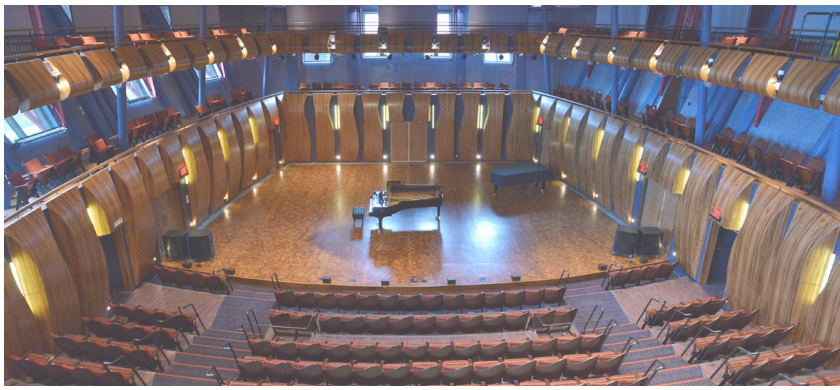
CONNECTICUT STATE COLLEGE & UNIVERSITY SYSTEM

WESTERN CONNECTICUT STATE UNIVERSITY
MASTER PLAN UPDATE

DECEMBER 2016







PERKINS+WILL



CONNECTICUT STATE COLLEGE & UNIVERSITY SYSTEM

WESTERN CONNECTICUT STATE UNIVERSITY
MASTER PLAN UPDATE

DECEMBER 2016

01 INTRODUCTION
02 EXISTING CONDITIONS
03 SPACE NEEDS
04 SCENARIOS
05 RECOMMENDATIONS

ACKNOWLEDGEMENTS

CONNECTICUT STATE COLLEGES AND UNIVERSITIES

Mark E. Ojakian	President
Jane McBride Gates	Provost and Senior Vice President for Academic & Student Affairs
Erika Steiner	Chief Financial Officer
Keith Epstein	Vice President for Facilities, Real Estate and Infrastructure Planning, CSCU
Eric J. Lessne	Associate Director for Project Management and Engineering, CSCU

WESTERN CONNECTICUT STATE UNIVERSITY

John B. Clark	President

UNIVERSITY MASTER PLAN ADVISORY COMMITTEE

Luigi Marcone	Chief Facilities Officer and Associate Vice President for Campus Planning
Deanna Cibery-Schaab	Director, Access Control & One Card Services
Michael Spremulli	Director, Facilities Operations
Peter Visentin, AIA	Director, Facilities Planning & Engineering
Ann Atkinson	Associate Vice President for Academic Affairs
Keith Betts	Vice President for Student Affairs
Missy Alexander	Interim Provost and Vice President for Academic Affairs
Brian T. Vernon	Dean, School of Visual and Performing Arts
David Martin	Dean, Ancell School of Business
Patrice Boily	Chair/Professor, Biological & Environmental Sciences
Chris Kukk	Director, Honors Program
Charles Mullaney	Chair/Professor, Division of Justice and Law Administration
Douglas O'Grady	Associate Professor/Chair, Department of Music
Joan Palladino	Chair/Professor, Nursing Department
Shane Murphy	Chair, Psychology Department
Meghan Carroll	Transfer student, commuter student, SGA Senator
Korinna Lane	Resident student, Recreation Department Worker
Fred Cratty	Associate Vice President for Human Resources
Sean Loughran	Associate Vice President for Finance
Ron Mason	Director, Residence Life
John Murphy	Director, Facilities Scheduling & Promotions
Paul Simon	Director, Campus & Student Centers
Patricia Ivry	Interim Dean, School of Professional Studies
Josie Hamer	Interim Dean, School of Macricostas Arts & Sciences

STEERING COMMITTEE

Luigi Marcone	Chief Facilities Officer and Associate Vice President for Campus Planning
Peter Visentin	Director, Facilities Planning & Engineering
Eric J. Lessne	Associate Director for Project Management and Engineering, CSCU
Keith Epstein	Vice President for Facilities, Real Estate and Infrastructure Planning, CSCU

MASTER PLANNING TEAM

Perkins+Will	Master Planner / Architects
Scott Blackwell Page	Academic Space Programming
Hargreaves Associates	Landscape Architect
Nitsch Engineering	Civil Engineer / Traffic Planner
ARUP	MEP / Energy Infrastructure
VJ Associates	Cost Estimating

CONTENTS

EXECUTIVE SUMMARY 10

1. INTRODUCTION

CSCU SYSTEM CONTEXT 24
GOALS AND OBJECTIVES 25
PLANNING PROCESS 26
CAMPUS ENGAGEMENT 27

2. EXISTING CONDITIONS

THE INSTITUTION 30
THE CAMPUS 32
BUILDINGS 52
STUDENT OUTREACH 62
ENERGY AND INFRASTRUCTURE 64
OPPORTUNITY SITES 68

3. SPACE NEEDS

INTRODUCTION 74
BENCHMARKING 75
ENROLLMENT PROJECTIONS 78
ASSESSMENT METHODOLOGY 80
SPACE NEEDS (NON-RESIDENTIAL) 82
RECREATION AND ATHLETICS 94
STUDENT RESIDENCE SPACE NEEDS 96
PARKING 97
SUMMARY 98

4. SCENARIOS

INTRODUCTION 102
PLANNING PRINCIPLES 104
SCENARIO SUMMARY 105

5. RECOMMENDATIONS

INTRODUCTION 116
LAND USE STRATEGY 117
BUILDINGS 118
ACCESS AND PARKING 142
OPEN SPACE AND LANDSCAPE 144
INFRASTRUCTURE AND ENERGY 154
IMPLEMENTATION AND COST 156
CONCLUSION 160
THE MASTER PLAN TEAM 162

TECHNICAL APPENDIX (SUPPLEMENTAL DOCUMENT)


WESTERN
CONNECTICUT
STATE UNIVERSITY



EXECUTIVE SUMMARY

01 INTRODUCTION
02 EXISTING CONDITIONS
03 SPACE NEEDS
04 SCENARIOS
05 RECOMMENDATIONS

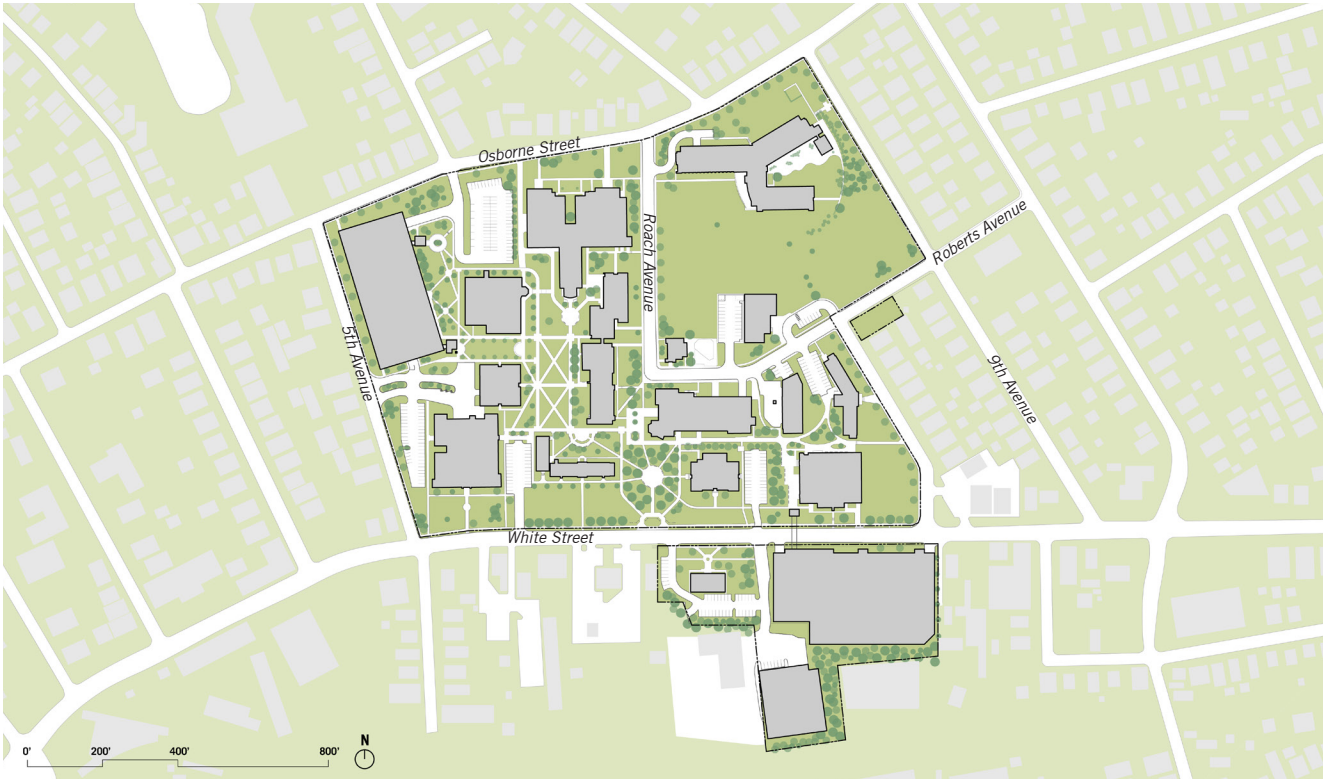


FIGURE 01.1 Midtown Campus Today



FIGURE 01.2 Westside Campus Core Today

EXECUTIVE SUMMARY

The Master Plan Update for Western Connecticut State University reflects a collaborative and interdisciplinary effort that engaged leadership and stakeholders across the University for nine months. A core goal for the Plan is to improve the setting and facilities at each of Western's campuses to support recruitment, retention and enrollment. Other important goals were optimizing the use of existing facilities and identifying the most important projects needed for new and renewed buildings. Advancing sustainability in land use, buildings, operations, energy and resource use was also fundamental.

EXISTING CONDITIONS

Key Facts

- Two Campuses: Midtown 39 acres
  Westside 369 acres
- Development: 19 Buildings
  1,702,174 GSF (excluding garages)
- Student Housing: 1,590 beds
  66% at Westside
  34% at Midtown (Spring 2016)
- Parking: 3,445 spaces
  48% at Westside
  52% at Midtown
- Transit: Campus Shuttle
  Access to regional and local bus service

The Master Plan Team comprehensively assessed Western's existing campuses – its context, access, land use, buildings, circulation, landscape, infrastructure and energy use. The team also assessed the existing and projected 10-year enrollment projections and the range of academic and other programs. This work served as a foundation for understanding current constraints and for framing capital projects in the Master Plan Update to meet the University's high priority needs in the next 10-year period.

Planning for two campuses presented both challenges and opportunities. Western was founded in downtown Danbury in 1903 as the Danbury Normal School. Two years after the institution became Western Connecticut State University in 1967, the State acquired the Westside Campus. The goal apparently was to move the University to Westside, however, this did not happen, and Western has pursued a two-campus model. In 1980, both campuses began to offer academic programs with the construction of the Westside Classroom Building. The Visual and Performing Arts Building, completed in 2014, further strengthened the academic presence at both campuses.

Key Findings: Existing Conditions

- Western's space per student is at the high end for CSCU, though similar to other peer institutions in the northeast.
- Western's Midtown Campus is the most compact of CSCU with only a few remaining development sites.
- The Westside Campus has 369 acres, but modest area is suitable for development given steep slopes and wetlands.
- The majority of classrooms are utilized less than the recommended 30 hours per week.
- The Westside Classroom Building has multiple design, technical and operational deficiencies.
- Plans are in progress to consolidate the School of Professional Studies at Midtown.
- Parking is sufficient at Midtown with two large garages.
- Parking at Westside is adequate, but not well distributed.
- Campus quadrangles are not well connected at Midtown.
- The Visual and Performing Arts Center, which opened in 2014, is a state-of-the-art facility and signature resource for the University.

ENROLLMENT

In preparation for the Master Plan, the University prepared a 10-year projection for undergraduate and graduate students by school and department. Western has recently seen a modest decline in enrollment. The 10-year projection indicates an increase in enrollment to 5,189 FTE. The Board of Regents reviewed and approved these projections, summarized below, which became the basis for the space needs assessment.

Students (Headcount)	Existing Fall 2015	Projected Fall 2025
Undergraduate	4,543	4,759
Graduate	305	430
Total	4,802	5,189

SPACE NEEDS

The projection of 10-year space needs for academic, research, support and administrative spaces reflects a comprehensive process that factored academic and strategic goals, current and projected approved enrollments by department, analysis of existing space utilization and benchmarking, as well as over 30 interviews with administrators, deans, faculty, students, and staff. The work was led by an experienced academic space programming consultant. For the current enrollment, across both campuses, the space needs assessment revealed a deficit of 152,023 Assignable Square Feet (ASF) compared to 693,661 ASF existing. For the approved 10-year enrollment projections, the deficit is 215,333 ASF, or 349,279 Gross Square Feet (GSF).

The quality of space was considered as much as the quantity of space. The planning team assessed the suitability of existing buildings to meet their functional needs and identify areas that needed upgrades to meet current standards for teaching and other functions. The Westside Classroom Building on the Westside Campus and Berkshire Hall at the Midtown Campus both required further analysis as to what the two buildings could viably accommodate of the current and future needs of the University. Those buildings, along with additional expansion projects were utilized to enable and drive much needed renovations, modernizing and adapting the sizeable existing building inventory.

