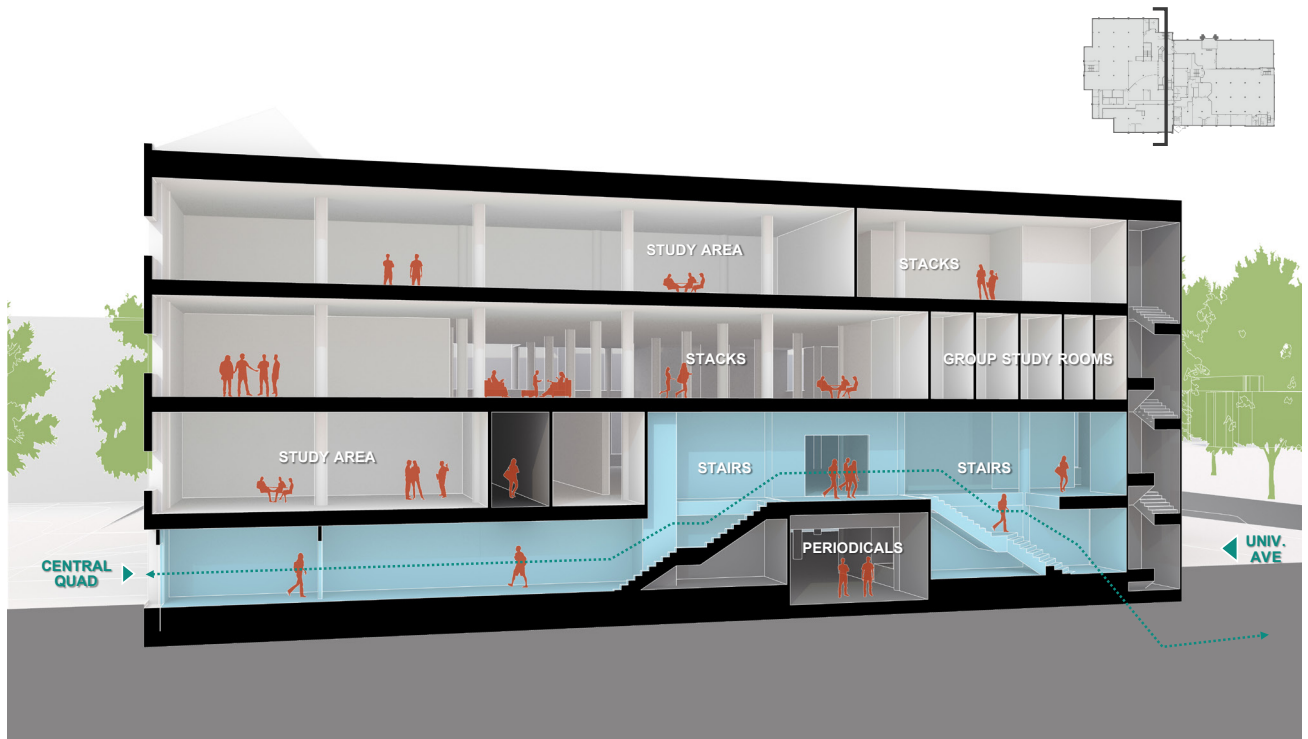
Section of the proposed new quad and STEM facility



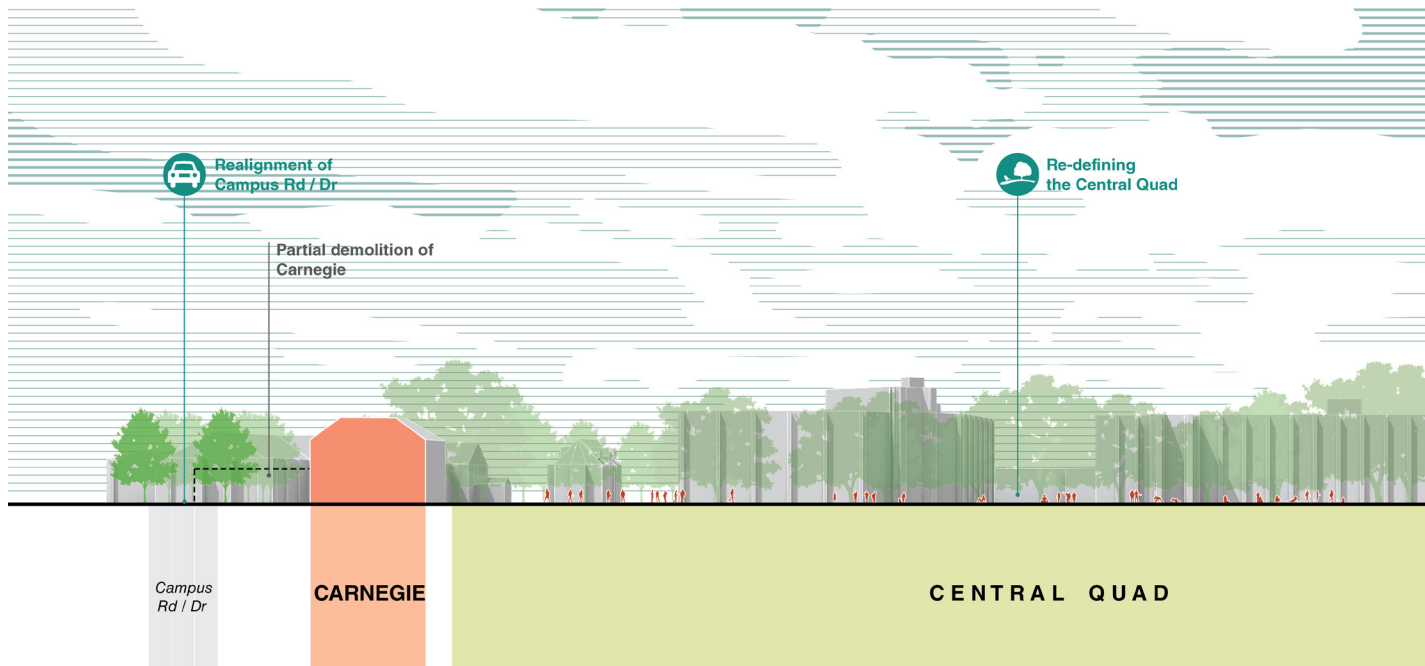


Building connectivity, illustrating internal and external connections between the new quad and buildings within the Campus Core.

