2010

UMass Amherst Framework Plan: Preliminary Observations of Existing Conditions

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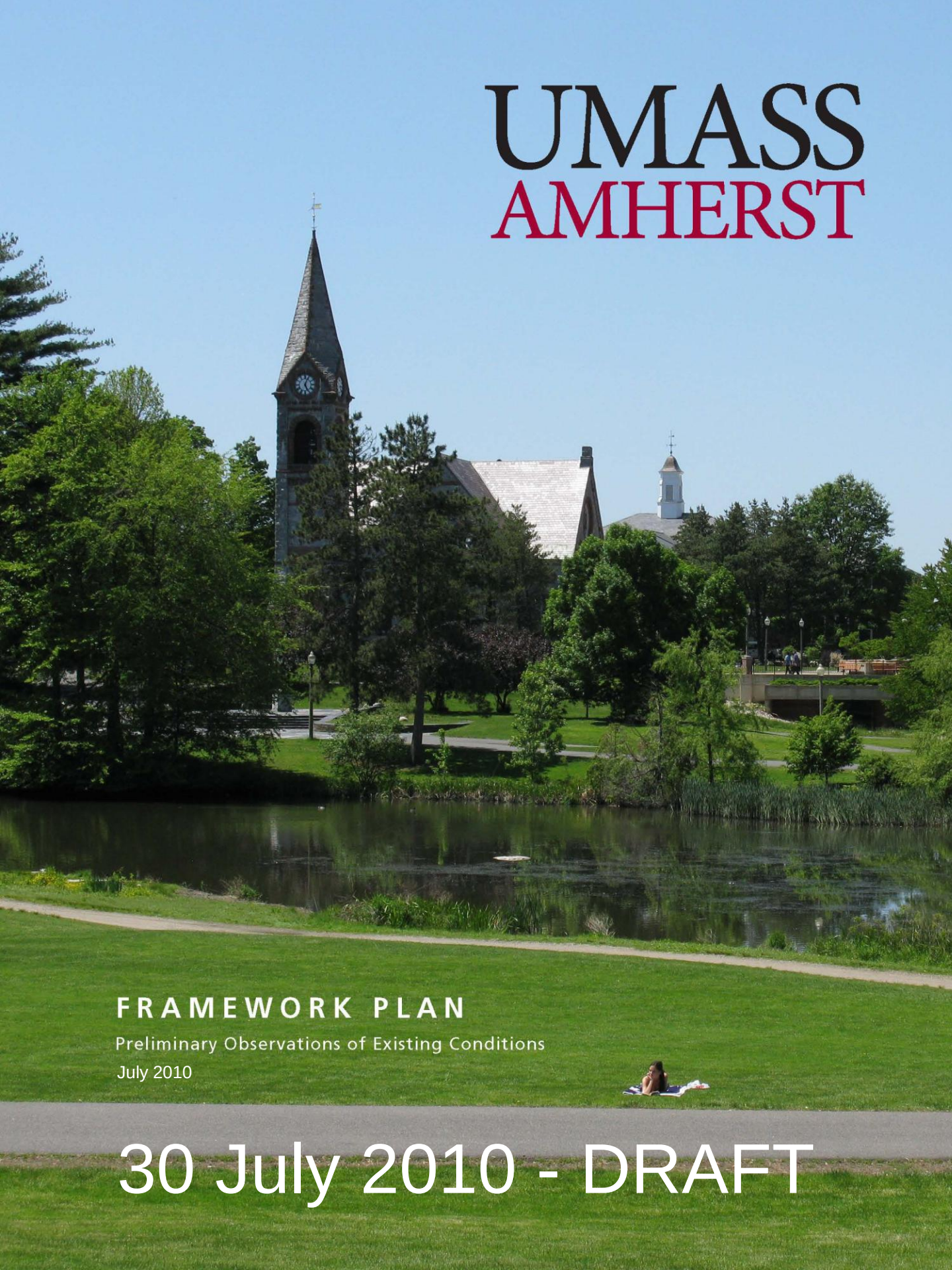
UMASS AMHERST



FRAMEWORK PLAN

Preliminary Observations of Existing Conditions

July 2010

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UMASS AMHERST

Framework Plan

Preliminary Observations of Existing Conditions

June 2010

Prepared for
Division of Capital Asset Management
and
University of Massachusetts Amherst
Massachusetts State Project Number UMA0802 ST1

Ayers Saint Gross Architects + Planners
Wilson Architects

DRAFT

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Van Meter Hall

University of Massachusetts Amherst, 2010

Purpose & Process

The University of Massachusetts Amherst has a long tradition of campus planning that dates back to 1866 and the first plan for the campus by Frederick Law Olmsted. Successive planning efforts in the modern era have documented strategies for continued development of the campus. Despite this long tradition of planning, development of the campus has at times diverged from the recommendations of successive master plans. The last plan was adopted in 1993 and updated in 2007. The campus is once again growing; UMass is in the midst of a ten-year, billion-dollar capital improvement program that started in 2004. The University has determined that it is time for a renewed effort to generate a Framework Plan for the campus.

A new planning initiative is underway to update the 1993/2007 Campus Master Plan, address the deteriorated condition of existing campus facilities, accommodate planned enrollment growth, and advance the goals of the *Framework for Excellence* developed under the leadership of Chancellor Holub.

This new Framework Plan will be a campus master plan that will serve as a guide for sustainable future development that reinforces the *Framework for Excellence.* The plan will document a clear vision and identity for the campus,

Bartlett Hall

with planning principles, goals and recommendations to guide all future growth. The planning process is expected to be an intensive twelve -month process that will intimately engage University leadership, the campus community and many other interested stakeholders. The area of study includes over 1,400 acres on the main campus, as well as the 150-acre Hadley Farm, the thirty-two-acre North Village Residential Area, and the ninety-four-acre Tillson Farm.

One of Chancellor Holub's primary goals is to raise the stature of the campus to one of the best research universities in the country. Since his arrival in summer 2009, the Chancellor has launched a new *Framework for Excellence* for the University that envisions the hiring of 250 new faculty and increasing student enrollment by 3,000 in the next ten years.

The *Framework for Excellence* also recognizes that the deteriorated condition of the existing physical plant "presents the University with perhaps its greatest challenge." Over the past several decades, state funding has been substantially below the level necessary to maintain and renew University facilities and infrastructure.

Draper Hall

As a result, many facilities can no longer support the demands of modern education, including contemporary science and educational pedagogy. The backlog of deferred maintenance currently stands at $2 billion. There is a critical need for a strategic campus master plan that will address this backlog and articulate a vision for the campus that is commensurate with its stature as a top-level research university.

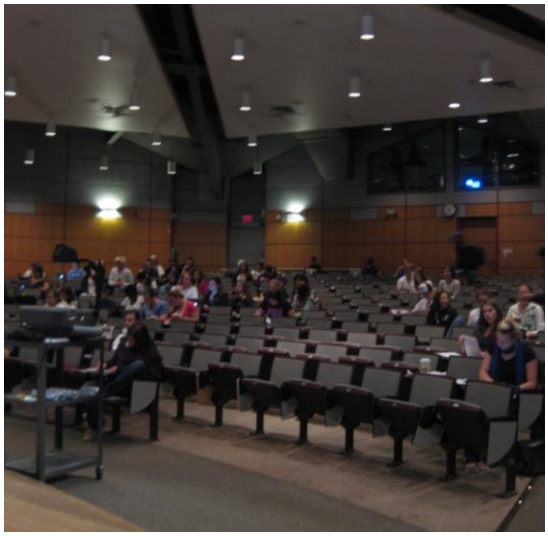
This report is the first step in the planning effort for the Framework Plan. It integrates information from existing studies and reports – collecting critical findings from many sources in one document so that they can be reviewed comprehensively and provide insight regarding campus natural and built systems so that future planning decisions can be made with informed data revealing challenges and opportunities.

Old Chapel and W.E.B. Du Bois Library

Key Issues

The University of Massachusetts Amherst is a campus of contradictions: Large and Intimate; Cutting-edge and Out-of-date; Compact and Sprawling; Lush and Sparse. Rural and Urban. Each of these elements represent strengths and weaknesses as well as challenges and opportunities. The following are the key issues that should be addressed in the Framework Plan:

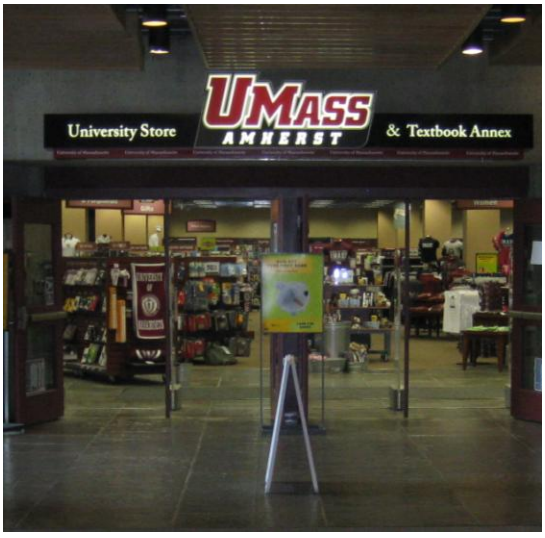
- Address the programmatic needs of the University
- Provide up-to-date facilities
- Integrate a large campus with overlapping neighborhoods
- Strengthen campus open spaces
- Improve campus connections
- Create a compact and sustainable campus



Teaching and research

Labs

Resident life



Student life

Address the programmatic needs of the University

The University has unaddressed current and future space needs across academic, research, and student life programs:

- No swing space is available to facilitate renovation or demolition
- New and renovated facilities are critical to meet current and future program needs:
  - Modernized spaces conducive to contemporary teaching techniques will improve the academic experience and improve appropriate adjacencies
  - Consolidating and/or relocating administrative units may be necessary to provide additional academic space
  - Improved student life facilities are needed to accommodate current students as well as planned enrollment growth

Building modernization

Removal of obsolete buildings

Interior renovations

Reuse options

Provide up-to-date facilities

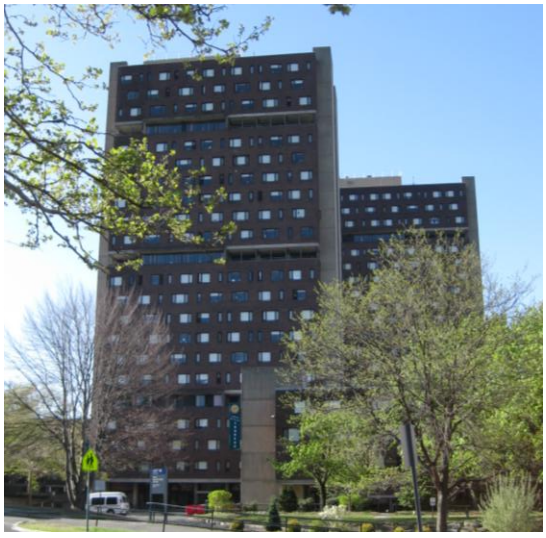
University facilities and infrastructure require modernization and expansion to meet current and projected enrollment:

- Current deferred modernization of $2 billion impacts academic, research, and student life programs
- Almost a million square feet of space in poor condition
- Nineteen buildings not in compliance with local building code
- Infrastructure systems require substantial improvement and expansion (storm water, electric, etc.)
- No swing space is available to facilitate renovation or demolition
- Historic buildings are an important connection to institutional heritage, but frequently underutilized

Academic neighborhoods

Residential quads

Recreation and socialization



Large scale urban neighborhood

Integrate a large campus with overlapping neighborhoods

UMass is a large institution comprised of multiple neighborhoods and communities:

- The on-campus housing varies from traditional campus quads to urban neighborhoods which meet different students needs and expectations
- The academic core is divided into Science/Engineering to the north and Liberal Arts across the Pond. While this creates distinct uses, there is limited overlap which could foster more interdisciplinary pursuits.
- The campus core should be the most vibrant neighborhood, but does not successfully foster University interaction due to discreet zones for Science/Engineering vs. Liberal Arts and residential separated from academic. Mixing residential, academic, and social uses would create a more vibrant place.

Excessive paved surfaces

Inhospitable streets

Undefined spaces

Inadequate pathways

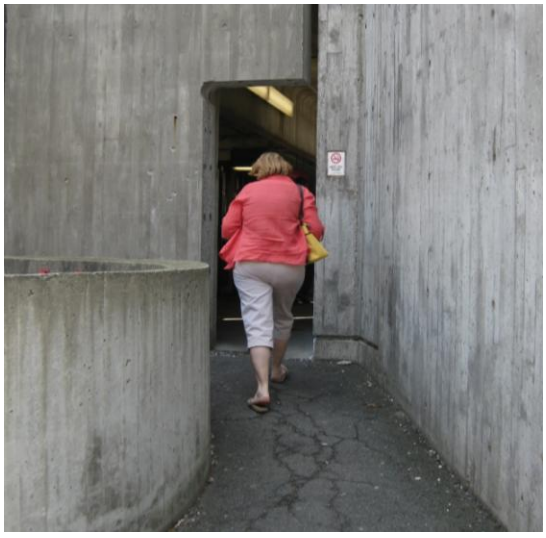
Strengthen campus open spaces

The campus open space network and facilities do not reflect the stature of the institution

- Entry and arrival on campus is underwhelming – no threshold or transition
- Buildings and infrastructure do not define a clear network of open spaces – limited collegiate feel, scale, or hierarchy among spaces
- Utilitarian approach to infrastructure (utilities, roads, etc.) makes these elements too prominent
- Low branches and understory trees block views
- Campus landscape does not incorporate elements that are distinctive to Western Massachusetts and the foothills of the Berkshires

Clarify transit to improve service

Extend bike paths and facilities



Improve campus walking environment

Reduce reliance on autos

Improve campus connections

Circulation on campus is confusing and disconnected:

- Boundaries between automobile and pedestrian circulation are unclear – compromises pedestrian safety
- Intrusion of roads, service access, and parking negatively affects campus quality
- Massachusetts Ave and Commonwealth Ave are areas of conflict between pedestrians and automobiles and are oversized for daily traffic
- North-south pedestrian spine between Whitmore and Machmer Halls serves the campus well and could be extended north toward Sciences/Engineering
- Transportation demand management has decreased single-occupant auto trips to campus by 33% in the past ten years; significant increases in bus ridership, carpooling, biking, walking are expected to continue

Compact campus around the core

Connect to the land

Honor traditions and embrace change

Create a compact and sustainable campus

The campus has a compact core but is sprawled at the edges

- Orchard Hill and North campus feel disconnected from campus due to change in grade
- Campus is near to, but feels remote from downtown Amherst retail and services which creates a perceived need for personal autos
- Renovations will likely increase demand for air-conditioning and power which will increase electrical loads on campus
- New stormwater requirements will require systemic containment of runoff and improved water quality
- Infill construction will reduce sprawl and improve campus walkability

Herter Hall

Preliminary Planning Principles

The key issues outlined on the previous pages identify some preliminary planning principles that will guide the creation of the Framework Plan going forward. The Framework Plan should guide the development of the UMass campus in a way that:

MOVES THE BALL

- Ensures that each dollar spent on the physical plant moves the ball forward in support of the University's mission

PRIORITIZES A PLAN OF SUSTAINABLE, PRACTICAL IMPLEMENTATION

- Supports programmatic priorities in a way that strengthens physical campus
- Provides the campus with the ability to make informed decisions
- Guides significant new construction and modernization of existing facilities
- Accommodates changing needs and priorities over the next 20 years

IMPROVES CAMPUS IDENTITY AND CHARACTER

- Strengthens arrival and defines campus edges
- Strengthens connection to town—extends campus south and north
- Improves the open space between the buildings
- Improves pedestrian and bicycle circulation and safety
- Adopts landscape elements that are unique to the region
- Addresses the dichotomy of an urban campus in rural / village setting
- Uses cultural resources to enhance University programs– historic buildings, Waugh Arboretum, Prexy's Ridge, etc.

As the planning process for the Framework Plan progresses, these preliminary planning principles will be refined with input from University leadership and the campus community.

Stockbridge Hall

Next Steps

Working together University representatives have identified these next steps as the critical path for the development of the Framework Plan:

DEFINE THE CAMPUS VISION

The University requires a compelling vision for the long-range sustainable development of the physical campus. The campus has often grown in the past without the benefit of such a vision. As a result, a sense of place and a coherent physical identity is missing from the campus today. From lack of funding and a compelling vision, the campus is much less attractive than it could and should be; the campus does not reflect the stature of the institution. The Framework Plan must define and articulate a vision to guide all future development decisions, so that each new building, landscape, and infrastructure improvement will contribute actively to the making of place, the creation of an identity for the campus that is welcoming and enticing to the world-class students, faculty, staff and visitors of a top-level university, and accommodate future enrollment growth.

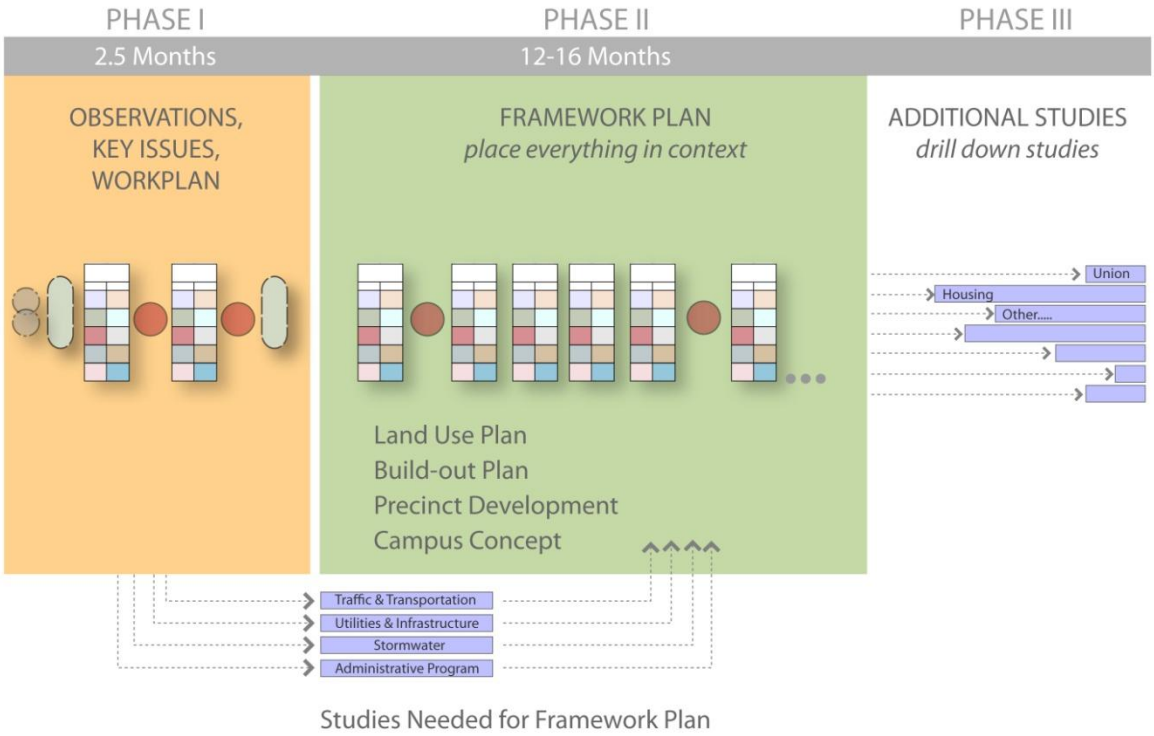
Members of the planning team tour the Northeast Residential Area

QUANTIFY THE PHYSICAL NEED

Assess the capacity and condition of existing facilities to sustain the University's current programs and activities as the baseline scenario, and identify challenges to meeting the campus' future goals. Areas of study shall include (but not be limited to) existing buildings and structures, programmatic and functional needs, deferred maintenance, campus utilities and infrastructure, sustainable development, campus access, circulation, parking, transportation, building service, and campus land use.

DEVELOP SCENARIOS FOR GROWTH

Evaluate a number of scenarios for growth that take into account existing facility deficiencies, as well as projected physical needs. One such scenario: increase in enrollment of 3,000 students and 250 faculty in the next ten years. Each scenario will investigate a combination of renovation, demolition, deferred maintenance and new construction. Particular emphasis will be placed on the options for addressing the deteriorated condition of existing facilities.



Framework Plan development process

SELECT A PREFERRED SCENARIO

Build consensus for a preferred scenario. Once identified, the preferred scenario will be further developed and refined to be the Framework Plan.

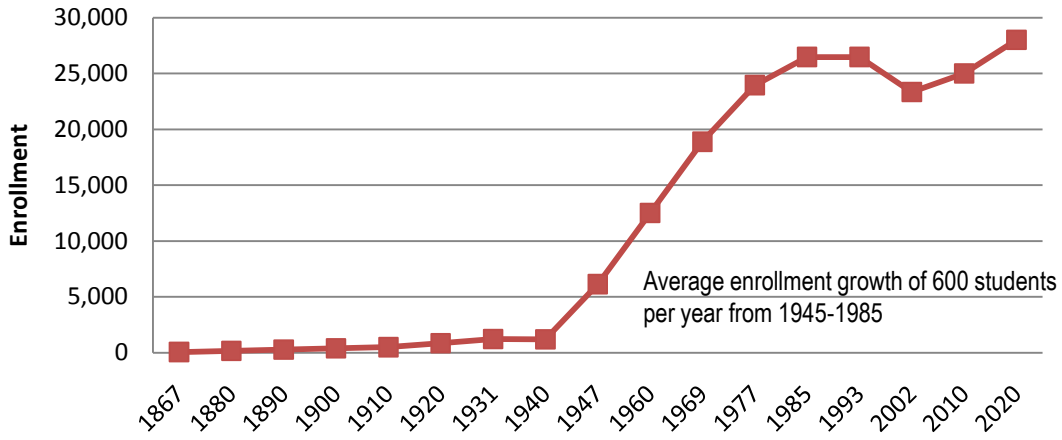
COMPLETE THE FRAMEWORK PLAN

The Framework Plan will be the foundation for physical planning of the UMass campus. The Framework Plan guides the future physical development of the campus It advises current and future generations of University leadership as they seek to understand where a needed facility or infrastructure should be located and how it will relate to existing and anticipated context. The Framework Plan will provide the tools to assist in informing campus decision makers.

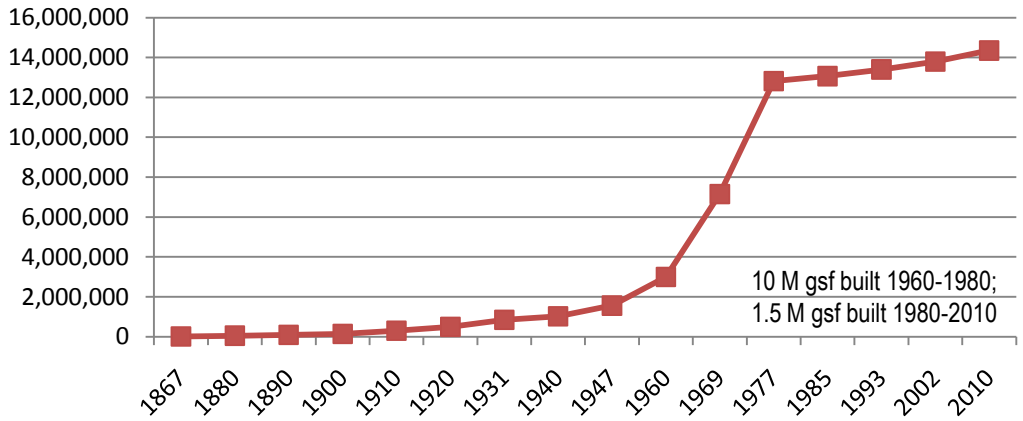
History of Campus Development

The University of Massachusetts Amherst was established under the Morrill Land Grant act as the Massachusetts Agricultural College in 1863 on 310 acres with four buildings, four faculty and 56 students. Since that time the University has experienced significant change. Today, UMass Amherst is the flagship of the five-campus University of Massachusetts system and the campus is growing. The campus supports a community of 30,000, with an enrollment of 20,000 undergraduate and 5,000 graduate students. It occupies over 11.5 million gross square feet of buildings on 1,400 acres of land.

With significant enrollment growth after World War II came significant new facilities. Over 10 million square feet of space was built within 20 years with a change in scale from rural to a more urban campus consisting of dense neighborhoods and towers. While this has limited the temptation for the campus to sprawl, it has created a campus character that is in contrast with the historic town of Amherst and the associated colleges. The challenges today are how to address the large number and size of these aging buildings, how to relate the scale of the campus to its surrounding communities, and determine which buildings should be retained.



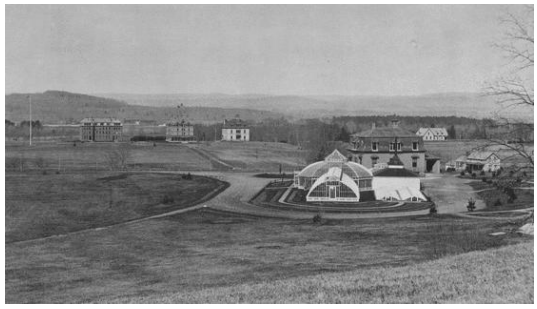
Enrollment



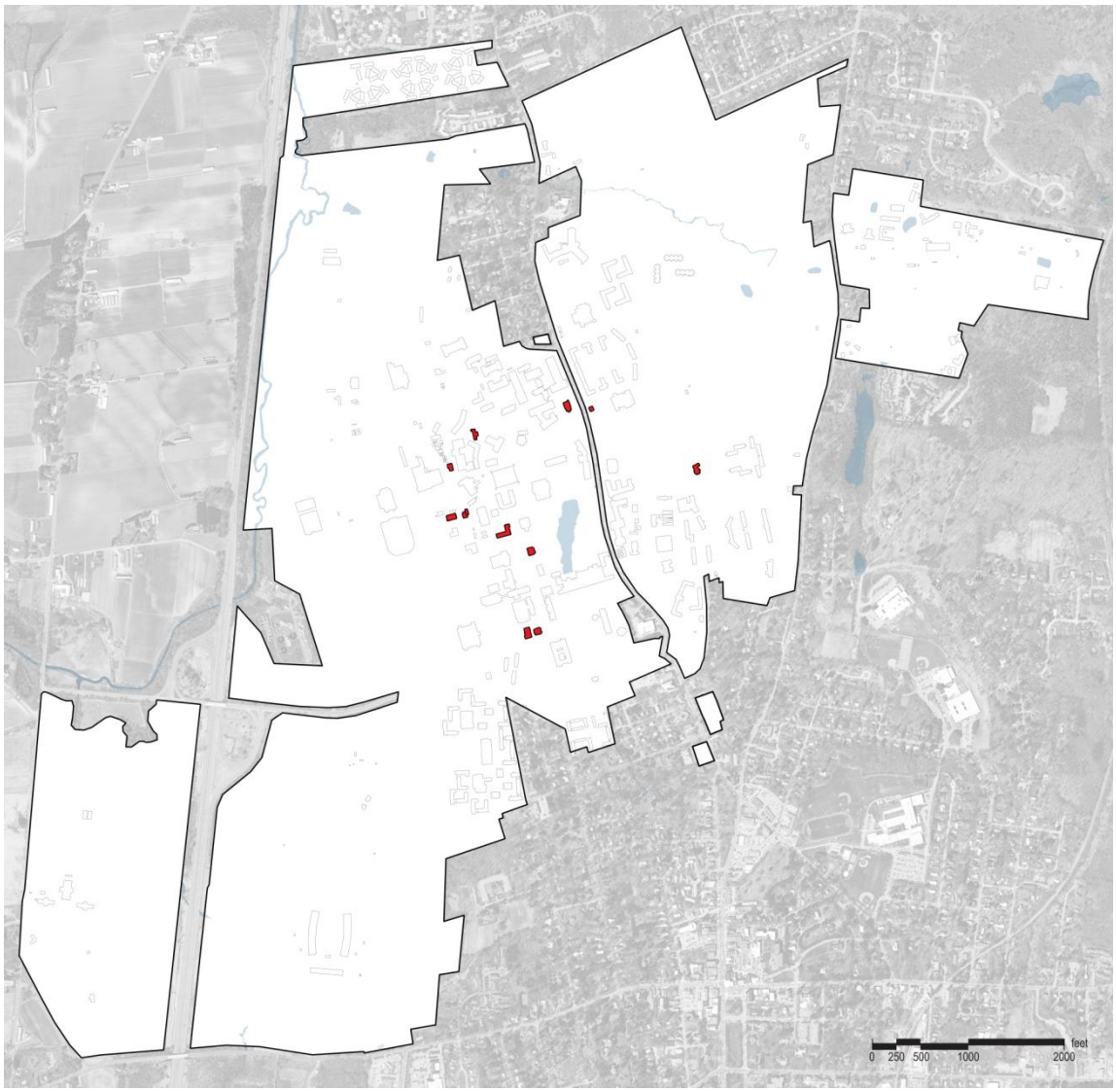
Total Gross Square Footage

Enrollment and Building Development History

After World War II to its peak in 1985, the campus enrollment grew at a average rate of nearly 600 new students every year for forty years. Over that same time period the campus facilities grew from one million square feet to nearly ten million square feet. These charts illustrate the growth pattern of a long-lived University on a maturing campus. Continued growth is anticipated and will be incremental as the University pursues infill development on the well-established Amherst campus.