SPACE NEEDS	FALL 2015 (ASF)	GROWTH
WESTSIDE		
Classroom	13,442	-16%
Ancell School of Business	12,323	84%
School of Arts & Sciences	3,340	70%
School of Professional Studies	6,313	-100%
School of Visual & Performing Arts	49,804	46%
Support	162,115	29%

SPACE NEEDS	FALL 2015 (ASF)	GROWTH
MIDTOWN		
Classroom	45,419	-10%
Ancell School of Business	0	0%
School of Arts & Sciences	83,423	25%
School of Professional Studies	26,159	84%
School of Visual & Performing Arts	2,183	69%
Support	249,367	27%

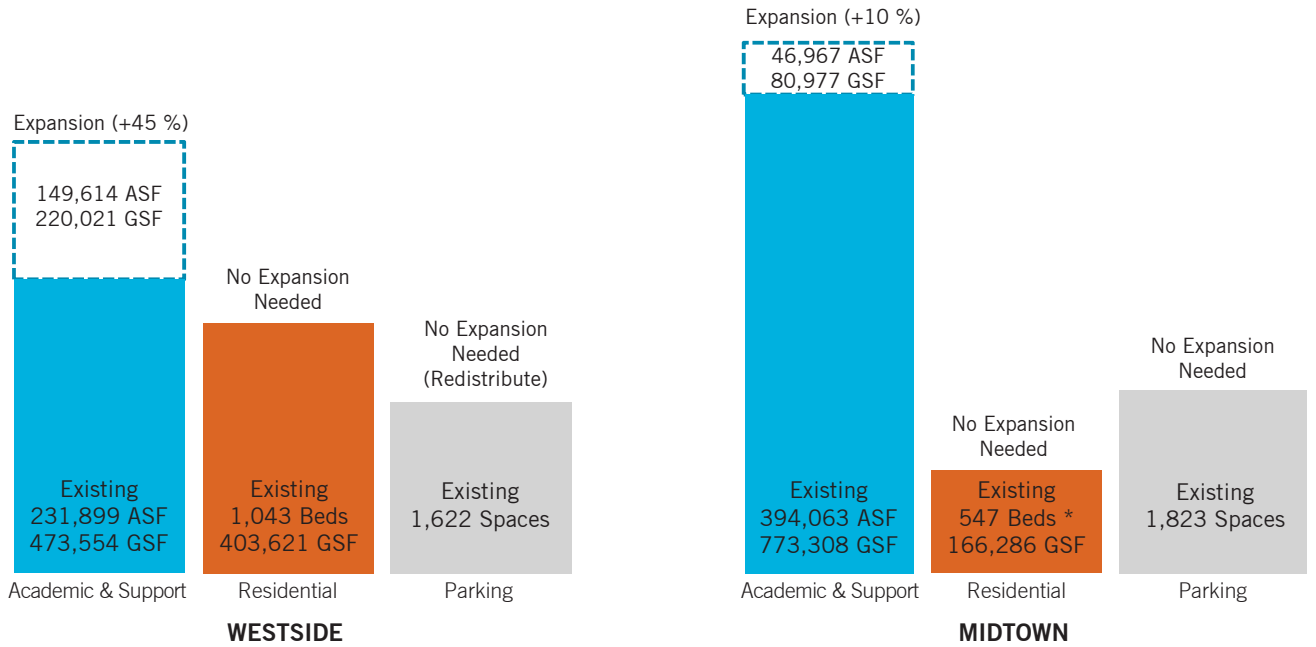


FIGURE 01.3 Space Needs Summary

** Assumes Litchfield renovation as planned*

STUDENT HOUSING

Western has student housing at both campuses. The Midtown Campus houses primarily first year students and has 547 beds in three traditional residence hall units with shared bathrooms. The Westside Campus houses primarily upper class students in semi-suites and apartment units and has 1,043 beds in three buildings. Based on the projected enrollment, occupancy data and expected demand, the University does not need additional beds at either campus in the next 10-year period. The main needs for student housing relate to quality rather than quantity, with recommendations on select upgrades for some residential halls to provide more gathering space and in one case, more diversity of unit type.

PARKING

The large garages on White Street and Fifth Avenue, plus parking lots spread throughout the campus, provide adequate parking supply for the Midtown Campus for the next 10-year period. The parking need at the Westside Campus is more complex. The general consensus is that there is sufficient parking overall, as long as large events are not held simultaneously at the O'Neill Center, VPAC and Ives Concert Park. Westside parking is often perceived as not convenient given its location and slopes. The Centennial Garage, down the hill from the campus core, is not highly utilized. The parking program for Westside maintains the same number of spaces, and looks to improve location and access where possible. To provide flexibility, the Plan identifies a suitable site for a future garage if more parking is needed long term.



Newbury Hall



5th Avenue Parking Garage



Centennial Hall



Westside Faculty Parking Lot at the WAC

SCENARIOS

Western's two campuses made the study of scenarios a complex and rewarding experience. Before studying a range of physical planning approaches, the planning team first needed to confirm the distribution of programs between the campuses. This had two parts – the student experience and the location of academic programs.

Student Residential Experience

The team explored a proposed hypothesis for transforming the Westside Campus to house traditional students, including first year. The concept was to leverage the green, larger Westside Campus to create a predominantly student-centered experience at Westside and reduce duplication of operating costs for student life programming. This would be in contrast to the current model with first year residences primarily at Midtown and upper class housing at Westside with duplicate programming. The concept to transform Westside into a traditional residential campus proved problematic for several reasons, including capital costs for new residence halls and commuting inconvenience. The preferred approach is to retain first year student experience primarily at Midtown and upper class at Westside by optimizing existing assets to enhance the quality of student residential experience and by advocating for robust student activities and programs at both campuses.

Location of Academic Programs

The planning team engaged in a strategic planning exercise to assess the optimal location of academic divisions. The planned consolidation of Education, Nursing, and Computer Science to Midtown in order to consolidate the School of Professional Studies was confirmed. The big question was the future location of the Ancell School of Business. It became evident early in the process that the School must vacate the Westside Classroom Building. Should a new building be located at Westside or Midtown? The planning team prepared planning principles to guide the assessment and found that moving Ancell to Midtown would depopulate the Westside Campus in the daytime and result in an unacceptable loss of activity and vitality. For this reason and others, the Plan recommends retaining Ancell at Westside in a new facility.

Physical Planning Scenarios

The team assessed three physical planning scenarios for Midtown. Each explored the location of the Student Center function and the new Innovation Center, and the best future use of Berkshire Hall. Several project needs were common to each scenario. These included renovations of select buildings and improvements to circulation, open space and infrastructure. They are described in the Recommendations.

BUILDING PROJECTS

- Academic
- Support
- Hybrid
- Athletics/ Recreation



FIGURE 01.4 MIDTOWN SCENARIO 1



FIGURE 01.5 MIDTOWN SCENARIO 2



FIGURE 01.6 MIDTOWN SCENARIO 3

Midtown

Midtown Scenario 1 proposed expansion and renovation of the Student Center, as well as a new academic building and a renovation of Berkshire Hall for academic and recreation use. Midtown Scenario 2 proposed a new Student Center, including the Innovation Center, fronting a new pedestrian mall where Roach Avenue is today. Berkshire Hall and the current student center would be renovated for academic uses, with some recreation remaining in Berkshire. Midtown Scenario 3 proposed a transformative expansion and renovation of Berkshire Hall to relocate student dining and activities and house the new Innovation Center at a new north gateway to the campus. A new academic building will be located adjacent to the Science Building and the current Student Center would be comprehensively renovated for academic use. Scenario 3 was unanimously selected as the most promising approach to develop into the Master Plan. It makes best use of the redeveloped Berkshire site to enhance the campus public realm and to connect the Innovation Center with a new campus gateway to the inner core of the campus. It also has advantages for campus connectivity and phasing logistics. In contrast, Scenario 1 was deemed logistically problematic and did not optimize the use of campus land. Scenario 2 would thwart the east-west integration by blocking circulation and preclude recreational use of the area next to the Science Building.

Westside

At Westside, the planning team explored two scenarios, both with a new phase 1 academic building for the Ancell School of Business. Expansion is needed in any scenario to meet Western's 10-year enrollment and academic goals. Given the Westside Classroom Building's (WSCB) idiosyncratic layout and structure with a ramped circulation system and multiple floor levels that resist reconfiguration, it was clear to all that keeping Ancell in the building would not be feasible. Scenario 1 tested the feasibility of retaining the Westside Classroom Building (WSCB) with a major renovation for other academic uses. Scenario 2 assessed the benefits of providing a new, purpose-built Phase 2 academic building and eventually demolishing the existing WSCB.

There were multiple other common projects recommended at Westside, including expansion and renovation of the Campus Center, O'Neill Center and Westside Athletic Center as well as select renovations for the Grasso and Centennial Halls. Most visibly, the current Faculty Staff Lot will be replaced with a new green quadrangle in the heart of the campus, with replacement parking provided in an expanded VPAC lot. These projects are described in the Recommendations chapter.

Scenario 1 assessed the order-of-magnitude cost to renovate WSCB for long-term use for other academic uses. The cost for a comprehensive renovation - to address building system deficiencies, make the building code compliant, replace HVAC system, upgrade energy efficiency, and reconfigure the interior - came to approximately 75% of the cost of a new equivalently sized replacement building. Given the inflexible nature of the WSCB interior and the odd, ziggurat-shaped exterior, the end result of this major renovation investment for Scenario 1 would still be a compromise. For this reason, Scenario 2 was selected unanimously by the Advisory Committee. In the near term, before the Phase 2 academic building can be built, the Visual Arts programs can take beneficial occupancy of the WSCB for interim use in order to meet their expansion needs.



FIGURE 01.7 WESTSIDE SCENARIO 1

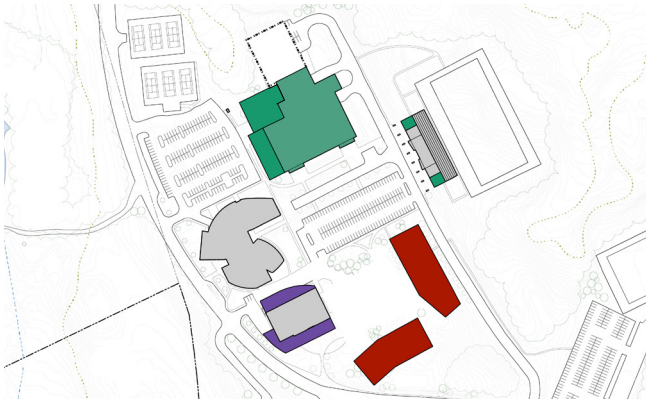


FIGURE 01.8 WESTSIDE SCENARIO 2

MASTER PLAN RECOMMENDATIONS

Based on in-depth analysis of Western's facility needs for academics, student life, campus systems, recreation and athletics, the Master Plan recommends the following range of capital projects. The Consultant Team and Advisory Committee recognize that all these projects may not be realized in the next decade, given the scale of capital investment.

MIDTOWN CAMPUS

Innovation Center / Berkshire Hall Student Center

This multifaceted project fulfills several of Western's highest priority strategic needs. It creates a new Innovation Center at a prominent location fronting Osborne Avenue to address President Clark's goal to support student success and transition to a more outward facing university that engages more directly with the community and industry partners. It provides several shared, multi-purpose assembly spaces for use by students and for events and symposia. The project provides a new student dining facility in a keystone location at the terminus of the main quadrangle, as well as a new proper home for student activities, clubs and group study. It retains the Williams Gym for recreation, supplementing this with upgraded fitness spaces to strengthen student experience. The compact project footprint opens an important east-west pathway to improve campus connectivity. The project location affords a good location for a loading area for food service near Osborne Avenue, removing this function and its impact from the heart of the campus.

New Academic Building

This new 61,000 GSF, three story building will be located adjacent to the Science Building. It will accommodate shared classrooms, Nursing, a simulator, Health Promotion and Exercise Sciences (HPX), student lounges, and space for academic computing and campus services. As this project may occur after Berkshire, the currently planned renovation of White Hall to meet Nursing's near-term needs is still recommended as a necessary interim step to keep this program competitive.

Repurposed Student Center

Once the student dining and activities functions are relocated to Berkshire, the current, 71,900 GSF Student Center building will be gut renovated to serve as an academic building. The project would include shared classrooms, a student lounge and spaces for part of the Macricostas School of Arts and Sciences and the Honors Program.

Pedestrian Mall

This transformative project will unify the campus. It links the existing ceremonial gateway on White Street to a new, complete north-south pathway that will serve both as an iconic route through the campus and an organizing element for future development. The project entails converting Roach Avenue to pedestrian use, retaining access for service and emergency vehicles as needed. It also entails minor modification to the Student Center building to remove an extension that now blocks a direct line across the campus.

Other Projects

In addition to currently planned renovations of Higgins Hall and White Hall, the Plan recommends a detailed study for select lab renovations in the Science Building to relieve a bottleneck in more utilized courses and optimize space use. The Honors College will remain in the Honors House, supplemented by additional space nearby. A renovation of select floors in Newbury Hall will create more appealing semi-suite layouts for this residence hall. More opportunities for outdoor student recreation are provided in projects for the Science Lawn and adjacent to Litchfield Hall.



FIGURE 01.9 Midtown Recommendations Bird's-eye View

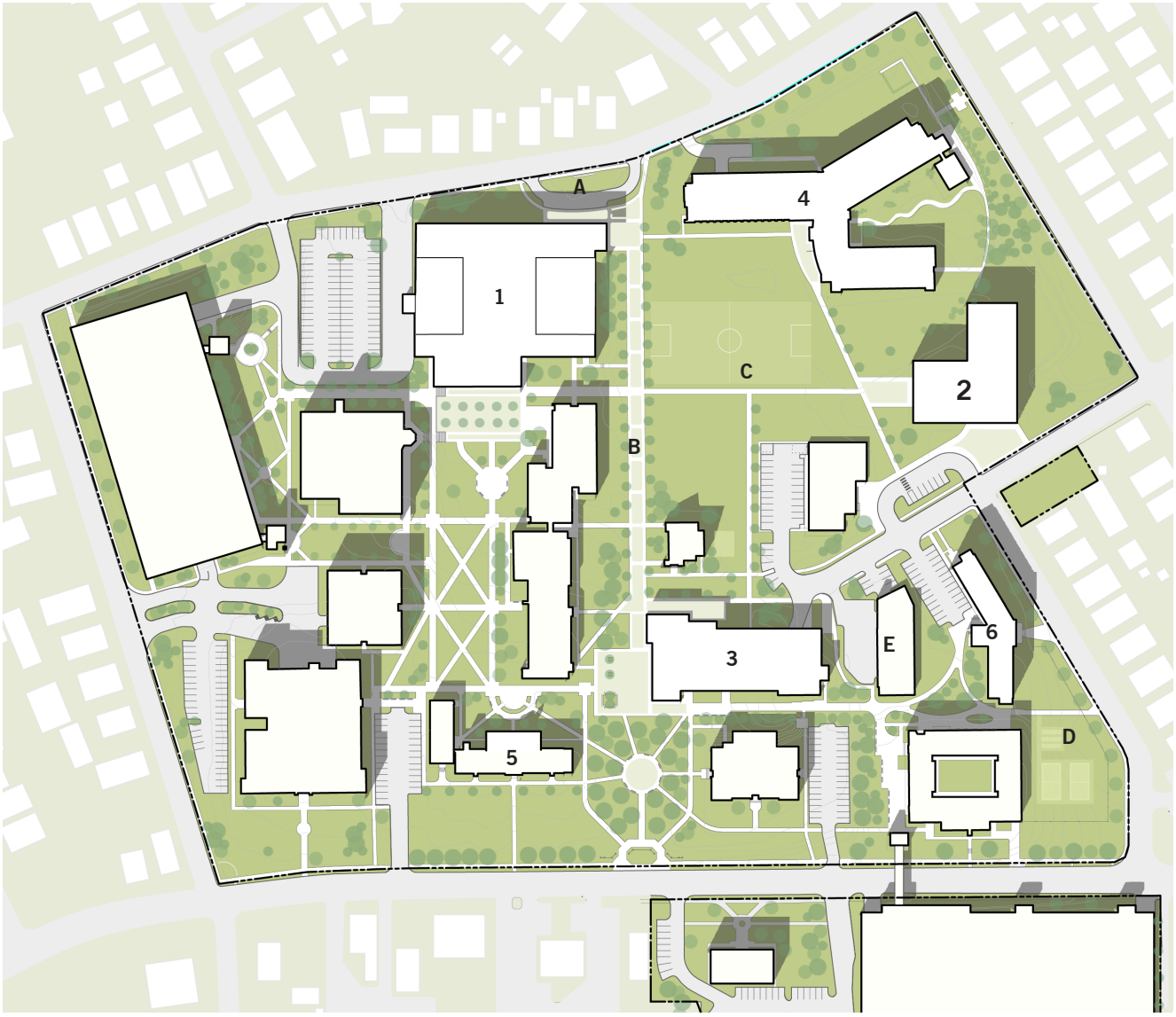


FIGURE 01.10 Midtown Campus Master Plan

Master Plan Project Key*

New Construction Projects

1. Berkshire Addition / Renovation / Innovation Center
2. New Academic Building / Health and Wellness
3. Student Center Renovation / Repurpose
4. Science Building Lab Renovations
5. Fairfield Hall Addition
6. Newbury Hall Renovation

Landscape, Road, Parking, Infrastructure Projects

A. North Gateway and Transit Hub
B. Pedestrian Mall
C. Science Lawn and Recreation Enhancement
D. Outdoor Recreation, Litchfield Hall
E. Additional Boiler in Central Plant

**Labels are not in sequential or priority order*

WESTSIDE CAMPUS

New Ancell School of Business / Academic Building Phase 1

Providing a proper facility for the Ancell School of Business is a high priority for Western. This new, 4 story, 102,600 GSF facility will fulfill this important need and also provide shared spaces that will benefit all Westside academic programs. These spaces include classrooms, computer labs, a library, multipurpose spaces, a student lounge and other support areas. The building is located to permit the WSCB to remain with a sufficient setback for light and views. To clear the site, the Alumni Pavilion will be relocated to a site near the Ives Concert Park entrance and the 1-story east wing of the WSCB will be demolished.