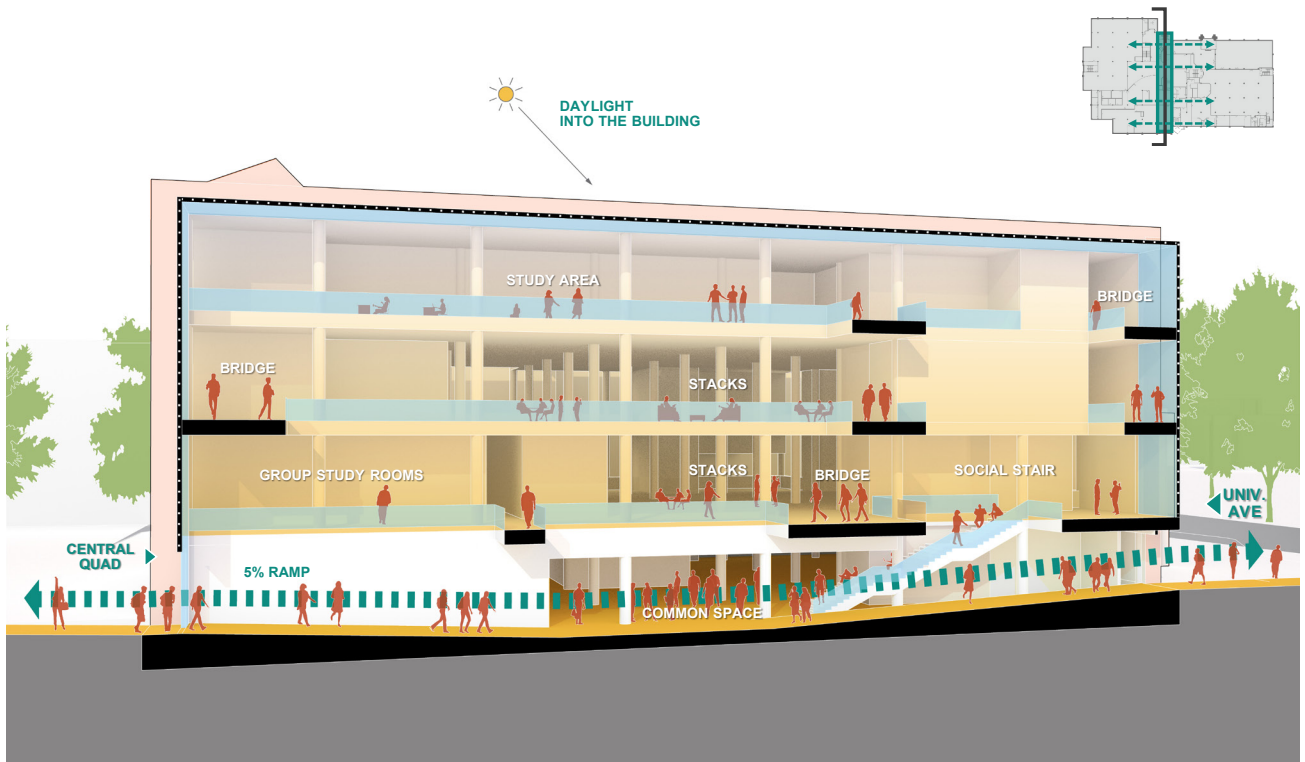




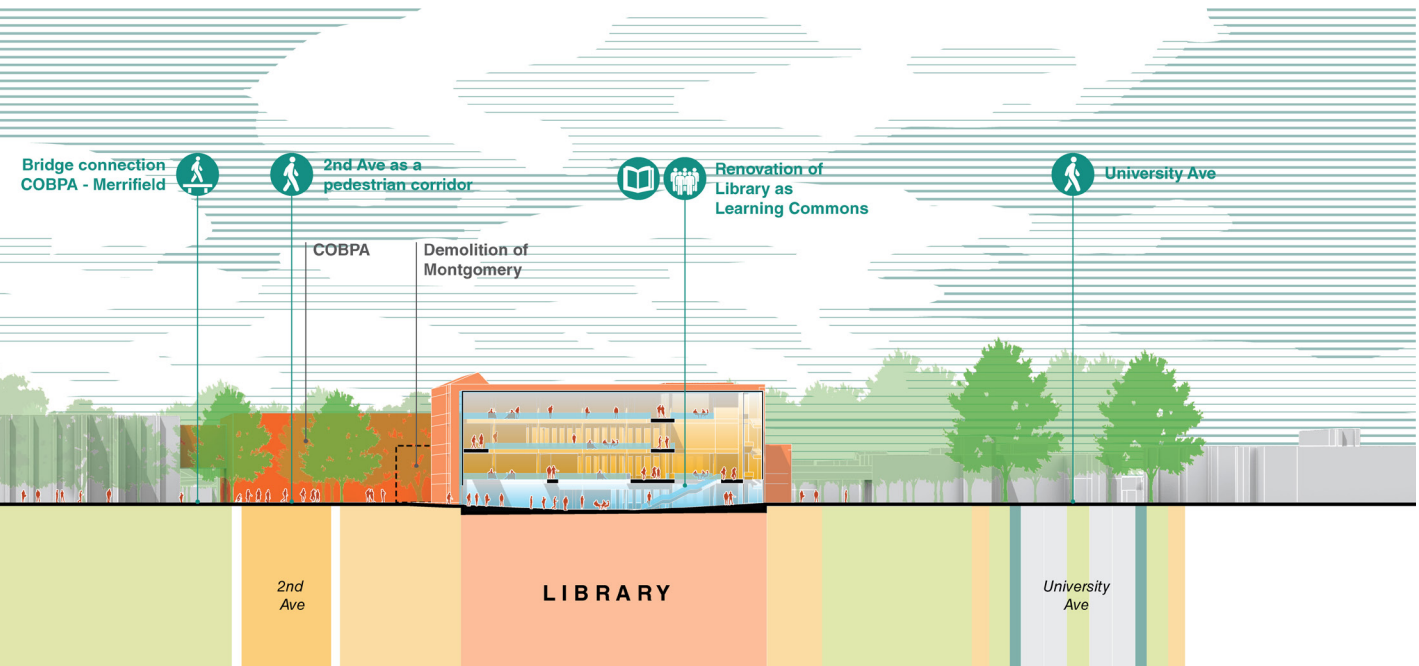
Existing Library section



Section through the Campus Quad and Library



Proposed Library section



Section 05

PHASING AND IMPLEMENTATION





PHASING

Major Building Projects

Short term 1 - 6 years

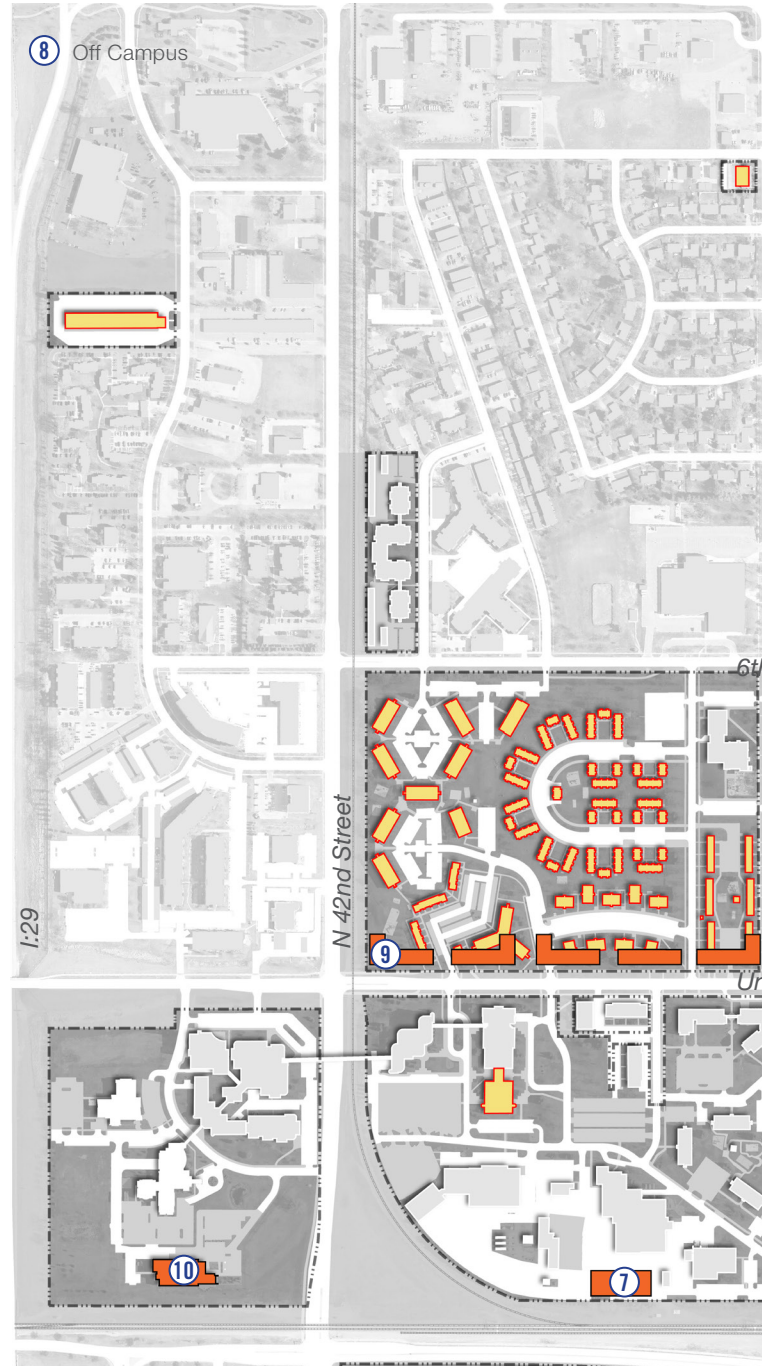
1. New College of Business & Public Administration building
2. Merrifield Hall Renovation
3. Engagement Center (relocation of the J Lloyd Stone House)
4. New Student Union and Swanson "One-Stop"
5. New STEM building (Hyslop renovation and partial demolition, Starcher Hall renovation, Witmer Hall demolition, and new construction)
6. High Performance Center Phase II
7. New Steam Plant (P3)
8. UAS Airport (off campus)
9. Mixed-use Housing (P3)
10. Administration relocation