Vintage photographs of the University of Massachusetts Amherst campus

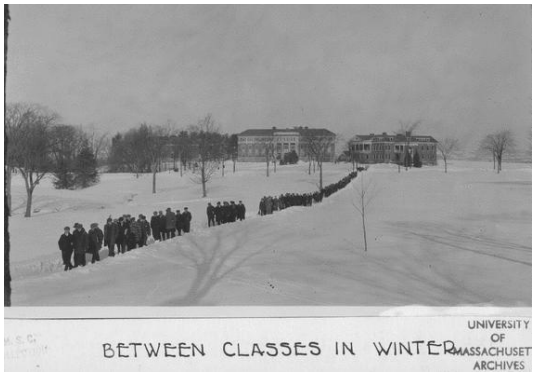


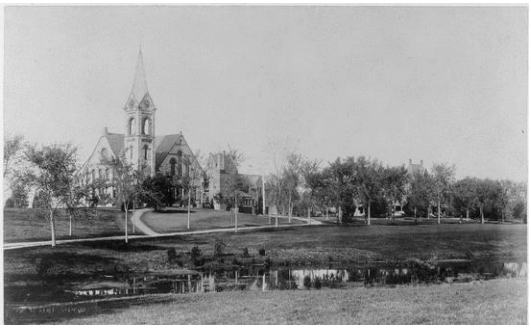
1850 – 1899

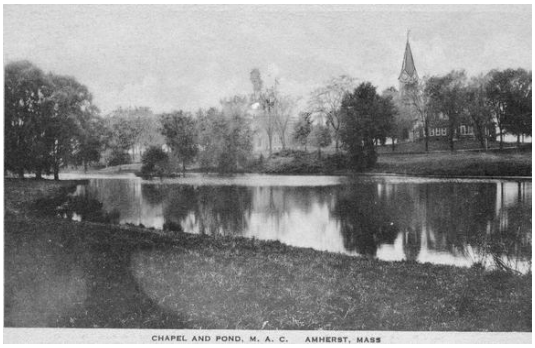
Extant buildings
constructed 1850-1899

UMass in the Beginning

UMass was founded in1863 as a land-grant agricultural college; the first facilities were four frame buildings. The University's first fifty years of development are represented by a handful of extant residential-scale buildings – brick and frame – that served the agricultural mission of the institution. Farm fields, orchards, and pastures were immediately adjacent to the campus and served as working laboratories and classrooms.







Vintage photographs of the University of Massachusetts Amherst campus

1900 – 1929

Extant buildings constructed 1900-1929

Extant buildings constructed prior to 1900

UMass in the Early Twentieth Century

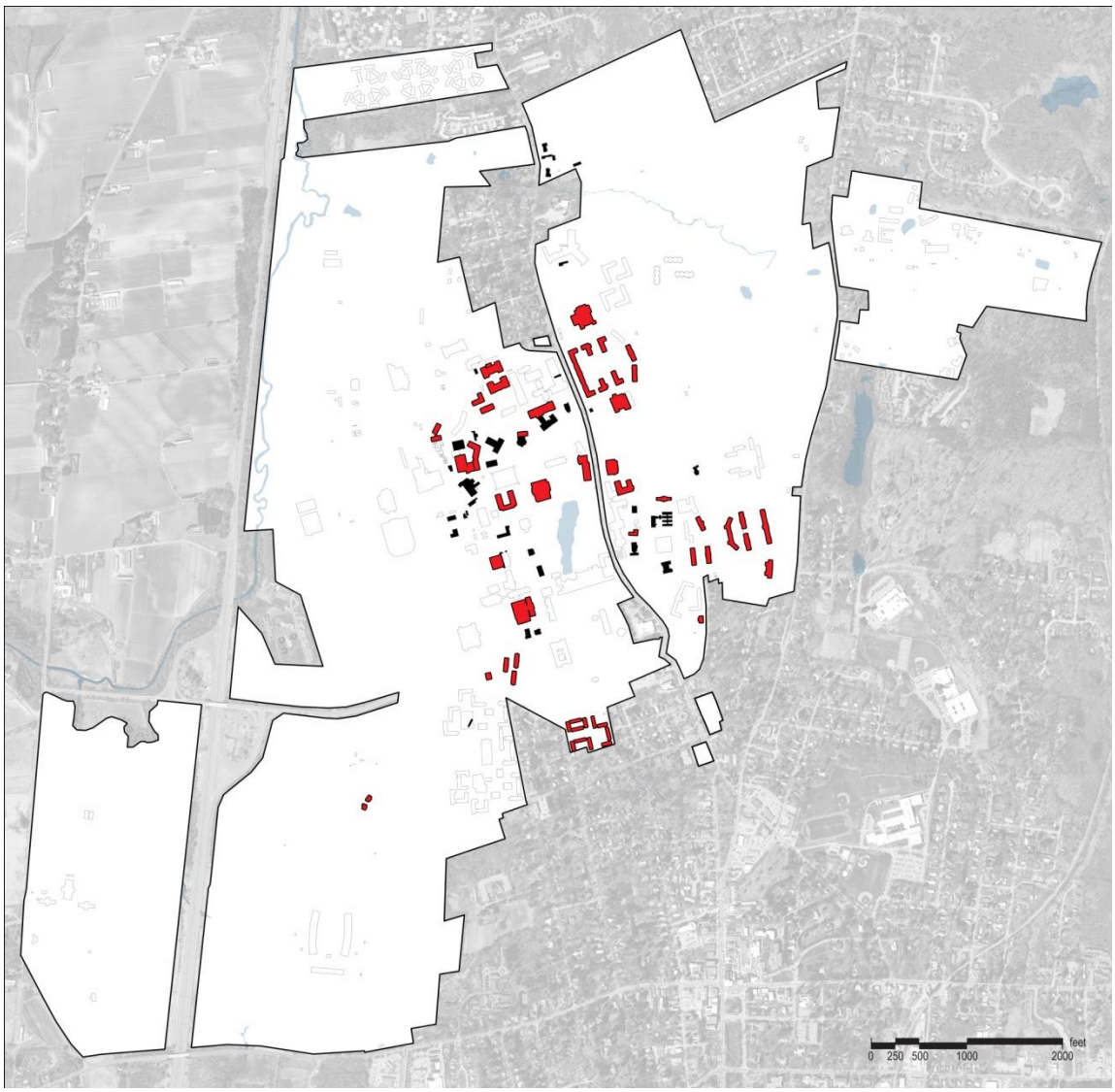
During this period, the institution expanded curriculum to include liberal arts in addition to agriculture. Campus development continued to be of a residential scale and constructed in a traditional style reflecting the rural and picturesque, with shade trees and majestic elms lining central roads. Ellis Drive was the main campus promenade which allowed the buildings to face toward the Pond. Subsequent development created the campus lawn thus cutting off the campus from the Pond.







Clockwise from top left: Aerial view from the southwest, Stockbridge and Draper Halls, Photography Building, Goessman Laboratory, Wilder Hall, Aerial View from the southeast



1930 – 1959

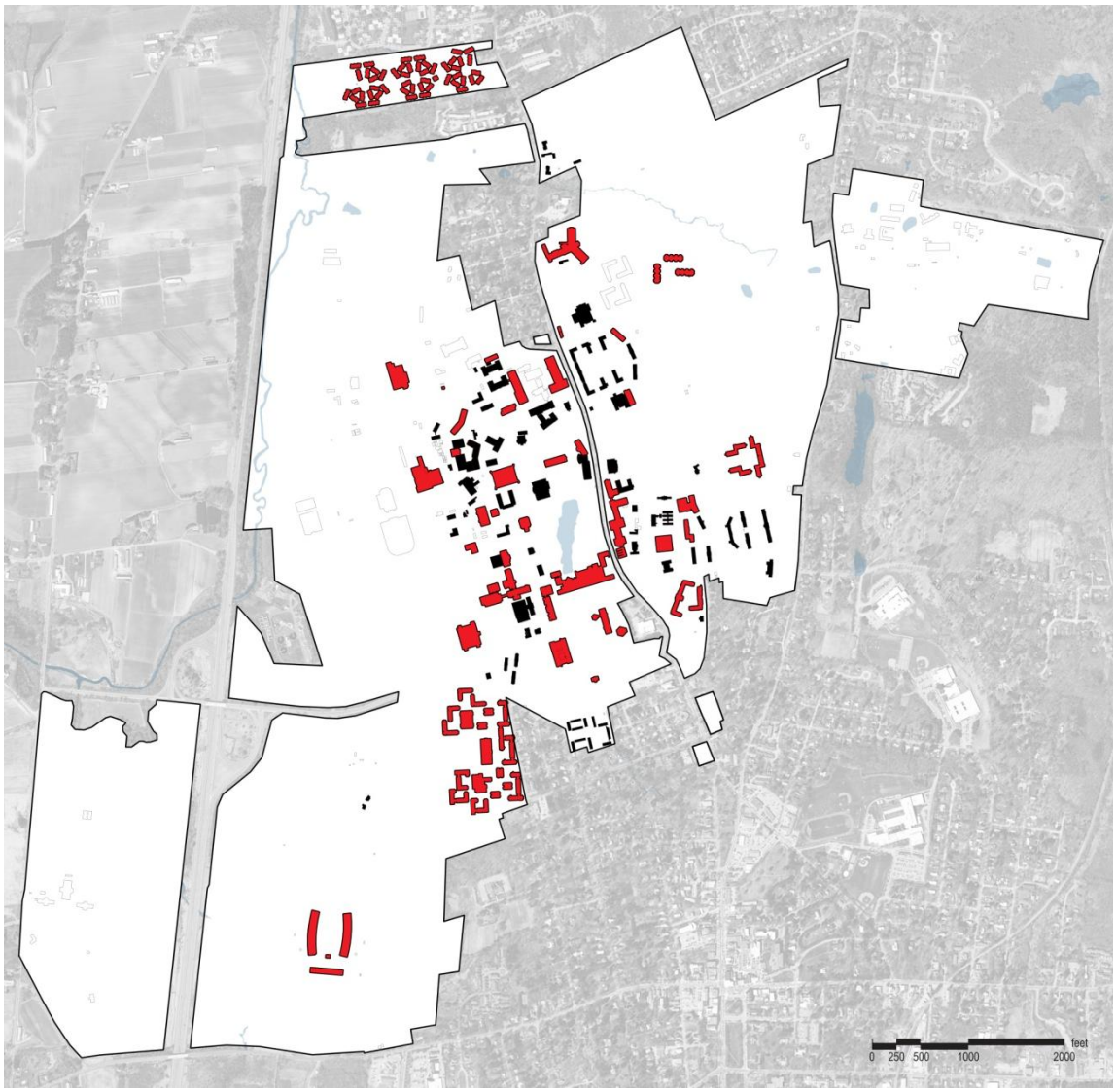
Extant buildings constructed 1930-1959

Extant buildings constructed prior to 1930

UMass in the Mid Twentieth Century

Like many American institutions, UMass experienced significant growth in programs and enrollment in the post World War II period; campus enrollment nearly doubled from 2,400 to 4,700 students. In 1947, the Massachusetts State College became the University of Massachusetts. Major new academic buildings include Morrill, Hasbrouck, Marston, Machmer, Totman, Chenoweth and Goessman Halls. The Student Union, Lincoln Apartments, Central and North Residences were also built during this period

Clockwise from top left: Aerial view from northeast, W.E.B. Du Bois Library groundbreaking, W.E.B. Du Bois Plaza, Thayer Isolation, Totman Hall, Fire in Old Chemistry Lab,



1960 – 1989

Extant buildings constructed 1960-1989

Extant buildings constructed prior to 1960

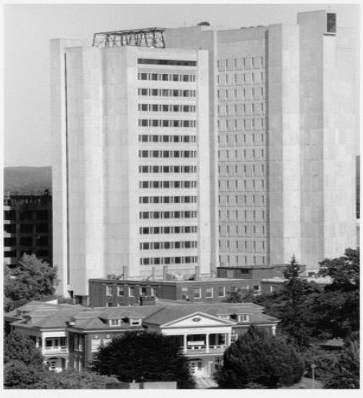
UMass in the Late Twentieth Century

During the 1960's and 70's, there was a major building boom on campus. By 1967, campus enrollment was 15,000 students. Approximately six million square feet of space was built in these two decades, including numerous tall buildings (eight – twenty -two stories) that altered the scale and spatial organization of the campus.

New buildings during this period included Du Bois Library, Morill II, III, and IV, Lederle Graduate Research Center, Lincoln Campus Center, Southwest Residences, Fine Arts Center, North Village Apartments, Isenberg School of Management, and Bartlett, Furcolo, Holdsworth, Mahar Auditorium, Herter, Thompson, and Tobin Halls.








Leftmost column, top to bottom: Aerial view looking east toward Northeast Residential Area, Lederle Graduate Research Center Center, Campus Center Center column, top to bottom: Holdsworth Hall, Hasbrouck Hall, Agricultural Engineering Buildings, Machmer Hall

Rightmost column, top to bottom: Engineering East, Hasbrouck Hall, Thayer Isolation and Engineering Lab I, Bartlett Hall

1990 – 2010

Extant buildings constructed 1990-2010

Extant buildings constructed prior to 1990

UMass Today

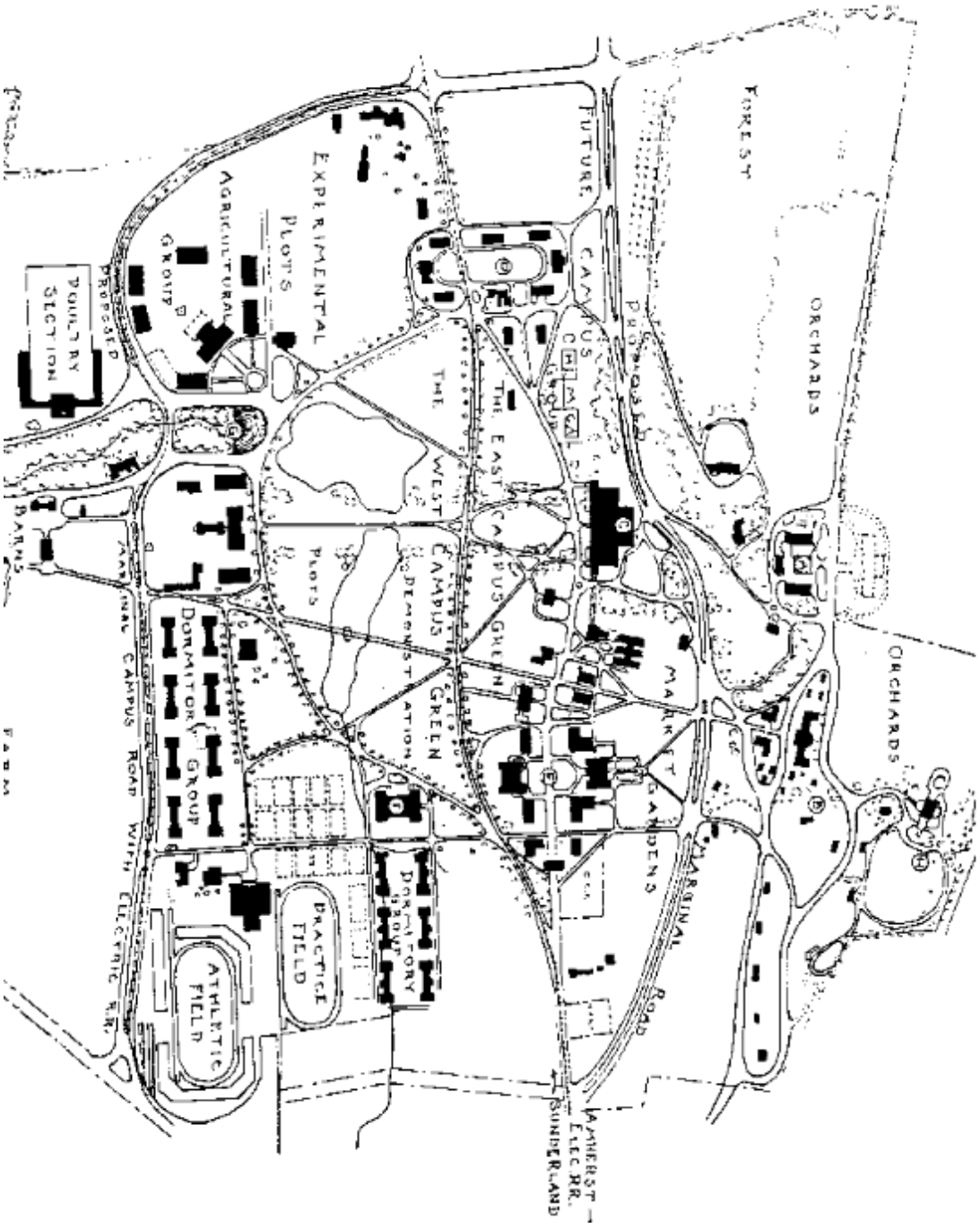
The campus is growing with a focus on sustainability. UMass is in the midst of a ten-year, billion-dollar capital improvement program that started in 2004. Since the 1993 plan the campus has added one and a half million gsf of new buildings, while funding has been below the level necessary to maintain the existing physical plant. As a result, the University is struggling with a $2 billion backlog of deferred modernization.

Clockwise from top left: Engineering Lab II, Engineering Lab II and Computer Science Center, Integrated Science Building, Central Heating Plant, and North Residences

Major new facilities include the Mullins Center, Conte Polymer Research Center, Engineering Lab II, ECSC, Knowles Engineering Building, North Residences, Alfond School of Management, Studio Arts Building, Integrated Science Building, Central Heating Plant, and renovation and addition to Skinner Hall. A Central Heating Plant and Integrated Science Building meet campus needs more efficiently and other development on campus has addressed academic and student life needs.

History of Campus Planning

The history of the University's campus planning includes many ideas that have been realized. Other ideas can be discarded as outmoded or impractical, but a number of ideas about the development of the campus continue to be viable. Examples include moving daily traffic out of the core, arranging buildings to create quads and courts, improving the character of the campus open space, and linking the campus with in-fill construction. Recognizing the many good ideas that have come before and incorporating them into the current effort will strengthen the Framework Plan as it evolves during the planning process.



1910 Campus Plan by Warren Manning

1910 Campus Plan

The 1910 campus plan was conceived as a working – living – learning village; close proximity of classrooms, labs, residence halls, fields and orchards reflects the agricultural mission of the University. At this time, North Pleasant Street was serviced by trolley. This plan shows the existing pond, as well as a second pond to the north. The Campus Center is located in this low-lying area today.

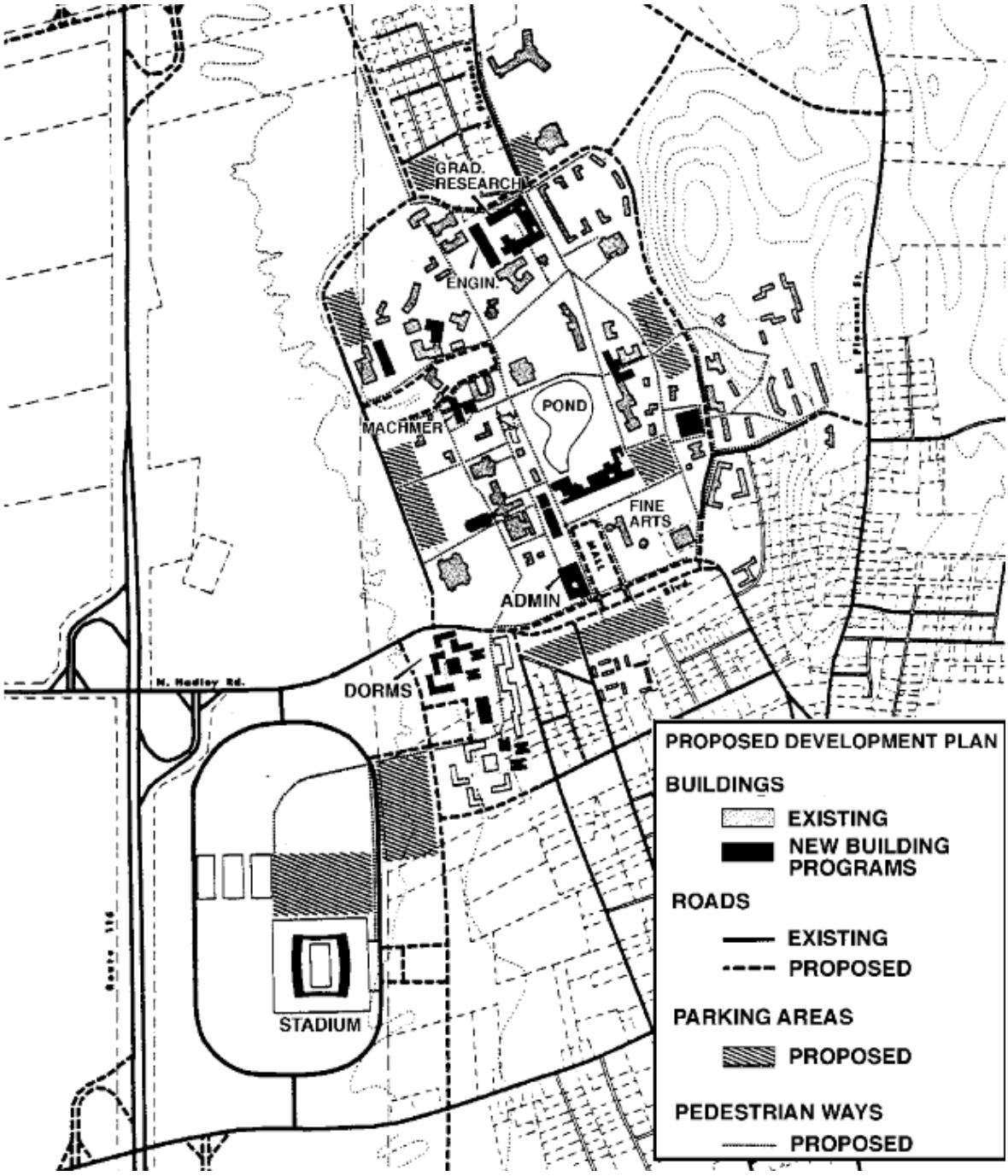
1910 Enrollment: 493

1953 Master Plan by Shurcliff, Shurcliff and Merrill

1953 Campus Plan

The 1953 plan started to integrate the automobile into the campus by showing sites for new parking lots and roads. This plan shows North Pleasant Street closed to through traffic; Stockbridge Road and Thatcher Way serve as a through route to North Amherst. More than fifty years later, closing North Pleasant Street continues to be considered as a way to improve the campus.