Westside Classroom Building

In the near term, the WSCB would remain, with Visual Arts taking beneficial occupancy for use as studio, instructional and office space. The goal would be to make sufficient capital investment to keep the building operational, but avoid major comprehensive renovations, as the building will be demolished once Academic Building Phase 2 (described below) opens.

Main Quadrangle / Reconfigured VPAC Lot

The parking lot between VPAC and O'Neill is reconfigured and expanded by relocating three tennis courts. In this way, the faculty staff lot in the center of the campus can be removed and replaced with a new landscaped Main Quadrangle that will provide a setting that is appropriate for the VPAC and creates a proper heart of the Westside campus. The cumulative result of proposed parking projects is no net loss of parking. A site is indicated for a garage, if needed, in the future.

Campus Center Expansion / Renovation

This project expands the current building with two additions. The north addition expands the dining area and café to provide much needed additional capacity for the current and projected student population. This project is planned near term for this reason. An exterior dining area will be created by closing the adjacent drive and relocating the ADA parking. The south addition provides additional space for student clubs, assembly space, and lounges.

O'Neill Center Expansion / Renovation

This 75,000 GSF addition addresses a deficit in space for athletics and recreation and for support area for the large event space. An addition on the north side provides a new competition gym above, which can also be used for team practice and recreation. Below is a Sports Performance Center, to provide more competitive space for recruiting athletes and to permit the phased renovation of existing obsolete locker areas. The project provides new, visible public entrances facing both the expanded VPAC parking lot as well as the new main quadrangle. These entrances and their concourses, restrooms and other amenities address a deficit in these types of areas today supporting the main event space. These additions also reposition the existing building with an improved identity and coordinate with the new elevation of the main quad.

Westside Athletic Center Expansion / Renovation

The WAC has an undersized VIP lounge and a major lack of locker room space. The project expands the WAC at the ground level for added locker rooms and mechanical space to replace the current obsolete glycol system. The roof of this addition can serve as a terrace for spectators. A second level addition provides increased lounge and amenity space. The fabric roof will be replaced with a more durable, permanent fixed roof.

Academic Building Phase 2

Once funding is available, this project would provide a long-term home for expanded Visual Arts programs, following near-term use of the WSCB. The proposed 89,000 GSF building would also include a gallery, bookstore, convenience store, student lounge and facility offices. It is located to allow WSCB to remain during construction. Once completed, functions would vacate WSCB and this obsolete building would be demolished.

Other Projects:

Select renovations are recommended for Grasso and Centennial Halls to provide more common space for student lounges in the residential halls.

- Parking is reconfigured on University Boulevard and the WAC access road to improve flow and add more parking spaces. Improved pedestrian access is provided to the Centennial Garage to increase its utilization.
- Artificial turf is installed on one practice field to provide more seasonal use. A new cross country trail will be located.
- Maintenance facilities are right-sized and a new cross country trail provided.



FIGURE 01.11 Westside Campus Recommendations

Master Plan Project Key*

New Construction Projects

7. Relocate Alumni Pavilion
8. New Academic Building / School of Business
9. O'Neill Center Expansion / Renovation
10. Westside Athletic Center Expansion
11. New Academic Building / Visual Arts
12. Demo Westside Classroom Building
13. Campus Center Expansion
14. Grasso Hall Partial Renovation
15. Centennial Hall Partial Renovation
16. Expanded Maintenance Facilities

Landscape, Road, Parking, Infrastructure Projects

F. Expanded VPAC Parking Lot / Relocate Tennis Courts
G. Convert Faculty Lot to Landscape Quad
H. Artificial Turf Field
I. Facility and Field Improvements at Existing Baseball Field
J. Reconfigure University Boulevard Parking
K. Access Improvements to Centennial Garage
L. Site for Future Garage, If Needed
M. Cross Country Trail (Route To Be Determined)

**Labels are not in sequential or priority order*



FIGURE 01.12 Midtown Concept: North Gateway, Transit Hub and Innovation Center



View today from Osborne Street at Midtown Campus



Westside Campus Core Today



FIGURE 01.13 Westside Concept: New Main Quadrangle

IMPLEMENTATION

The team carefully considered implementation and feasibility in framing the Master Plan. The highest priority projects can be implemented without the need for swing space or prior enabling projects. For other projects, swing space requirements were identified and taken into account. The team prepared order-of-magnitude construction cost estimates and resulting project costs to serve for capital budgeting purposes, and worked with the University Master Plan Advisory Committee to assign projects to two Priority Categories.

SELECT CAPITAL PROJECTS

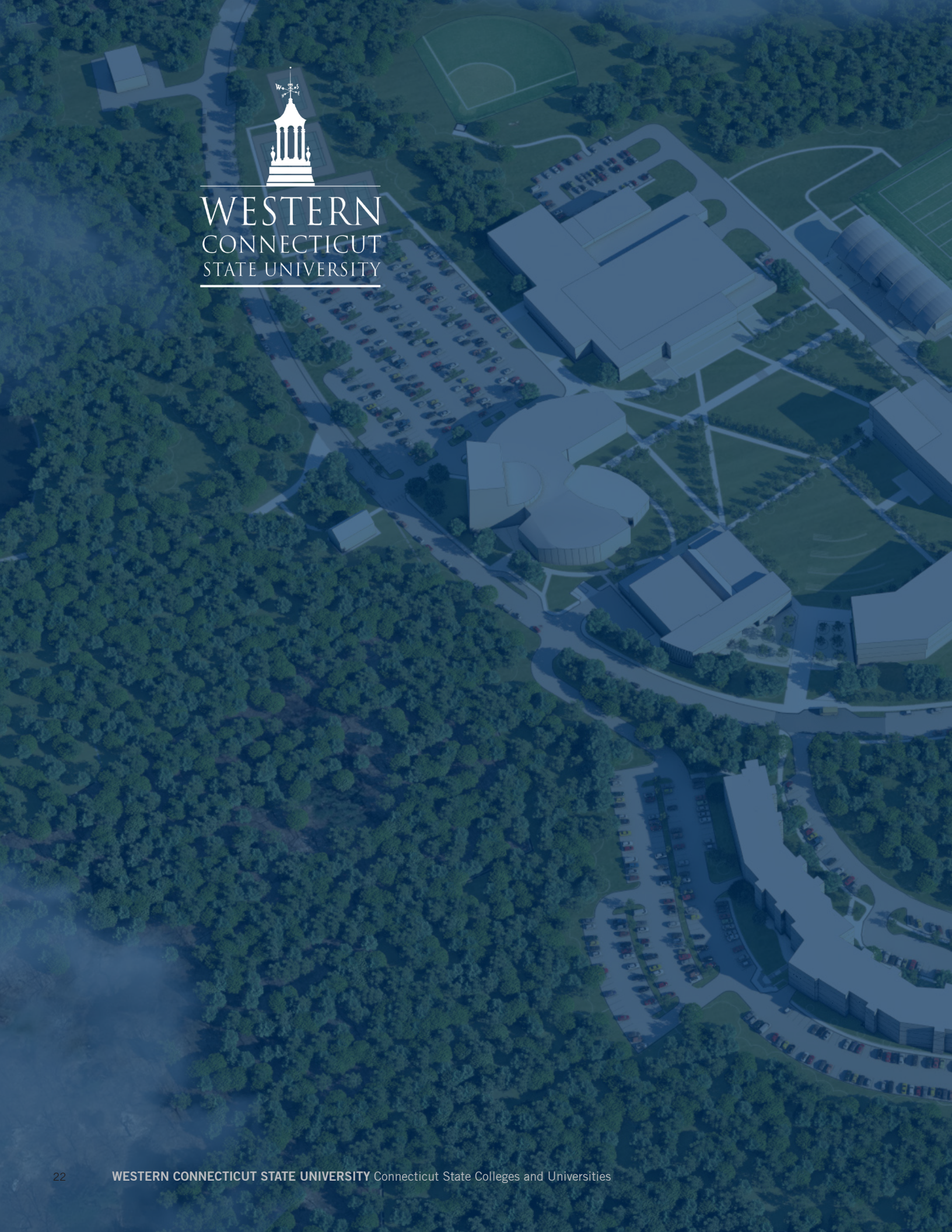
Order-of-Magnitude Project Cost ($2016)

Projects (not in sequential or priority order)	Location	General Fund	CHEFA
New Academic Building / Health and Wellness	MT	$47,363,960	
Student Center Renovation for Academic Use	MT	$42,748,175	
New School of Business / Academic Building	WS	$78,408,750	
O'Neill Center Expansion / Renovation	WS	$89,680,905	
Westside Athletic Center Expansion	WS	$8,600,240	
Academic Building II / Visual Arts	WS	$84,011,550	
Demolish Westside Classroom Bldg, Create Terraced Quad	WS	$5,982,700	
North Gateway Transit Hub	MT	$1,092,000	
Convert Roach Ave. to Pedestrian Mall	MT	$2,808,000	
Expand VPAC Lot, Relocate Tennis Courts	WS	$4,033,900	
Convert Faculty Lot to Landscape Quad	WS	$4,630,600	
Provide natural gas service to Westside Campus	WS	$1,998,700	
Berkshire Addition / Renovation / Innovation Center	MS		$85,657,757
Newbury Hall Renovation	MT		$13,057,830
Fairfield Hall Addition	MT		$3,197,250
Campus Center Expansion / Renovation	WS		$47,813,417
Science Lawn / Recreation Enhancements	MT		$1,497,600

MT Midtown Campus
WS Westside Campus

A separate Technical Appendix supplements this volume. It will include a section on the system-wide Energy Master Plan being conducted for all CSCU campuses. It also includes technical background for reference by facilities personnel during implementation.

The Master Plan Update for Western aims to blend vision and pragmatism, flexibility and guidance. The strategy, principles approach, projects and guidelines together will serve as a roadmap for capital investment for the next 10-year period and beyond to meet the University's most pressing needs and thereby support its strategic and academic mission.


WESTERN
CONNECTICUT
STATE UNIVERSITY



1 INTRODUCTION

01 INTRODUCTION
02 EXISTING CONDITIONS
03 SPACE NEEDS
04 SCENARIOS
05 RECOMMENDATIONS

CSCU SYSTEM CONTEXT

The Master Plan for Western Connecticut State University responds to the system-wide CSCU mission as well as Western's Mission Statement. Located in Danbury, the University is 55 miles from Hartford, 24 miles North of Norwalk, CT, and 7 miles East of the New York State border.

CSCU VISION

The Connecticut State Colleges & Universities will continually increase the number of students completing personally and professionally rewarding academic programs.

CSCU'S MISSION STATEMENT

The Connecticut State Colleges & Universities (CSCU) contribute to the creation of knowledge and the economic growth of the state of Connecticut by providing affordable, innovative, and rigorous programs. Our learning environments transform students and facilitate an ever increasing number of individuals to achieve their personal and career goals.



FIGURE 01.14 CSCU Universities

WESTERN'S MISSION STATEMENT

Western Connecticut State University changes lives by providing all students with a high-quality education that fosters their growth as individuals, scholars, professionals, and leaders in a global society.

To achieve this, we

1. Offer undergraduate and graduate programs that weave together liberal arts and professional education and instill a desire for life-long learning.
2. Sustain a vibrant, inclusive campus that connects individuals through co-curricular programs, cultural events, and service to the community.
3. Attract student-centered faculty who are passionate teachers and accomplished scholars.
4. Establish partnerships that create opportunities for internships, research, and experiential learning.

WESTERN'S VALUES

Excellence. We value outstanding achievement realized through persistence, effort, honest feedback, and self-reflection.

Curiosity. We value the questions that drive learning, innovation, and creativity, which serve as the beginning and the desired outcome of education.

Dialogue. We value the conversations that explore diverse perspectives and encourage shared understanding.

Engagement. We value the interactions with ideas, peers, and community that are essential to a vibrant university environment.

Opportunity. We value the possibilities created by affordable, accessible educational environments in which students can grow into independent thinkers and confident leaders.

Respect. We value the right of all people to be treated with dignity and fairness and expect this in our policies, classrooms, and community.

GOALS AND OBJECTIVES

INTENT

The Master Plan Updates for the Connecticut State University System will derive capital needs based from space utilization, academic and student life program projections and facility conditions projected over the next 10-year period. The Master Plan Updates for each university will reflect system-wide goals and projected demographics.

GOALS

Through a collaborative effort between university stakeholders, CSCU and the consultant team, the Master Plan Update will integrate a system-wide Strategic Plan and university mission into a comprehensive vision that promotes the advancement of higher education through state-of-the-art planning projections over a 10-year projection. Concepts will reinforce current and institute new long-term strategies that guide university decision making for capital investment.

OBJECTIVES

The following objectives will guide the Connecticut State Colleges and Universities Master Plan Updates at each CSCU institution of higher education.