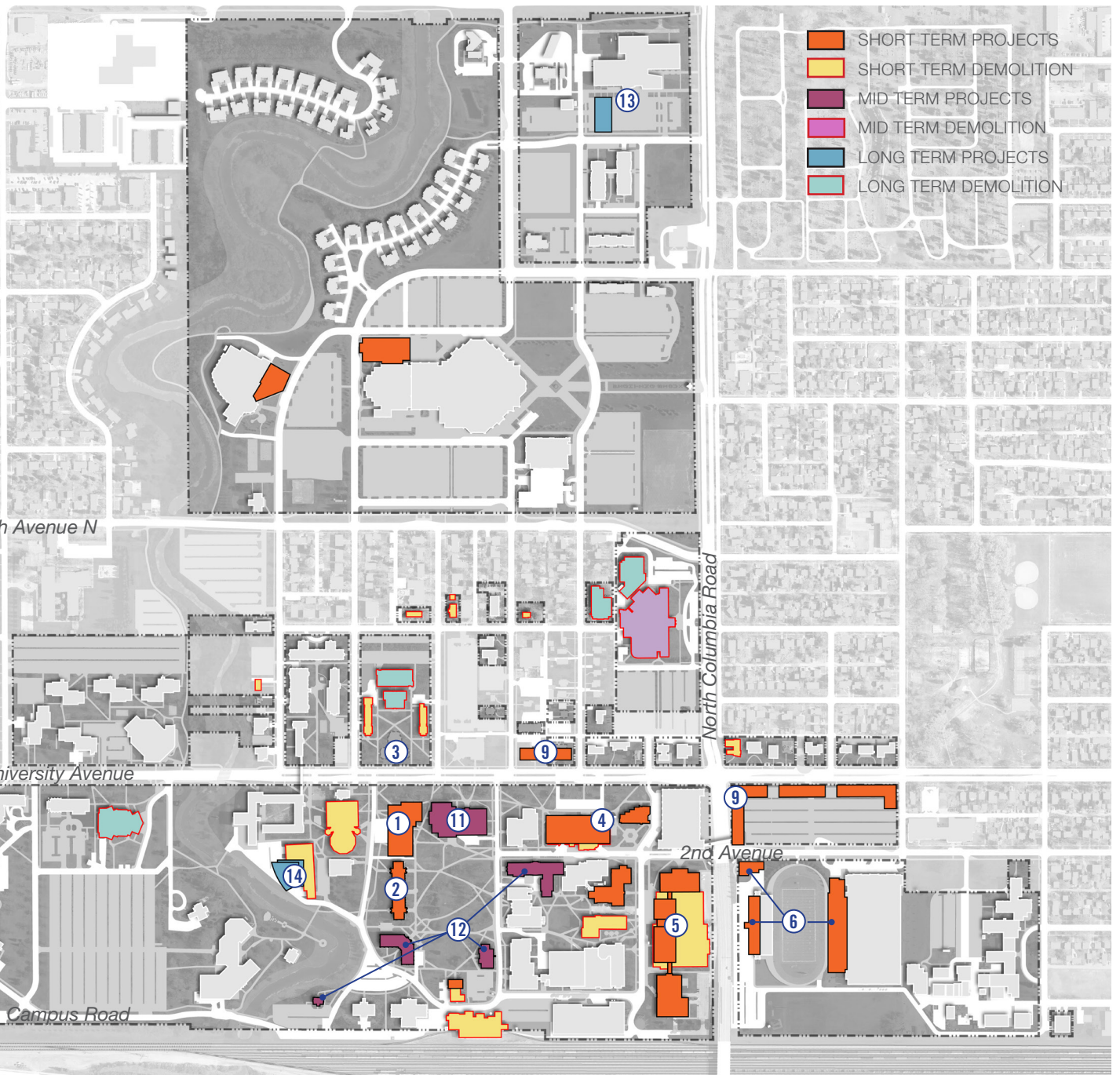
Mid term 7-12 years

11. Chester Fritz Library renovation
12. Relocation of programs from Columbia Hall to the Academic Core of Campus & Close Columbia Hall
 - Twamley Hall
 - O'Kelly Hall
 - Babcock Hall
 - Gustafson Hall
 - McCannel Hall

Long term 12 - 30 years

13. Expand the School of Medicine and Health Science Site
 - Relocation of Nursing
 - Research
 - Parking
14. Recital Hall (Dependant on future decisions around Chester Fritz Auditorium)





Short Term Projects

College of Business and Public Administration

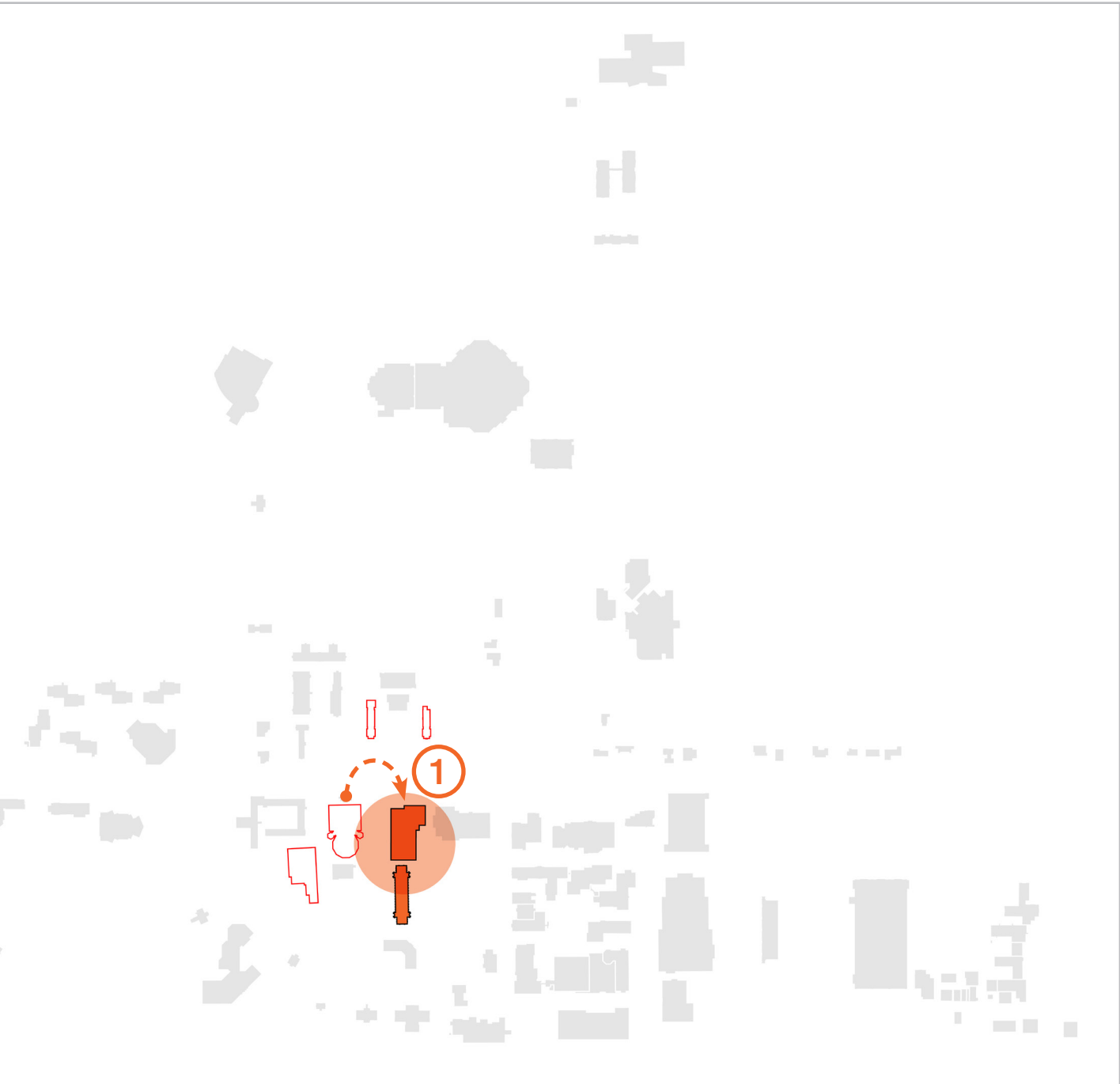
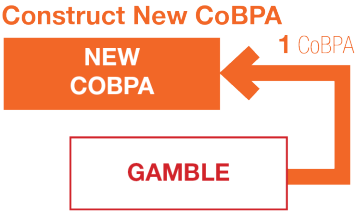
Project Phasing

- 1a. Construct new CoBPA at Montgomery site.
- 1b. Relocate CoBPA programs to new facility.
- 1c. Gamble emptied for swing space for Merrifield remodel.
- 1d. Demo Gamble after programs are relocated back to a renovated Merrifeild.

New (gsf)		
By Phase		Cumulative Total
100,000	CoBPA	78,810*
Demo(gsf)		
By Phase		Cumulative Total
415,148	2017-18 Planned Demo/ Decommision, Gamble	415,148
Net New		-336,338

* Montgomery will be part of the New CoBPA construction, however, current use is vacated and the square footage will be accounted for in the New CoBPA sf (appx 21,200 gsf)