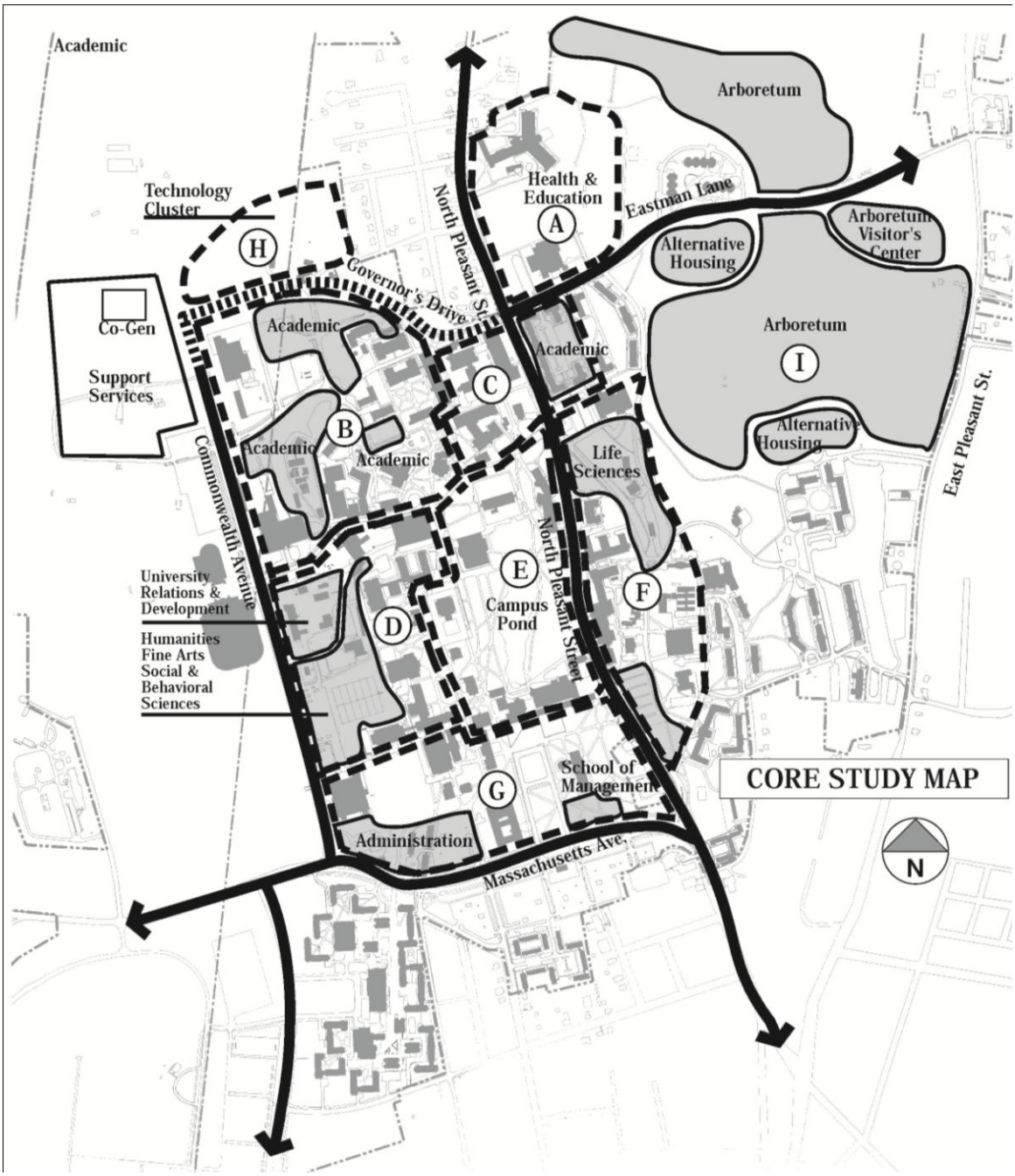
1954 Enrollment: 4,000



1962 Campus Plan by Sasaki , Walker and Associates, Inc.

1962 Campus Plan

Automobile and pedestrian circulation were still of concern during the 1962 planning process. The plan recommended the removal of North Pleasant Street as part of an alternate road network and surface parking lots located around the campus perimeter. The plan also removed Ellis Way which was one of the main organizing elements linking the west and north sides of the Pond. This plan intentionally intended to move the campus away from its agricultural roots and toward a more urban character. The plan also identified a zone in the southwest of campus for athletics; this aspect of the plan has been largely realized. 1964 Enrollment: 10,500

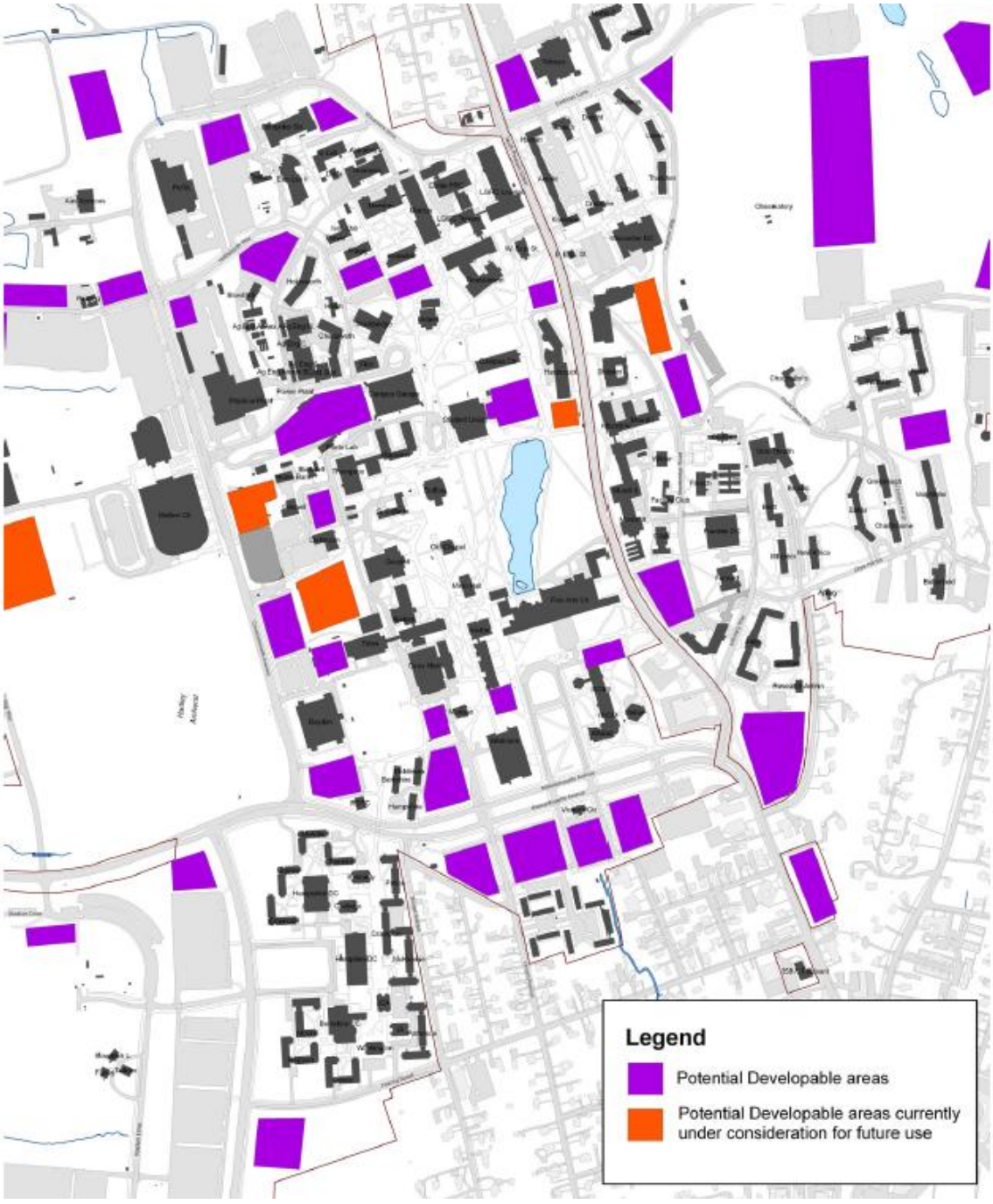


1993 Campus Physical Master Plan by UMass Amherst

1993 Campus Plan

The 1993 plan was developed by an internal team of UMass administrators, faculty, and students. The plan recommended infill construction to reduce sprawl, improve pedestrian connectivity and flow, foster interdisciplinary education and research, define open spaces and improve campus identity. Sub-areas of the campus were identified for further detailed study. The plan also called for recognition of the Waugh Arboretum for its education, research, outreach, and aesthetic importance.

1993 Enrollment: 26,472



2007 Campus Physical Master Plan Update by UMass Amherst

2007 Campus Plan

The 2007 plan built on the recommendations from the 1993 plan by recommending appropriate potential sites for new buildings and defined capital projects.

2010 Enrollment: 24,000

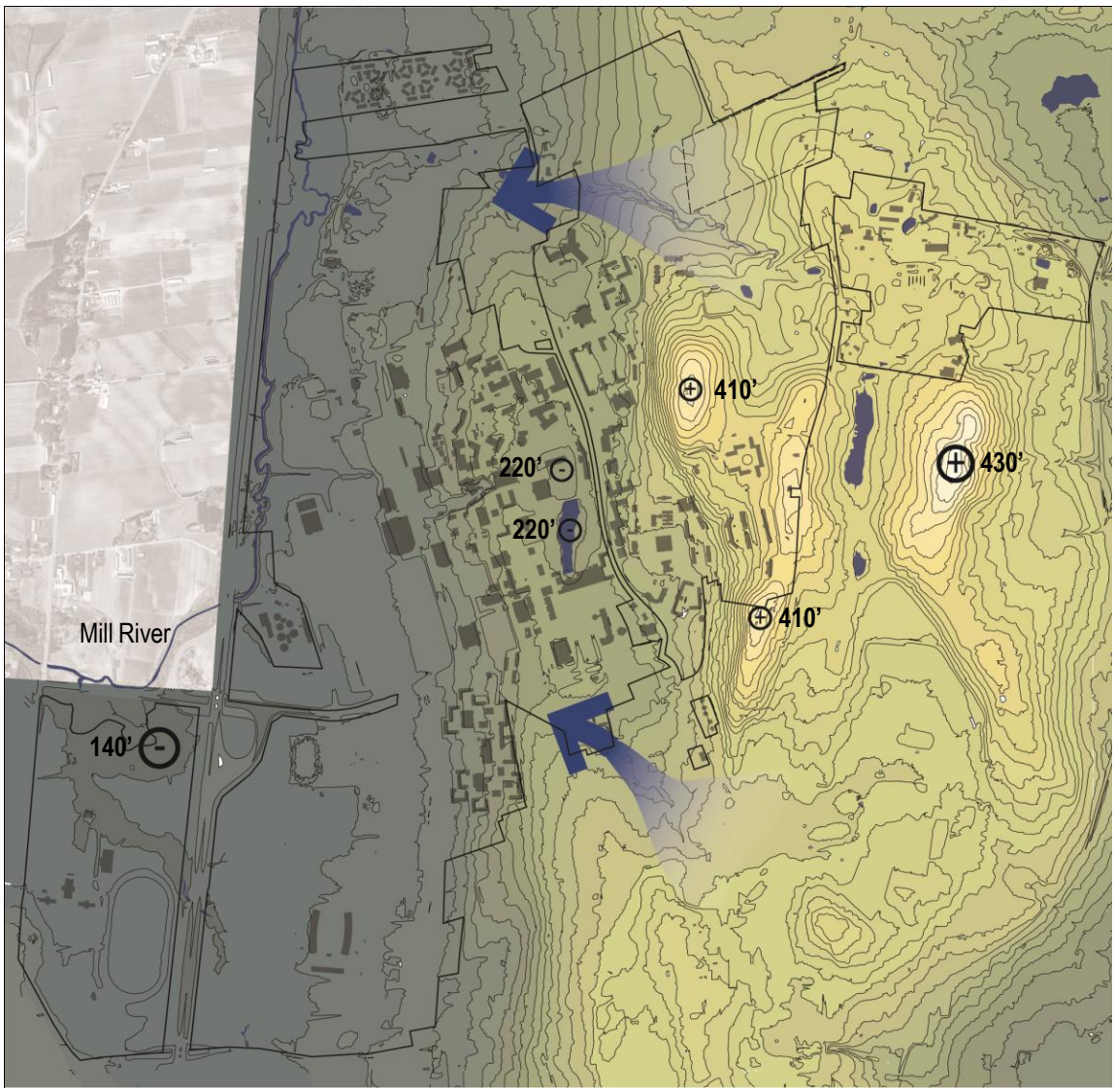
2010 Existing Campus Plan

The campus supports a community of 30,000, with an enrollment of 20,000 undergraduate and 5,000 graduate students. It occupies over 11.5 million gross square feet of buildings on 1,400 acres of land.

Campus Natural Systems

The natural systems of the campus - the land, its features, and plantings - are fundamental context for its future design and development. For example, significant change in elevation is inherently part of the campus character and gives form and structure to its development. Preliminary observations about the natural opportunities and constraints of the campus suggest that due to soil conditions the perimeter of the campus is less than ideal for building sites. The campus open space is generally over paved, under landscaped, inconsistent, disconnected, and does not reflect the quality of the institution. Impressive view corridors to the mountains are a missed opportunity. New stormwater management regulations will require the University to rethink how runoff is collected and treated, which in turn may require a new philosophy for the campus landscape which advocates for native and drought tolerant plantings, and minimizes chemical use and maintenance.

This information will inform the planning process to create a Framework Plan that provides for the needs of the University's academic, research, and student life programs in a sustainable and responsible manner.



High Points

Low Points

Swales

Low High

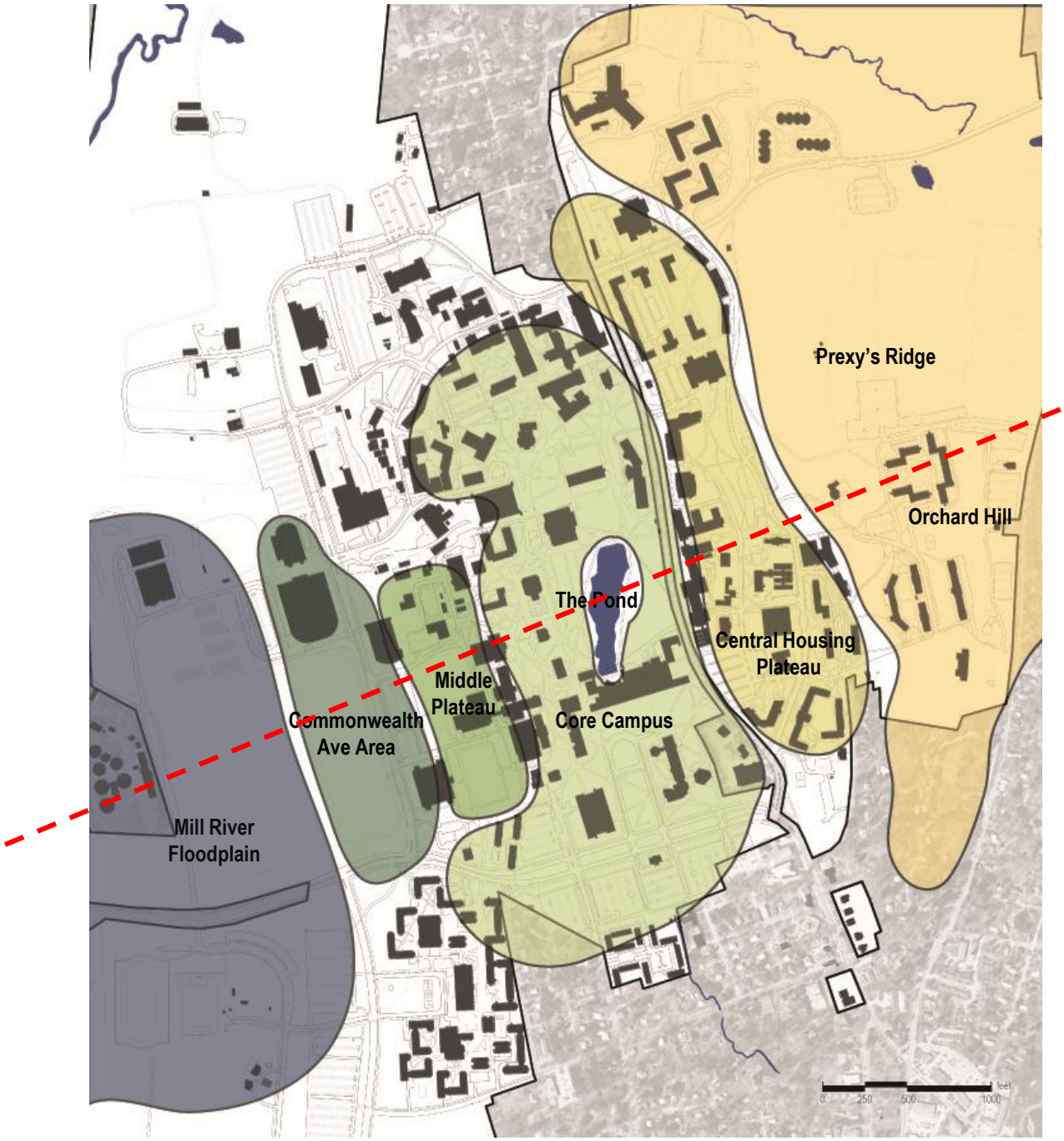
Topography

Water flows predominantly east to west across the campus. An exception is a low-lying area or bowl around the Pond defined by the Fine Arts Center and the area east of the Chapel and Library; water from this area flows into a ravine just south of Campus Center Way. While the Pond is not engineered for storm water collection, it serves this function by default. The resulting sedimentation impacts the Pond’s water quality and appearance – adverse effects for what should be one of the campus’ most picturesque features.

Urban land
Sandy loam
Silt loam
Loamy fine sand
Loamy sand
Silty substratum
Muck
Water

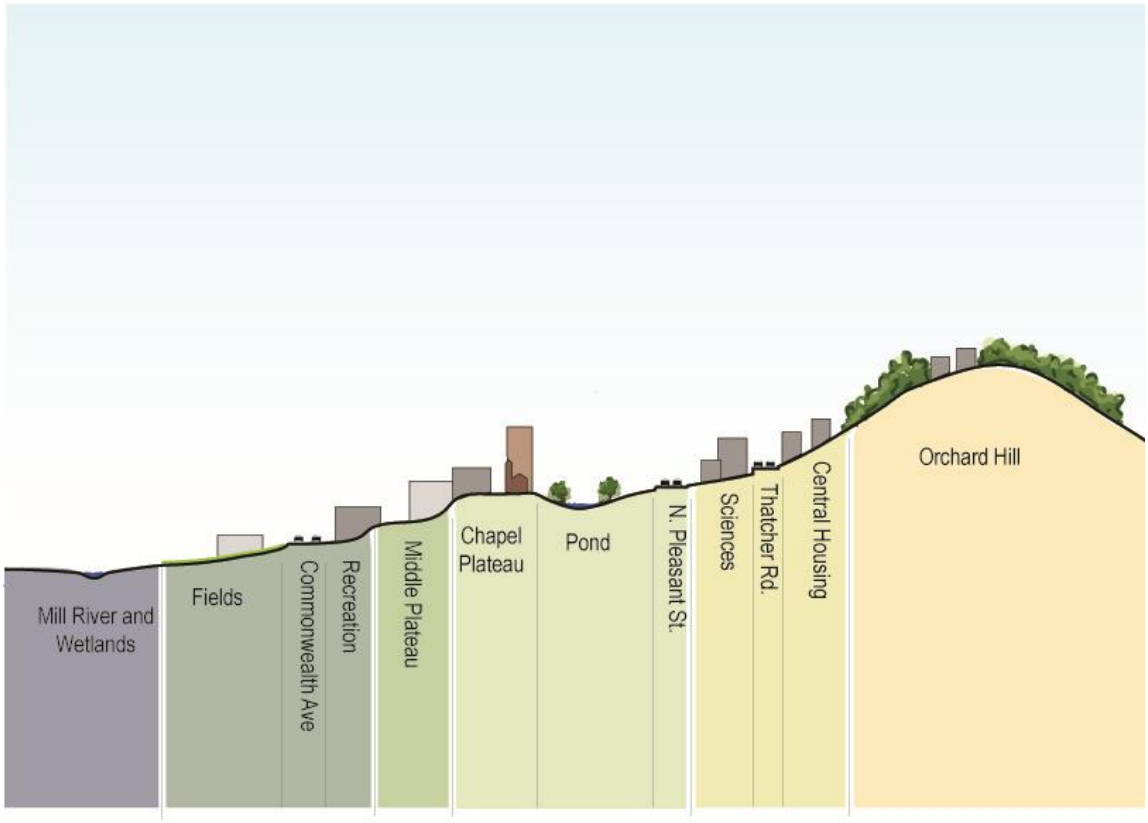
Soils

The combination of the floodplain, perched water tables, wetlands and silty substratum creates an area which is unbuildable on the west side of the campus. This area includes the playing fields west of Commonwealth Avenue. Additional information is necessary for further interpretation of soil data.



Campus Hills and Plateaus

Three distinct areas of the UMass campus – upland, midland, and lowland – have been observed by previous campus planning efforts. Their impact on the campus is still evident today and the form of the topography is inherent to the character of the campus. Perhaps the most obvious impact that these plateaus have had on the campus is evident in pedestrian circulation patterns. In general, north-south paths along the plateaus are numerous and well-established, while east-west routes that cross multiple plateaus are more infrequent



West-east section view of the campus

Significant change in elevation (260') across the campus contributes to its organization, character, and one its greatest assets – views to the mountains to the west. The flat, low-lying west edge of the campus is established by the Mill River, while the steep, east edge of the campus is defined by Orchard Hill and Prexy's Ridge.

Hundred Year Floodplain

Hundred Year Floodplain

The Mill River hundred year floodplain follows the western edge of the campus along Route 116 and across the Hadley Farm. These low-lying areas are less suitable for development than other parts of the campus.

Shrub Swamp

Marsh Meadow

Wooded Swamp

Open Water

Deep Marsh

Wetlands

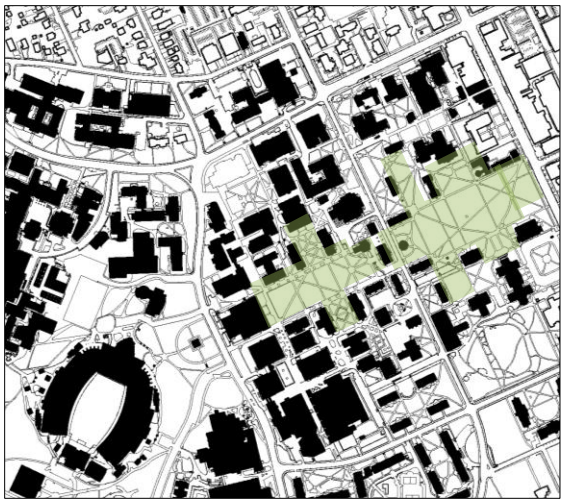
Wetlands are most common within the Mill River floodplain but are present in other lowland areas across campus. While less suitable for development, these resources are opportunities for education, research, and public outreach about water quality and other environmental issues.

- Tree Canopy
- Quads and Courts
- Recreation Fields
- Plaza
- Organizing Axis
- Prexy's Ridge

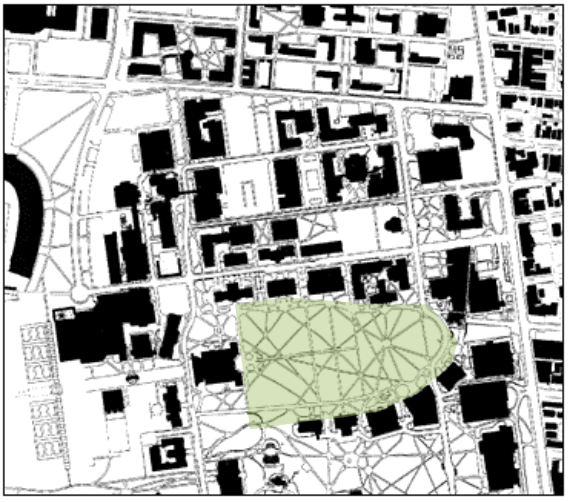
Campus Open Space Network

By definition, a campus is a collection of interrelated buildings and supporting facilities arranged around an open space network. While the UMass campus has adequate open space, the quality of the open space does not reflect the high quality and aspirations of the institution. Enhancing the existing open space and axes has the potential to result in a more cohesive and memorable campus.

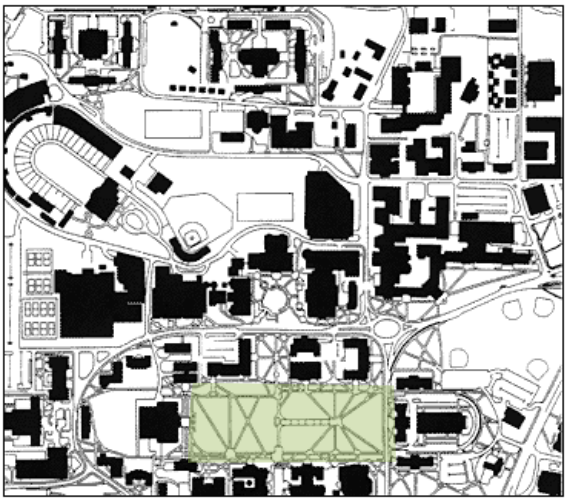
University of Massachusetts Amherst



University of North Carolina at Chapel Hill



Ohio State University

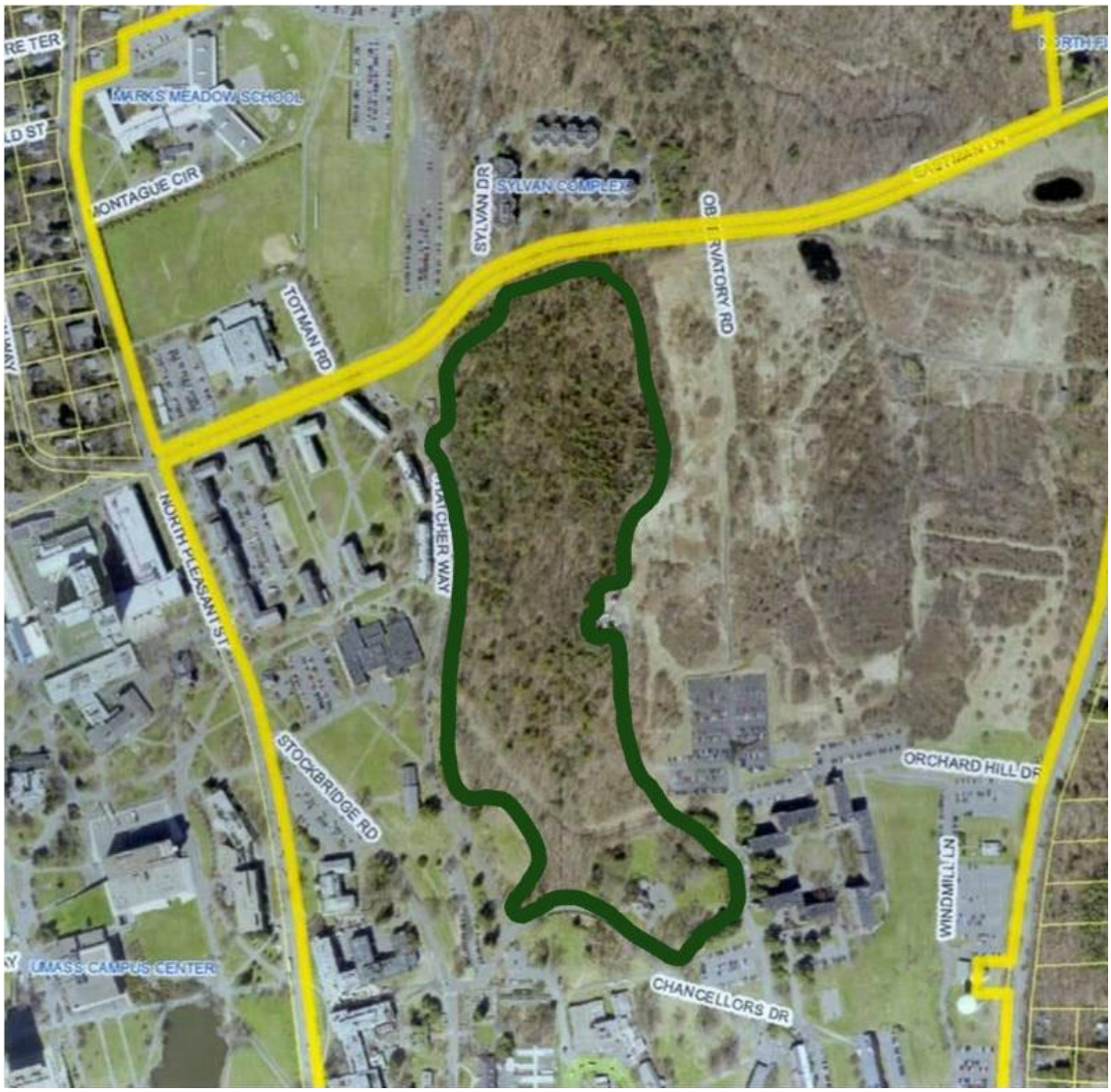


University of Maryland, College Park

Campus Comparisons

College campuses are defined as much by the spaces between buildings as by the buildings themselves. The most iconic aspect of a campus is often a large quadrangle; Ohio State University, University of North Carolina at Chapel Hill, and University of Maryland, College Park are home to such examples . These spaces vary in configuration, but they all share a monumental scale and simple landscape features of turf, trees, and pedestrian paths. Most importantly, each of these spaces is surrounded by campus buildings that work together to create a well-defined outdoor room.

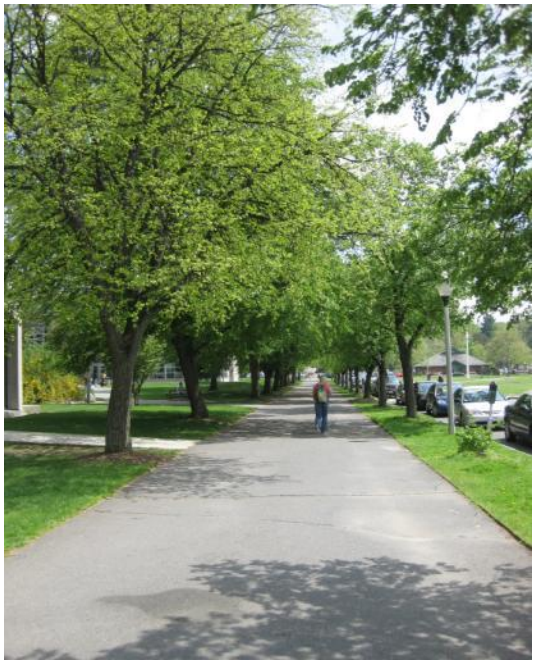
At UMass Amherst, the area around the Pond is a grand open space, generally considered to be the heart of the campus. Strengthening this area would enhance the student experience. Improvements might include changes to the vegetation around the perimeter of the Pond to establish clear views; site furniture or other passive program elements to encourage activity; stronger connection to the Student Union and Campus Center to increase vibrancy.