- The Master Plan will respond to the institution's mission, demographics and projected future enrollment.
- Program space needs will reflect best practice standards and address emerging higher education goals.
- Land planning will balance guidance and flexibility, long-term development capacity and stewardship.
- The Master Plan will optimize the use of existing facilities in the utilization of space, the location of functions, and the renewal of buildings to meet future needs.
- Proposed new buildings will reflect realistic program need and will be used to the greatest extent feasible to enable needed renovations to maximize investment benefit.
- Site access and circulation will be addressed in a comprehensive manner to support a safe, efficient and welcoming campus.
- Future development will strengthen the architectural and landscape character of the campus to foster a cohesive, attractive setting.
- The Master Plan will integrate sustainability throughout and identify strategies for energy conservation.
- Major campus infrastructure needs will be addressed to support university operations.
- The resulting Master Plan Update will be a comprehensive vision comprised a series of capital projects, with associated institutional priorities and phasing strategies.



PLANNING PROCESS

PROJECT TIMELINE

The Master Plan Update was organized in five main tasks.

Task 1. Initiation	January to February 2016
Task 2. Assessment	February to May 2016
Task 3. Scenarios	May to August 2016
Task 4. Recommendations	August to December 2016
Task 5. Digital Plans Update	May to October 2016

PROJECT SCOPE SUMMARY

Task 1. Initiation
- Establish the Advisory Committee, confirm project objectives and communications protocol.
- Collect data on the university today and on the system.
- Establish the project schedule and milestones.

Task 2. Assessment
- Understand the history, mission and academic objectives of the university.
- Analyze buildings and grounds to understand space use, physical conditions, constraints and opportunities for campus development.
- Undertake a needs analysis and project 10-year space needs based on CSCU approved enrollment projections, benchmarking, and academic goals.

Task 3. Scenarios
- Develop guiding design principles and strategy.
- Prepare 3 conceptual master plan scenarios to test concepts for renovations and expansion to meet documented needs.
- Assess pros and cons of scenarios and assist the Advisory Committee in selecting the preferred scenario for development as the Recommended Master Plan Update.

Task 4. Recommendations
- Refine the master plan elements for buildings, landscape and infrastructure.
- Prepare current year estimated cost and phasing information.
- Document and present final recommendations to the University.

Task 5. Digital Plans Update
- Convert Existing CAD floor plans into Revit (BIM format) with an exportable database to allow the university to manage space use more efficiently.

CAMPUS ENGAGEMENT

The Master Plan Update included significant engagement with the university community and senior leadership. The input was valuable and contributed directly to the character and nature of the recommendations. The outreach included regularly scheduled meetings, work sessions, three Open Forum sessions and student polling using social media.

UNIVERSITY MASTER PLAN ADVISORY COMMITTEE

The UMPAC included 25 members and met regularly over the course of the project, a total of 7 times. Chief Facilities Officer and Associate Vice President for Campus Planning, Luigi Marcone was the Committee Chair. Peter Visentin, Director of Facilities Planning & Engineering, Ann Atkinson, Associate Vice President for Academic Affairs, Keith Betts, Vice President for Student Affairs and Deans of each School were committee members, along with faculty, staff from facilities, operations, public safety, and student representatives (refer to the Acknowledgements for a full list of members).

PROJECT STEERING COMMITTEE

This group provided regular direction, management, planning and guidance during the preparation of the Plan. Members included Luigi Marcone, Chief Facilities Officer and Associate Vice President for Campus Planning, Peter Visentin, Director of Facilities Planning & Engineering, Eric J. Lessne, Associate Director of Project Management and Engineering for CSCU, and Keith Epstein, Vice President for Facilities, Real Estate and Infrastructure, CSCU.

WORK SESSIONS

The team led multiple work sessions in smaller, informal group sessions to address specific topics in a more technical manner with representatives from each area. Topics included engineering, operations and energy management, building condition, circulation and parking, open space, groundskeeping and maintenance, athletics, academics, recreation, sustainability, student housing and dining.

PROGRAM INTERVIEWS

The Consultant Team conducted 19 program interviews with a range of stakeholders at Western to inform the space needs assessment. In order to refine the space program projections and verify assumptions, the consultant team also conducted follow up meetings.

ONLINE OUTREACH

To provide robust input for the planning, the consultant team conducted a web-based survey of the student body from April 12 to May 4, 2016, using the application Urban Interactive. The initiative was announced on electronic boards on campus and email. The survey had 12 topics and 73 questions including instant polls and open survey questions. Altogether, 272 participants engaged with the site. The feedback was especially useful in that it confirmed many issues that administration and staff believed to be priorities to address in the planning.

OPEN FORUM SESSIONS

The consultant team conducted Open Forum sessions on November 16, 2016 to provide an overview of the draft Master Plan Update and receive comments. These included one at the Westside Campus and two at the Midtown Campus, including one for students.




WESTERN
CONNECTICUT
STATE UNIVERSITY



2 EXISTING CONDITIONS

THE INSTITUTION
- WESTERN ACADEMIC STRUCTURE
- HISTORY OF THE PHYSICAL CAMPUS

THE CAMPUS
- REGIONAL CONTEXT
- NEIGHBORHOOD CONTEXT
- CAMPUS STRUCTURE AND SCALE
- LAND USE
- ZONING
- OPEN SPACE TYPOLOGIES
- ELEVATION AND TOPOGRAPHY
- WETLANDS AND FLOODPLAIN
- CAMPUS IDENTITY AND WAYFINDING
- PEDESTRIAN PATHS AND BARRIERS
- CAMPUS PRECINCTS
- ARCHITECTURAL CHARACTER
- LANDSCAPE FURNISHINGS AND CONDITIONS
- SHUTTLE NETWORK AND ACCESS
- CIRCULATION AND CONNECTIVITY
- PARKING
- SECURITY

BUILDINGS
- BUILDING INVENTORY
- BUILDING USE
- CLASSROOM UTILIZATION
- ACADEMIC AND SUPPORT SPACE
- RESIDENTIAL LIFE FACILITIES
- SPORTS AND RECREATION
- BUILDING CONDITION

STUDENT OUTREACH

ENERGY AND INFRASTRUCTURE
- CAMPUS UTILITIES
- UTILITY DISTRIBUTION AND CAPACITY
- NATURAL GAS
- ELECTRICITY
- ENERGY USE

OPPORTUNITY SITES

WESTERN ACADEMIC STRUCTURE

Western is comprised of four academic schools and one division: the Ancell School of Business, the Macricostas School of Arts and Sciences, the School of Visual and Performing Arts, the School of Professional Studies and the Division of Graduate Studies. WCSU is accredited by the Connecticut Board of Governors for Higher Education and the New England Association of Schools and Colleges (NEASC).

Macricostas School of Arts & Sciences

Ancell School of Business

School of Professional Studies

School of Visual & Performing Arts

Division of Graduate Studies

THE INSTITUTION

HISTORY OF THE PHYSICAL CAMPUS

In 1903, Alexander M. White donated 3 acres of land on White Street to the town of Danbury for educational purposes. That same year, Western was founded as the Danbury Normal School, an institution whose sole purpose was to train teachers. In 1905, Old Main was ready for occupancy. 41 students enrolled on September 6th as the first class. Enrollment climbed to 362 students by 1912. White Hall was constructed in 1925 with Fairfield Hall following in 1927.

In 1937, Danbury State Normal School for the training of teachers became Danbury State Teachers College. The same year, Connecticut State Legislature authorizes the granting of a Bachelor of Science degree. In 1958, 16 teachers are awarded the first graduate Masters of Science degree.

In 1959, the College's name is changed again, omitting the word "Teachers" from the title. The school widened its focus and was renamed Danbury State College to reflect its expanded curricula. Berkshire Hall, Higgins Hall, and the Student Center were all constructed in the 1950s on the Midtown Campus. Nearly a decade later, the College officially became Western Connecticut State College in 1967. During those years, the Boiler House and Litchfield Hall were also added to the Midtown Campus.

In 1969, the state acquired 439 acres of land in Danbury adjacent to the West Lake Reservoir, for the expansion of Western Connecticut State University, which was subsequently named the Westside Campus. This site also later came to house the Ives Concert Park in 2007, which honors the memory of one of America's greatest music composers and Danbury native, Charles Edward Ives (1874 – 1954). 1969 the first Business Department was established, and would later become the Ancell School of Business in 1980. By 1976 less than 50% of undergraduate degrees were now in Education. As of 1977, the College was organized into 3 Schools: Arts and Sciences, Professional Studies, and Business Administration.

In 1983, the school officially became Western Connecticut State University. The decades following saw the growth of both programs and facilities on both campuses, including the establishment of the School of Music and Performing Arts in 2006. In 2011, the University joins the CSCU system with its three sister Universities. Today, the school continues to expand its campuses with the addition of the Visual and Performing Arts Center, which opened in 2014.

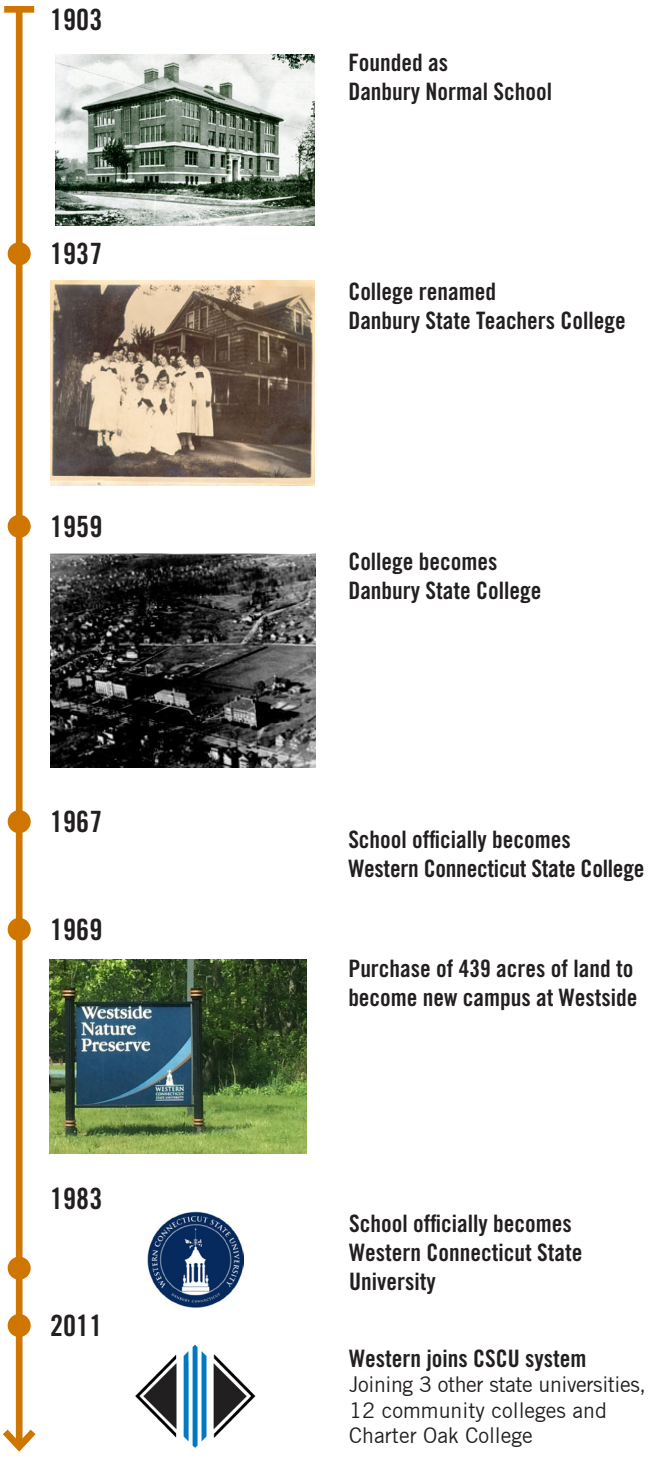


FIGURE 02.1 Historic Timeline

THE CAMPUS

REGIONAL CONTEXT

The University's property, two campuses, are both located in the city of Danbury, in Fairfield County, CT. The campuses are well served by highways, which include I-84 and US-7. Hartford lies 55 miles Northeast on I-84 and Norwalk 23 miles South. The Midtown campus is also a 10 minute walk from the Danbury Train Station.

The two Campuses are located 4 miles apart, approximately a 30-45 minute shuttle ride, which is how the majority of students travel between campuses. The distance is both a challenge and an opportunity. The challenge is the logistics of scheduling and duplicating services, but it gives an opportunity to provide diverse learning and student life settings.

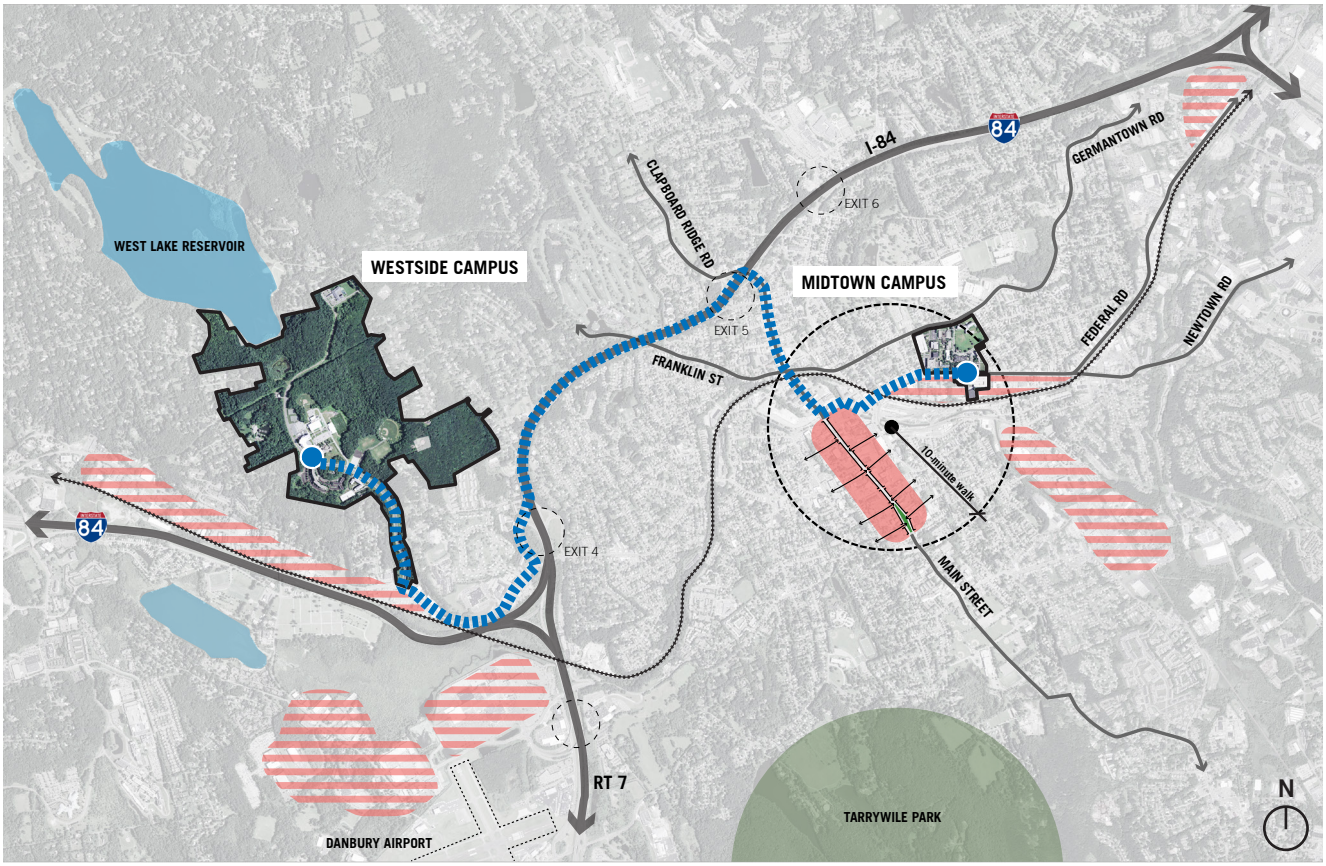


FIGURE 02.2 Regional Context

NEIGHBORHOOD CONTEXT

The Midtown campus is the original acquired campus, with the Westside campus expansion following 65 years later. The Midtown Campus' urban setting offers great access to city amenities like the train station, downtown and the hospital for nursing students. With multi-family residential areas adjacent to the Campus on the West, North, and East perimeter, opportunity for expansion is limited, however the light commercial corridor along White Street offers opportunity for redevelopment. Downtown Danbury offers great amenities, however there is no direct or safe walking route to get there from campus.