Short Term Projects

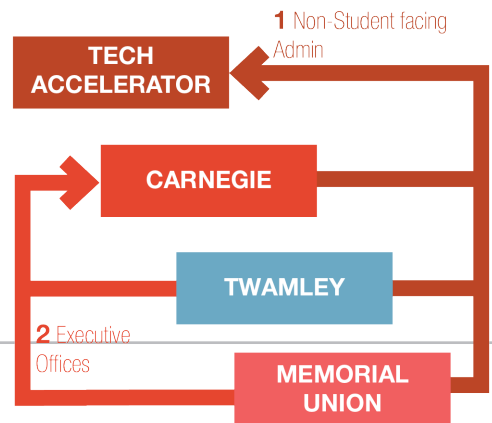
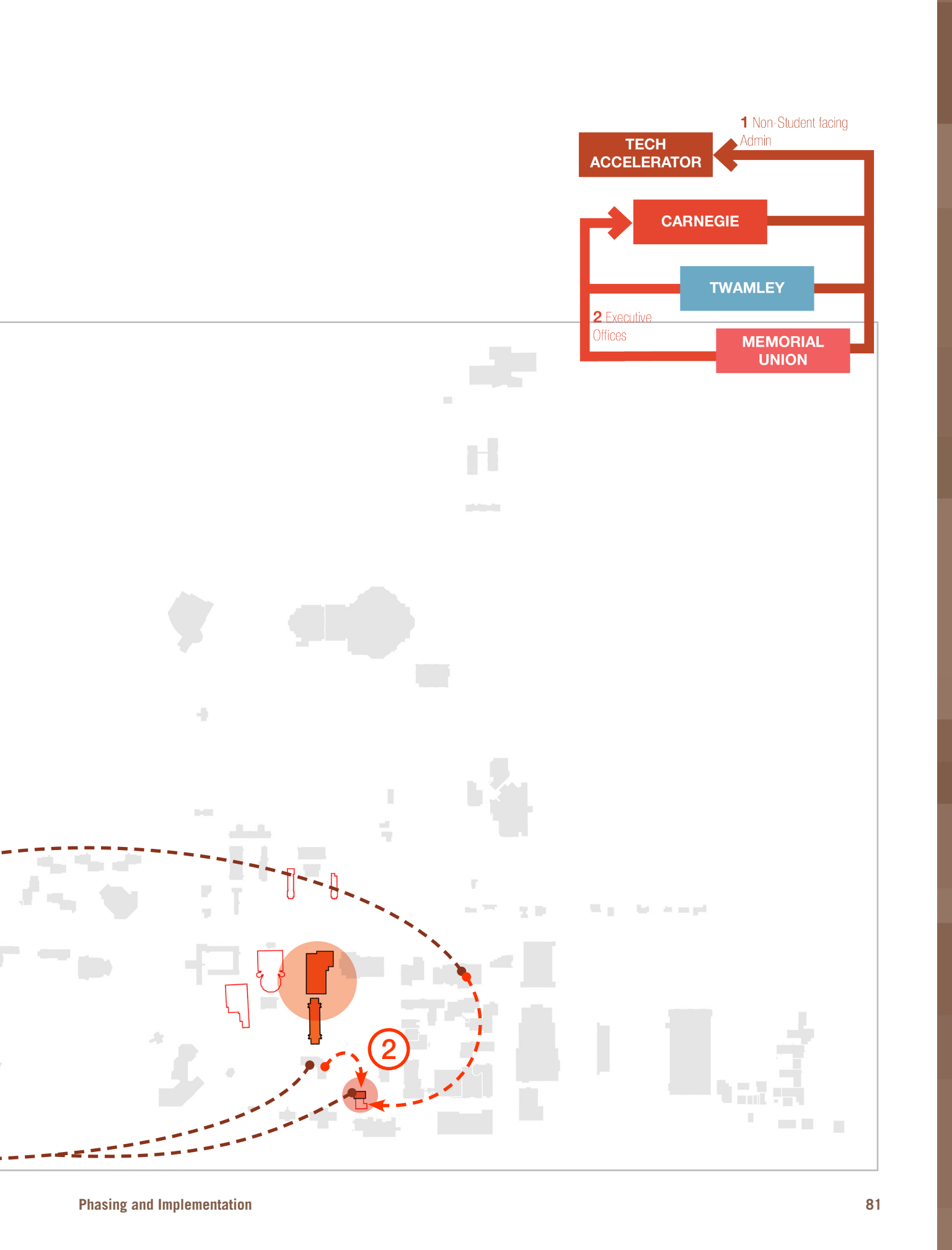
Administration

Project Phasing

- 1a. Renovate Tech Accelerator.
- 1b. Move non-student facing administration from Twamley, Memorial Union, and Carnegie to the Tech Accelerator.
- 1c. Demolish Carnegie additions and renovate historic front.
- 2a. Move executive offices from Twamley and Memorial Union to Carnegie.

New (gsf)		
By Phase		Cumulative Total
		78,810
Demo(gsf)		
By Phase		Cumulative Total
7,000	Carnegie Addition	422,148
Net New		-343,338





Short Term Projects

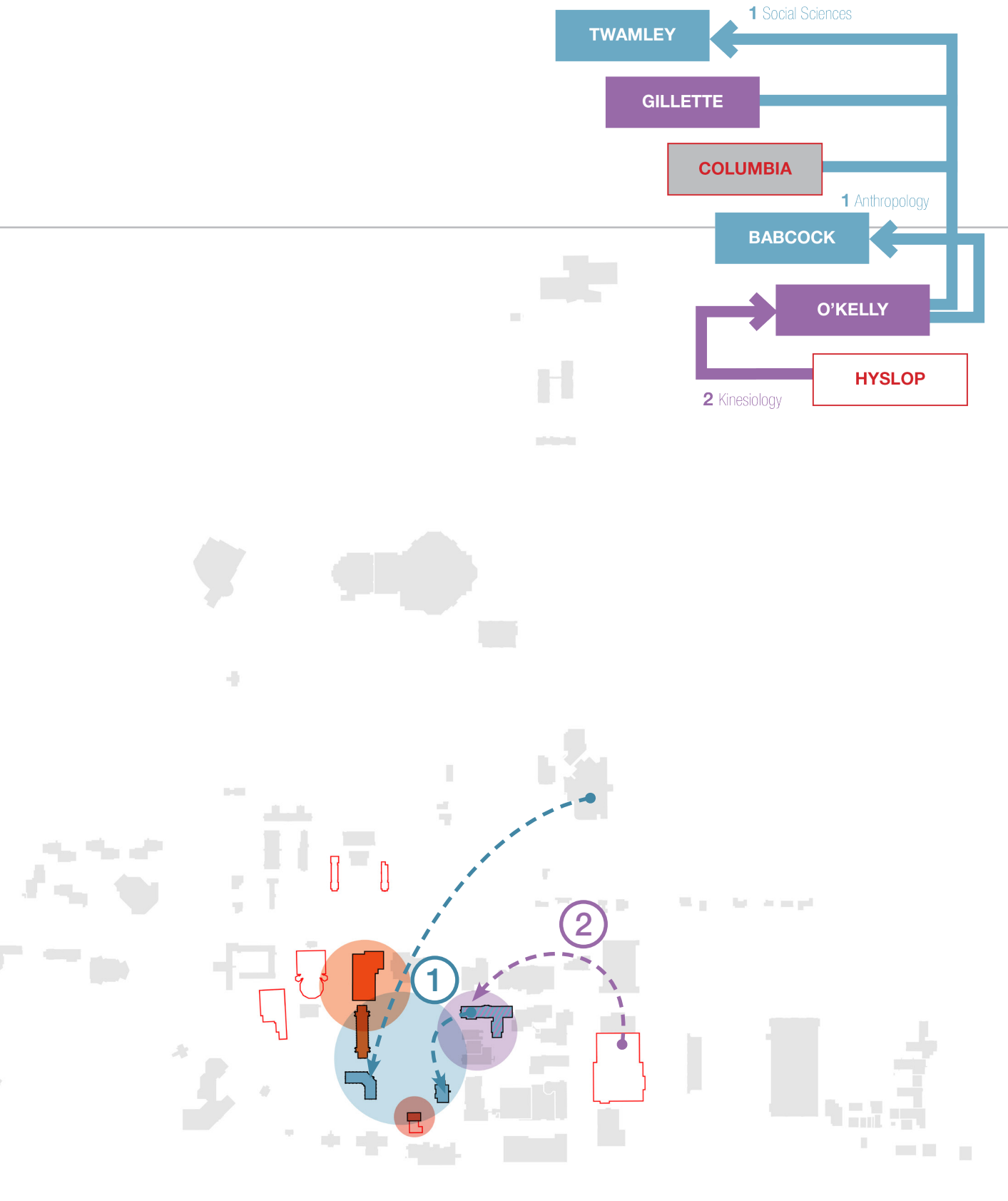
College of Arts and Sciences Consolidation

Project Phasing

- 1a. Renovate Twamley and Babcock.
- 1b. Move Social Science departments from Columbia, Gillette, and O’Kelly to Twamley and Babcock.
- 2a. Move Education programs from Hyslop to O’Kelly (Gym 2 remains in Hyslop for Kinesiology and other athletic education programs).
- 2b. Demolish partial Hyslop.

New (gsf)		
By Phase		Cumulative Total
		78,810
Demo(gsf)		
By Phase		Cumulative Total
300,000	Partial Hyslop	722,148
Net New		-643,338