Prexy's Ridge Forest

Prexy's Ridge Forest is an old growth forest on the westward steep slope southeast of the intersection of Eastman Lane and North Pleasant Street. Part of the Waugh Arboretum, the Forest is a unique educational, research, and recreational asset for the campus and should be preserved.

Prexy's Ridge



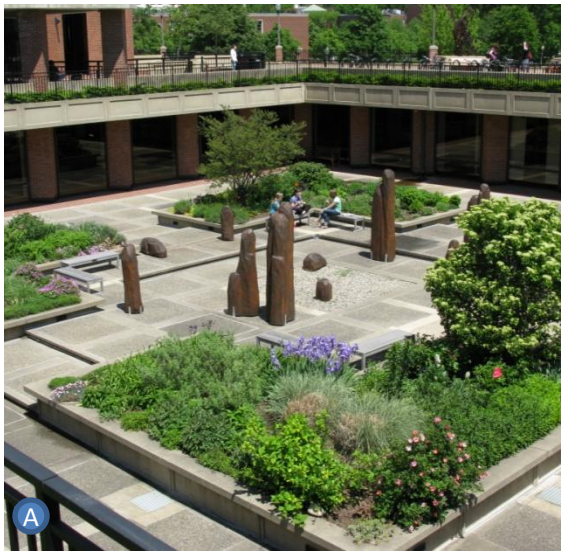
Clockwise from top left: Haigis Mall, Copper Beech in Durfee Garden, open space in front of Bartlett Hall, Haigis Mall

Waugh Arboretum

Officially established before 1944 and expanded after 1965, the Arboretum is coincident with most of the campus and includes significant tree and shrub specimens. Some of the oldest trees were collected in the 1860s by the institution's first president, William S. Clark. A tree survey is in progress to document all specimens of interest. Currently, the Arboretum lacks adequate documentation and interpretation. The Arboretum has great potential as an educational, research, and recreational resource and should be considered as an integral part of the campus landscape.

Internal Views

There are also a number of intimate and picturesque views on campus. Examples include the west side of West Experiment Station planted with herbaceous perennials and shade trees; a spectacular Copper Beech tree in Durfee Garden; and the sunken courtyard at W. E. B. Du Bois Library. Views to the Pond are another important aspect of the campus. The natural bowl surrounding the Pond opens up the campus, however several buildings do not take advantage of the view by turning their backs to the Pond, including Fine Arts Center and Memorial Hall.



A. W.E.B. Du Bois Library courtyard, B. view of the Pond from Fine Arts Center, C. view across the Pond toward Fine Arts Center, D. Durfee Garden,
E. a tree-lined walk beside Marston, F. view across the Pond toward Old Chapel

Long Vistas

Significant topography on the campus results in a number of scenic vistas. For example, the height of Thatcher Way affords striking views of the campus with the foothills of the Berkshires beyond. Views to the south look over the Holyoke Mountain Range. The pedestrian spine provides dramatic glimpses to the west of the foothills.

Looking west toward Lewis Hall and Prexy's Ridge

Looking west across the Athletics/Recreation fields

Looking north toward Lederle Graduate Research Center

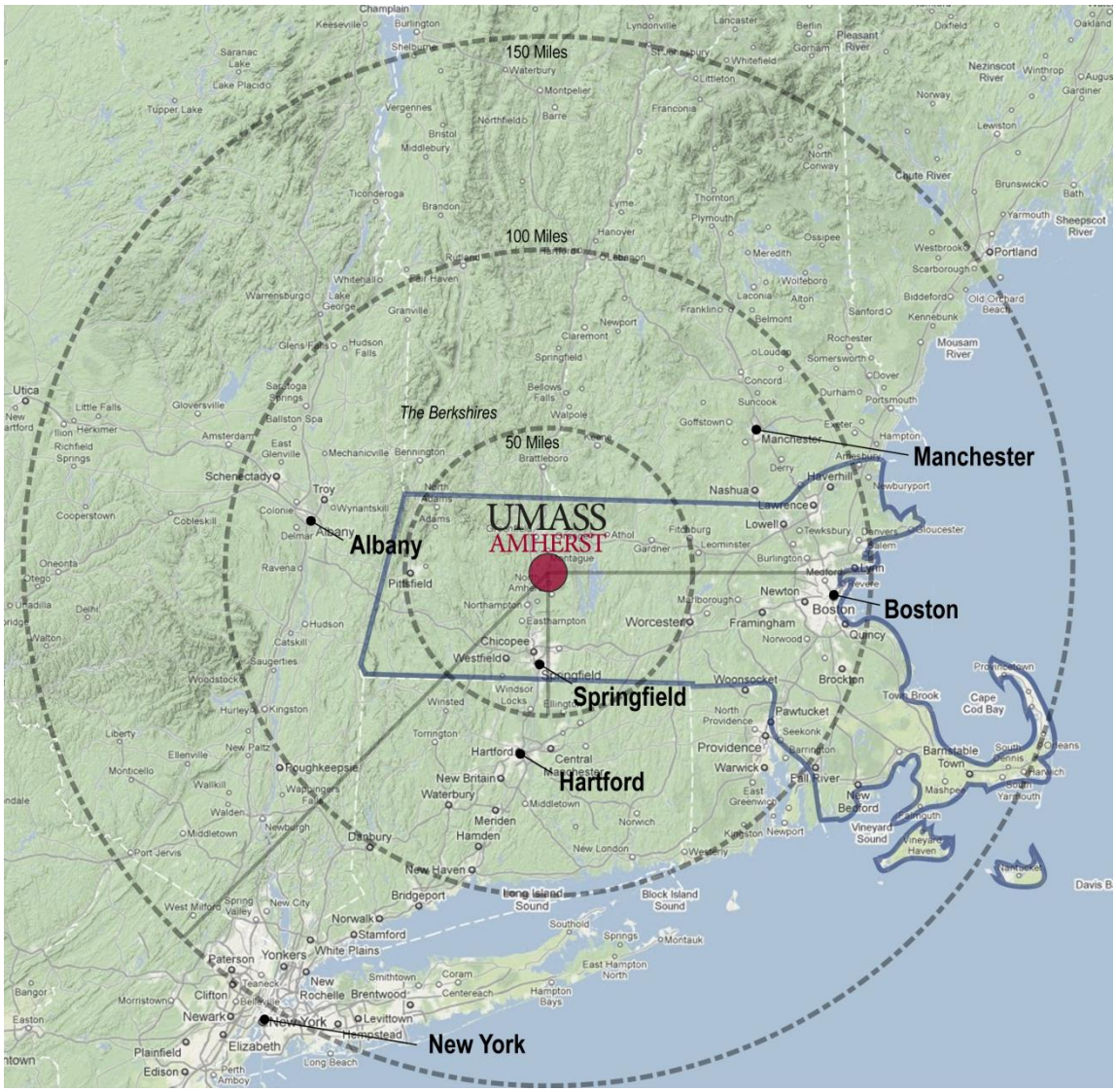
Looking south across the Pond

Fine Arts Center

Campus Built Systems

The built systems of the campus represent substantial investment in the infrastructure and facilities necessary to support the mission of the University. The following are key issues the University will need to address:

- Access to the other Five Colleges, which are currently challenged by transportation service
- Connectivity to downtown Amherst retail and service
- Pedestrian-auto conflicts as a result of intrusive service routes and loading docks, as well as multi-lane loop roads which act as a moat around the campus
- Expansion of travel demand management programs to further reduce single occupant vehicles and encourage alternative means of travel
- Aging physical plant – 89% of campus buildings are at least 30 years old resulting in significant deferred modernization
- Homogeneous land-use patterns that stifle intellectual and social collaboration
- Adaptive use of currently underutilized historic buildings
- Infrastructure modifications to expand chilled water capacity in response to growing demand for climate controlled space and better utilize the Central Heating Plant



Regional Context

The primary catchment area for student enrollment is the Commonwealth of Massachusetts, then the New England region, then nationally and internationally. Currently, 81% of UMass students come from Massachusetts and about 7% come from New England.

With so many students' homes within a few hours drive of Amherst, many tend to return home on a regular basis. This pattern of activity likely exaggerates students' desire to bring cars to campus. As part of the university's sustainability mission, alternatives to personal automobiles should be pursued including rail access and ride share programs.

Railroad

Bradley International Airport

Rail Access and Airports

Amherst is accessible by train via Amtrak service – most trains arrive by way of Springfield. Springfield is serviced by trains from Boston, Albany, and New York. The train station is located approximately two blocks east of Amherst Center. Local bus routes provide service between the train station and campus. However, train service is limited to one or two trains per day. Using rail for commuting may be difficult but may offer alternatives for students who wish to occasionally travel within the region.

The campus is served by major airports in Hartford, CT, Boston, MA, Manchester, NH, and New York City. All of these airports have access to rail networks which can serve the campus. These airports are also major destinations for out-of-state students arriving from or returning home. Some campuses provide an airport shuttle service to the airport to reduce the need for personal automobiles.

Downtown Amherst is approximately one mile from the UMass campus

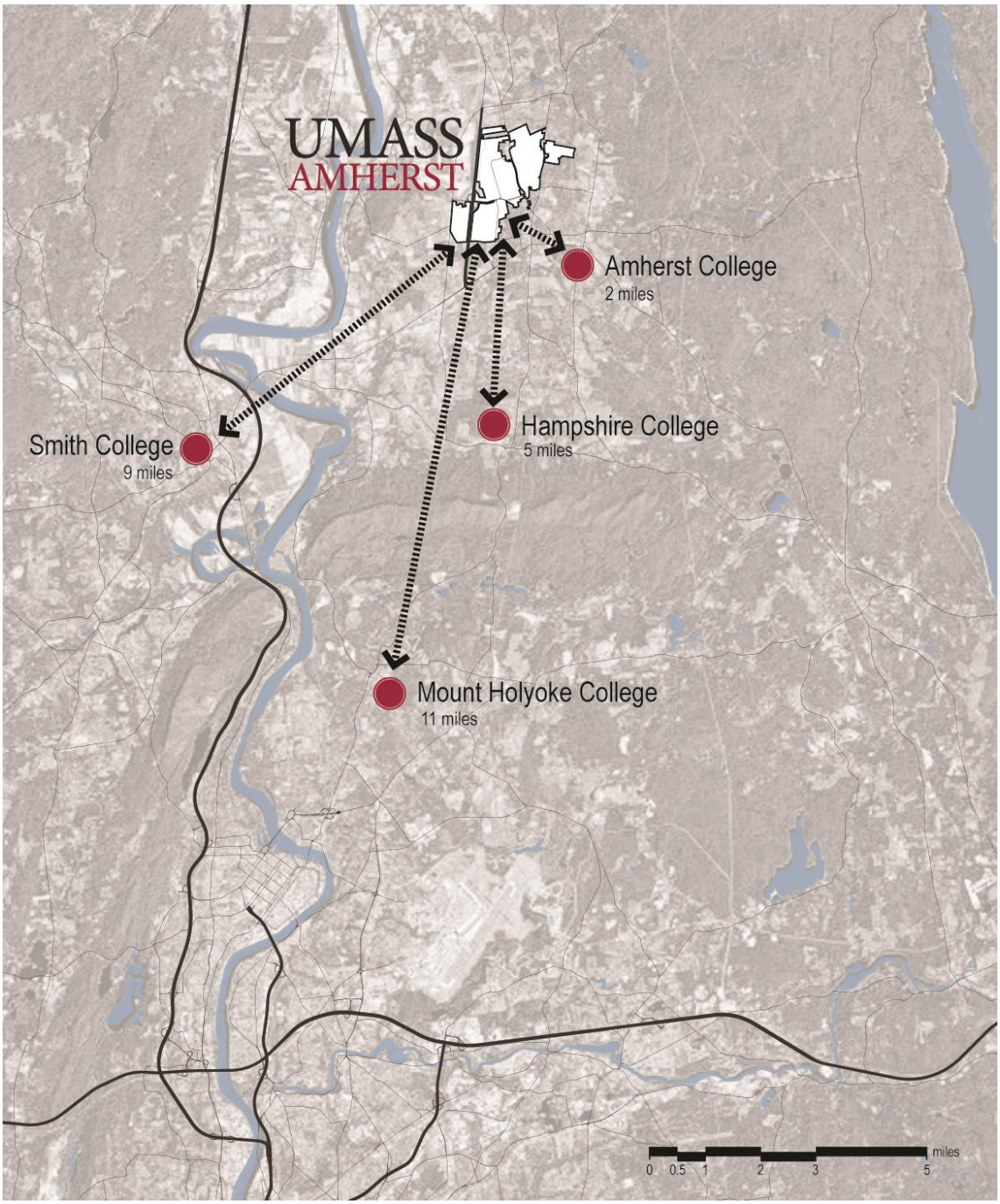
- Farmland
- Undeveloped
- Park
- Residential
- Commercial
- University-affiliated
- Institutional

Local Neighbors

The majority of the campus is located in Amherst, with the western edge in Hadley. The amenities of downtown Amherst are approximately one mile from the center of the UMass campus, however the distance seems much further.

The town of Amherst has initiated the Gateway Project on University property along North Pleasant Street which will add retail, services, and housing along the way to downtown and will help link the town and University.

Developing clearer gateways, continuity of uses and amenities, and improved bicycle and pedestrian circulation would strengthen the transition and connections between town and campus.

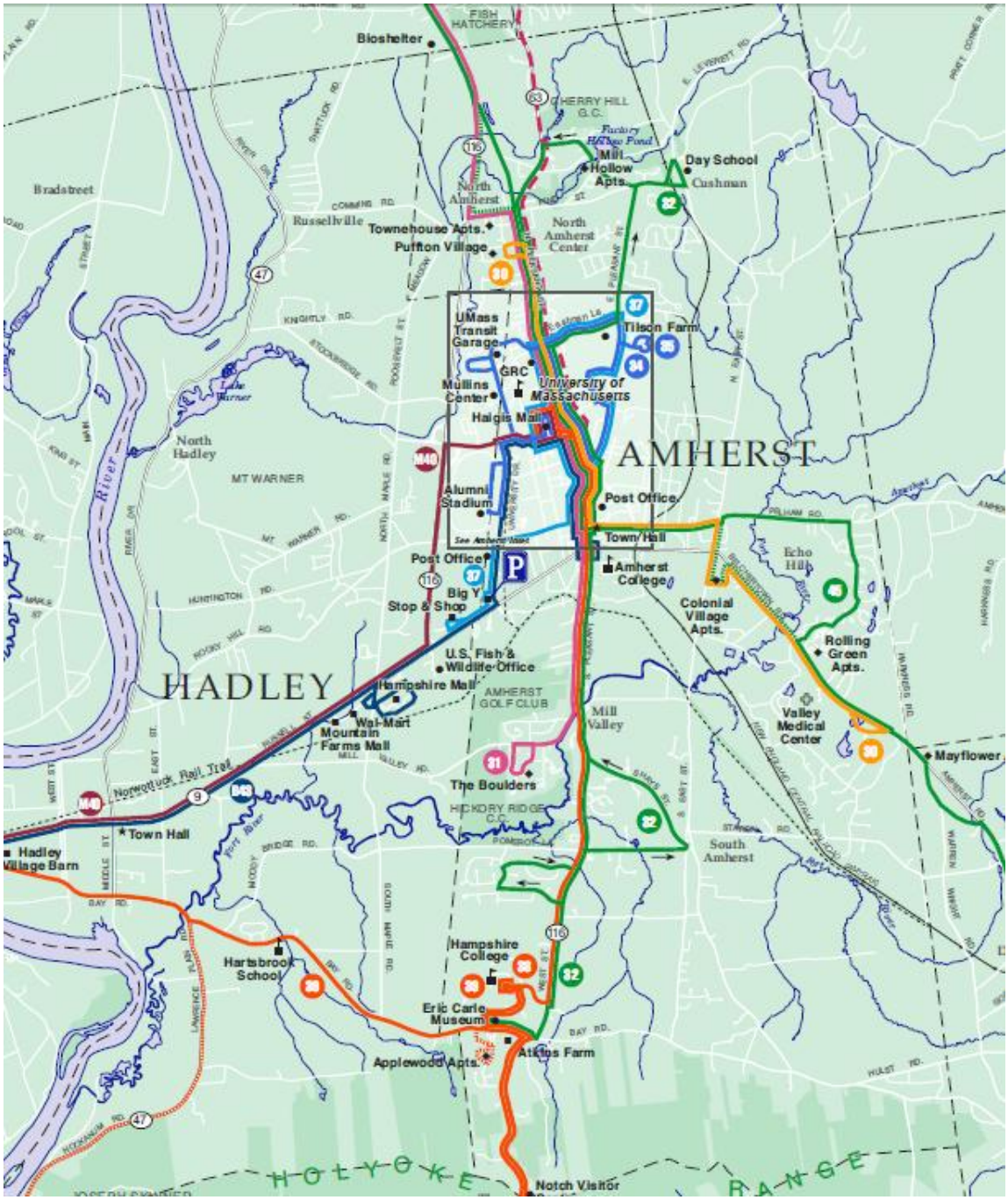


UMass Amherst

Other Colleges

Five Colleges

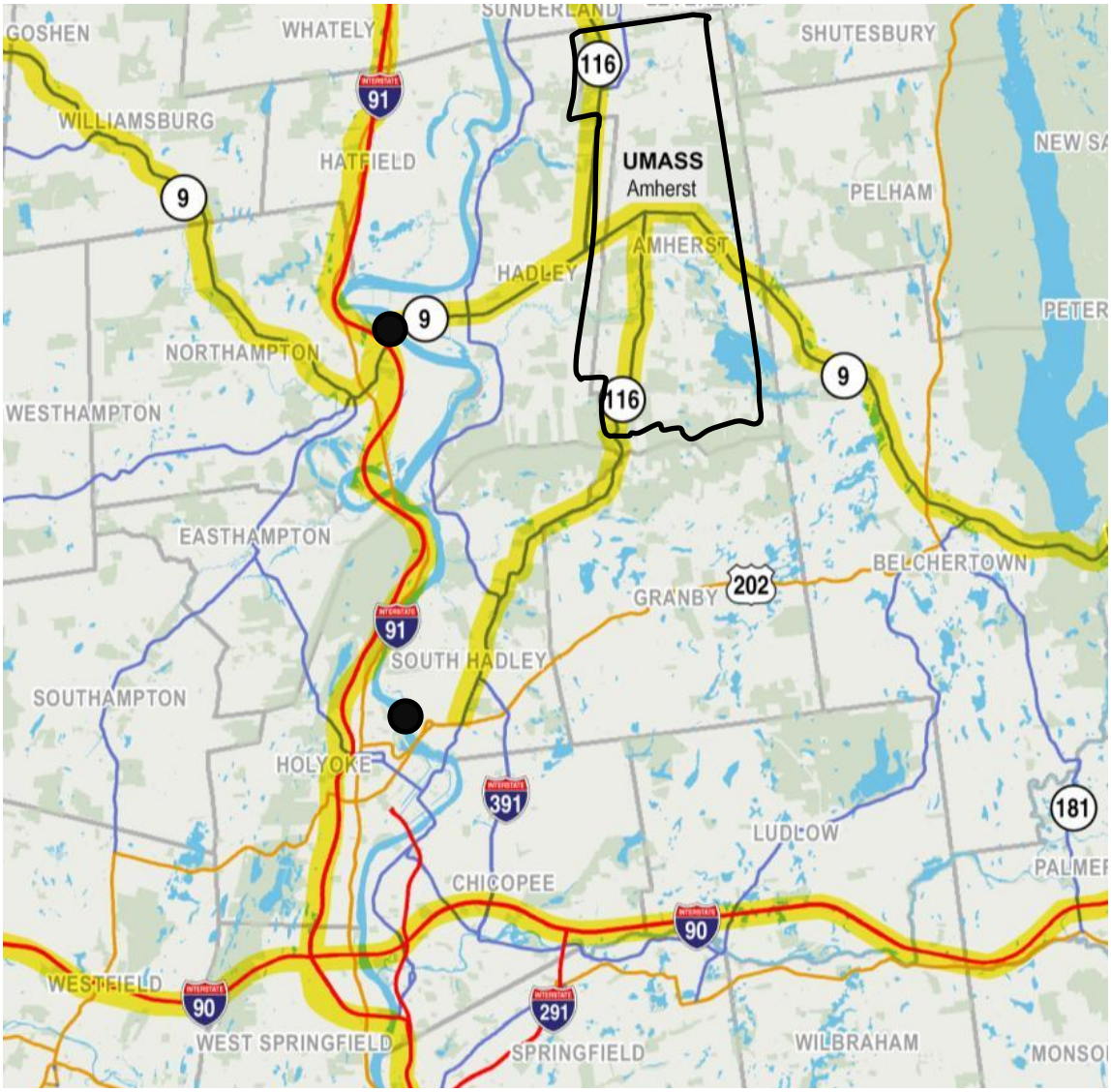
Five Colleges, Incorporated is a consortium established in 1965 to promote the broad educational and cultural objectives of its member institutions – four private, liberal arts colleges and UMass. Students are allowed to take classes at the other institutions and vice versa. The current public transit schedules among the Five Colleges is a challenge to students interested in studying at more than one institution; UMass is the most popular institution for secondary enrollment.



Regional Transit

The Campus is well served by regional bus service by PVTA throughout Amherst and the immediately surrounding towns. All routes serve UMass Amherst from a hub at Haigis Mall and are fare-free for students and employees. In 2009, 29% of UMass employees used the bus – up from 17 % in 1999.

Intercity bus service is provided by Greyhound and Peter Pan Bus Lines from Haigis Mall.



Connecticut River Crossings

Regional Access

Regional access to the campus is via Route 9 and Route 116. These two routes connect to Interstates 90 and 91 linking UMass regionally to Boston, Worcester, Springfield, Hartford, and Albany.

Access to UMass Amherst from the east from I-90 is circuitous and could benefit from additional signs through Palmer and Belchertown. I-91 is a more direct access route, however Route 9 is a constrained corridor through Hadley – a heavily used commuter and retail corridor.

Campus Gateway

Perceived Campus Edges

Campus Road

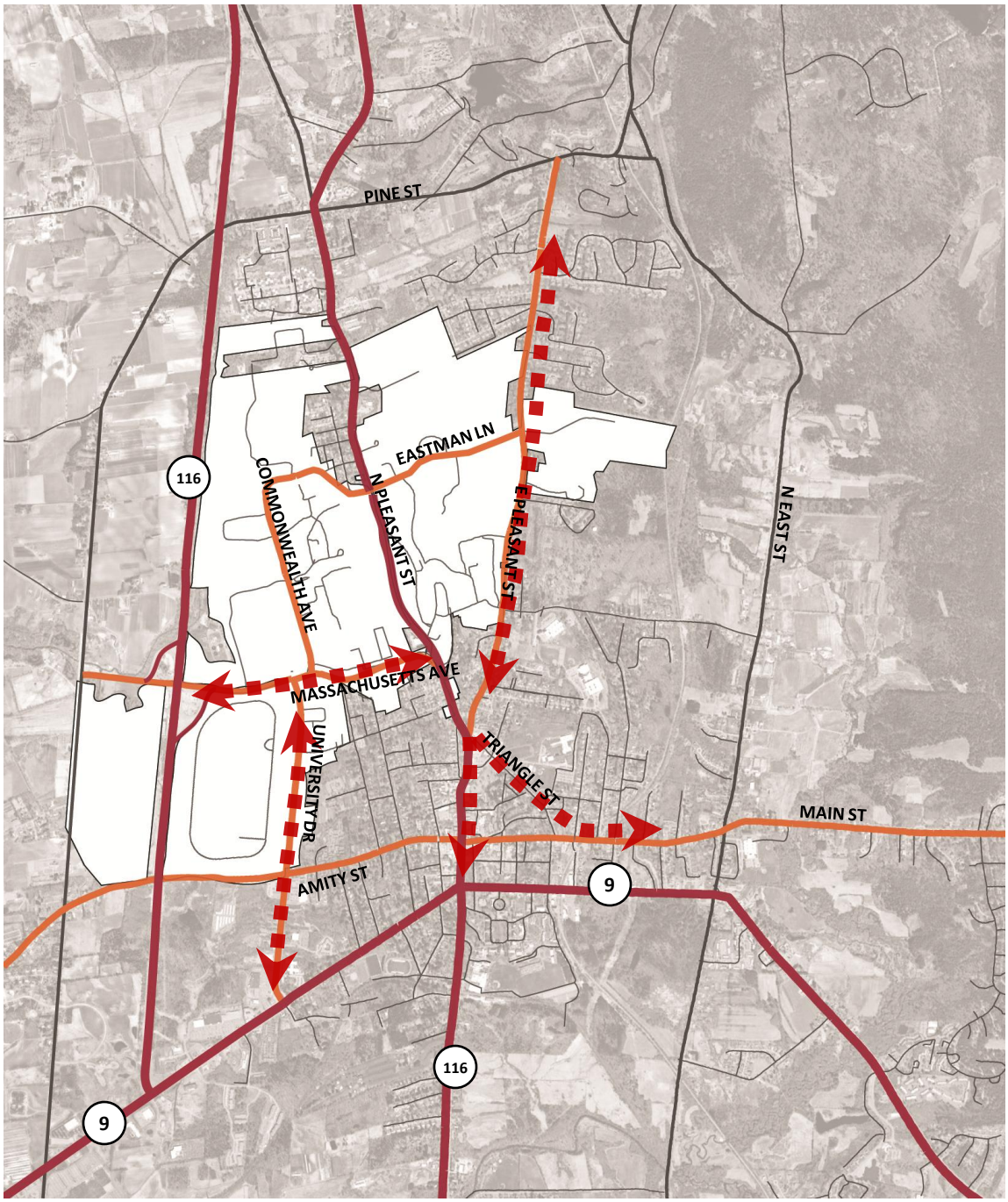
City Road

Campus Gateways

Strengthening the gateways into the campus has been a common theme from past planning efforts. Specifically, better defining these gateways to convey a sense of arrival, calm traffic, and provide way finding.

North Pleasant Street currently does not effectively convey a sense of arrival from the north at Eastman Lane/Governors Drive (1) or from the south at Massachusetts Avenue (2). Similarly, at the intersection of University Drive at Amity Street (3) a stronger sense of arrival is needed.

Strengthening the gateways into the campus is important to emphasize the transition from regional/higher speed roadways to lower speed roadways to/through the campus that are heavy pedestrian and bicycle routes.



State Roads
Collector Streets
Local Streets
Primary Routes
UMass Campus

Local Circulation

For regional east-west travel, the limited bridge crossings of the Connecticut River result in heavy reliance on the Route 9/Coolidge Bridge interchange –a congested eastern gateway to the area leading to the heavily traveled Route 9 corridor (not shown on map).