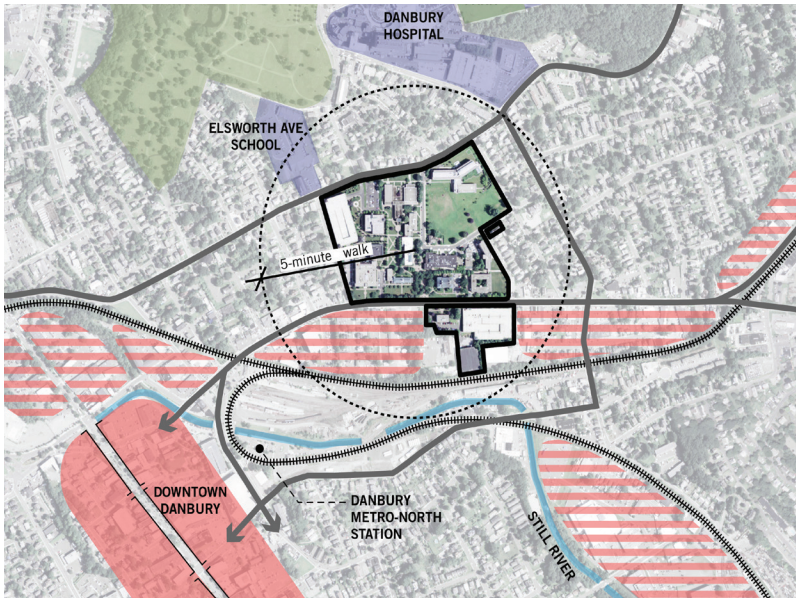


FIGURE 02.3 Midtown Campus Context

The Westside campus is more remote, located atop a hill nestled in a natural setting. The campus property is adjacent to the West Lake Reservoir and incorporates a nature preserve on-site. The Ives Concert Park is also located within campus property and shares parking with the University. Westside is accessed by University Avenue, which has a single point for both entering and exiting the campus. Western Connecticut Academy of International Studies, a separate institution, is located next to the northernmost edge of the property and shares the same access road, requiring those visitors enter and exit through Western's Campus. There are single family residences bordering much of the property and light commercial at the southern entry along Lake Avenue. The Westside campus offers a great opportunity for recreation and cultural events that might not be possible in an urban setting at the Midtown campus.

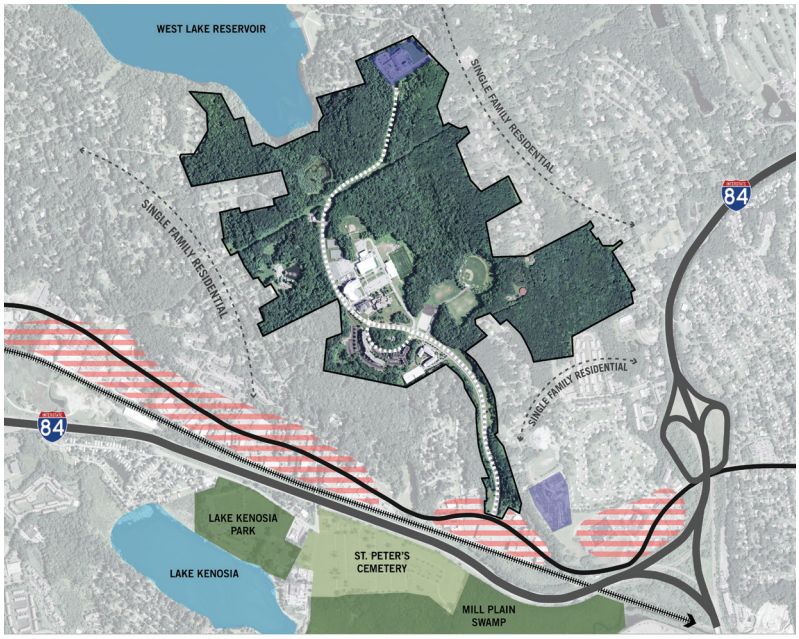


FIGURE 02.4 Westside Campus Context

CAMPUS STRUCTURE AND SCALE

Each of Western's campuses is relatively compact and walkable. The drawings at right show a quarter mile, 5-minute walking radius emanating from the center of each campus.

The Midtown Campus is 39 acres and encompasses the most development. It is also far more dense than Westside Campus, with an overall floor area ratio of 0.57. The full extents of the campus exist wholly within the 5-minute walking distance radius as shown in Figure 02.5. Development patterns are pretty consistent throughout much of the campus, however the science building site separated by Roach Avenue sits largely undeveloped. Most buildings range from 3 to 4 floors with basement levels. The Haas Library has 5 floors above grade.

The Westside property totals 369 acres, however the "core campus" where Academic, Support, and Student Life Facilities as well as parking are located is approximately 68 acres. Much of the site is given to sports fields and wooded natural areas. This gives the overall density of the campus a floor area ratio of 0.06 and a ratio of 0.30 for the campus core. While the extents of the property are not walkable, the core campus is contained within a 5-minute walking radius as shown in Figure 02.6. However, despite the short walking distance, the Westside campus is less favorable for pedestrians because of the topography of the site, as opposed to Midtown's relative flat campus. Development of the Westside Campus responds almost entirely to the minimal available buildable sites due to steep slopes. Facilities are also grouped together by use more so than at the Midtown Campus. Athletic and Recreation facilities are located to the north of the campus core, and Academic and Support buildings are in the center of campus while student residences are located on the south end of campus, separated from the rest of the facilities by University Avenue. Building heights on this campus are regulated by flight zones. O'Neill Center and Westside Athletics Complex, and the Campus Center are 3 floors, with 2 levels fully above grade. The Classroom Building, VPAC, and the Residential Halls range from 4 to 6 floors.



FIGURE 02.5 Midtown Campus Scale

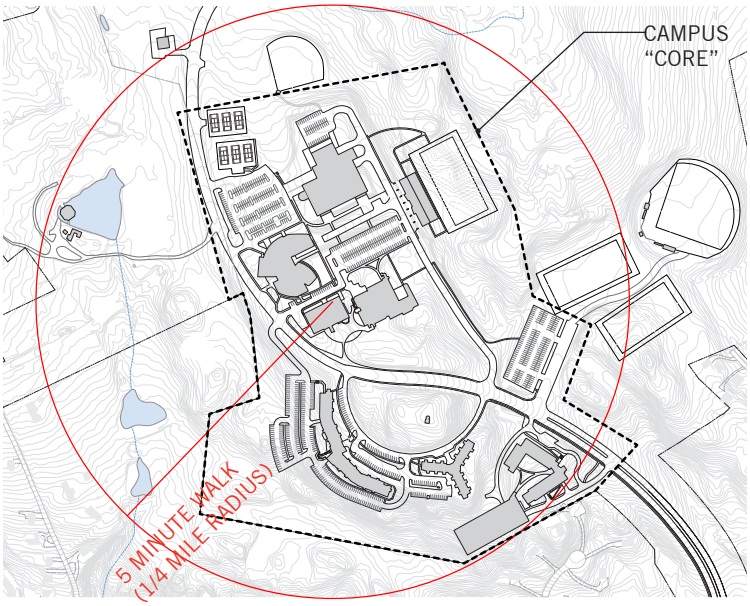


FIGURE 02.6 Westside Campus Scale

LAND USE

Western's two campuses have distinctly different land use compositions. Figure 02.7 and 02.8 illustrate the range of detailed land uses.

The Midtown Campus is largely Academic, with Student Life in the center of campus while Support and Administration as well as parking garages located along the periphery.

Westside Campus land is predominately focused on the Athletic and Recreation uses. The center of Campus is defined by Athletics, Academic and Special Use, while the lower precinct is entirely Residential. Ives Concert Park, located at the West edge of campus is also categorized as Special Use.

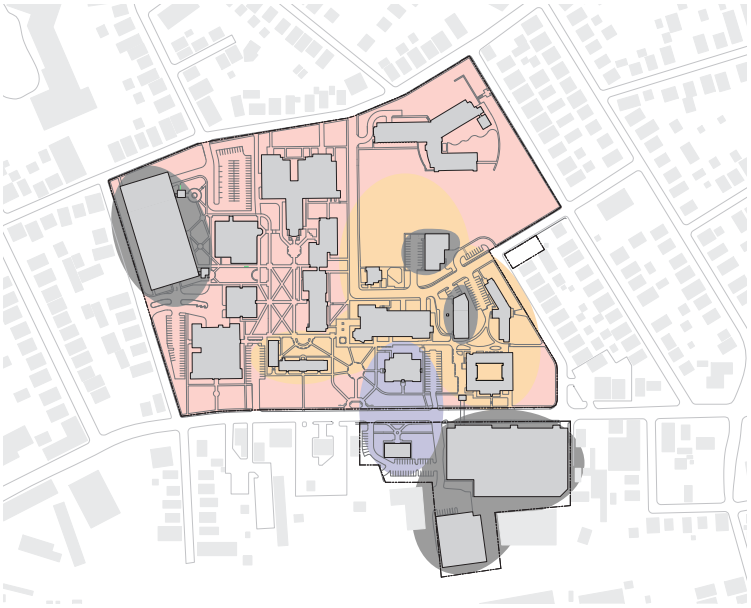
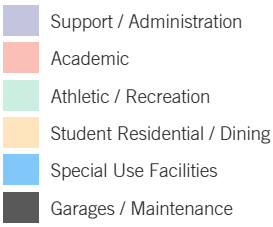


FIGURE 02.7 Midtown Existing Land Use



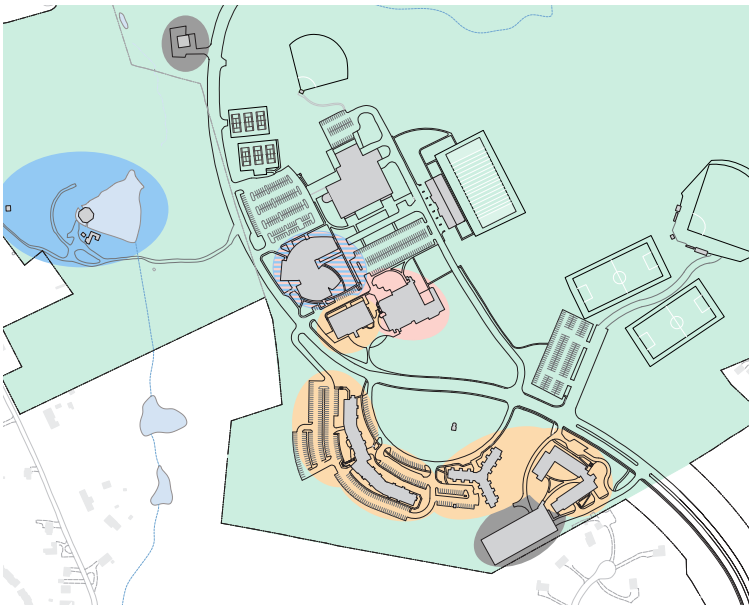


FIGURE 02.8 Westside Existing Land Use

ZONING

The Midtown Campus predominantly falls under RH-3 zoning and is zoned as illustrated in Figure 02.9. A few smaller parcels on the south side of White Street are zoned as General Commercial Uses under the city of Danbury zoning. The Westside Campus falls entirely under RA-40, as does much of the surrounding area. As a State property, Western is not subject to zoning regulations.

- R-3 Three-Family Residential
- RMF-4 Multi-Family Residential
- RH-3 High Rise Residential
- CG-20 General Commercial
- CL-10 Light Commercial
- CN-5 Neighborhood Commercial
- IL-40 Light Industrial



FIGURE 02.9 Midtown Campus Zoning

- RA-40 Single Family Residential
- CRP Campus Research Park

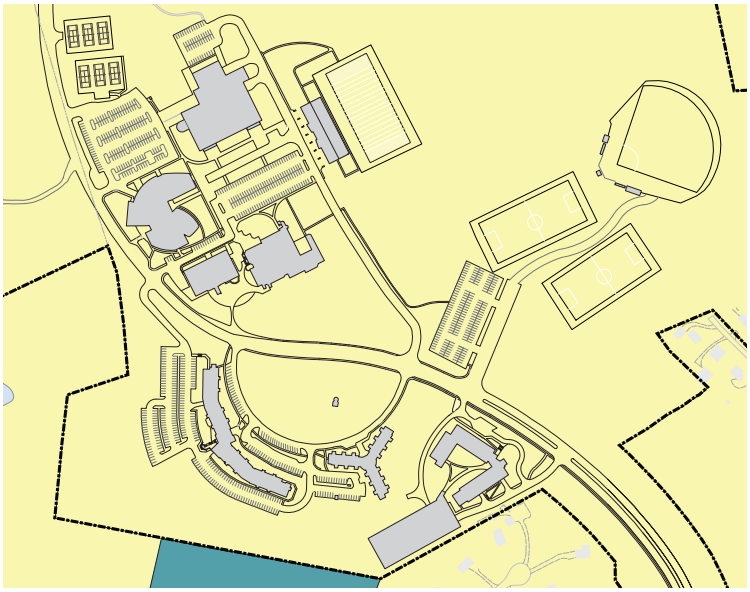


FIGURE 02.10 Westside Campus Zoning

OPEN SPACE TYPOLOGIES

The majority of the Midtown campus sits between White and Osborne Streets. Limited administrative functions, parking structures and facilities space is located south of White Street. The northern portion of Midtown Campus is a collection of traditional collegiate quadrangles, courtyards, plazas and lawns set with a dense, mixed-use urban neighborhood. With few exceptions, these open spaces are located in the core of campus. While close to one another, connections between open spaces could use improvement and clarification.