Short Term Projects

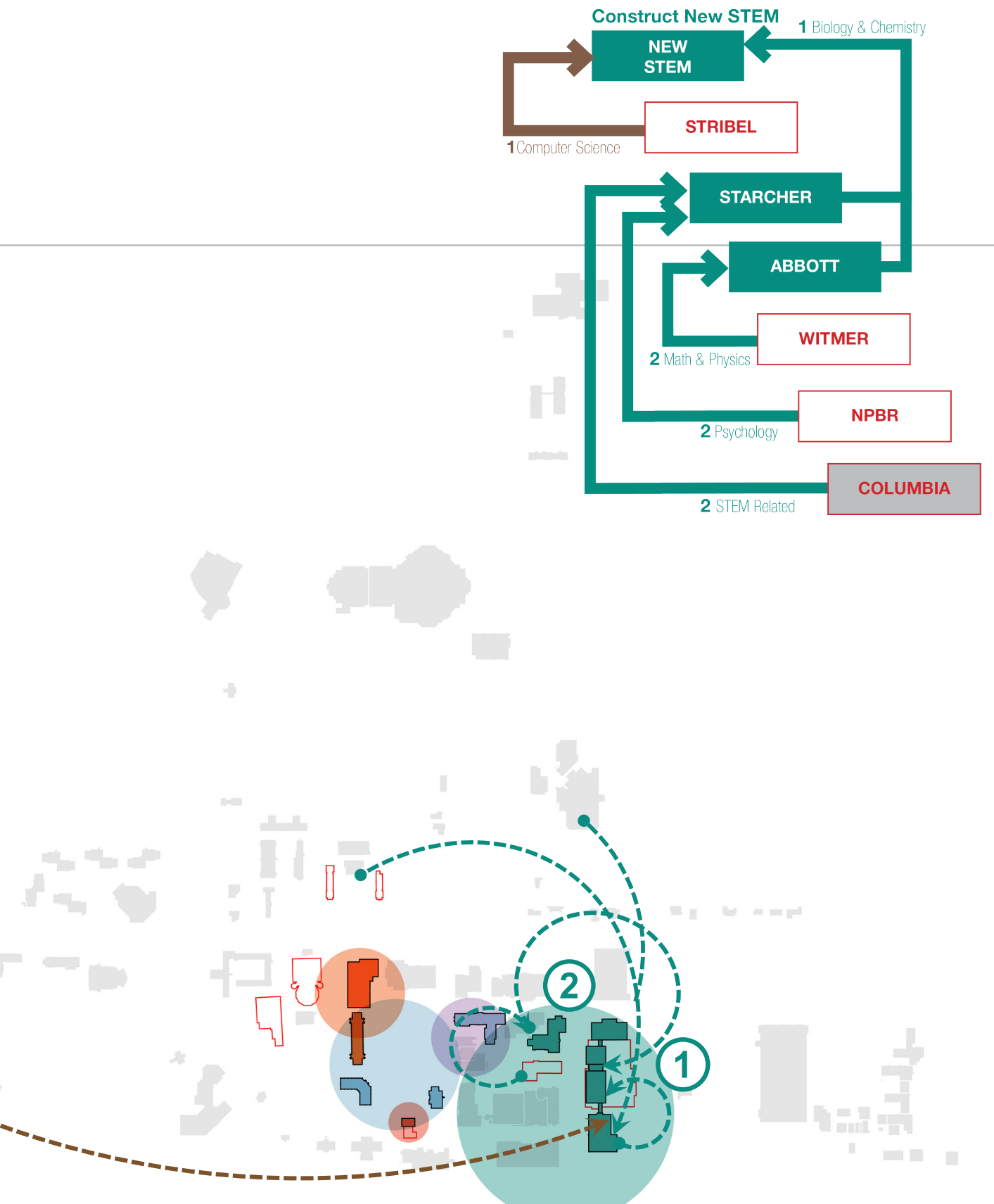
STEM

Project Phasing

- 1a. Construct new STEM facility.
- 1b. Move Biology and Chemistry labs from Starcher and Abbott to STEM facility.
- 1c. Demolish Stribel and renovate Abbott and Starcher.
- 2a. Move Math and Physics from Witmer to Abbott, Psychology from NPBR, and STEM related programs from Columbia to Starcher.
- 2b. Demolish Witmer, NPBR available for homecoming or swing space.

New (gsf)		
By Phase		Cumulative Total
110,000	STEM	188,810
Demo(gsf)		
By Phase		Cumulative Total
93,840	Streibel Witmer	815,988
Net New		-627,178





Short Term Projects

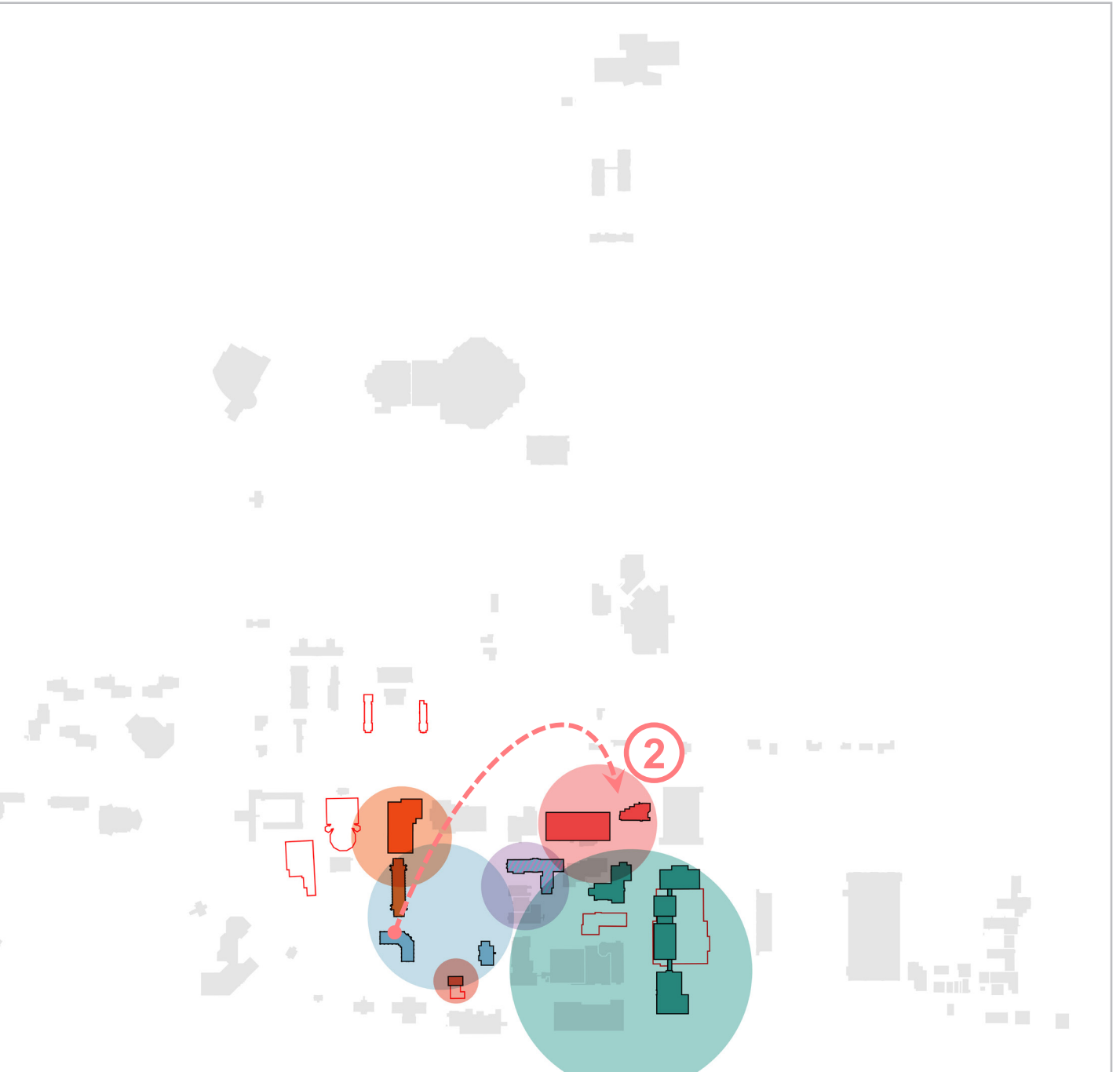
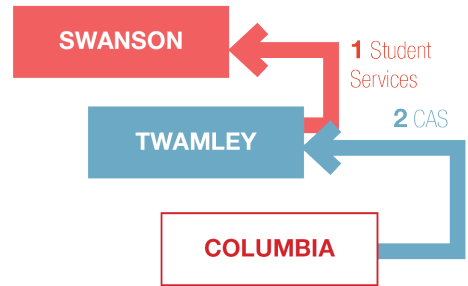
Student Services

Project Phasing

- 1a. Demolish Memorial Union
- 1b. Construct new Student Union
- 2a. Renovate first 2 floors of Swanson
- 2b. Move student services from Twamley and Student Union to Swanson

New (gsf)		
By Phase		Cumulative Total
125,000	New Student Union	313,810
Demo(gsf)		
By Phase		Cumulative Total
145,059	Memorial Union	961,047
Net New		-647,237





Remaining Short Term Projects

Athletics and Recreation

- 1. Construct HPC II, including new pool at the Student Wellness Center.

Housing

- 1. Demolish housing facilities planned for 2018.
- 2. Construct new housing along University Avenue.

Steam Plant

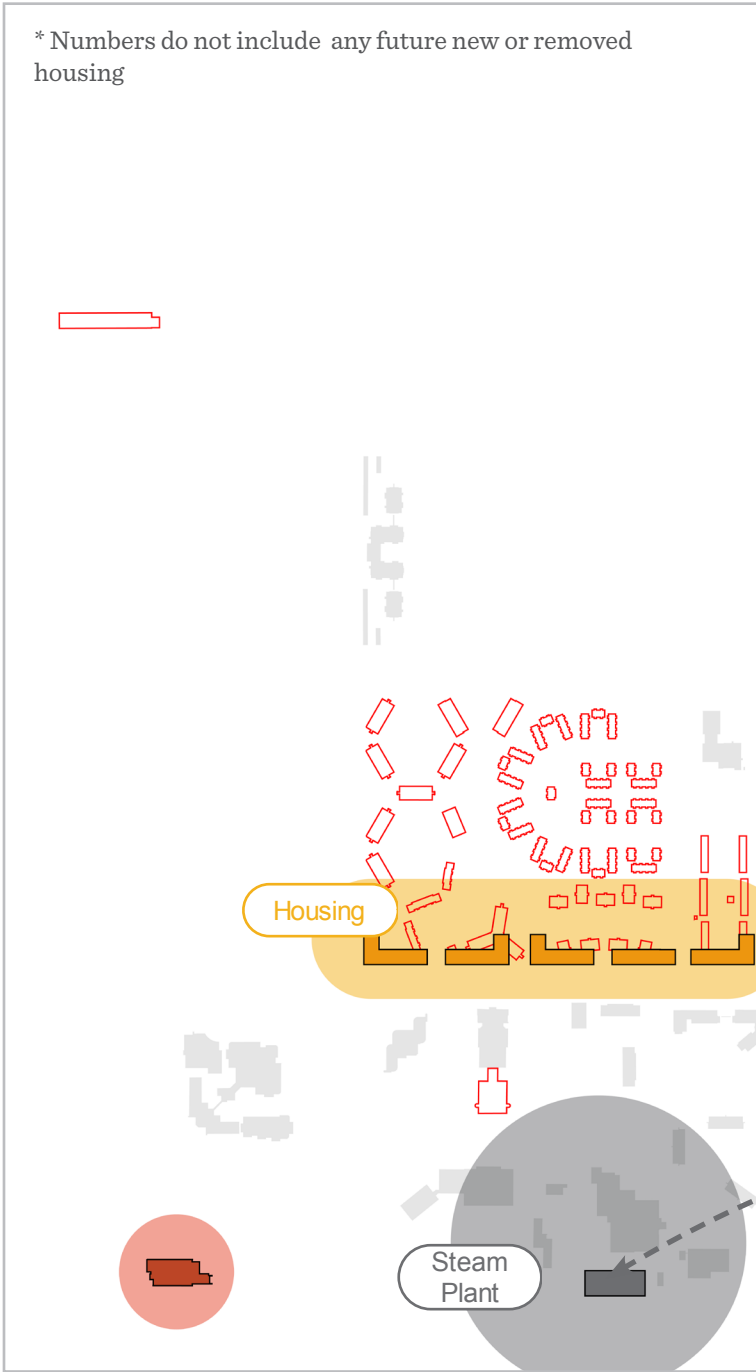
- 1. Construct new Steam Plant in the Facilities zone
- 2. Demolish existing Steam Plant