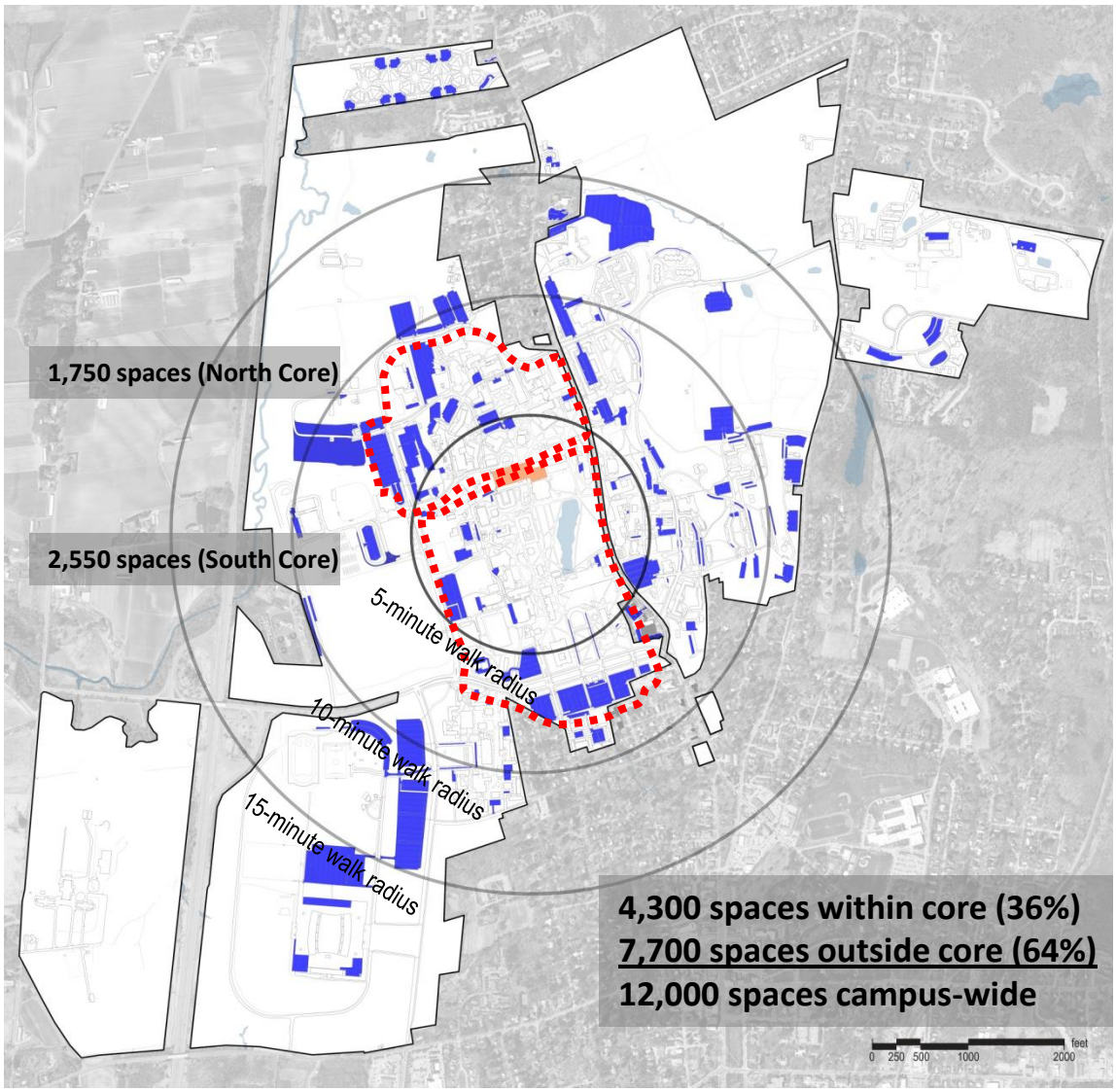




Left, North Pleasant Street: Above, Massachusetts Avenue

North Pleasant Street is a town road which bisects the campus and is a heavily traveled pedestrian corridor. Non UMass traffic tends to use East Pleasant Street to bypass North Pleasant Street through the campus.

Commonwealth Avenue is a four-lane westerly ring road that bisects the campus and the athletic fields, Mullins Center, and surface parking lots



Surface Parking

Structured Parking

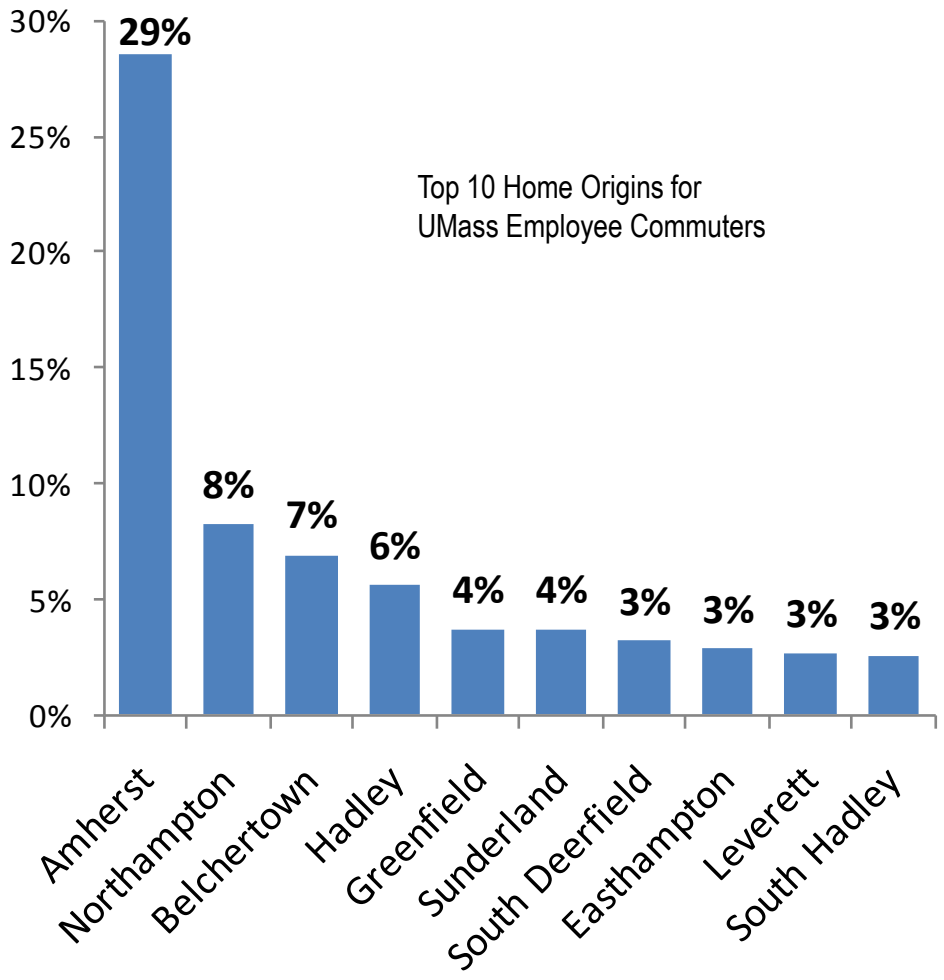
Parking

The campus has about 12,000 parking spaces distributed among numerous surface parking lots and one parking garage. While much of this parking is located around the perimeter of the campus, the extensive amount of surface parking has a disruptive presence and creates a confluence of pedestrian and vehicle desire lines. Providing clearly understood safe pedestrian paths and transit stations within the perimeter lots would minimize the conflicts. This is especially true along Massachusetts Avenue and Commonwealth Avenue – both four-lane roadways.

The campus parking policy establishes fees by a tiered system that accounts for the location of the parking lot and employee salary. The parking lots nearest to the core are priced at a premium.

Surface Parking

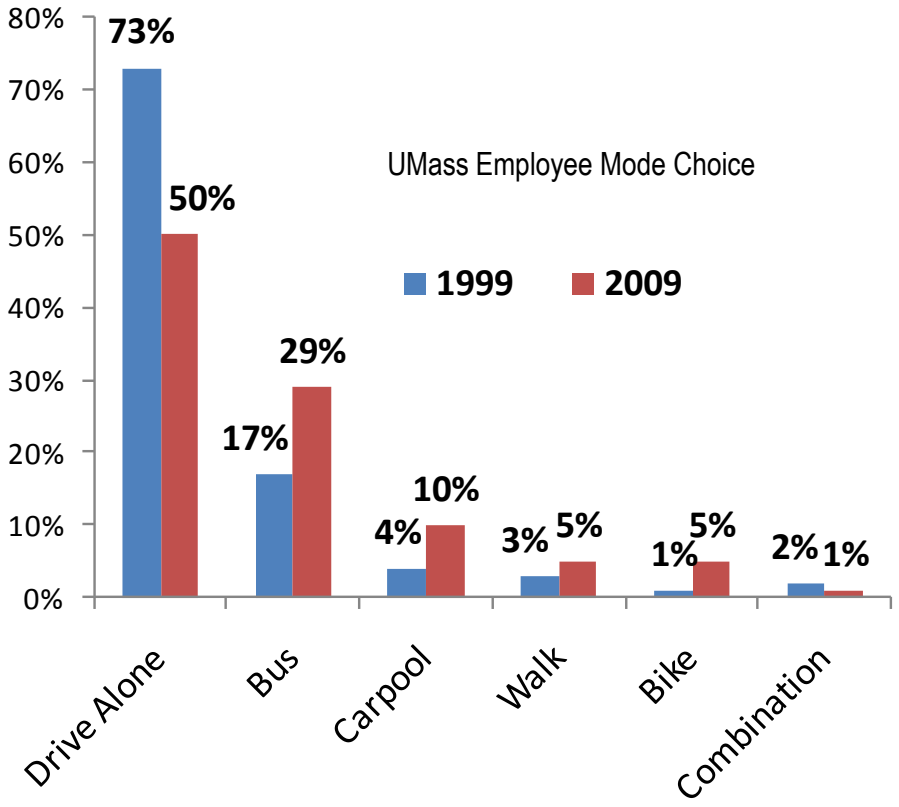
Like most Universities, UMass is using significant land resources, approximately ninety-six acres, to accommodate campus parking. If the existing surface parking lots were combined in one location, the paved land area would be nearly the size of the academic core. The surface parking is impervious which adds to stormwater management issues. The campus is pursuing transportation demand management strategies which will reduce parking demand per person.



Commuters and Alternative Means of Transportation

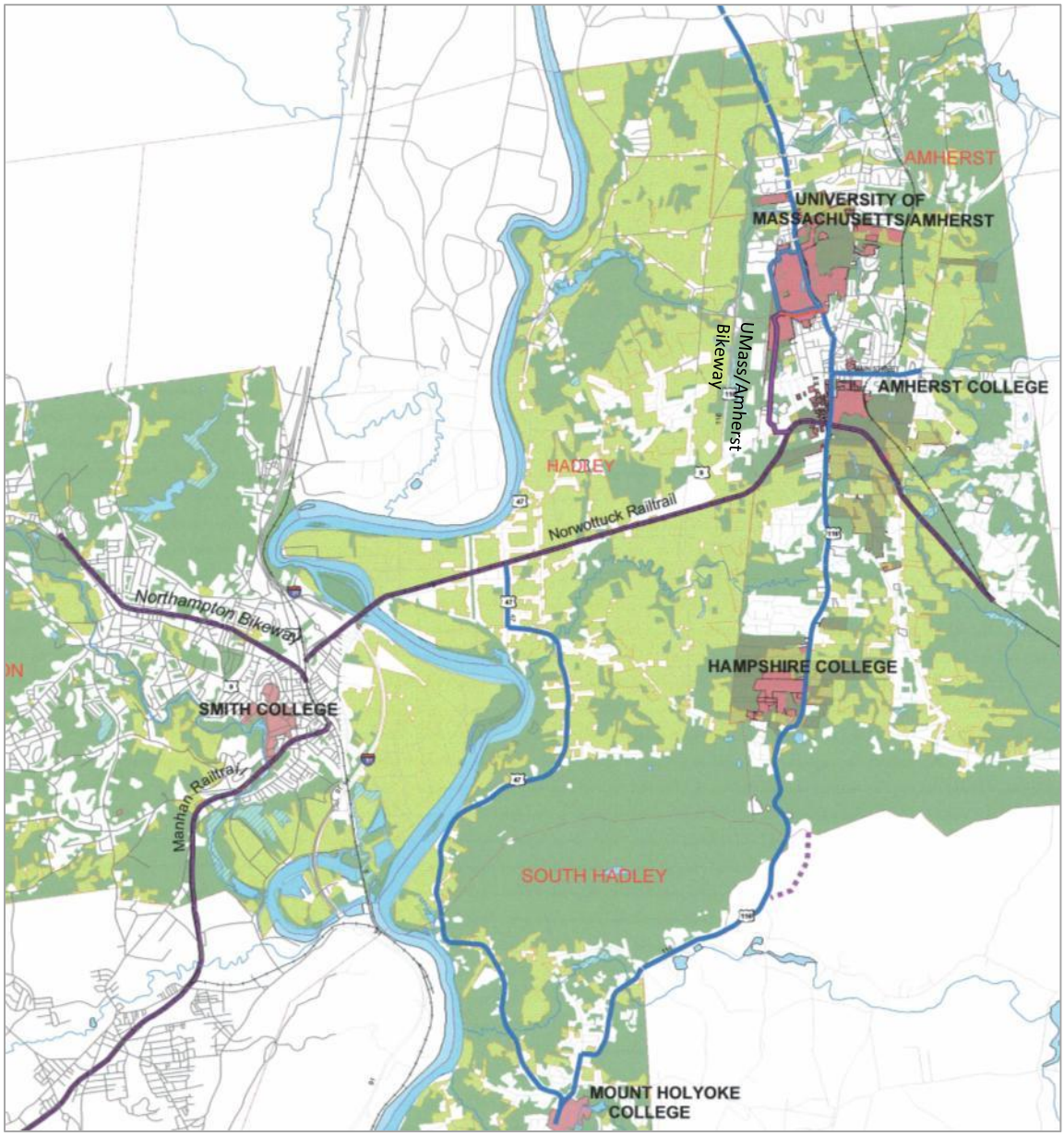
A significant number of faculty and staff live within the town of Amherst. Which could take advantage of improved off campus shuttle systems, ride share and carpooling incentives, bicycling paths, and walking which would reduce the number of single occupant vehicles coming to campus.

The campus has initiated a number of these alternative means of transportation which has successfully reduced the number of people who drive alone to campus and increased ridership in other modes of transportation. This has reduced the University's carbon footprint, and saved parking construction costs.



Average Daily Ridership FY 2008

ROUTE	Total for Year	Avg Daily
Route 30 (NA/BR)	815,003	5,207
Route 31 (SA/SN)	778,072	5,762
Route 32 (Atkins)	20,584	137
Route 34 (Orchard Hill)	186,983	1,137
Route 35 (Mullins Center)	249,576	1,167
Route 36 (Gatehouse)	9,141	1,654
Route 37 (Amity)	116,853	428
Route 38 (MHC)	274,834	1,568
Route 39 (SC/HC/MHC)	92,314	551
Route 45 (B'town)	66,028	282
Route 46 (S. Drfld)	24,623	101
Trippers	13,960	250
TOTALS	**2,647,971**	**18,244**



Off-road Bike Route

On-road Bike Route

Bicycle Transportation Network

The Five College Bikeway is a significant regional resource to UMass. The UMass/Amherst Bikeway serves as a connector to the Norwottuck Railtrail which links the campus to Amherst, Northampton, Hadley, and beyond.

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Bike routes and storage on campus

The newest bicycle path on campus is part of the Pedestrian Spine between Whitmore Hall and W.E.B. Du Bois Library. While bicycling is popular on campus, this path has had mixed success because of conflicts with pedestrians.

On-road bike lanes have been envisioned for North Pleasant Street, however there are several areas where the width is not adequate for a continuous striped lane.

Bike racks on campus are well utilized; there are areas where additional bike storage is necessary, for example on Thatcher Road. The campus does not have a removal policy for abandoned bicycles; such a program would allow for more effective use of bike racks already present on campus.

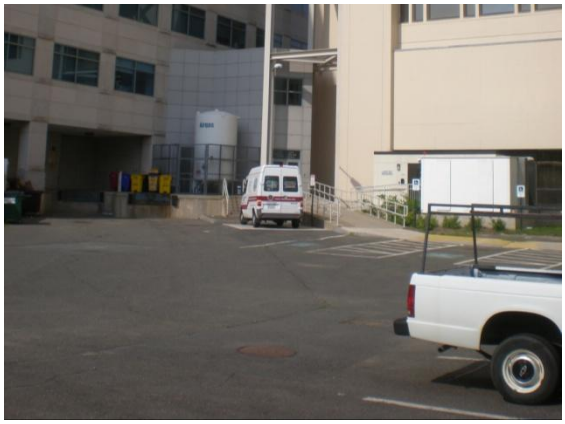
Bicycling is a popular mode of travel on the UMass campus and part of the solution to larger transportation and parking issues. Additional planning for bike routes and storage is necessary.

Service Path

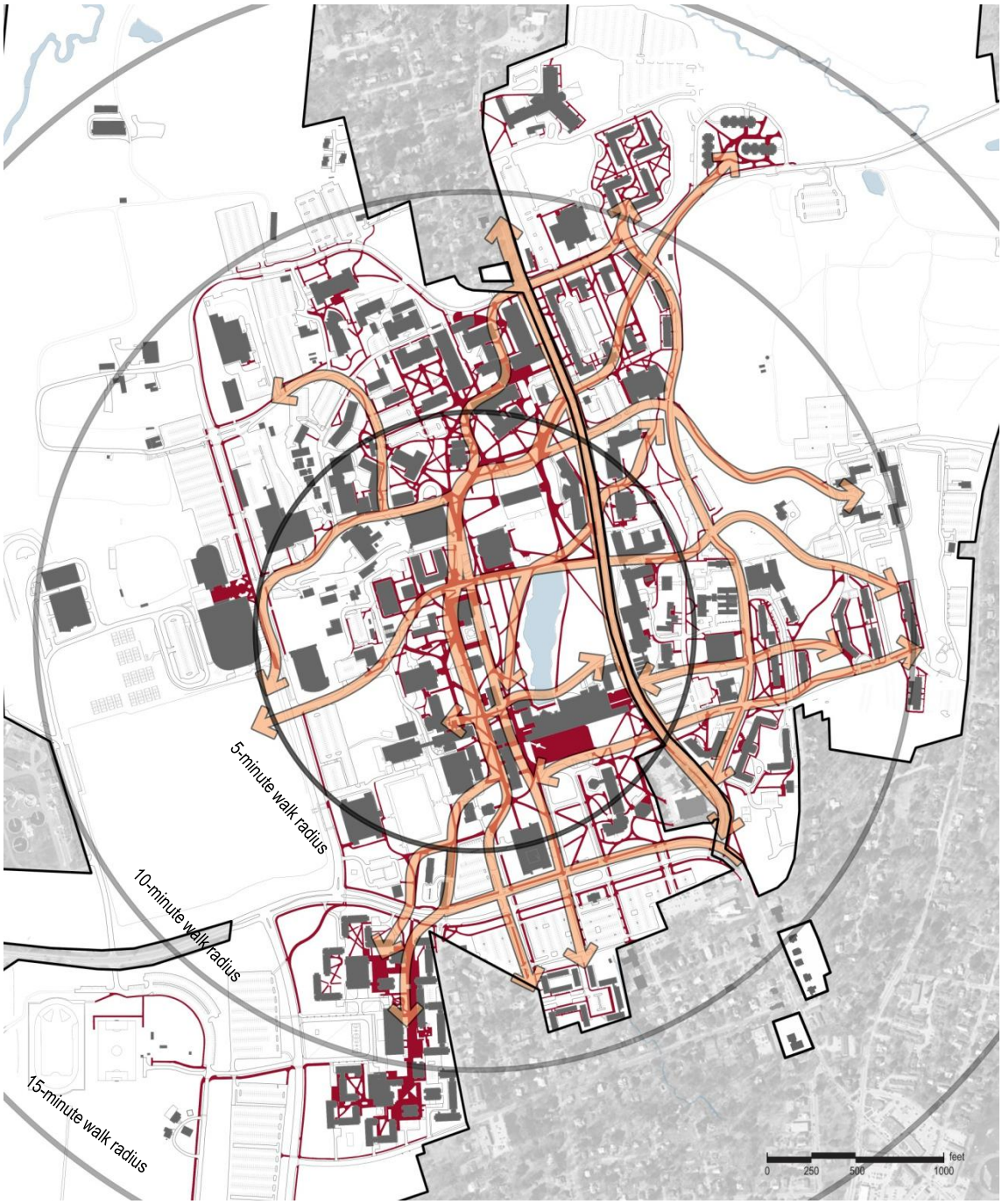
Service Point

Service Access

Loading and service routes throughout the campus are not well designated and are often comingled with heavily used pedestrian corridors. Many of the loading access roadways are used by pedestrians as cut-through routes into the campus. The disadvantage of the wide walkways throughout campus is that they tend to be used by service vehicles and perceived as roadways. The Campus Landscape Improvement Plan addresses this by requiring different pavement materials for pedestrian paths and loading/service truck routes.



Service Vehicles often will drive on sidewalks to access buildings.
Clockwise from top left: Campus Center, bus stop at Skinner Hall, Integrated Science Building and Worcester Dining Hall, Lederle Graduate Research Center, West Experiment Station/Goessman Hall, Campus Center



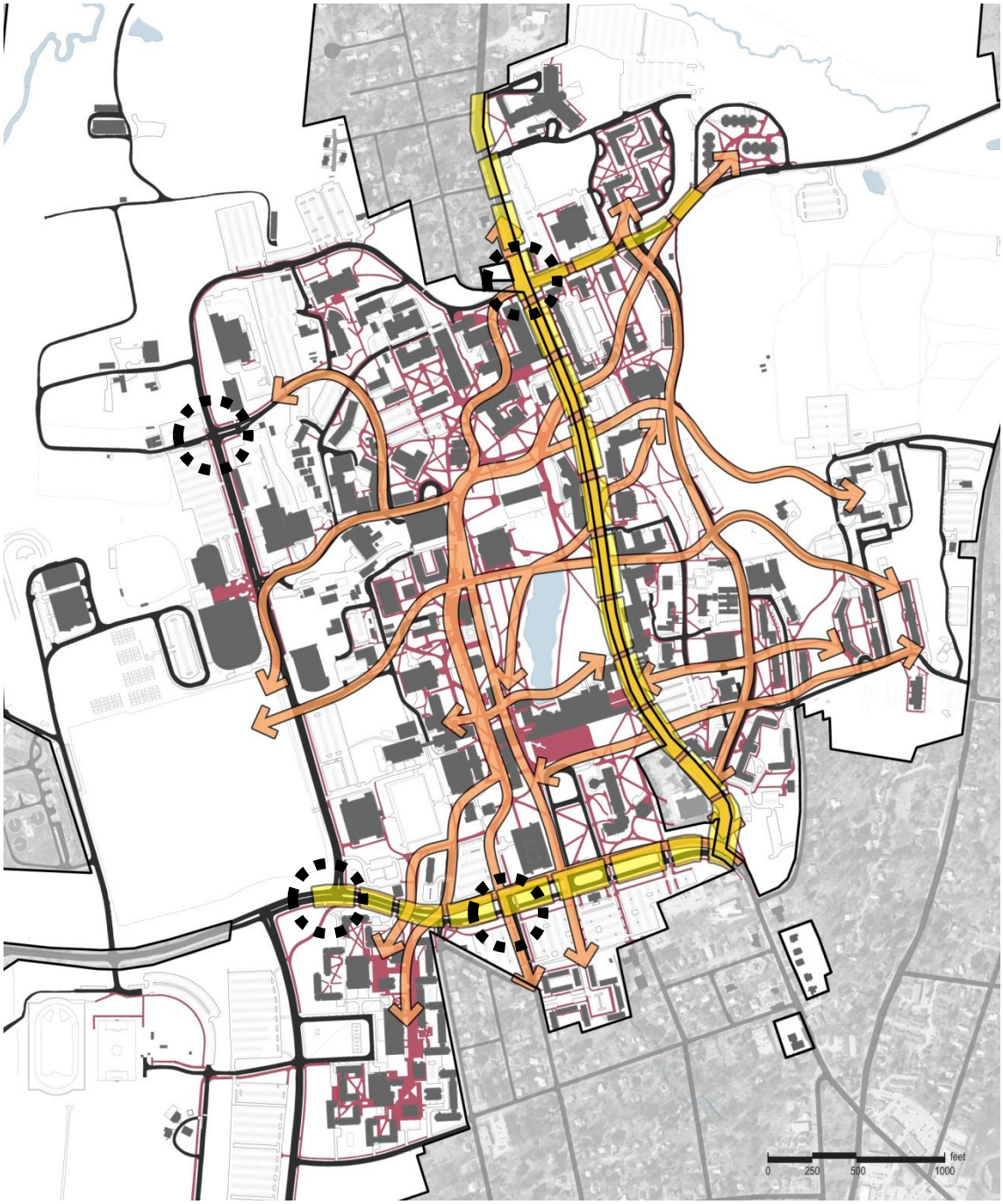
5-, 10-, and 15-minute walking circles

Pedestrian path

Major pedestrian desire line

Pedestrian Circulation

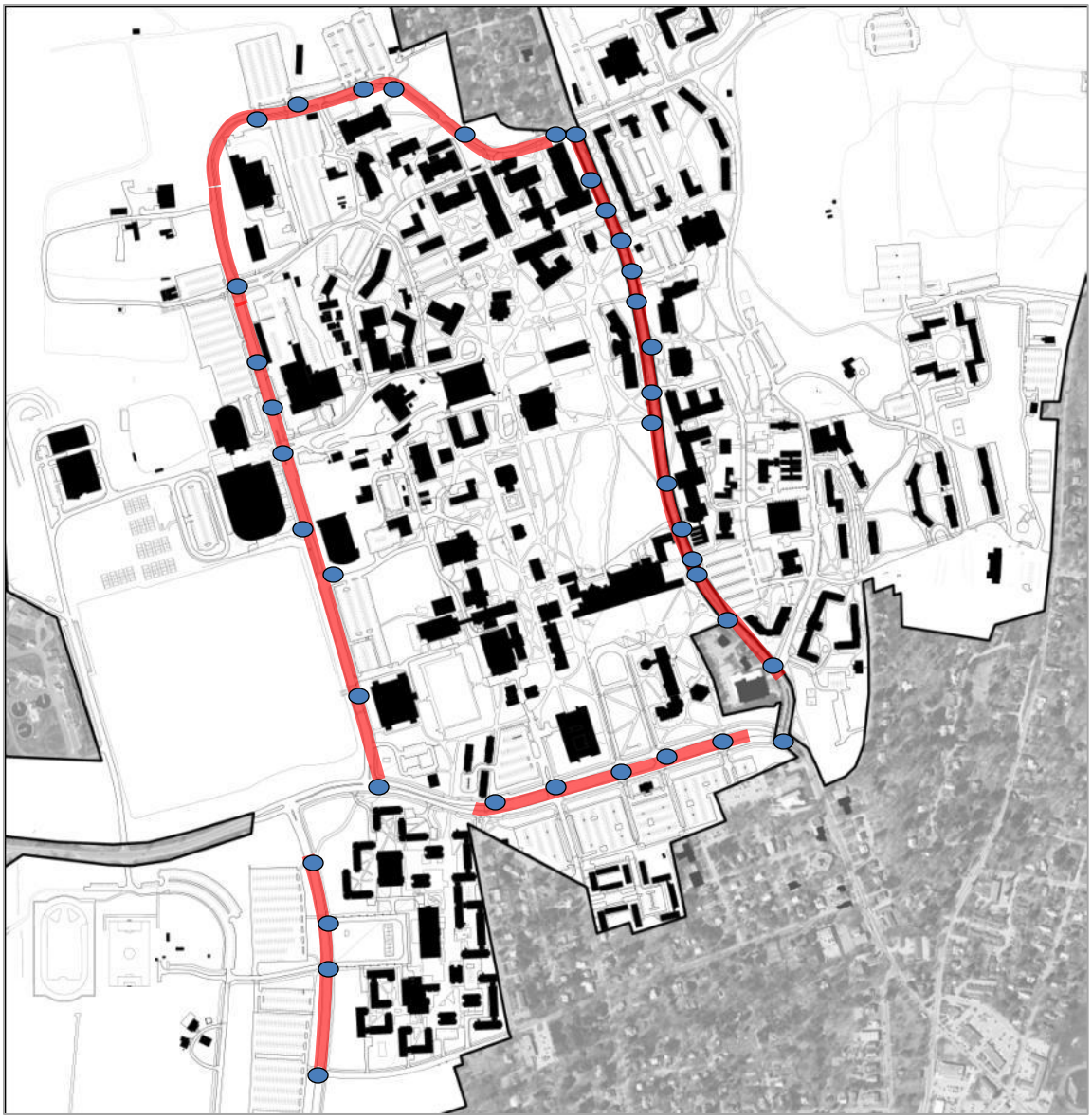
The campus supports high-volume pedestrian traffic with an extensive network of pedestrian paths. Paths are predominantly untrimmed asphalt. Unpaved desire lines are evident in many areas of the campus, while some paved paths seem to be underutilized. The current network is quite complex, often disorienting, and would benefit from simplification and differentiation between pedestrian and service areas. Generally, north-south movement on the campus is direct, while east-west paths are more complex (topography is a complicating factor).