The Westside campus is markedly different from Midtown, in that it follows a distinctly more suburban development approach than the traditional lawn and quad model. This is understandable, given the comparatively recent development of Westside and the challenging topography. Westside campus is arrayed off of the sinuous University Boulevard, rising significantly from the Lake Avenue Extension into the heavily wooded and rocky outcrops above Interstate 84.

Though the Westside campus has been categorized as suburban, contrasting with Midtown's more urban and traditional layout, the defining characteristic of Westside is that is has been positioned atop the craggy rock outcrops and nestled within a mature forest. This provides a dramatic environmental and atmospheric counterpoint to Midtown, and to most of Danbury. While the residential halls have been strategically inserted into the forest, the main part of Westside has largely eliminated pre-development patterns of drainage and vegetation. Opportunities exist to provide more pedestrian open space, and draw more from the surrounding woods by pulling dense, native and adaptive vegetation back into the core of the campus.

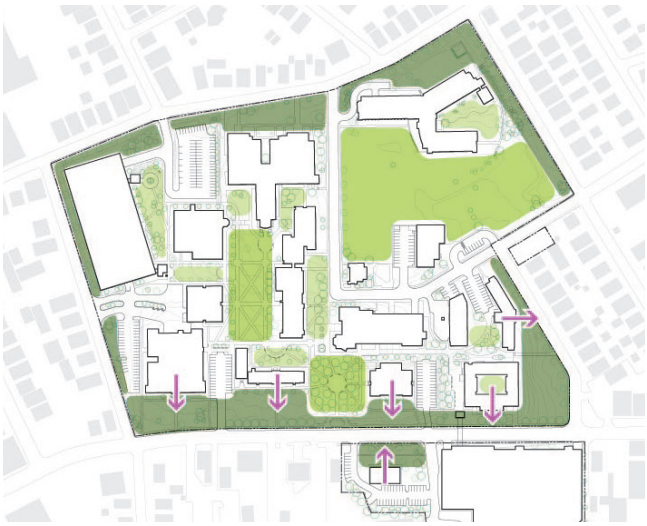


FIGURE 02.11 Midtown Campus Landscape Types



FIGURE 02.12 Westside Campus Landscape Types

ELEVATION AND TOPOGRAPHY

Midtown has a total topographic change of approximately 15 vertical feet, and is therefore fairly 'flat,' without too many steep slopes, none of which pose a significant obstacle to redevelopment. There are no known or documented wetlands on the Midtown campus.

The Westside campus development is constrained by rock outcrops and significant regulatory wetland restrictions, with occurrence virtually encircling the campus. Westside topography is far more pronounced and varied than the Midtown campus, with nearly 100 feet of vertical change. The surface lot behind Pinney Hall has large, residual slopes from cut and fill grading operations that have proven difficult to maintain. The elevation differential from this parking lot to doorway entry is on the order of 50 vertical feet, making the siting of new lots and buildings a distinct challenge on topographically diverse, geologically-restricted, and regulatory-constrained parcel.



View to the campus core on Westside with significant topography

LEGEND: ELEVATION ABOVE SEA LEVEL

550 to 600	250 to 300
500 to 550	200 to 250
450 to 500	150 to 200
400 to 450	100 to 150
350 to 400	50 to 100
300 to 350	0 to 50



FIGURE 02.13 Midtown Campus Original Topography

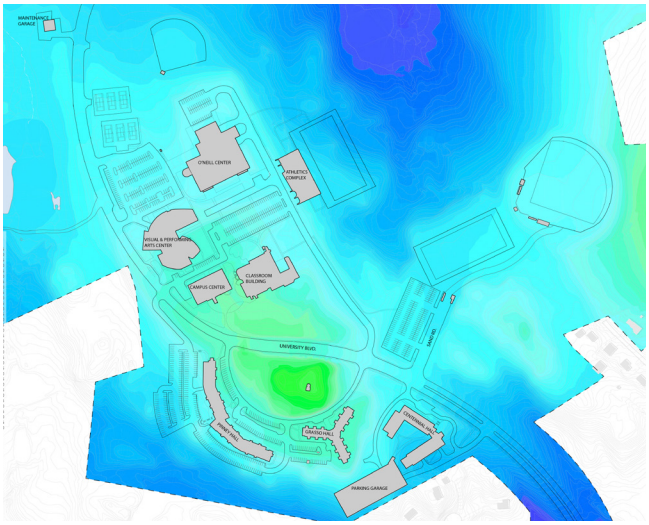


FIGURE 02.14 Westside Campus Original Topography

WETLANDS AND FLOODPLAINS

Review of Federal Emergency Management Agency (FEMA) and United States Fish and Wildlife Service resources indicate that neither the Midtown or Westside campuses are in close proximity to FEMA floodplain.

There are limited areas of wetlands located on and around the Westside campus. However, the Westside campus is located on a hill and is at an elevation that is significantly higher than the surrounding areas. Therefore, it is unlikely that Westside would be subject to any significant flooding. The Westside Campus is characterized by significant ledge outcroppings that contain a perched water table and wetland systems. The WCSU Master Plan published in 2011 show wetland resources associated with the Boggs Brook on the north side of campus. This system generally surrounds the north side of campus and could potentially impact any projects that extend the development footprint of the campus. There is also a wetlands system associated with the Small Pond located on the west side of campus located to the west of University Boulevard and west of Pinney Hall. This system generally limits the ability of the campus to extend to the west. More detailed studies would need to be performed by a wetland scientist to determine the exact limit of wetland resources in close proximity to the Westside campus.

The Midtown campus is located within a fairly dense urban environment. Based on a visit of the campus there does not appear to be any wetland resources on or in close proximity to the campus. This is confirmed by online resources such as FEMA and US Fish and Wildlife Services datasets.



FIGURE 02.15 Westside: Wetlands and Floodplains

CAMPUS IDENTITY AND WAYFINDING

The Midtown Campus frontage along White Street has consistent and generous landscape setbacks along with the three original and clearly collegiate buildings. University ownership along the rest of the perimeter is less uniform and as a result, the campus identity of those edges are subtle and less defined. The main entry to campus on White Street is clearly identified by a pedestrian gate and plantings. The North entry between Berkshire Hall and the Science Building are less defined. An improved entry to the north would provide a better identity for both the traffic on Osborne Street and for students being dropped off by shuttle. Improvement to the remaining access areas could include signage and landscape features.

The Westside Campus is marked by an entry sign at the base of campus on Lake Avenue. Ascending the hill by vehicle along University Avenue, the residential halls appear to the left side. Once at the center of campus the varied building styles and unclear development pattern contribute to an overall lack of identity of the campus.

At both Midtown and Westside, there is a network of campus maps, building signage, and road signs to direct traffic and pedestrians to parking garages and other major buildings sites. On-campus signage could be improved, especially by adding more overall campus maps and vehicular signage for visitors in search of parking, admissions and other guest or community resources.

Midtown and Westside campuses also have few if any 'named' open spaces. This hampers the ability of students and faculty to reference specific geographic locations and the establishment of long term traditions and events. Assigning or clarifying known names to open spaces will increase the wayfinding efficiency while expanding the institutional traditions, a cost effective initiative to make time at Western more memorable and meaningful.

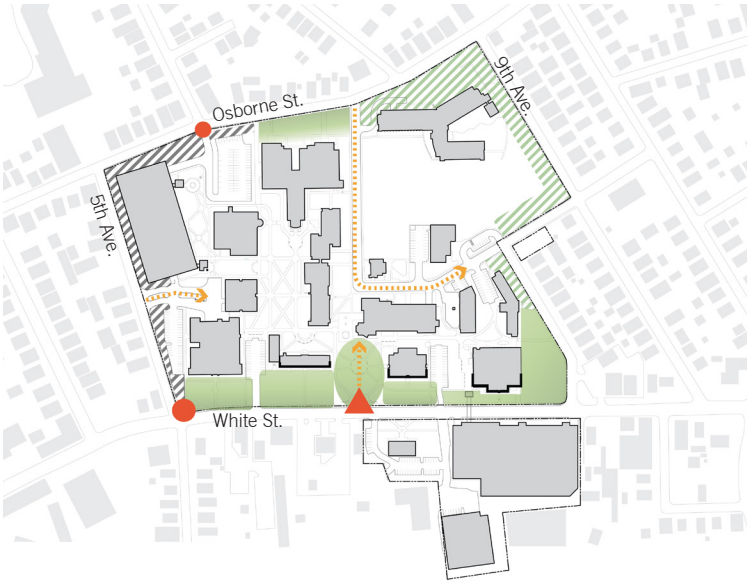


FIGURE 02.16 Midtown Campus Entry and Edge Identity



FIGURE 02.17 Westside Campus Entry and Edge Identity



Main Entry Gate and iconic Old Main at Midtown Campus



Main Entry Gate at Westside Campus on Lake Avenue



Main Shuttle Bus Stop at Westside Campus

PEDESTRIAN PATHS AND BARRIERS

Midtown has an extensive network of pedestrian paths crisscrossing the campus. While much of the campus is already pedestrian dominant, Roach Street and Roberts Avenue provide vehicular access and limited parking opportunities through the core of campus.

Midtown has some problem areas for non-paved foot traffic desire lines. The instances are few and generally limited in scope. The most prominent one is from the Old Main parking lot to the Student Center, across a very steep slope subject to erosion. These 'cowpaths' may be remedied by either adding pavement or planting barrier shrubs with embedded wire or cable fences to further enforce physical discouragement.

White Street currently has three well-spaced crosswalks signalized with pedestrian actuated flashing lights. Notably, local drivers seem respectful of pedestrians, acknowledging foot traffic with non-aggressive yielding. An elevated bridge provides an alternate to the at-grade crossings but is less frequented due to the necessary steps and elevators. From a campus activation standpoint, ground level pedestrian circulation is preferred, and yet having multiple options allow for different levels of comfort in making street crossing decisions.

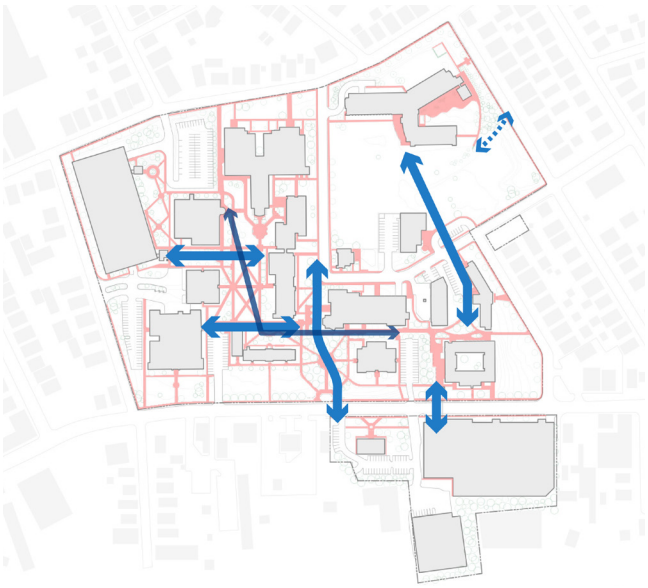


FIGURE 02.18 Midtown Pedestrian Network

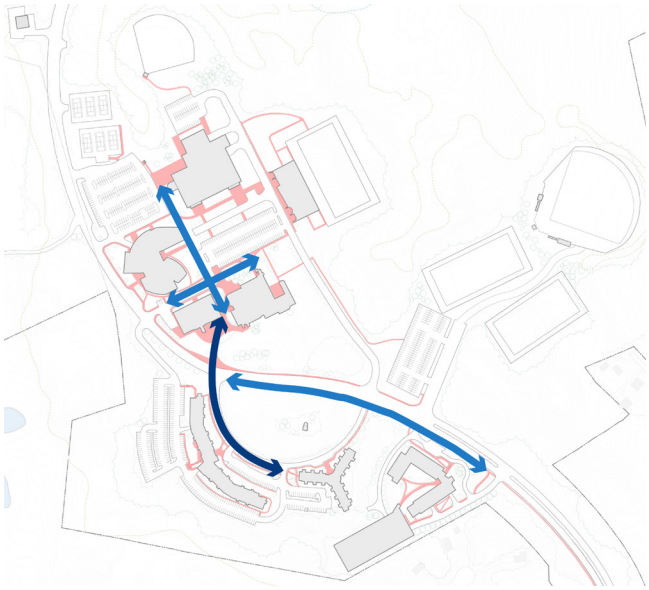


FIGURE 02.19 Westside Pedestrian Network

At Westside, primary pedestrian paths largely parallel main vehicular streets and parking lots. Pedestrian conflicts tend to emerge when these two networks cross. Walking trails also exist throughout the Westside natural areas, but connections and visibility to student nodes on campus could be improved.

The main conflict is on University Boulevard, where the Pinney-Grasso loop intersects on the west end. Some motorists climbing University Boulevard drive with excessive speed. This combined with the head-in parking configuration make crossing the boulevard difficult, even though a striped crosswalk is provided.

University Boulevard is used as primary bus and parent drop off to the City of Danbury Academy School at the far end of the road. While it is virtually improbable, in discussions, that access to Middle River Road would ever be opened due to neighbor resistance, the fact remains that non-WCSU traffic and speed is influenced and complicated by Academy traffic.

Two accessibility issues in the Westside campus were also observed. The first instance is a crosswalk across University Boulevard from the shuttle stop. The crosswalk has no curb cut and ends in grass, accentuating its non-compliance and use by pedestrians. The second is the tunnel beneath University Boulevard: the existing rail is a non-ADA-compliant deterrent. Upgrading this to a fully compliant guardrail would prevent inadvertent falls or accidents.