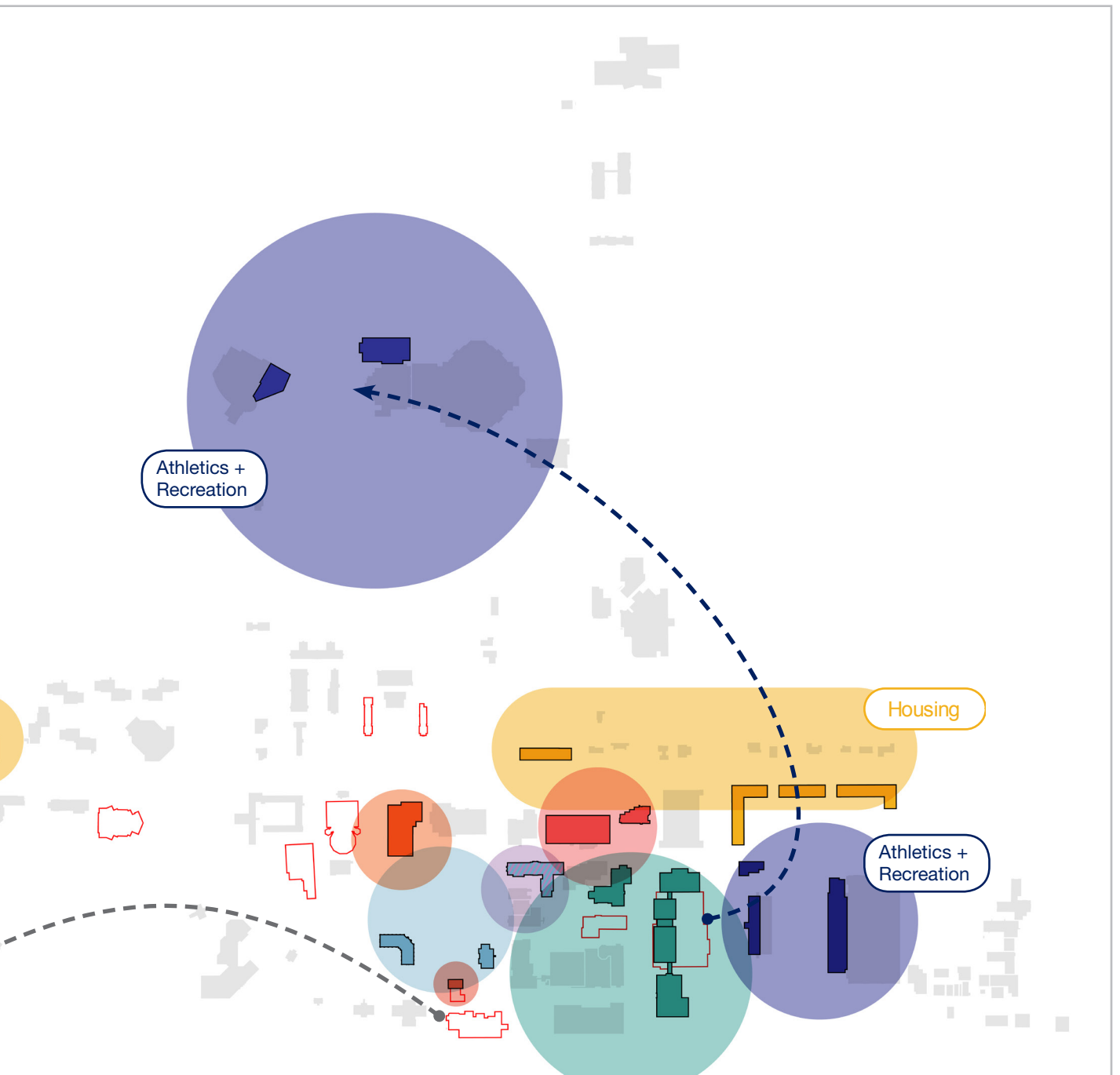
Off Campus

- 1. UAS Airport

By Phase		Cumulative Total
New (gsf)		
143,000	HPC II, Steam Plant, UAS Airport	465,810*
Demo(gsf)		
120,576	Steam Plant Memorial Stadium	1,081,623
Net New		-615,813

* Numbers do not include any future new or removed housing





Mid Term Projects

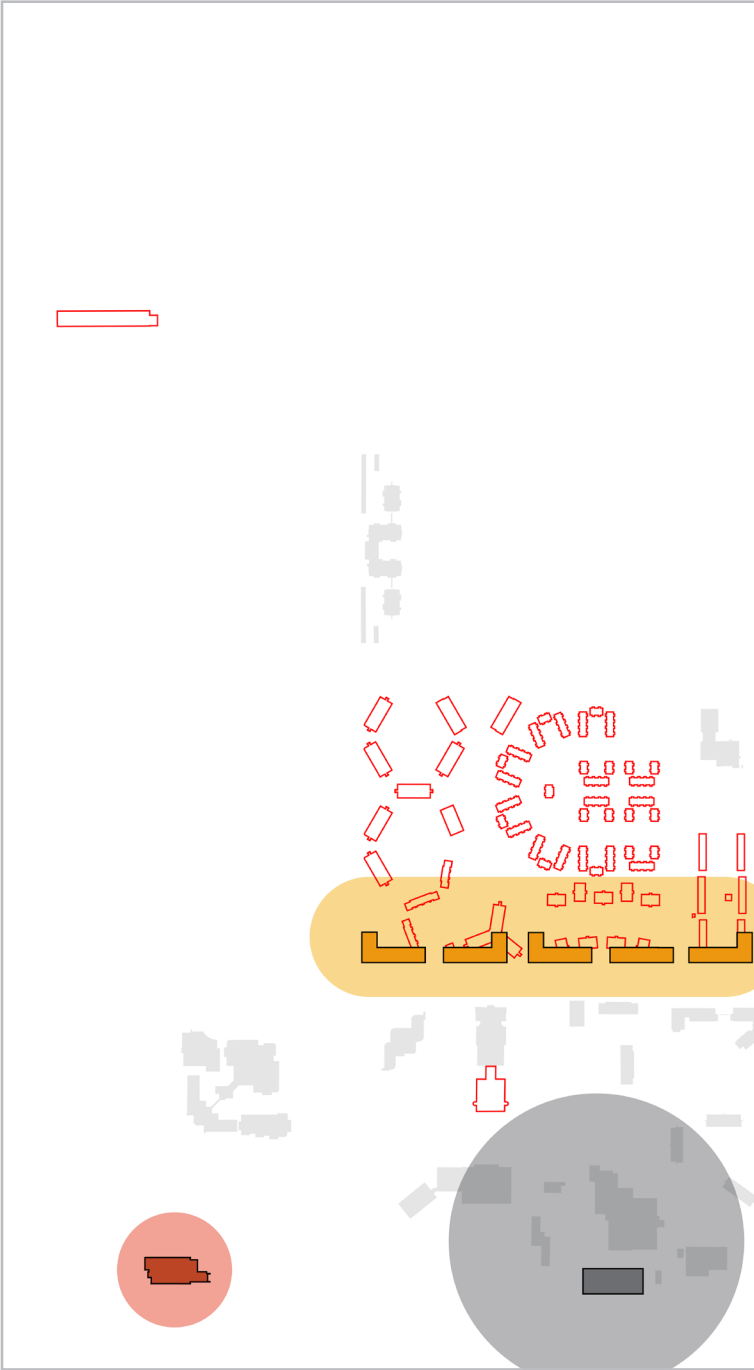
Consolistaion of College of Arts and Sciences