- Ped-Auto Conflict Intersections
- Areas of Ped-Auto Conflict
- Campus Streets
- Pedestrian Desire
- Pedestrian Paths
- Local Streets

Pedestrian-Automobile Conflicts

High volumes of pedestrians walking from residential areas at the perimeter of campus to the academic core are frequently in conflict with automobiles along North Pleasant Street, Eastman Lane, and Massachusetts Avenue. The core campus, which is most heavily trafficked by pedestrians, has numerous intrusions of roads and service routes.



Primary pedestrian-vehicle conflict corridors

Heavily used crosswalks

Pedestrian Crossings

High volumes of pedestrians walking from residence halls, classes, and parking areas are frequently in conflict with automobiles along North Pleasant Street, Commonwealth Avenue, and Massachusetts Avenue. Attempts to divert pedestrians toward safer routes and away from routes with more conflict areas have been met with mixed success because most students choose the shortest route regardless of the risk.

Campus-wide compliance with ADA (for sidewalk ramps and grades) and MUTCD (crosswalk signage and marking) would help improve mobility.

Distracted drivers and pedestrians using mobile phones and MP3 players further compromises attentiveness and safety for all modes of travel.




Clockwise from top left: Looking north along Commonwealth Avenue, Intersection of Thatcher Way and N. Pleasant Street, Looking west along Eastman Lane, Crossing Massachusetts Avenue at Hampshire Hall, Intersection of Massachusetts Avenue and North Pleasant Street, Looking north along North Pleasant Street

Duda Hall

Hatch Lab

Machmer Hall

Berkshire House

Building Condition Introduction

The University's facilities portfolio for campus (including Tilson and Hadley Farms) consists of approximately 10.6 M gsf in 356 buildings*.

As part of the assessment of campus built systems, previous building condition reports were compiled which included Sightlines, Vanderweil Facilities Advisors, and a 2007 Building Condition Report by Facilities & Campus Planning. Academic buildings were evaluated in 2009 in the Comprehensive Science & Engineering Facilities Plan and in the Comprehensive Academic & Classroom Facilities Plan. Administrative buildings were given a rating based on previous general condition studies. Due to limited date, Tilson and Hadley Farms, and Housing were not included in this review.

* 3.7 M gsf of additional University holdings in other towns (Belchertown, S. Deerfield, E. Warrenham, Waltham, etc.) are beyond the scope of the Framework Plan and were not considered.

	GOOD	FAIR	POOR
ACADEMIC	 Integrated Science Building	 Herter Hall	 Bartlett Hall
ADMINISTRATION	 Research Administration Center	 Whitmore Hall	 Munson Hall
STUDENT LIFE	 Recreation Center	 Boyden Gymnasium	 Student Union

Building Condition – Select Examples

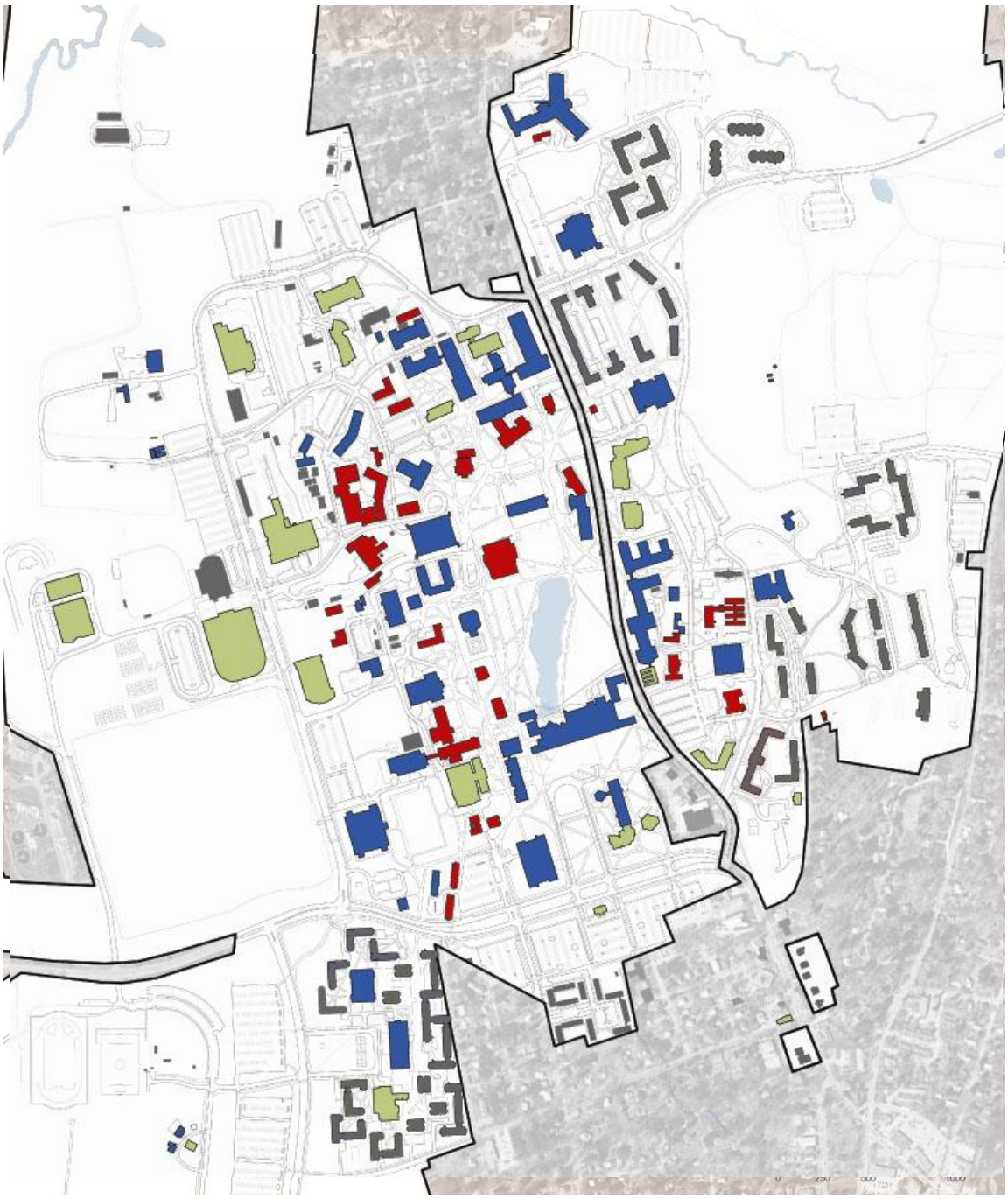
Good, Fair, Poor - Definitions

Good – New buildings that should be aggressively maintained and kept at their current relatively high standard. Systems are sound and in need of only general maintenance and refurbishment. Mechanically, science and engineering labs have appropriate ventilation rates with central HVAC.

Fair – Buildings which are fundamentally sound but require upgrades. Systems are at or near the end of their expected useful life and need restoration or replacement. Specific to science and engineering labs, these facilities have appropriate ventilation rates with central HVAC.

Poor – Buildings are in a state of decline. Multiple systems are in danger of (or are) failing, requiring significant renovation of an entire building. The mechanical systems are generally aged and in need of upgrades or replacement.

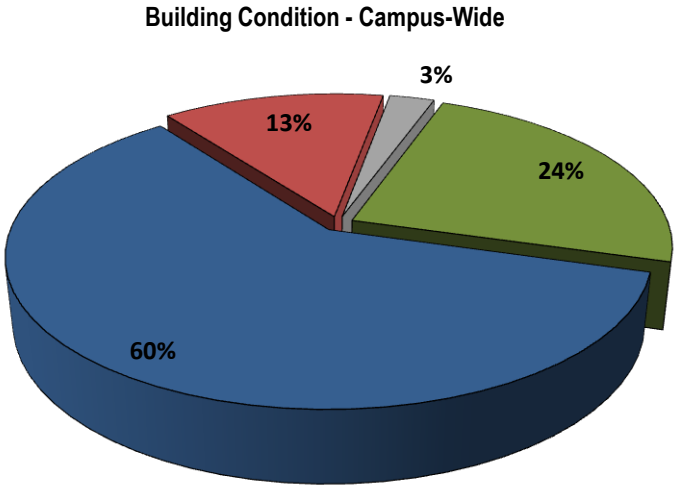
Not Rated – Not all buildings that will be included in the Framework Plan have been assessed as yet.

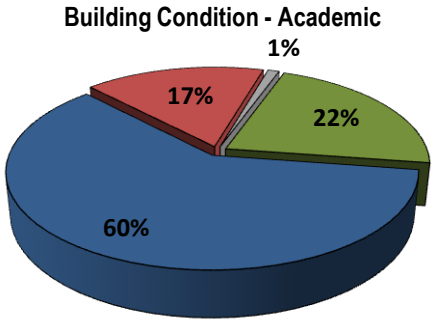


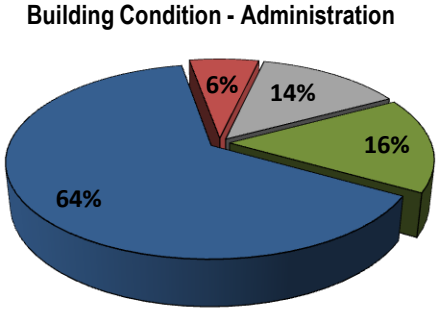
Good
Fair
Poor
Not Rated

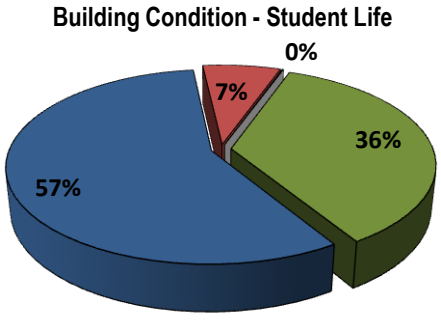
Building Condition Ratings

The assessment rated each building as good, fair, poor, or not rated. Those in poor condition should be evaluated for reuse potential or removal due to obsolescence or lost development opportunities of the site. Some of these buildings are also historic and should be evaluated on their historic significance. Further study is needed to determine which buildings are worth continued investment.









	Good	Fair	Poor	Not Rated	Total (GSF)
Academic	970,856	2,693,619	745,788	46,358	**4,456,621**
Admin	161,436	648,187	65,571	137,433	**1,012,627**
Student Life	519,767	832,773	105,939	1,271	**1,459,750**
Total (GSF)	**1,652,059**	**4,174,579**	**917,298**	**185,062**	**6,928,998 ***

* *Excludes 3.4 M gsf of housing and 200 K gsf from Tilson and Hadley Farms*

Building Conditions - Gross Area

Building Condition By Space Type

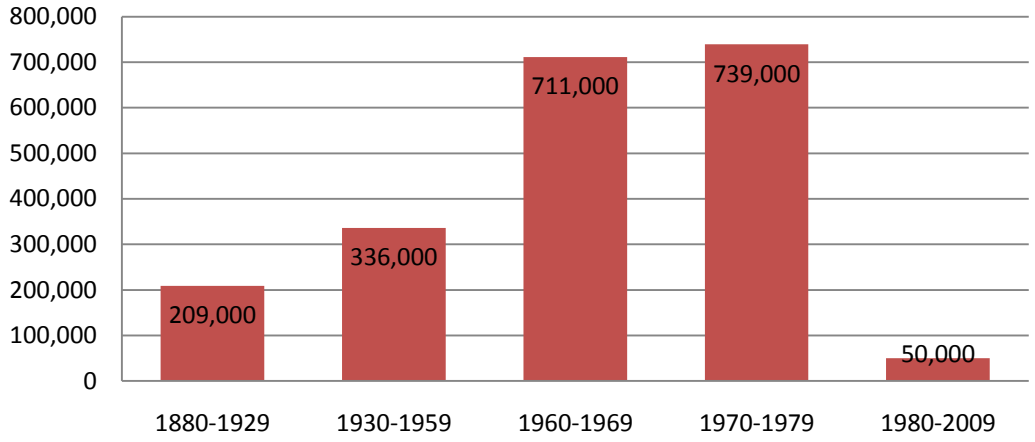
Overall, most space on the campus is rated Fair. This signals that as these spaces age in the near future, the University will need to undertake significant building projects to upgrade and replace this space.

The three smaller charts break the campus into space types, specifically Academic, Administration and Student Life spaces. Housing is not yet rated and not included in the analysis at this time. The largest and most serious deficit in quality is in the Academic Space, which includes active classroom space. The 17% of Academic Space rated as poor represents the distillation of the Comprehensive Academic &Classroom Facilities Plan and the Comprehensive Science &Engineering Facilities Plan information gathering processes.

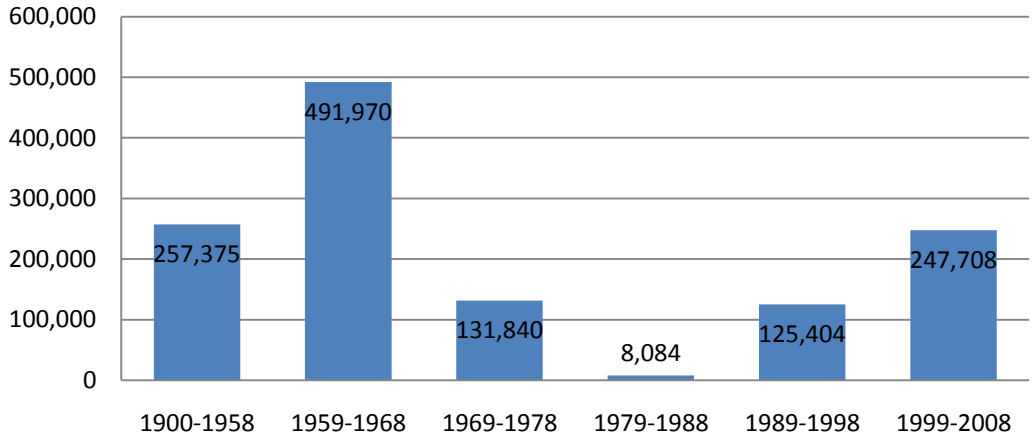
111 – 160 years
81 – 110 years
51 – 80 years
21 – 50 years
< 20 years

Building Age

Approximately 72% of campus facilities are between 30 and 60 years old and in most cases have not been substantially renovated since they were first built. Consequently, the majority of deferred modernization needs ($2 B) have been identified in these buildings.

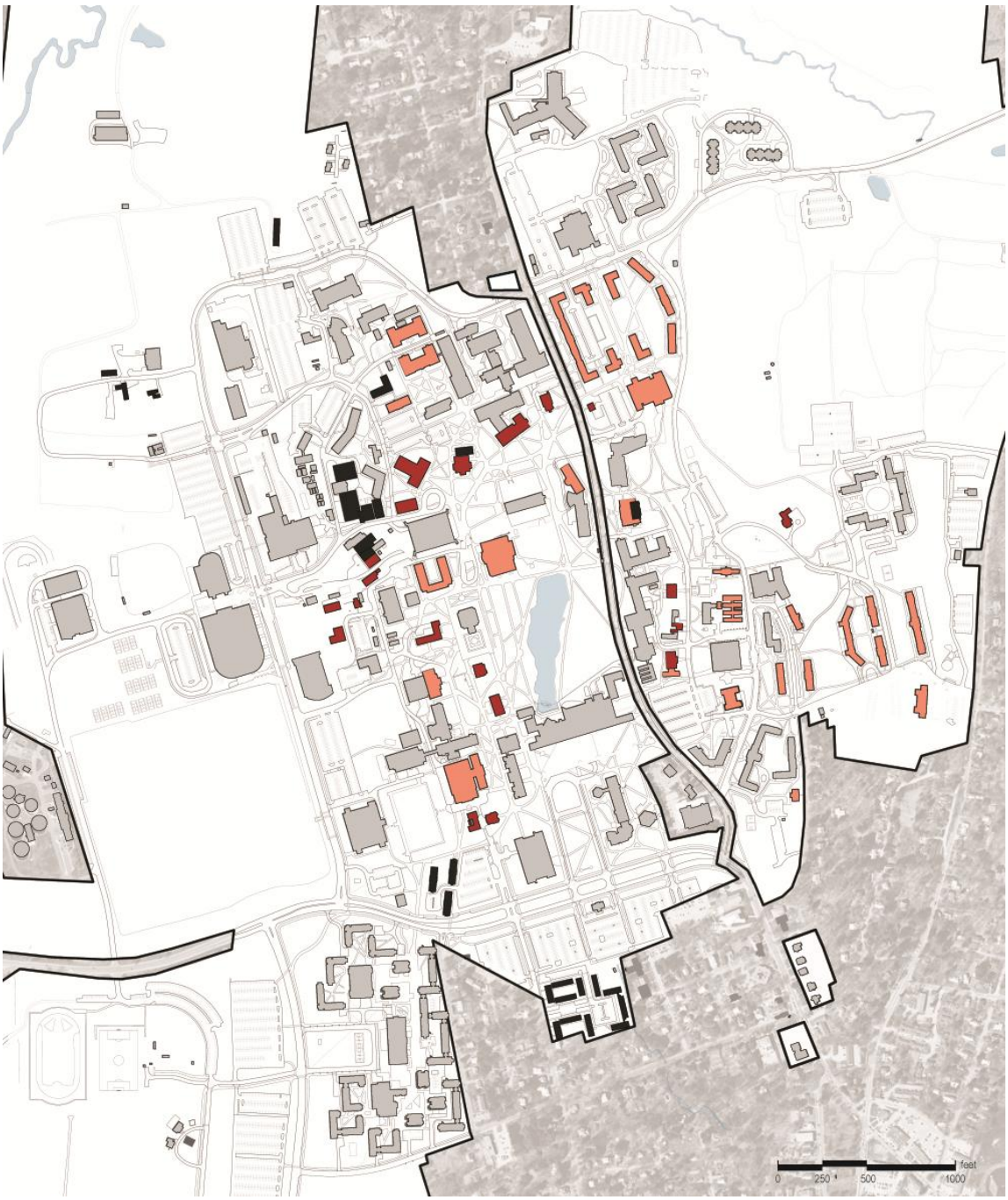


Building Age Summary Chart For Non-Science & Engineering Academic & Classroom Buildings



Building Age Summary Chart For Science & Engineering Buildings

The above charts illustrate the advanced age of most buildings housing academic functions. For example, the last significant Physical Sciences and Engineering facilities were built in the 1960s. While in the Humanities and Social Sciences, just 50,000 gsf was built between 1980 and 2009. Similarly, very little or no investment in the Life Sciences had been made in the past 60 years prior to the opening of the Integrated Science Building (ISB) in January 2009.



Eligible in a district

Recommended to be eligible in a district

Recommended not to be eligible in a district

Not Surveyed

Historic Buildings

The University recently completed a study to document historic buildings (more than fifty years old) on campus. These structures are an important connection to the past, but many also present challenges for adaptive use because of poor condition, lack of building code compliance, or small scale. The University needs to develop policies to guide decisions about which buildings to keep, how to fund renovation and maintenance, and how best to utilize these facilities.

Old Chapel

Munson Hall

Draper Hall

Goessman

East Experiment Station

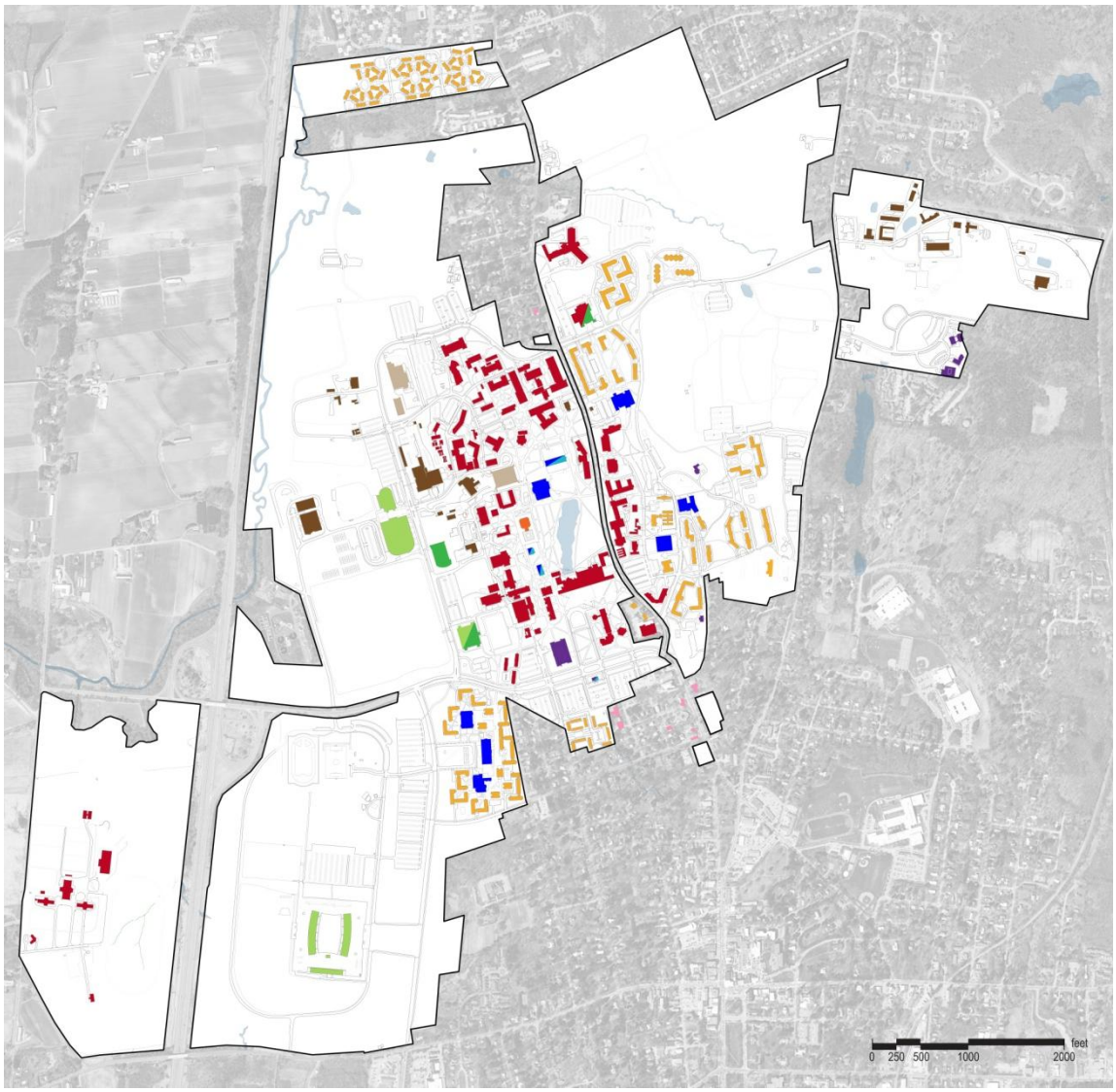
Goodell Hall

Building	Year Built	Age	Condition	Gross Area (GSF)
South College	1885	125	Poor	31,093
Old Chapel	1886	124	Poor	14,208
Munson Hall	1898	112	Poor	13,425
Memorial Hall	1921	89	Poor	19,226
Hicks Physical Education Bldg.	1931	79	Fair	23,460
Goodell Hall	1935	75	Fair	34,323
Wilder Hall	1905	105	Fair	10,534
Clark Hall	1907	103	Poor	20,203
French Hall	1909	101	Poor	20,293
Fernald Hall	1910	100	Poor	37,774
Stockbridge House	1728	282	Fair	3,800
Homestead House	1731	279	Fair	3,748
West Exp Station	1887	123	Poor	14,229
East Exp Station	1890	120	Poor	5,863
Draper Hall	1903	107	Poor	31,731
Flint Laboratory	1912	98	Fair	29,851
Stockbridge Hall	1914	96	Fair	70,929
Goessmann Laboratory	1922	88	Fair	57,140
	Avg. Age in Years	**123**	**Total**	**441,830**

Historic Buildings – Condition, Age, and Area

There are 18 historic buildings that add intrinsic value to the campus. Most of these buildings fronted on Ellis Way and Stockbridge Lane (both now gone) which circled the Pond and were intrinsic to the rural /agricultural nature of the early campus. All of the buildings were developed with a civic presence, collegiate scale, and consistent materials.

These buildings, constructed in the late nineteenth and early twentieth centuries, are in a state of decline and should be given a second life. Reuse options need to be developed during the Framework Plan.



Academic
Residential
Student Support
Athletics
Recreation
Facilities
Administration
Public Function

Campus Building and Land Use

The area bounded by Eastman Lane, North Pleasant Street, Massachusetts Ave, and Commonwealth Ave is dominated by academic buildings. Residential buildings are generally located to the south and east of this area. Most facility support buildings are located to the west, while athletic and recreation facilities are generally located to the west and south (with the exception of Totman Gym just north of Eastman Lane). Admissions is remotely located on the eastern end of the campus. This program could be more effective if prominently located near a main gateway to campus.