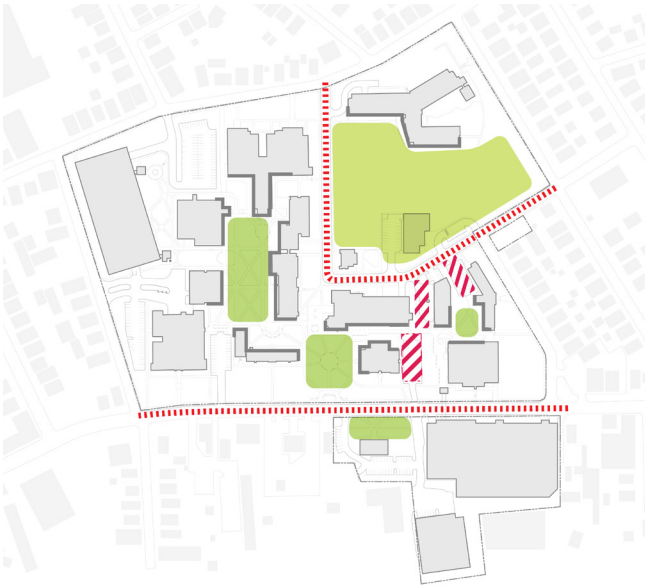


FIGURE 02.20 Midtown Pedestrian barriers

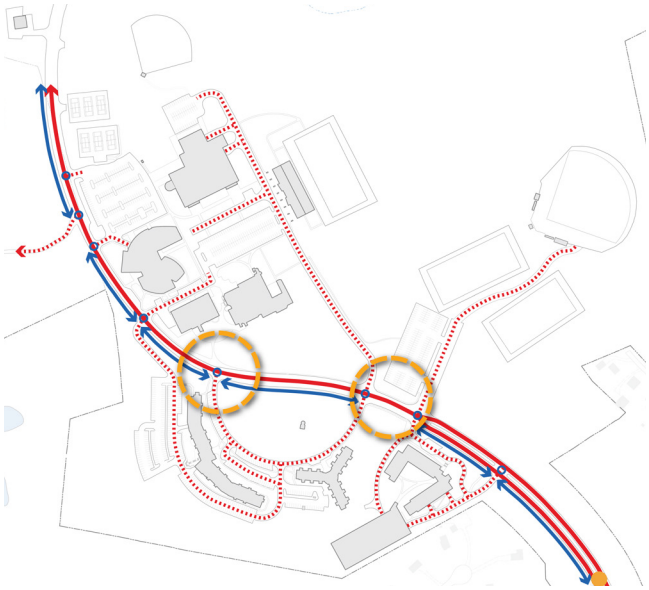


FIGURE 02.21 Westside Pedestrian barriers

CAMPUS PRECINCTS

Each campus can be thought of as having a series of distinct, yet connected precincts. Each precinct has its own land use, or open space identity. This diversity if character is fundamental to providing a rich, balanced and engaging campus landscape.

Midtown campus has four distinct precincts. The West End precinct is characterized by the central quad linking Berkshire to Fairfield. This area is the physical and symbolic heart of the Midtown campus.

The Science Building and lawn define the North End of campus. The future Police Station will change the character and definition of the open space, but not its function as the largest, most flexible gathering space on campus.

The East End is the most student-focused area of campus. Open spaces in this precinct are more intimate and residential in scale.

The South End is home of the Administration Building, but physically is defined by White St parking garage. This portion of campus sits across White Street and largely feels disconnected.

Westside Campus is organized around two main precincts, the Upper and Lower. The Lower precinct is largely residential, with surface parking and the Centennial garage. Rock outcroppings and topography changes have limited the development of any central open space in this area of campus. As a result, this precinct most defined by its expansive views from within the buildings.

The Upper precinct is a dense collection of special use buildings around a sloped faculty parking lot. Many of the buildings are relatively idiosyncratic in nature, yet seem to hold together as an ensemble from the core.

Surrounding these two precincts are a satellite of athletic and recreation facilities, including Ives Concert Park ball fields and nature trails. While providing critical uses and access to nature for the resident, the scale and topography of the campus limited their connections to the rest of Westside buildings.

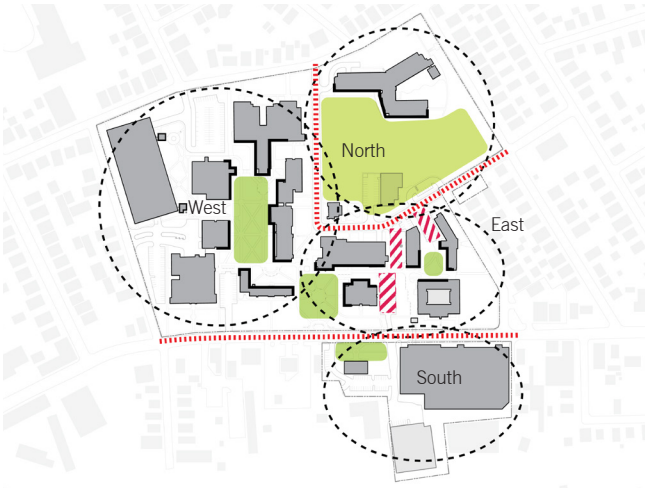


FIGURE 02.22 Midtown Campus Precincts

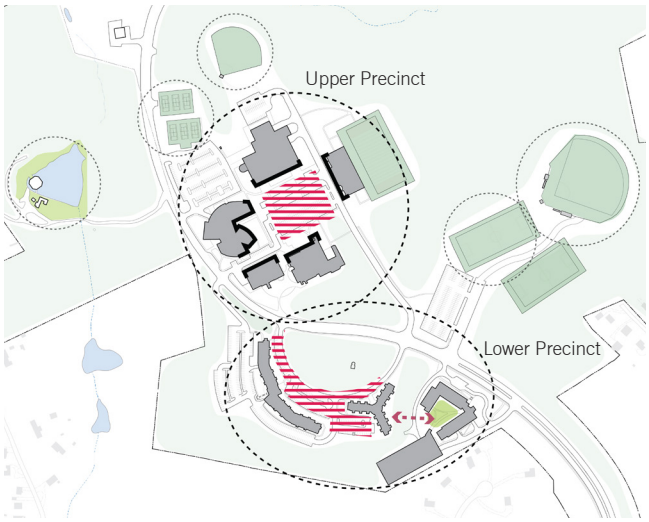


FIGURE 02.23 Westside Campus Precincts

ARCHITECTURAL CHARACTER

The architecture of Western's campus does not hew to a particular style, but rather reflects a mix of expressions. The Midtown Campus more successfully unifies the various styles by the use of brick as a common material. While many of the earliest structures like Old Main and White Hall use traditional collegiate building language, the new Science Building combines brick with large expanses of glass to create a more contemporary and transparent building envelope.

The Westside Campus has a much wider array of building styles and materials, creating an overall lack of a unifying architectural character. Buildings like the O'Neill Center, WAC, Campus Center, and the newest addition, VPAC, all have distinctly different expressions of form and material. However, the residential halls on campus, such as Centennial Hall, are much better at bridging the traditional styles seen at Midtown with a more contemporary and inviting character. The Westside Classroom Building is idiosyncratic and unsightly, and does not contribute positively to the character of the campus architecture. The O'Neill Center appears dated and unwelcoming today and not of the same level of quality as rest of the campus. Renovations would be a priority as the University evolves and grows to meet interior space needs..



Campus Center



Fairfield Hall



Centennial Hall



Science Building

LANDSCAPE FURNISHINGS AND CONDITIONS

The Midtown perimeter fence appears in runs along Osborne, 5th and 9th streets, less to restrict access, and more to convey an institutional atmosphere, as a collegiate signifier of higher learning. The fence is the most prominent site furnishing, and morphs successfully into the main gateway along White Street, though without a corresponding run of fence to either direction. Additional perimeter along 8th Street may help define the dorm to neighbor relationship more successfully.

Most of the Midtown campus lights are LED, with some sodium vapor lamps on parking garage fixtures. The parallel objectives of reducing maintenance and operating costs, with the added bonus of increasing proper color rendition to make the night campus more comfortable to pedestrians is achieved by transitioning to LED fixtures.

Blue emergency lights are typically positioned within direct line of sight from one to the next. This is often difficult to achieve, aiming for +/-200' distances. Midtown appears to have a need for additional fixtures.

Concrete unit pavers are reaching their end life in some, but not all instances on Midtown. There are multiple, widespread occurrences of spalling pavers from torque wheel pressure at corners and heavy salting over time. Many of the concrete unit pavers are approaching their expected service life, in the 40-50 year range. Widespread replacement of unit pavers with stone or the cheaper concrete is expensive and disruptive. The preferred approach is to assign a hierarchy of priority of pedestrian (and vehicular-capable pedestrian pavements), and incrementally replace unit pavers with slab concrete in less prominent areas, whereas replacement with new concrete units or better yet, stone, will accentuate high visibility zones. While the attraction of slab concrete is primarily low cost, the shorter service duration should be a longer term fiscal deterrent to widespread replacement.



Worn concrete pavers at Westside Campus Center

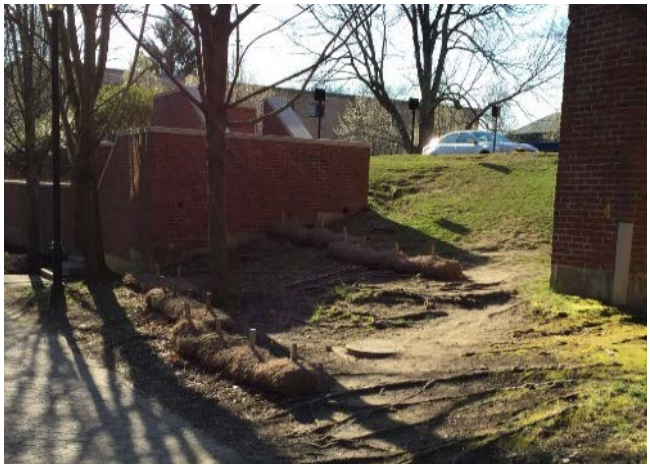
There are a number of different brick, paver, and hanging metal plaques deployed to a variety of trees across campus. Their goal is to acknowledge and memorialize a specific person, family who either served or donated to the institution. While the recognition is important, the process is not cost effective, and the deployment of physical monuments is a challenge, which is evident by the various representations with no one clear standard. Lawn mowing with pavers kicked up by frost heave make weekly maintenance a challenge, and long term association between a non-permanent monument and a specific tree, difficult. This is not a glaring or pressing issue, but a low level, ongoing maintenance and policy topic.

Mature best describes the existing condition of the Midtown landscape. Many of the deciduous shade trees are fully mature, between White Street and Roberts Avenue. White Street could accept more street trees, and protection of existing maples. 9th and Roberts Avenue similarly could accommodate more street trees to mark the perimeter of campus. Comparatively younger trees dominate north of Roberts Street. Together, they provide the greatest visual impact to the campus landscape, providing shade, color and texture throughout the seasons, and contribute to a positive collegiate atmosphere. There is however, an overabundance of pear trees, due in larger part to their showy white flowers in spring. This is understandable in that they are comparatively cheap and famously showy for their profusion of white spring flowers. However, they are also notoriously short lived, prone to ice/storm damage, and so they provide a short term payoff, with a longer term liability: most everyone loves white flowering trees, but they provide virtually no habitat value as few insects/birds 'use' this heavily manipulated species. For instance, the Centennial Garden (a space named to be timeless) is lined with entirely with pears: a comparatively short lived tree, when so many other 'timeless' species that impart a more collegiate atmosphere are available.

In several Midtown instances, substantial areas of tree roots are visible on the surface. While the majority of all tree roots occur in the top 18" of soil, the prevalence of major structural roots on the order of 2-3" in diameter indicates that something atypical is occurring well beyond the standard root plate of a tree. Preliminary discussion identified widespread soil issues, stemming from possibly compaction and a high water table. The condition has not thwarted tree growth so much as make lawn care challenging, as grass will not grow where outcompeted by tree roots, particularly those that are clearly running across the top of the soil. Regardless of the actual, as yet unknown cause, it is apparent that low soil oxygen is driving sizable roots to the surface. Additional arborist evaluation (preferably a soil scientist) would help identify and suggest a test strategy for improving conditions to converse valuable existing mature trees.

Much of Westside landscape is dedicated to asphalt roadways, surface parking lots and connective concrete slab sidewalks transitioning from car parking to classrooms. Materials and furnishings are more recent, with a good mix of pole mounted LED light fixtures. Trash receptacles appear to be project specific, and therefore dissimilar, working against a standard Western or even Westside identity. Few benches were noted, with most seating options as fixed site walls and seat walls adjacent to building entries. Notably, prominently positioned message boards were devoid of posted messages and advertisements for campus activities, illustrating the depth to which the internet has supplanted hardcopy fliers.

Westside has a mix of standard asphalt and concrete slab paving, punctuated with both permeable and impermeable pavers and surfaces. Shifting away from slabs and bituminous paving helps clarify a pedestrian scale, and differentiate from the ample vehicular parking pavements. As with Midtown, there is evidence of eroded unit pavers, suggesting that heavy salting and/or vehicular loading for pedestrian paving occurs systemically. Heavy planters are evident, less as modes of expanding vegetation, and more as traffic control devices. Astroturf atypically applied to steep slopes at the O'Neil Center has provided a effective alternate to languishing grass, though perhaps not the best long term sustainability strategy.



Unintended Midtown desire lines and root exposure

SHUTTLE NETWORK

The Westside and Midtown Campuses are served by a shuttle that provides transportation between the two campuses. The shuttle service makes several stops at each campus as well as at Lake Avenue, the Danbury Fair Mall, Hart Bus- at Kennedy Avenue, and the Danbury Train Station. The shuttle bus runs from 7 AM to 12:15 AM during the week and 9 AM to 12:30 AM on the weekends. In general, each shuttle run can take between 20 and 45 minutes depending on factors such as traffic and weather. The amount of time it takes to travel from one campus to the other via the shuttle along with the availability of parking at each campus, detracts from students using the shuttle service. A recent study analyzed Passenger Boarding between September 2015 and March 2016 indicates that the shuttle is most highly utilized during the beginning of each semester, after which total ridership declines throughout the semester. Weekday ridership is generally between 1,000 and 2,000 rides per day for the majority of each semester. During the weekends, ridership is dramatically lower when passenger boardings decline to below 200 per day.

ACCESS

Western Connecticut State University has a significant population of commuting students. Therefore, vehicular access and parking are extremely important to the overall operation of the University, especially to students that are not spending their entire day at WCSU. Approximately 65% of all WCSU students are commuters. Most students that live on campus, approximately 70%, leave campus on the weekends.

Access to the Midtown campus, from Interstate 84 as well as the Westside campus, is via White Street. There is also vehicular access points on 5th Avenue and Osborne Street.

Access to the Westside campus differs greatly from the Midtown campus. While the Midtown campus is very accessible to the surrounding neighborhood, the Westside campus is accessible via University Boulevard only. University Boulevard is the only route into and out of the Westside Campus at a single entry point at Lake Avenue.