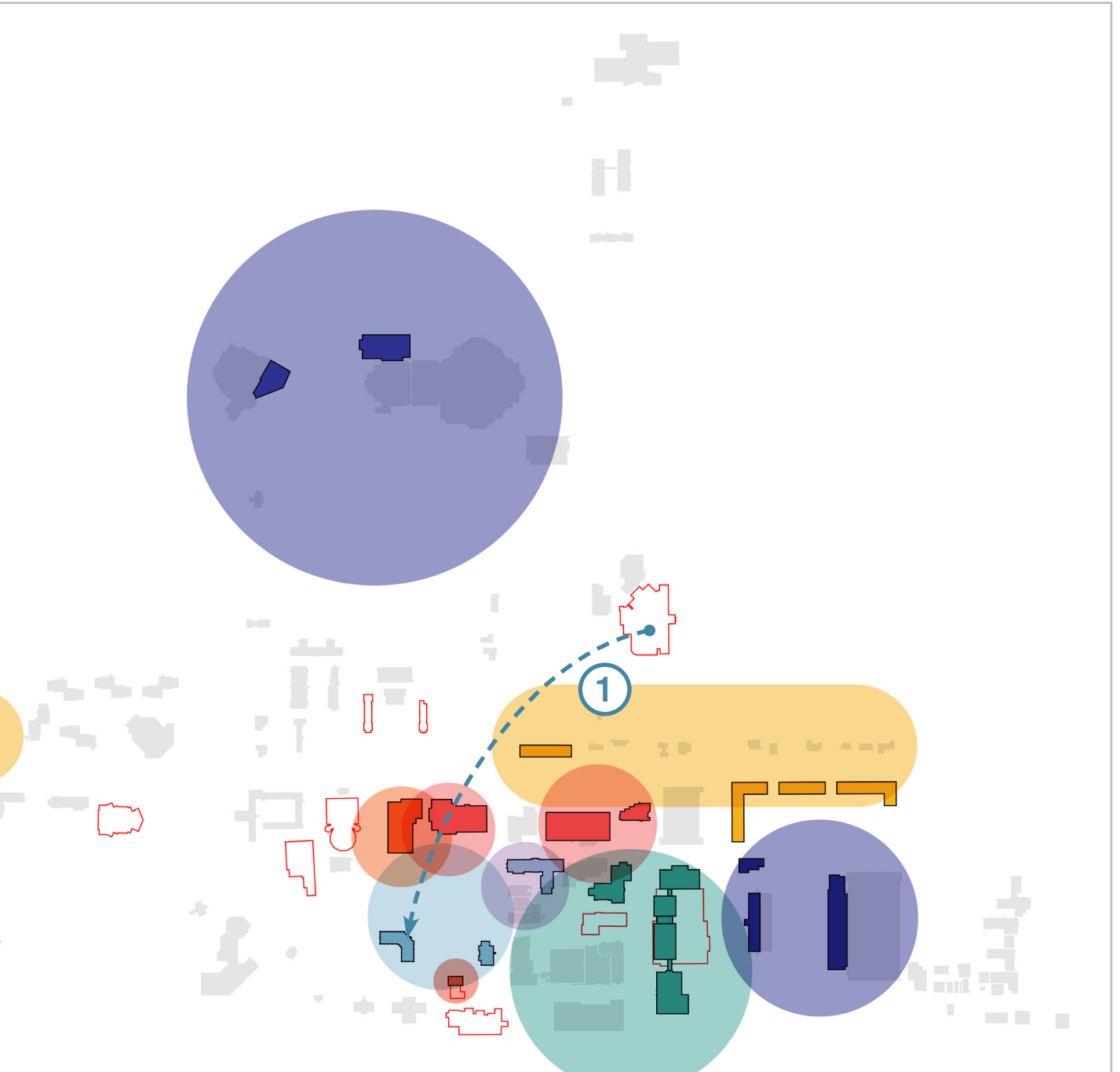
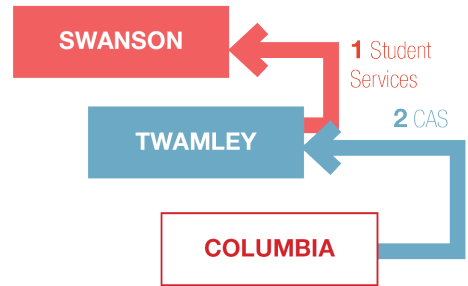
- 1. Move remaining CAS programs from Columbia to Twamley
- 2. Demolish Columbia

Chester Fritz Library Renovation

- 1. Temorarily relocate offices
- 2. Renovate Library

New (gsf)		
By Phase		Cumulative Total
		465,810
Demo(gsf)		
By Phase		Cumulative Total
280,200	Columbia	1,361,823
Net New		-896,013