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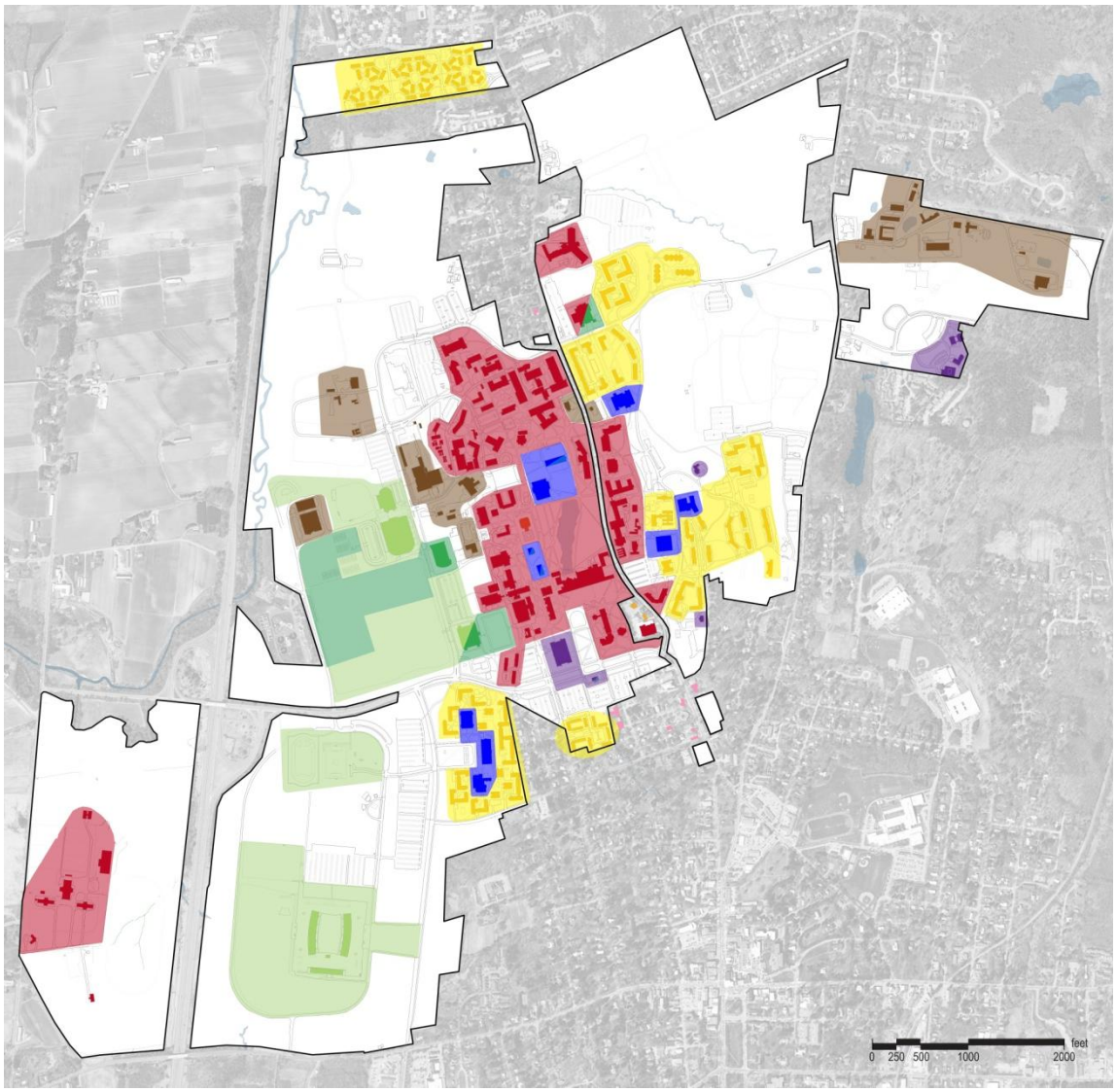


- Academic
- Residential
- Student Support
- Athletics
- Recreation
- Facilities
- Administration

Generally, the campus consists of single use zones with the academic area active primarily during the day. Residential neighborhoods and of Athletics/Recreation facilities are concentrated around the perimeter of the academic area and more heavily used outside of class times.

An alternative land use pattern that allows for a mix of living, learning and playing across the campus would require additional student support facilities (e.g. intellectual and social collaboration spaces; dining) in the academic area and ground-floor classrooms and other learning spaces in residence halls. The Framework Plan will examine the current single-use model and the alternative mixed-use model to determine which is most appropriate for future development.

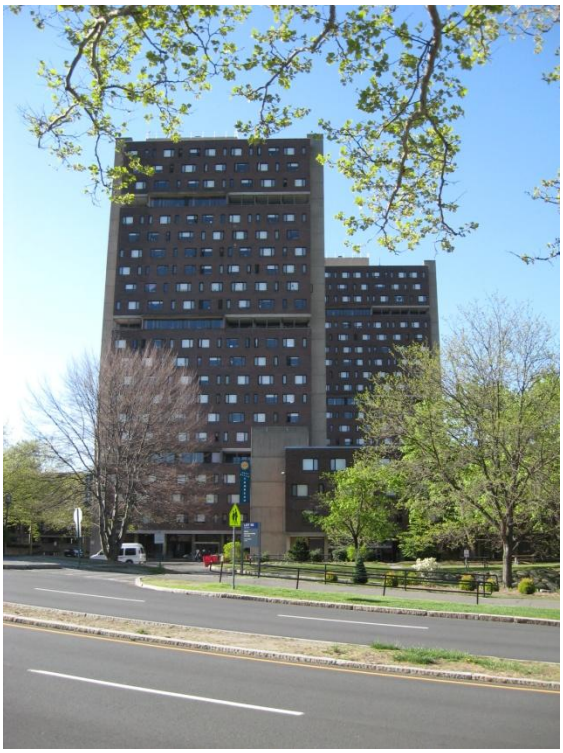
> 8 stories

4 – 8 stories

< 4 stories

Campus Building Height

Building height (and massing) plays a critical role in creating a human-scale campus environment. Campus building heights range from one to twenty-two stories. Some of the tallest buildings on campus are the Southwest Residence Halls, Du Bois Library, and Lederle Graduate Research Center. These towers dominate views of the campus from afar and result in a density of development on the campus akin to an urban setting. However, these buildings have concentrated development and minimized sprawl in areas such as the Southwest Residential Village. 5,000 beds in low rise buildings would have used much more land.



Clockwise from top left: Southwest Residences, view of campus from Massachusetts Avenue, view of campus from Hadley Farm, view of campus from Thatcher Way, W.E.B. Du Bois Library

Generally, building height and use are linked. Classroom uses should be within the lower four floors to minimize the need for elevators and stairs to accommodate class change. Offices, research, and residential uses can work well in taller buildings. Mixing uses vertically can create active uses on the lower floors with other uses above. This can also create more activity throughout the day making for a more vibrant campus – a concept that will be explored further in the Framework Plan.

Union
Bookstore
Hotel
Recreation
Athletics

Campus Amenities

The Student Union is undersized for the campus; additional study is planned.

There is one bookstore in the Campus Center; the University Hotel and Conference Center have been recently renovated and perform well.

Athletics is planning to build a Champion Center in three phases which will provide needed additional indoor facilities. As a result, Totman Gymnasium will be available for other program use.

Recreation recently completed the first phase of a new Recreation Center. The second phase will accommodate a natatorium and additional courts. Until these additions are complete, Recreation utilizes space in Totman and Boyden Gyms.

Dining Commons

Retail Outlets

Campus Dining Facilities

Campus dining facilities are distributed across the campus. Students generally eat breakfast and lunch at Retail Outlets on campus, while the Dining Commons are more popular for evening meals. Dining Commons could support more students, while Retail Outlets are currently at capacity; any enrollment growth would require additional facilities.

Primary utility corridor

Campus Utilities Infrastructure

Major utility corridors are within existing or former streets. Most of these corridors are still active and could be developed further to support additional campus facilities without compromising the campus open space network.

As utilities require upgrades, there are opportunities to coordinate improvements to paths, lighting, and other landscape elements.

Chilled water line

Chilled water plant

Chilled Water Distribution

There are currently three chilled water loops on the campus; the University plans to implement a district chiller strategy to meet growing demand for air-conditioned academic and residential space in existing and new buildings.

Steam line

Central Heating Plant

Plant to be demolished

Steam Distribution

A new Central Heating Plant was recently constructed. As a result the campus has ample capacity to meet the demand of existing and any planned facilities.

The old power plant is slated for demolition in 2012; the site is available for redevelopment.

Electric line

Electric Distribution

Campus electricity is provided by Western Massachusetts Electric Company. The campus has adequate electrical capacity now, but is using virtually all available capacity. Additional power will be needed in the very near future to support additional facilities.

Natural gas line

Natural Gas Distribution

In general, there is limited demand for natural gas on campus. The greatest draw on distribution is the Central Heating Plant on the west side of campus. Even with new facilities, the University does not anticipate an increase in demand for natural gas.

Potable water

Potable Water Distribution

The campus is served by the Amherst municipal water system. The municipal system includes a water treatment facility adjacent to campus, just west of the athletics and recreation playing fields.

Sanitary sewer

Sanitary Sewer

The campus is served by the Amherst sanitary sewer system. This system meets the University's current needs and can be expanded to meet future needs, as necessary.

Storm Water Management

Storm Water Management

Storm water drainage

Storm water on the campus generally flows east to west, with a final destination in the Mill River.

A storm water study for the west side of campus (North Pleasant Street west to the Pond) is expected to begin shortly. Expanding the scope of this project to create a campus-wide storm water master plan would be ideal.

Immediate storm water concerns on campus include:

- Intermittent flooding on the west side of campus
- Need to comply with new stormwater quality regulations within the next five years

Integrated Science Building

Space Utilization and Needs

The University recently commissioned several space needs studies including the Space Needs Report in 2005, the Comprehensive Sciences and Engineering Facilities Plan in 2008, the Comprehensive Academic and Classroom Facilities Plan in 2009 and a Library Program study and Team Based Learning evaluation to be completed in the summer of 2010. Findings from these reports as well as information gathered during on-campus workshops were used to compile an initial snapshot of the campus' space needs. These preliminary findings are summarized on the following pages.

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Hills Hall– LARP Studio

Fine Art Center – Architecture Studio

Paige Laboratory

Key Findings

During a two month investigation process, the team held a series of workshops with University leaders and stakeholders and reviewed the prior studies to identify key programmatic issues today. The following is a summary of those findings.

Academic: **Improve the academic experience**

- Meet current academic demands and needs for modern facilities .
- Provide space for new teaching environments; team based learning and computational labs.
- Improve the building condition through new/renovated classrooms and research space.
- Improve research space for retention and recruiting to grow the faculty from 490 to 635.
- Provide new/renovated space for specialized departmental learning environments.
- Consolidate departments dispersed across campus.

Administrative Units: **Consolidate and relocate to provide Academic space**

- Whitmore, the primary location for many Administrative departments, is tight and the study needs to evaluate appropriate groups to relocate to provide appropriate right size space and growth. I
- Groups in Goodell are facing pressure to relocate for Academic needs along with the need to renovate the building.
- Other Administrative locations to be considered include Physical Plant, Draper, Munson Hall, Mather House, Hampshire House.

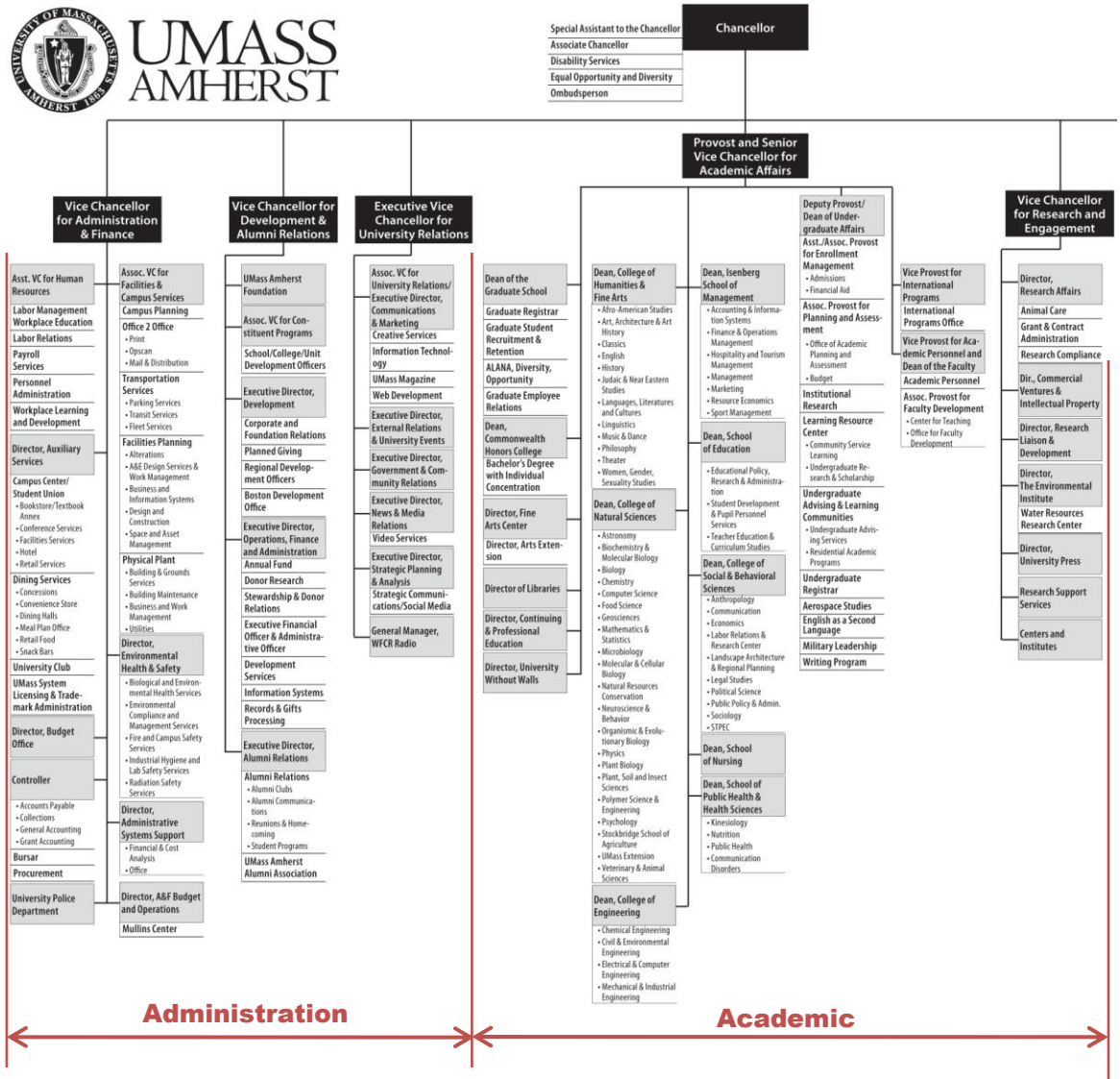
Worcester Dining Hall

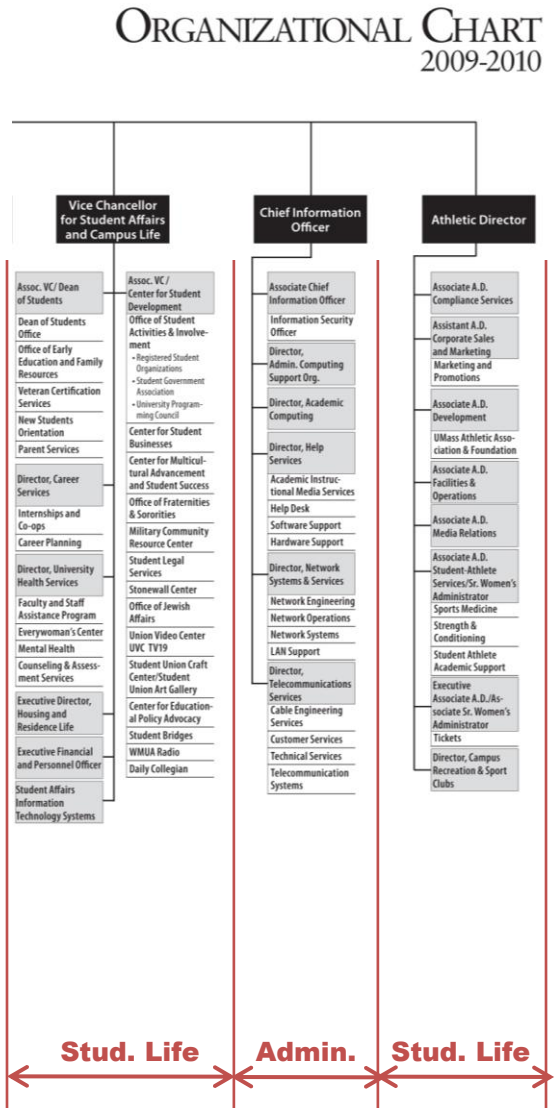
University Health Services

Student Union

Student Life: Add additional space and improve the quality of older existing facilities

- Athletics: Planned Phase I of the Champion Center will provide a much needed venue for varsity basketball training, team weight rooms, administrative and coaches offices, an indoor track, and the Champions Hall; relocate varsity baseball fields south of McGuirk Stadium; construct support building for football at McGuirk Stadium; install new lighting for Rudd Field and softball field; construct track/softball support building at Rudd Field.
- Recreation: complete the planned pool and basketball court addition to the Recreation Center which will relieve crowding and over-scheduling at other facilities . Increase the number of recreation fields and improve existing ones with new lighting and artificial turf.
- Student Activities & Support: Provide additional space for student programs and activities storage
- Food Service / Dining: renovate Franklin and Worcester Dining Halls; add additional dining halls as new student housing is constructed.
- Health Services: complete the planned feasibility study to determine if University Health Services (UHS) should renovate its current facility or construct a new building.
- Housing: construct new 1500 bed student housing facility to relieve demand and accommodate planned enrollment growth.


UMASS AMHERST
Special Assistant to the Chancellor
Associate Chancellor
Disability Services
Equal Opportunity and Diversity
Ombudsperson
Chancellor
Provost and Senior Vice Chancellor for Academic Affairs
Vice Chancellor for Administration & Finance
Vice Chancellor for Development & Alumni Relations
Executive Vice Chancellor for University Relations
Vice Chancellor for Research and Engagement
Asst. VC for Human Resources
Labor Management Workplace Education
Labor Relations
Payroll Services
Personnel Administration
Workplace Learning and Development
Director, Auxiliary Services
Campus Center/ Student Union
• Bookstore/Textbook Annex
• Conference Services
• Facilities Services
• Hotel
• Retail Services
Dining Services
• Concessions
• Convenience Store
• Dining Halls
• Meal Plan Office
• Retail Food
• Snack Bars
University Club
UMass System Licensing & Trademark Administration
Director, Budget Office
Controller
• Accounts Payable
• Collections
• General Accounting
• Grant Accounting
Bursar
Procurement
University Police Department
Assoc. VC for Facilities & Campus Services
Campus Planning
Office 2 Office
• Print
• Opscan
• Mail & Distribution
Transportation Services
• Parking Services
• Transit Services
• Fleet Services
Facilities Planning
• Alterations
• A&E Design Services & Work Management
• Business and Information Systems
• Design and Construction
• Space and Asset Management
Physical Plant
• Building & Grounds Services
• Building Maintenance
• Business and Work Management
• Utilities
Director, Environmental Health & Safety
• Biological and Environmental Health Services
• Environmental Compliance and Management Services
• Fire and Campus Safety Services
• Industrial Hygiene and Lab Safety Services
• Radiation Safety Services
Director, Administrative Systems Support
• Financial & Cost Analysis
• Office
Director, A&F Budget and Operations
Mullins Center
UMass Amherst Foundation
Assoc. VC for Constituent Programs
School/College/Unit Development Officers
Executive Director, Development
Corporate and Foundation Relations
Planned Giving
Regional Development Officers
Boston Development Office
Executive Director, Operations, Finance and Administration
Annual Fund
Donor Research
Stewardship & Donor Relations
Executive Financial Officer & Administrative Officer
Development Services
Information Systems
Records & Gifts Processing
Executive Director, Alumni Relations
Alumni Relations
• Alumni Clubs
• Alumni Communications
• Reunions & Homecoming
• Student Programs
UMass Amherst Alumni Association
Assoc. VC for University Relations/ Executive Director, Communications & Marketing
Creative Services
Information Technology
UMass Magazine
Web Development
Executive Director, External Relations & University Events
Executive Director, Government & Community Relations
Executive Director, News & Media Relations
Video Services
Executive Director, Strategic Planning & Analysis
Strategic Communications/Social Media
General Manager, WFCR Radio
Dean of the Graduate School
Graduate Registrar
Graduate Student Recruitment & Retention
ALANA, Diversity, Opportunity
Graduate Employee Relations
Dean, Commonwealth Honors College
Bachelor's Degree with Individual Concentration
Director, Fine Arts Center
Director, Arts Extension
Director of Libraries
Director, Continuing & Professional Education
Director, University Without Walls
Dean, College of Humanities & Fine Arts
• Afro-American Studies
• Art, Architecture & Art History
• Classics
• English
• History
• Judaic & Near Eastern Studies
• Languages, Literatures and Cultures
• Linguistics
• Music & Dance
• Philosophy
• Theater
• Women, Gender, Sexuality Studies
Dean, College of Natural Sciences
• Astronomy
• Biochemistry & Molecular Biology
• Biology
• Chemistry
• Computer Science
• Food Science
• Geosciences
• Mathematics & Statistics
• Microbiology
• Molecular & Cellular Biology
• Natural Resources Conservation
• Neuroscience & Behavior
• Organismic & Evolutionary Biology
• Physics
• Plant Biology
• Plant, Soil and Insect Sciences
• Polymer Science & Engineering
• Psychology
• Stockbridge School of Agriculture
• UMass Extension
• Veterinary & Animal Sciences
Dean, College of Engineering
• Chemical Engineering
• Civil & Environmental Engineering
• Electrical & Computer Engineering
• Mechanical & Industrial Engineering
Dean, Isenberg School of Management
• Accounting & Information Systems
• Finance & Operations Management
• Hospitality and Tourism Management
• Management
• Marketing
• Resource Economics
• Sport Management
Dean, School of Education
• Educational Policy, Research & Administration
• Student Development & Pupil Personnel Services
• Teacher Education & Curriculum Studies
Dean, College of Social & Behavioral Sciences
• Anthropology
• Communication
• Economics
• Labor Relations & Research Center
• Landscape Architecture & Regional Planning
• Legal Studies
• Political Science
• Public Policy & Admin.
• Sociology
• STPEC
Dean, School of Nursing
Dean, School of Public Health & Health Sciences
• Kinesiology
• Nutrition
• Public Health
• Communication Disorders
Deputy Provost/ Dean of Undergraduate Affairs
Asst./Assoc. Provost for Enrollment Management
• Admissions
• Financial Aid
Assoc. Provost for Planning and Assessment
• Office of Academic Planning and Assessment
• Budget
Institutional Research
Learning Resource Center
• Community Service Learning
• Undergraduate Research & Scholarship
Undergraduate Advising & Learning Communities
• Undergraduate Advising Services
• Residential Academic Programs
Undergraduate Registrar
Aerospace Studies
English as a Second Language
Military Leadership
Writing Program
Vice Provost for International Programs
International Programs Office
Vice Provost for Academic Personnel and Dean of the Faculty
Academic Personnel
Assoc. Provost for Faculty Development
• Center for Teaching
• Office for Faculty Development
Director, Research Affairs
Animal Care
Grant & Contract Administration
Research Compliance
Dir., Commercial Ventures & Intellectual Property
Director, Research Liaison & Development
Director, The Environmental Institute
Water Resources Research Center
Director, University Press
Research Support Services
Centers and Institutes
Administration
Academic



University Organizational Chart

Space Needs – Analysis Approach

The Framework Plan organizes the University's space into three broad groupings for analysis: Academic; Administrative; Student Life. The diagram above illustrates how these groupings generally relate to the organization structure of the University.

Campus Aerial

Campus-Wide Space

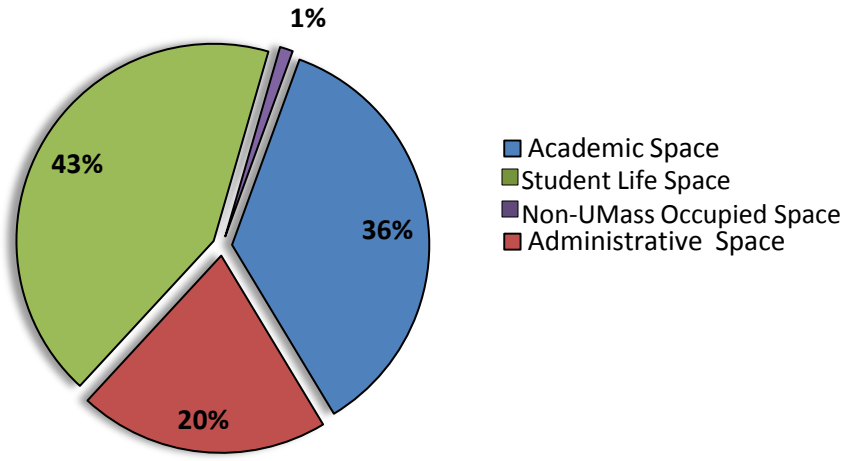
The current building inventory of 10.6 M gsf represents approximately 6.8 M nsf of program space on the Amherst/Hadley campus (including Tilson Farm and Hadley Farm) . The worksheet on the opposite page catalogs this space as well as illustrates the current and future needs to be determined during the next steps of the Framework Plan. Key tasks in developing these needs include reconciling existing nsf data with information provided from the University's space database as well as with the findings of prior studies.

To address its right-sizing and growth needs, the University is considering the following Academic priorities:

1. a new academic and classroom building
2. team-based learning classrooms, expanded learning commons and additional help centers.
3. new laboratory science and research buildings

	Existing NSF	Current (2010) Enrollment: 25, 957 Right Sized NSF	Current (2010) Surplus / (Deficit)	Growth (2020) Enrollment: 28, 957 Right Sized NSF	Growth (2020) Surplus / (Deficit)	Long Term Enrollment Growth: ? Right Sized NSF	Long Term Surplus / (Deficit)
Academic Space							
Umass Classrooms	226,444						
Dept. Classrooms	134,515						
Teaching Labs	174,500						
Research Labs	627,237						
Academic Offices & Support	950,003						
Libraries / Study Areas	284,302						
Other Academic Department Space	137,536						
Subtotal	*2,534,537*						
Administrative Space							
Administrative Offices & Support	373,418						
Assembly & Exhibit	57,962						
Physical Plant	666,853						
Other Administrative Dept. Space	275,302						
Subtotal	*1,373,535*						
Student Life Space							
PE & Recreation	124,516						
Athletics	297,532						
Student Activities / Support	61,265						
Food Service / Dining	219,778						
Student Health Services	17,250						
Housing / Support	2,102,532						
Subtotal	*2,822,873*						
Non-UMass Occupied Space							
Not Reporting to Umass Administration	71,184						
Subtotal	*71,184*						
Campus Total	**6,802,129 ***						

** Does not include Tilson or Hadley Farms*



Existing Space Inventory (nsf)

Fernald Lecture Hall

Fernald Research Lab

South College Classroom

Arnold House Classroom

Academic Space

The Comprehensive Sciences and Engineering Facilities Plan (2008) and the Comprehensive Academic and Classroom Facilities Plan (2009), have found that many academic departments are currently in compression. In order to meet current needs, the University's total academic space inventory of 1.7M nsf will need to grow by approximately 6% (1.8M nsf). Additionally, with the anticipated enrollment growth over the next ten years, new construction will be required to maintain a 'right-size' for each academic unit.

The following pages present a more detailed overview of the University's existing instructional space types: UMass general use classrooms; Specialized Learning Environments (SLEs); and programmed public space.

UMass Lecture Hall

UMass Classroom – Machmer Hall

Dickinson House Classroom

Herter Hall Classroom

Instructional Space: UMass General Use Classrooms

Almost every space on the UMass Amherst campus can be considered a "learning environment." Both traditional/general use classrooms and specialized instructional environments have been evaluated in the Comprehensive Plans and the Library/Learning Study. The analyses considered condition, scheduled use, room capacity, room utilization, course enrollment, adjacencies, performance, and perceived functionality. The Framework Plan will bring this information together along with an analysis of OIT classrooms to provide a comprehensive analysis of existing and future classroom needs.

General use learning environments have been evaluated separately from specialized spaces since the requirements of each group vary drastically. The focus has been on general use spaces since they represent the baseline learning environment. These two classroom groups have been further described below:

Of the 226k nsf of general use classroom space 200K nsf exists in 257 classrooms providing 13,300 seats and are distributed as follows: 1 assembly roo; 20 lecture halls; 207 classrooms; 17 seminar rooms; 12 dorm classrooms.

Utilization

- Up to 90% of rooms are in use at any one time.
- When rooms are in use, 80% of the available seats are filled on average (exceeding national standard of 67%).
- Peak use is steady and high between 9:00 am and 3:30 pm.
- Large auditoria (250+) are over –scheduled and over-filled.

Crowding and Seat Density

- 92% of teaching spaces are overcrowded by good design standards.
- Seating density is too high in all types of room layouts (de-crowding removes 1,700 seats).