Long Term Projects

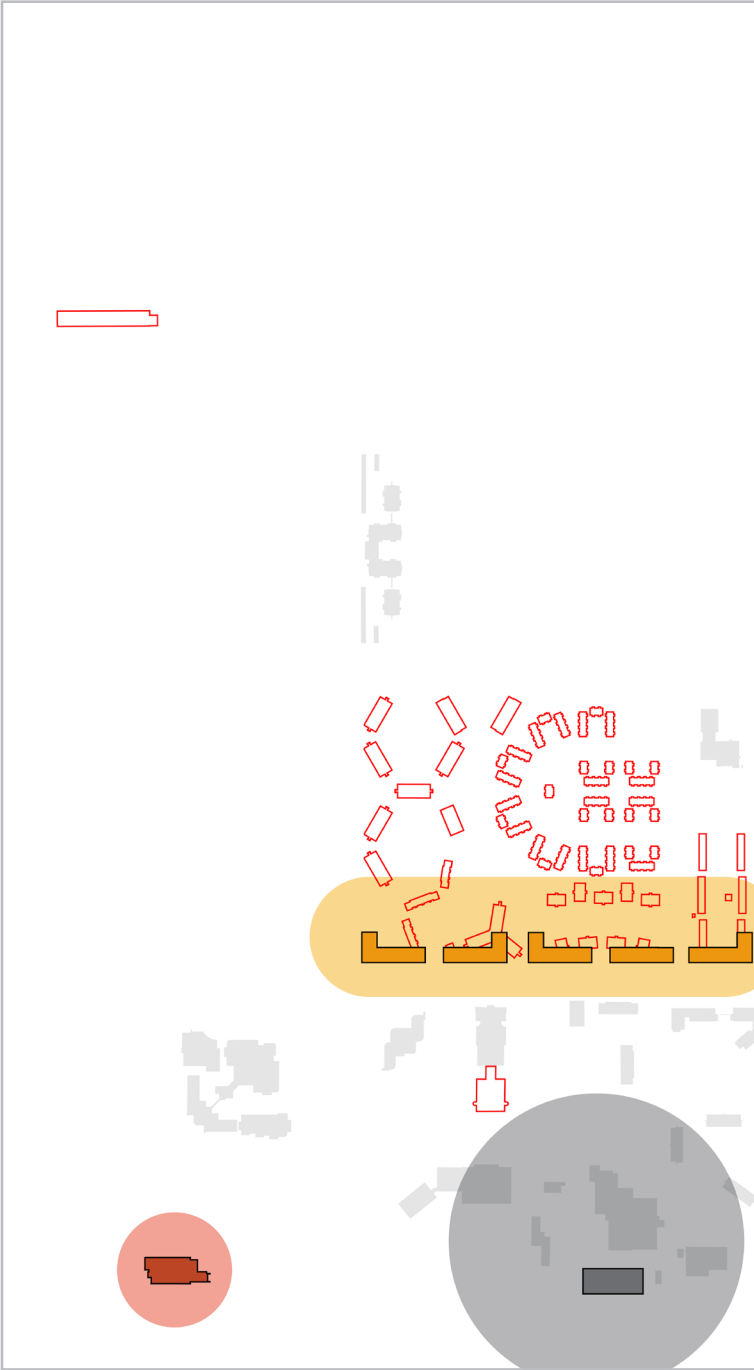
Nursing and Research

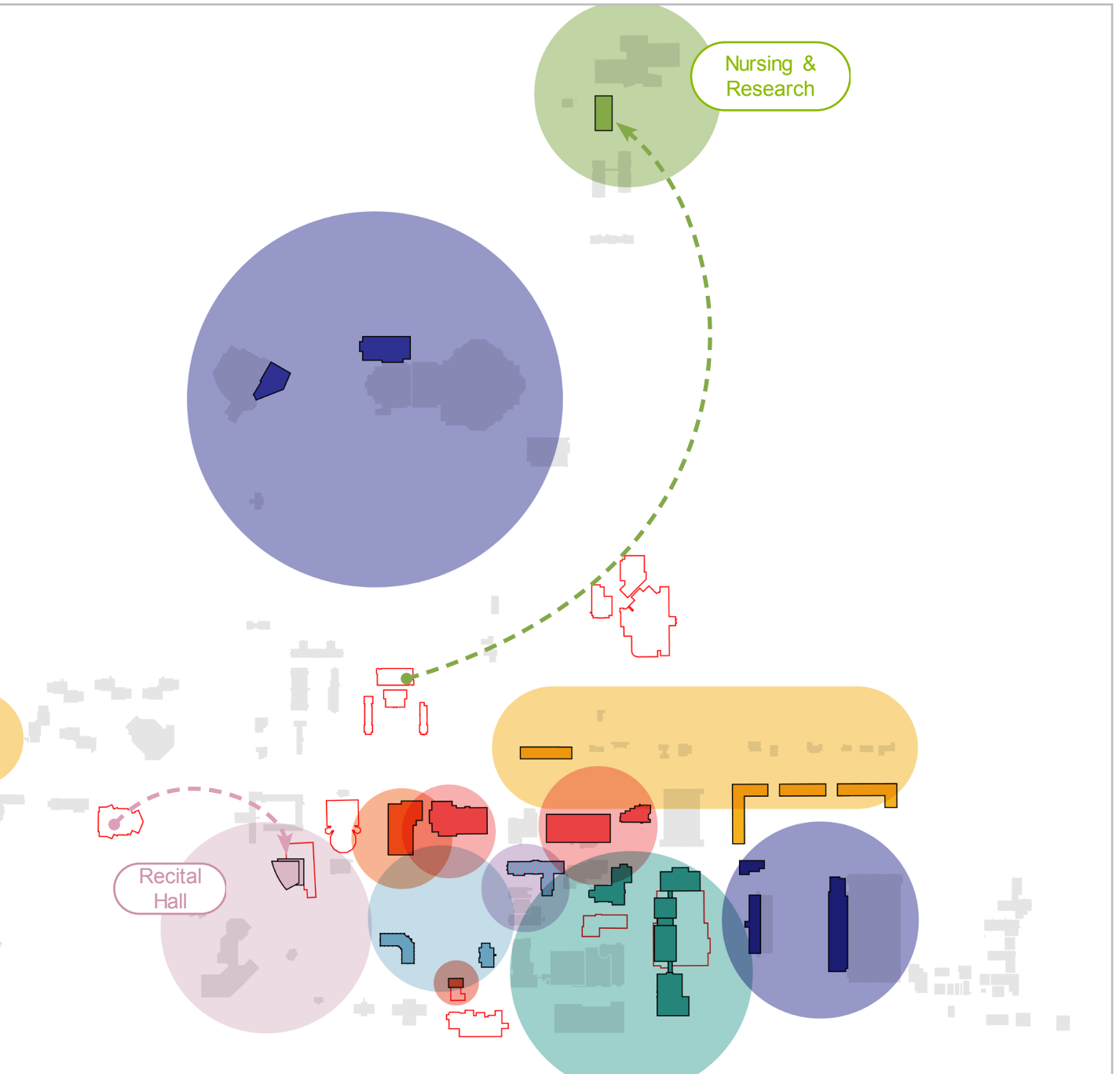
1. Construct new Nursing and Research facility at the School of Med (total gsf is net neutral).
2. Move Nursing and Biomedical and Neuroscience Research to new facility.
3. Demolish existing Nursing building, Biomedical and Neuroscience Research Facilities.
4. If required, construct new research facility at STEM.

Recital Hall

1. Construct new Recital Hall in the arts district.
2. Move Chester Fritz Auditorium uses to the new Recital Hall.
3. Decommission Chester Fritz Auditorium.

By Phase		Cumulative Total
New (gsf)		
134,200	Nursing & Research, Recital Hall	591,010
Demo(gsf)		
193,753	Nursing Biomedical Research Neuroscience Research Chester Fritz Auditorium	1,555,576
Net New		-964,566



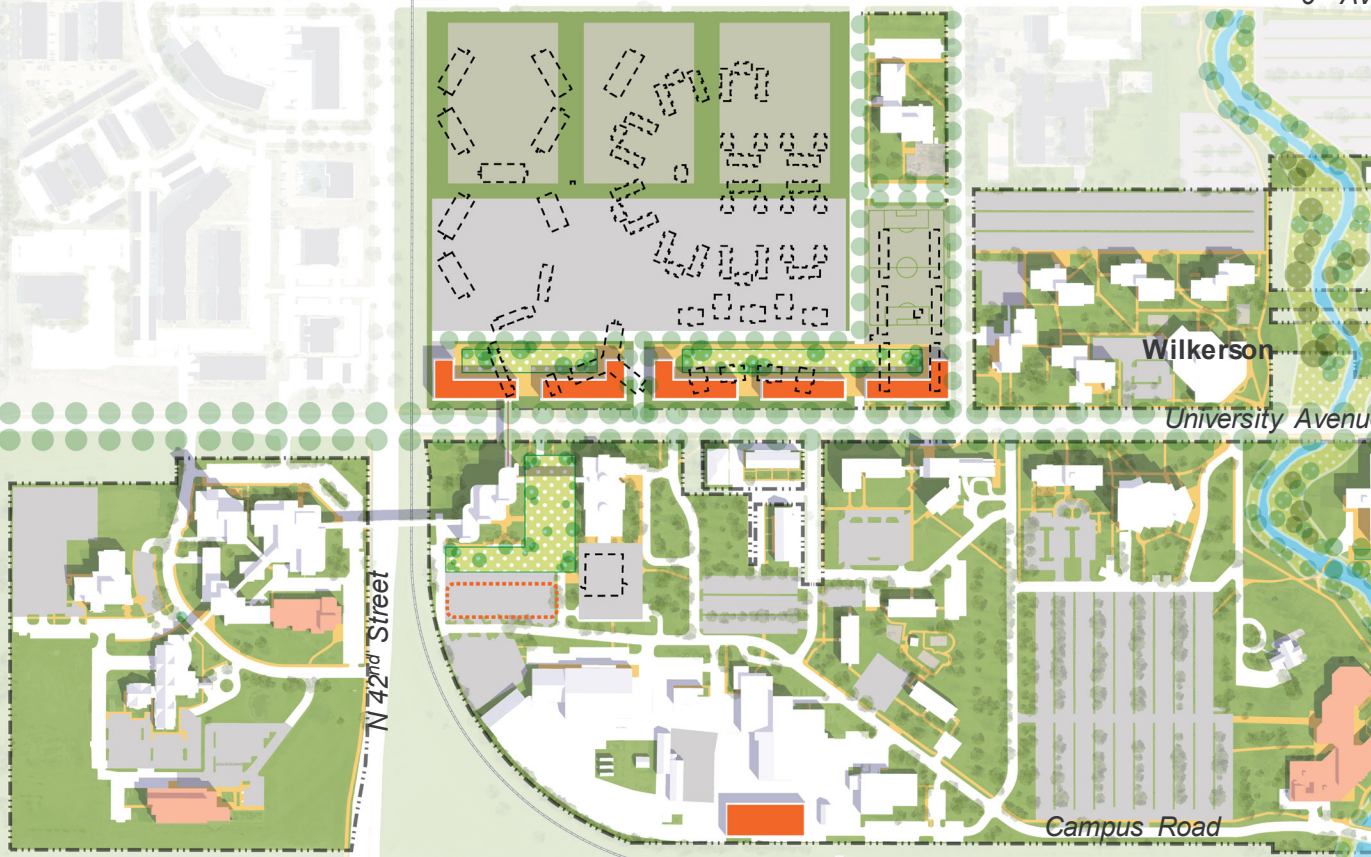


IMPLEMENTED VISION

Total New Construction GSF	591,010
Total Demolition GSF	1,555,576
Net New GSF	-964,566

Avg. Age of Demo	65 years
Avg FCNI of Demo	.46

2016 UND GSF	4,327,030
30 year proposed UND GSF	3,362,464
Reduction of GSF	22.3%





- NEW CONSTRUCTION
- RENOVATION
- NEW PARKING STRUCTURE
- DEMOLITION
- POTENTIAL DEVELOPMENT SITE

"The Ralph"

North Columbia Road

Library

Campus Quad

2nd Avenue

ACKNOWLEDGMENTS

Steering Committee

Michael Pieper, AVP Facilities Management
Les Bjore, Director PDC Facilities
Sue Jenö, Faculty Representative
Hesham El-Rewini, Dean of the College of Engineering & Mines*
Janice Hoffarth, Staff Representative
Peter Johnson, Interim VP for University and Public Affairs*
Cole Bachmeier, Student Body President*
Grant McGimpsey, VP for Research and Economic Development and
Dean of the School of Graduate Studies*
Debbie Storrs, Dean of the College of Arts and Science*
Bob Knutson, Alumni Foundation
Cara Halgren, VP for Student Affairs and Diversity
Eric Martinson, Athletics Assistant

***also on the Presidents Cabinet**

Presidents Cabinet

Mark Kennedy, UND President
Alice Brekke, VP for Finance and Operations
DeAnna Carlson Zink, UND Alumni Association
Thomas DiLorenzo, Provost and VP of Academic Affairs
Brian Faison, Athletics Director
Joshua Wynne, VP for Health Affairs and Dean of SMHS
Nancy Vogeltanz-Holm, Center for Health Promotion/Prevention
Dana Harsell, Political Science & Public Administration
Amber Flynn, Wellness & Health Promotion
Thomas Erickson, EERC
Brandon Beyer, VP University Relations
Elissa Granrud, Marketing & Creative Services

Sasaki

Tyler Patrick, Campus Planning Principal
Mary Anne Ocampo, Urban Design Principal
Nicole Friend, Planner
Chanwoo Kim, Urban Designer
Hyunsik Mun, Urban Designer
Charlotte Yu, Planner

EAPC

Wayne Dietrich, Principal Architect
Casey Hutton, Architect

SASAKI
64 PLEASANT ST
WATERTOWN, MA 02472
UNITED STATES