New Pedagogy

- There is an overdependence on tablet arm chair seating that is not well-suited for laptop use and team-based learning (converting 50% of tablet arm chairs to table and chairs removes 600 seats).

Costume Design Studio– Fine Arts Center

Recording Studio– Herter Hall

Instructional Kitchen– Campus Center

Teaching Lab – ISB

Poor Building Condition

- Over crowding and over scheduling had led to continued wear and failing finishes in many general use classrooms.
- The 2009 conditions survey identifies deficiencies in condition, technology, and accessibility. Classrooms are typically overcrowded with tablet arm chairs, and nearly all auditorium spaces are non-ADA compliant.
- 75% of classroom seats are in substandard architectural condition (fair to poor).
- The following classrooms are in the worst condition (1,197 seats, 13,738 nsf): Bartlet 65 and 310; E Lab 327; Fernald 11; Goessmann 20 and 64; Hasbrouck 124 and 126; Hills 423 and 483; Morrill 2—131.

Non-ADA Compliance

- 69% of classrooms are not ADA-compliant (156 rooms, 9,250 seats), and 13% of classrooms are in inaccessible buildings.

Specialized Learning Environments (SLE)

- Many learning environments have been retrofitted for particular departmental uses and/or contain department controlled materials. These spaces are held and scheduled by individual departments. Since these spaces vary significantly across departments and are not centrally scheduled, a different means of analysis is used.
- Including specialized spaces is paramount to understanding the complete learning environment inventory as well as the resultant need. Specialized classrooms include the following space types: Class Lab, Department Classroom, Media Production, Project Room, Student Studio, etc. Each space type has different target use rates and guidelines have been developed to match.
- The Comprehensive Plans evaluated 335 SLE (109 in the CS&EFP and 226 in the CA&CFP).

Lounge–ISOM

Lobby–Tomson Hall

Lounge–ISB

Lounge–ISB

- Critical need is for the highly specialized class labs such as design studios, intro science labs, music practice and ensemble rooms, and film screening rooms.
- Some departments are in compression and need additional department classroom space to meet national standards and maintain accreditation.
- Findings for the SLE will be completed at the end of the summer.

Programmed Public Space

- Overall, programmed public spaces are limited on campus. The changing student learning environment brings an urgency to retrofit existing buildings to include these spaces and they should be included in all new buildings.
- Programmed public space are another type of learning environment and represents informal functional areas of an academic facility that serve the less quantifiable learning needs of students.
- Often allocated as a percentage of traditional learning environment area, these spaces are known as teaming areas, informal gathering space, loosely scheduled work or study areas, food service seating, etc. Typically as an extension of the circulation path, these spaces allow students to gather, discuss, work together in teams, and have impromptu academic conversation with their peers and professors.
- Another approach to programmed public space can be semi-private meeting rooms that can be scheduled for team or group work. These spaces could also be large enough to serve as lecture breakout rooms or small seminar spaces when needed.
- These spaces add to the vitality of a building as well as its sense of community. Most often, these spaces are currently found proximal to departmental spaces where students of similar studies can easily congregate. The most successful example can be found in the School of Management addition and the ISB. Other less successful examples include the area outside the Thompson auditoria and the Bartlett main entry.

Whitmore Hall

Goodell Hall

Draper Hall

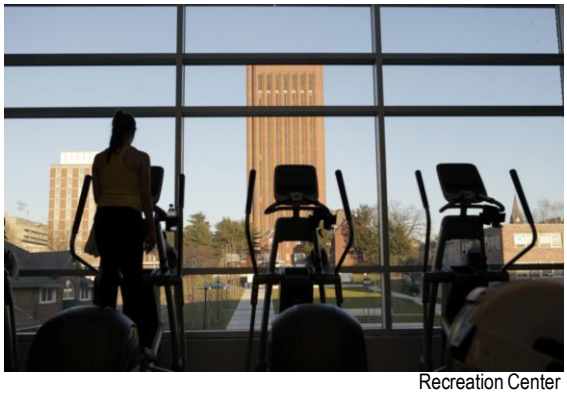
Administrative Space

The Framework Plan will focus on Administrative groups because their needs have not been evaluated in the recent studies.

The following is a summary of key issues to be addressed in the next phases of the Framework Plan:

- Space quantity and quality: Examine more closely current and future space needs of all departments. Whitmore and Goodell are two primary Administrative facilities which are currently experiencing great need for additional space. Other buildings housing units will also be studied.
- Co-location: Understand adjacency needs within and between various units.
- Location on Campus: Identify what administrative functions should stay within the campus core and what functions can move to its edge and establish a strategy to implement any required migration of units.

Student Union



Recreation Center

Dining Commons

Recreation Field (Adjacent to McGuirk)

Student Life Space

There are five functional areas that constitute Student Life: Athletics, Recreation, Student Activities, Dining, and Housing. Each of these areas have been examined during this Observations phase of the Framework Plan with the following key needs being identified:

- Athletics is in need of additional space for basketball practice, team weight rooms, offices, and indoor track. Plans are being considered to build a new Champions Center to house these functions.
- Recreation needs additional space for basketball courts and playing fields. The implementation of a new Athletics facility will help to free up additional space that can be utilized by Recreation to relieve crowding and over-scheduling.
- Student Activities currently has a deficiency in general meeting and storage space for student programs.
- The campus Dining Commons are at capacity. Dining will need a new facility to accommodate planned enrollment growth. Franklin and Worcester Dining Halls have been determined to be in need of renovation.
- University Health Services has outgrown it's current facility and has immediate needs to expand or move into a new facility.
- There is currently a plan to add and additional 1500 beds on campus. This will relieve current demand and help accommodate immediate planed enrollment growth.

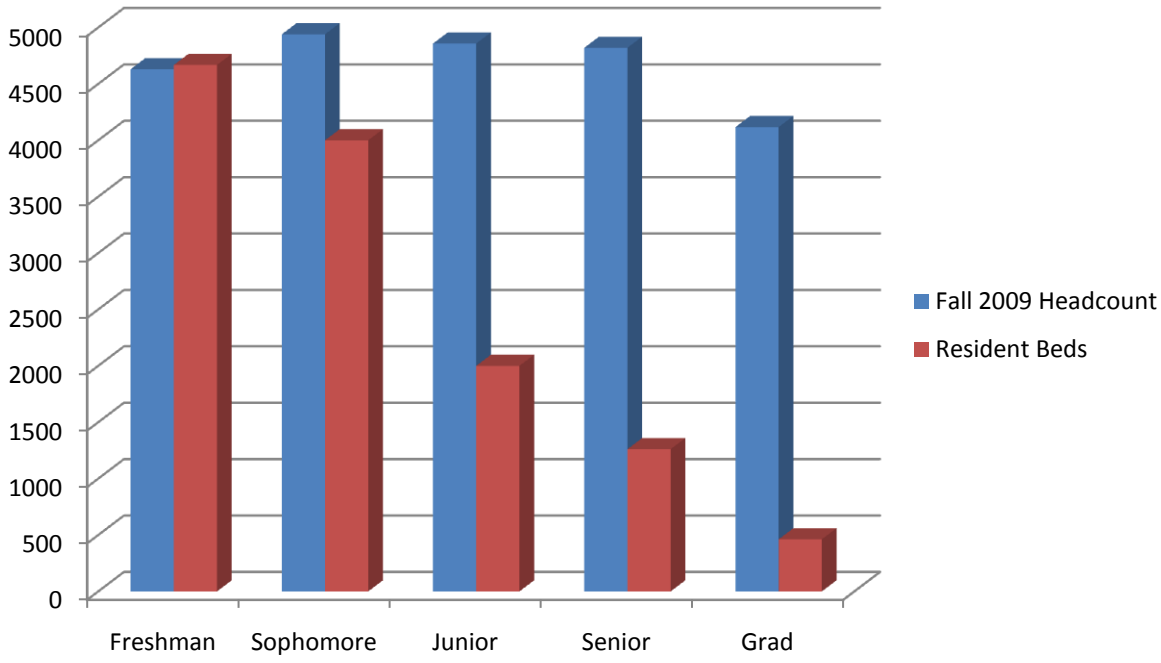
Residence Life

The most recent residence life strategic plan was completed in 2002. Many of the findings of this study are still relevant : insufficient diversity of unit types, limited on-campus common space and amenities, need for building modernization, and pent-up demand for more on-campus housing.

Enrollment has increased slightly since 2002 with a limited increase in beds resulting in a reduction of the percentage of students housed on campus from 67% in 2002 to 62% in Spring 2010. The 2002 report suggested a pent-up demand for 1,500 beds based on enrollment at that time. Since 2002, the North Residential Area was built adding 864 beds to the campus inventory. It is possible that all of the pent-up demand has not been met.

Planned phased building improvements will upgrade the existing housing stock over time and are anticipated to result in a reduction of beds as a number of bedrooms are converted back to common space.

An update of the residence life strategic plan is recommended as part of the Framework Plan.



Resident beds compared to enrollment

Resident Population

- 62% of undergraduates live on campus
- All entering First Year Students are required to live on campus
- 80% of Sophomores, 41% of Juniors, 26% of Seniors live on campus
- Limited off campus housing is available which increases demand on campus at all student levels
- Increasing the student enrollment by 3,000 students and maintaining a 62% housing ratio would suggest a demand for over 1,500 new campus beds

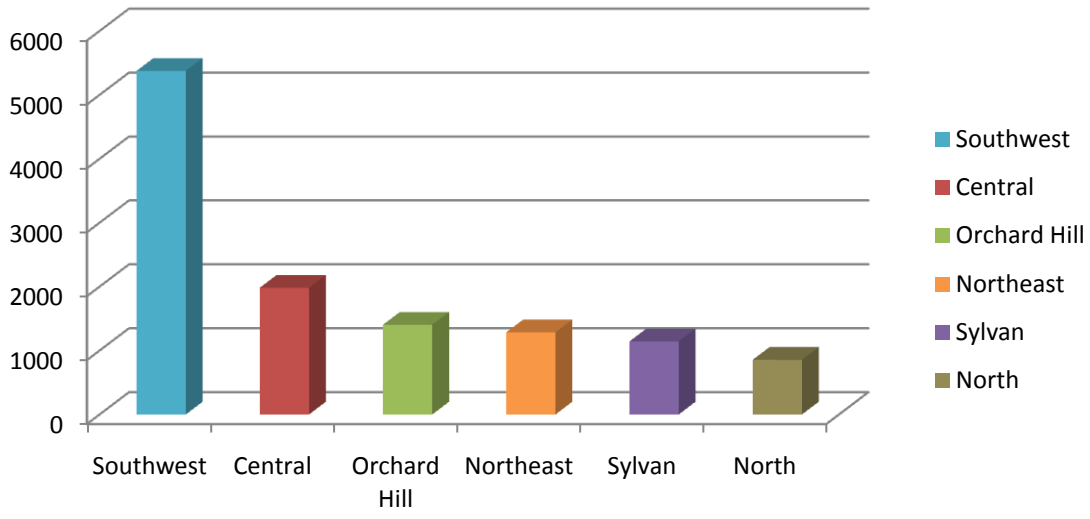
The resident population by class level is a classic distribution curve with an emphasis on first and second year students.

On most traditional campuses this curve mirrors the general enrollment curve where the upper division student enrollment decreases with each level. In the case of Umass Amherst, the upper division enrollment is actually increasing which indicates an influx of transfer students beginning at the second year.

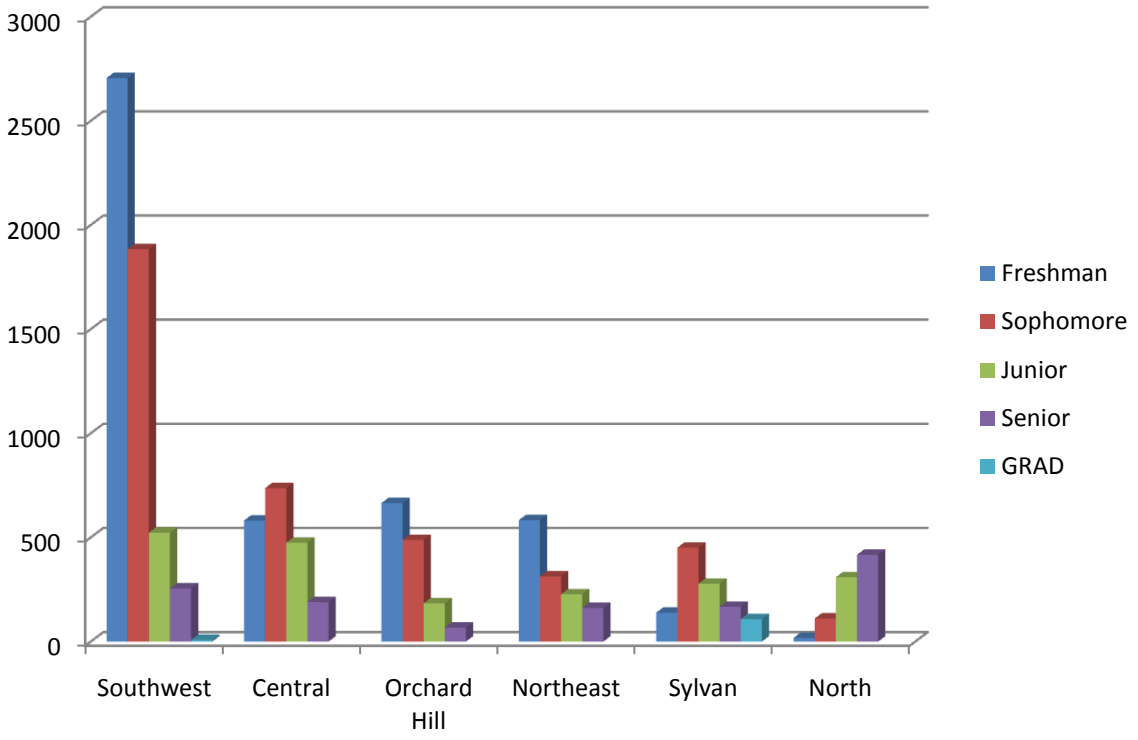
This raises a question given this trend, the limited availability of off-campus housing in the Amherst area, and the number of students who are from out-of state or out of the area if there is unmet demand for additional on-campus housing for upper classmen. Upper division students generally want a lees communal and more private living accommodation such as suites or apartments.

Housing Districts

The campus has eight unique housing districts. These neighborhoods are distinguished by number of beds, building age, building configurations, location, proximity to academic facilities, and unit types. Each district has a distinct character that provides students with diverse choices for on-campus living. Students have expressed how the variety resonates with different groups such as those coming from more urban places like the more urban Southwest Village while those looking for a more residential collegiate experience may choose Central or Northeast. In other words the variety is good in that it creates unique neighborhoods where students can become part of a community.



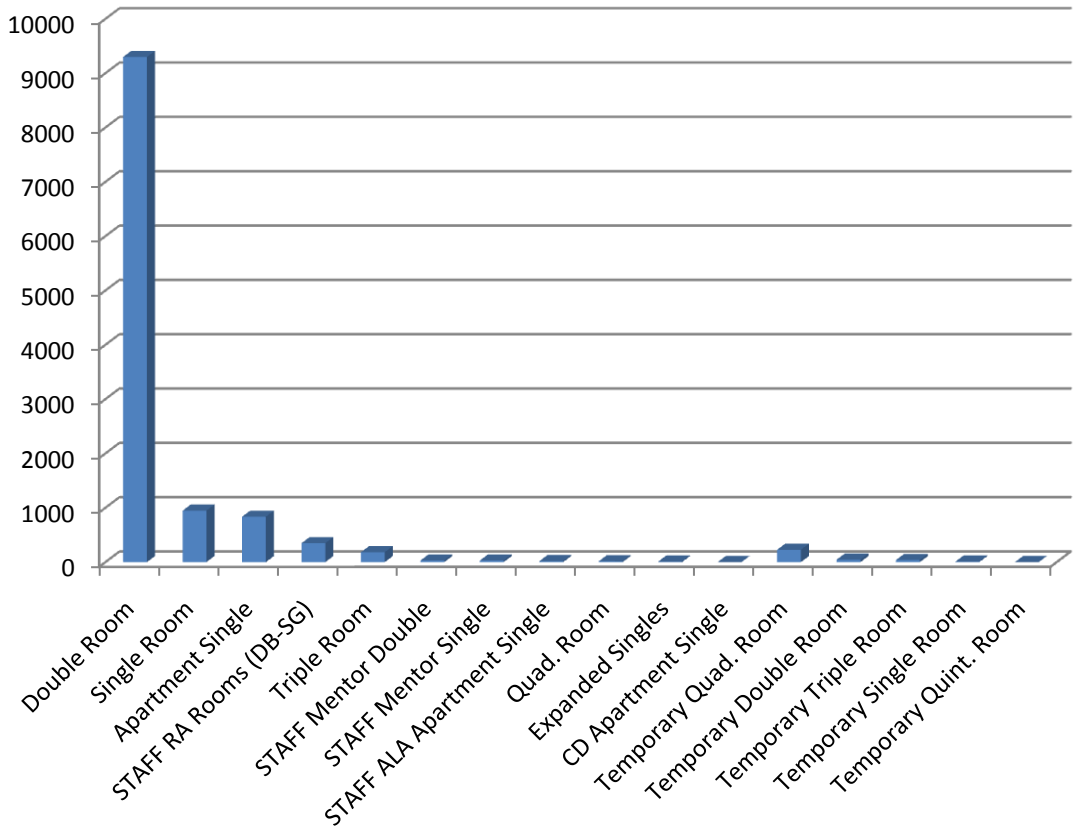
Number of beds by housing district



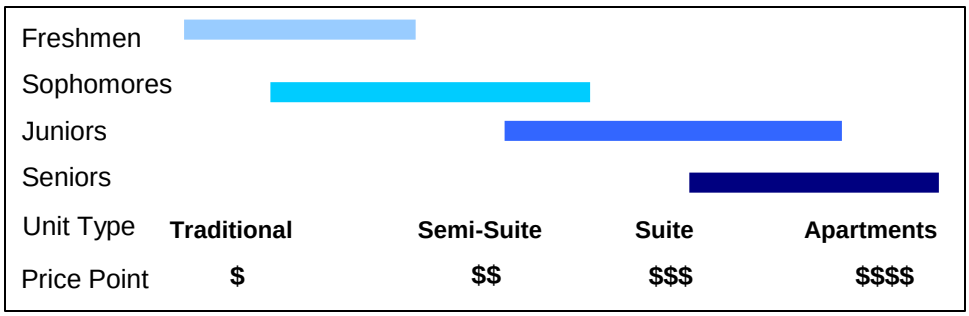
Student Level population by housing district

Housing District Communities

The Southwest district is by far the largest district and has more of an urban feel. The other communities range from 864 beds in North to nearly 2000 beds in Central. All of the districts are large enough to maintain a sense of critical mass and identity. Each district has a mix of undergraduate student levels and some have graduate students. Each district has First Year Experience programs and themed housing which help build connections within the district and the university.



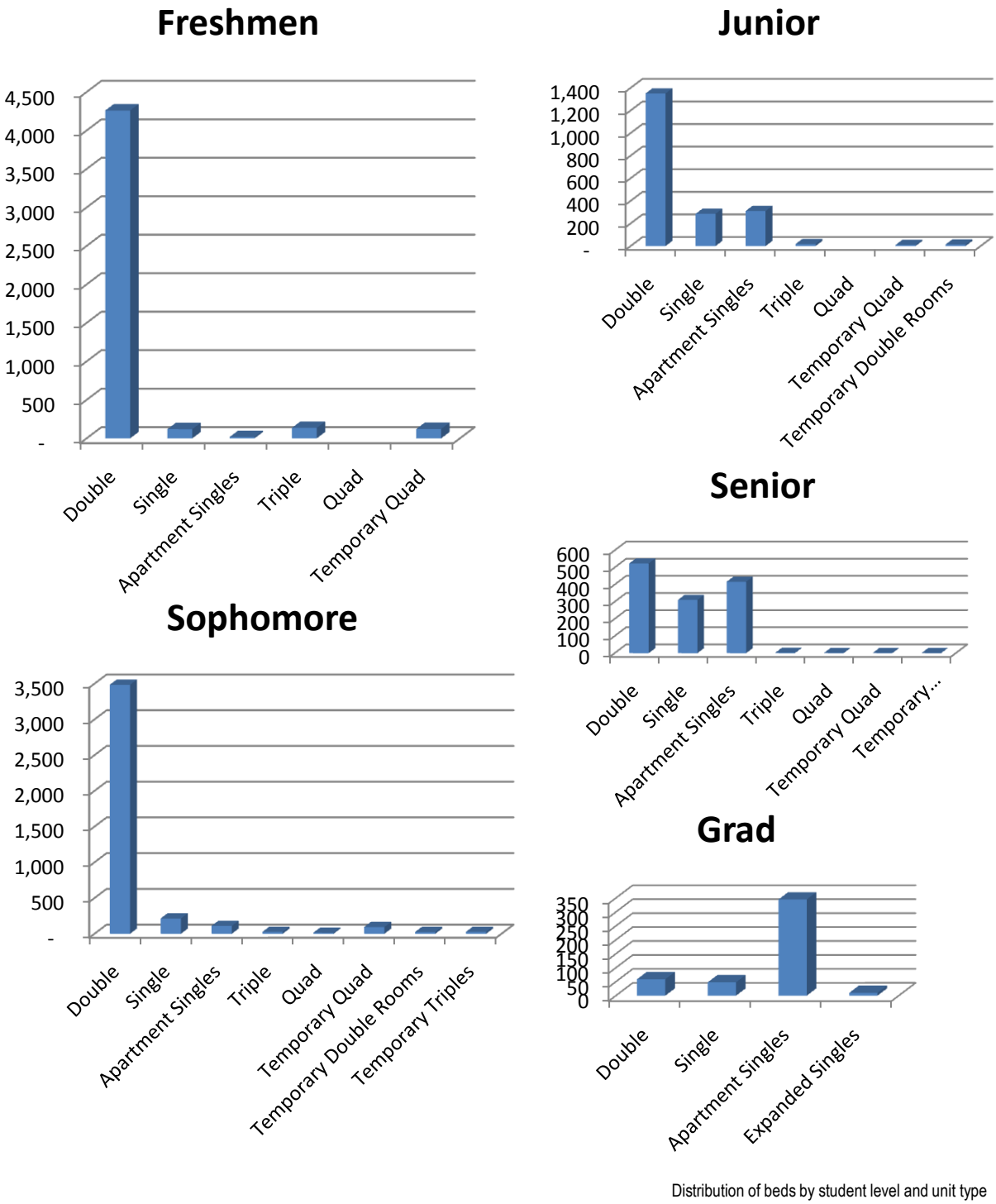
Number of beds by unit type



Idealized unit mix by student level

Room Types

Out of 12,046 on-campus beds 77% of the available rooms are doubles, 8% are singles, and 7% are single apartments. While double rooms with communal baths are appropriate for first year and most second year students, more private unit types, such as semi-suites, suites, and apartments, are generally preferred by upper class students. Ideally the unit types would mirror the students' level with a diversity of unit types to match student desire for more private living arrangements as they mature.



Distribution of beds by student level and unit type

Room Types by Student Level

Most undergraduate students are living in double rooms, however some juniors and the majority of seniors live in single rooms. Offering more semi-suites to sophomores and juniors as well as suites and apartments to juniors and seniors would be desirable.



Northeast Residential District



Central Residential District


Orchard Hill

Residential District Character

The Central and Northeast Districts are the most traditional looking units on campus. Both of these communities are very close to the Science and Engineering District.

Orchard Hill is home to the Honors College and a very popular residence hall, despite its location on a steep hill some distance from most other facilities.

North Residential District

Sylvan Residential District

The North Residential District is a recent addition to campus with 864 beds. The materials selection, articulation, scale and sloped roofs recall precedents from the Northeast and Central Residential Districts. The open space between the buildings creates residential quads and courts which breaks down the scale of the complex.

Sylvan offers the only suite style living arrangement on campus, however the units are dark due to limited windows and the unit configuration separates the living areas from the bedrooms in an odd manner which makes the complex least desirable on campus.

Southwest Residential District

Lincoln Apartments

North Village Residential District

Residential District Character

The Southwest Residential District is the most urban of any place on campus. The buildings are organized around resident assistant communities which are either stacked in the high rises or are in low rise buildings. One major dining hall is in the Southwest District.

Two-story, brick buildings built in 1958, the Lincoln Apartments for graduate students. The North Village Apartments are also for graduate students, but primarily marketed to students with families. The buildings are one-story, wood-frame structures.

Planed Capital Projects 2010-2014

New Construction

Renovation and Modernization

Planned Capital Projects

A number of projects are planned during the next five, ten, and fifteen years to improve and expand campus facilities. The following list of planned projects will inform the development of the Framework Plan. It indicates new facilities that will need building sites or confirmation of proposed sites by the Framework Plan. This list also documents which facilities are targeted for additional investment, and as such should be accounted for in the Framework Plan

CAPITAL IMPROVEMENT PROJECTS - FY10 to FY14			
Academic / Classroom Needs		**Research Needs**	
New Academic Building	$ 85,000,000		
Demo Hills/Reno Dickinson Marks Meadow	$ 20,500,000	Totman/Morill Renov	$ 4,000,000
		Paige Renov	$ 6,000,000
		Chenoweth Renov	$ 800,000
		Goessmann labs	$ 12,000,000
Du Bois modernization	$ 47,000,000	Hasbrouck Labs	$ 14,200,000
Machmer Renov	$ 17,000,000	Morill IV	$ 6,400,000
ISOM Addition	$ 40,000,000	Goessmann I	$ 10,000,000
		LGRC I	$ 8,000,000
		Chenoweth	$ 6,000,000
		Totman Addition	$ 45,000,000
CAPITAL IMPROVEMENT PROJECTS - FY15 to FY19			
Academic / Classroom Needs		**Research Needs**	
Machmer Renov	$ 40,000,000	Goessmann II	$ 10,000,000
Replace Bartlett Hall	$ 70,000,000	Tobin Hall Renov	$ 10,000,000
Du Bois Modernization Ph II	$ 30,000,000	Chenoweth	$ 10,000,000
Fine Arts Center Mod	$ 30,000,000	LGRC II	$ 91,000,000
		Marston Upgrade	$ 80,000,000
CAPITAL IMPROVEMENT PROJECTS - FY20 to FY24			
Academic / Classroom Needs		**Research Needs**	
Replace Ag Eng	?	Organismal & Evol Bio Bldg	$ 220,000,000
Replace South College	?	Physical Sciences Bldg	$ 158,000,000
Modernize Thompson	?	Engineering Sciences Bldg	$ 94,000,000
		Morill IV Renov	$ 88,000,000
		Morill II/III Demo	$ 3,000,000
		LGRC Low-rise Renov	$ 59,000,000
		Bowditch Renov	$ 5,100,000
		Marston Renov	$ 40,700,000
		Engineering Sciences Bldg I	$ 94,000,000

CAPITAL IMPROVEMENT PROJECTS - FY10 to FY14

Student Life Needs		Athletics Needs		Administration Needs	
New Student Housing	$ 180,000,000	Champions Center	$ 110,000,000		
Marching Band Bldg	$ 4,500,000	Boyden Modernization	$ 12,000,000		
Student Union Renov	$ 1,000,000			Parking Structure	$ 5,500,000
New Student Union	$ 85,000,000				
Chapel Renov	$ 15,000,000				

CAPITAL IMPROVEMENT PROJECTS - FY15 to FY19

Student Life Needs		Athletics Needs	Administration Needs
Renovate current housing	?		
Renovate Hampden	?		

CAPITAL IMPROVEMENT PROJECTS - FY20 to FY24

Student Life Needs		Athletics Needs	Administration Needs
Renovate current housing	?		

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