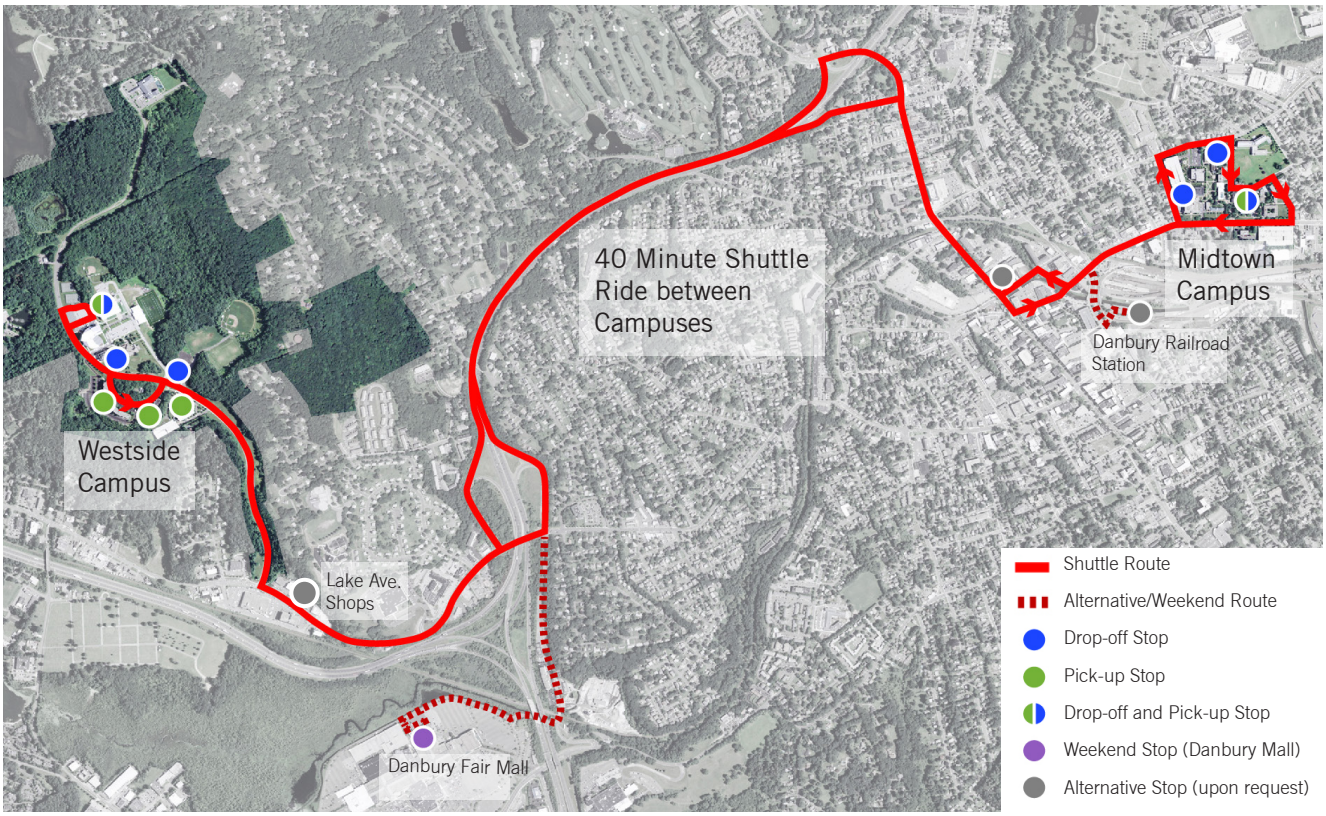


FIGURE 02.24 Existing Shuttle Route and Stops

CIRCULATION AND CONNECTIVITY

There are a series of roads and driveways that allow for the movement of passenger and delivery vehicles through both campuses. While the road access provides sufficient access to campus and campus buildings, it's alignment often creates barriers to pedestrian flow and open space continuity.

The Midtown campus is generally bordered by White Street to the south, 5th Avenue to the west, Osborne Street to the north, and 9th Avenue to the east. The campus is effectively divided by James G. Roach Avenue, Roberts Avenue, and 8th Avenue. These three public ways provide vehicular access through the center of the Midtown campus. They also provide access for the campus shuttle as well as loading vehicles White Street (Route 6) is a major artery through Danbury that provides access to the campus. White Street is a fairly busy thoroughfare that consists of two lanes in the easterly direction and one lane in the westerly direction. Due to the width of White Street, as well as the speed of the vehicles travelling along the street, pedestrian access from one side of the street to the other is not optimal. This is especially important for students and/or staff that park in the White Street garage on the south side of White Street. WCSU should monitor Danbury DOT's progress with improvements to White Street and should advocate for those that improve pedestrian safety.

University Boulevard is the only access road to the Westside Campus. It is a four lane road – two lanes each way – for approximately one half mile at which point University Boulevard narrows to one lane in each direction. University Boulevard provides access to other uses as well as the Westside Campus. The Western Connecticut Academy for International Studies Elementary Magnet School and the Ives Concert Park. Events such as concerts do result in traffic impacts to University Boulevard, especially at the traffic signal located at the University Boulevard/Lake Avenue Extension intersection.

Due to the width of University Boulevard, vehicles tend to exceed the speed limit on a regular basis. This is of particular concern in areas where there is significant pedestrian activity or on-street parking. On the eastern side of University Boulevard, there are 39 angled spaces located south of the Campus Center and an additional 14 spaces located near the O'Neill Center parking lot. Cars leaving these spaces are forced to back into on-coming traffic, which could become a hazard if vehicles are travelling at a high rate of speed along University Boulevard.

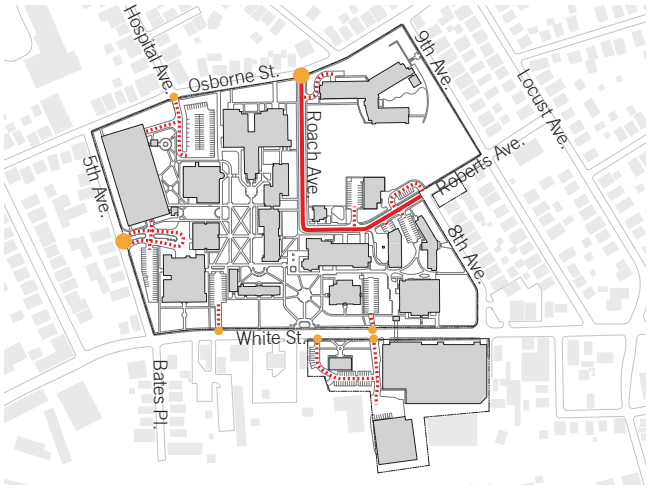


FIGURE 02.25 Midtown Campus Vehicle Circulation

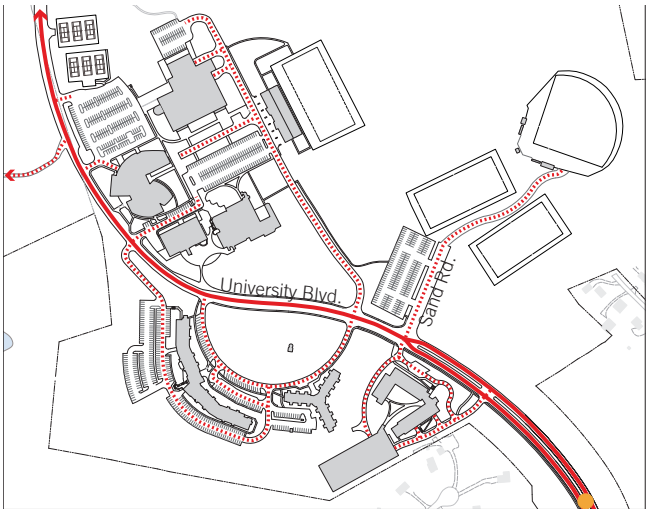


FIGURE 02.26 Westside Campus Vehicle Circulation

Major Road
Minor Road
Main Entrance
Minor Entrance

PARKING

Parking lots and garages on the WCSU campus are generally under-utilized. Although, parking is extremely important to the operation of WCSU due to the number of commuting students, the inefficient location of parking lots and garages results in significant demand for some parking lots and very little demand for others.

The Midtown campus includes 1,823 parking spaces in its two garages and six surface parking lots. The majority of on-campus parking is mainly located in the two large garages. The White Street Garage has space for 802 vehicles. Students, faculty, and staff that park in the White Street garage need to cross White Street in order to enter the Midtown campus. Crossing White Street can be accomplished by either using the pedestrian bridge over White Street or crossing White Street at grade at the marked crosswalk and Rapid Flash Beacon located proximate to the Garage. The 5th Avenue garage contains approximately 800 spaces and is located on the northwest corner of the campus. Generally, students and staff use the White Street garage before using the 5th Ave Garage. The remaining surface parking lots are located throughout the campus and range in size from 8 to 51 spaces.

The Westside campus contains 1,622 parking spaces. Similar to the Midtown campus, Westside has a sufficient amount of parking, although much of the parking is not especially convenient. The Centennial Hall Garage, which is located on the south side of campus near Centennial Hall, contains 405 parking spaces. This garage is utilized predominantly by residents of Centennial Hall. However, due to its distance to the remainder of the Westside campus core as well as the elevation change between Centennial Garage and the center of campus, this garage is not highly utilized. The most desirable parking spaces are located in the Faculty Staff Lot near the O'Neill Center and Visual and Performing Arts Center, and the parallel and angled parking spaces along University Boulevard. The parking spaces in these locations are close to the center of campus and is therefore in highest demand.

Currently, parking on campus is not strictly monitored or enforced. Students, faculty, staff, and visitors can generally park in any of the garage spaces or surface lots.

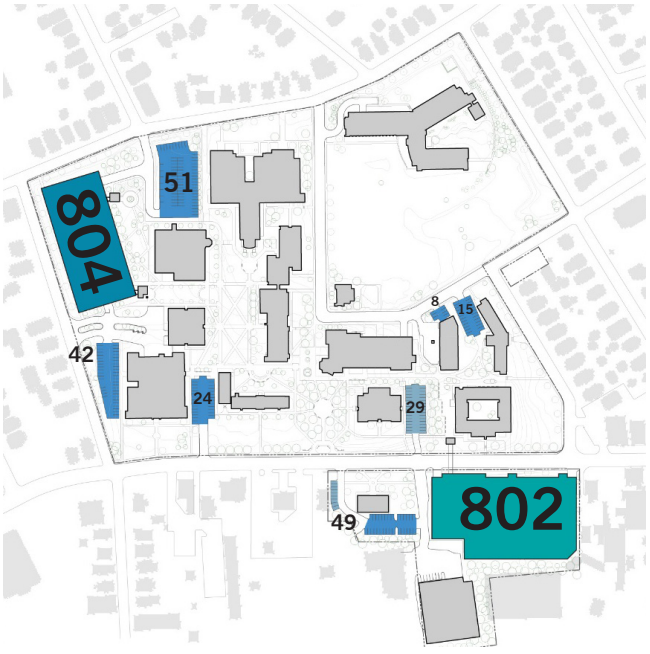


FIGURE 02.27 Midtown: Existing Campus Parking Locations

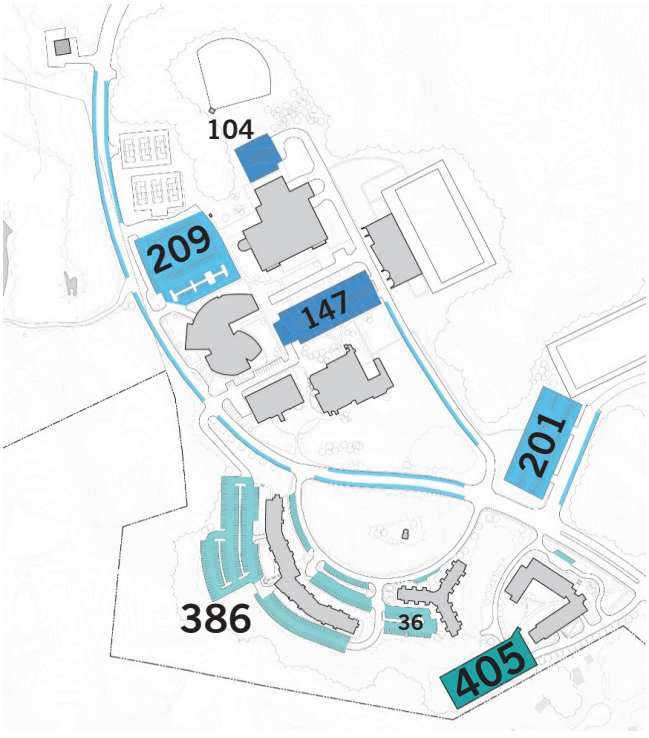


FIGURE 02.28 Westside: Existing Campus Parking Locations

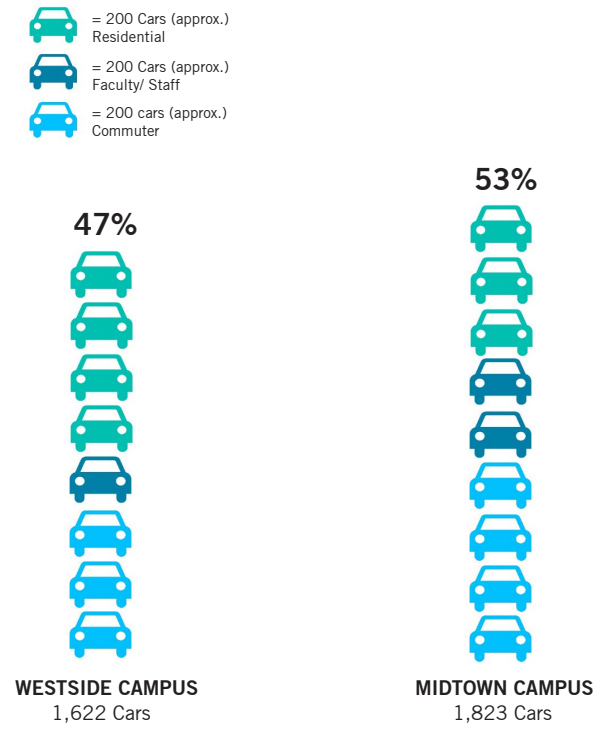


FIGURE 02.29 Existing parking campus comparison

SECURITY

Campus safety takes many forms – on campus roadways and cross walks, in preparing for natural and man-made emergencies, in preventing crime and in fostering a secure campus community overall. The University Police, currently located at the Midtown Campus in the north end of the Boiler House off Roberts Ave, are responsible for Campus Law Enforcement and parking. Design is complete and construction soon under way for a new Police Station just north of Roberts Avenue on the Science Lawn at the center of the Midtown Campus. For the Master Plan Update this facility is shown as an existing condition. Though there is a security presence at the Westside Campus, it is not an apparent one.

In the design of future buildings and landscape, promoting a secure environment by providing good visibility and sufficient exterior lighting will be important goals.

- Commuter- Surface Lot
- Commuter- Garage
- Residential- Surface Lot
- Residential- Garage
- Faculty/ Staff- Surface Lot
- Visitor- Surface Lot
- Street Parking



University Police- Midtown Campus

BUILDINGS

Since optimizing the use of existing facilities is a core goal, a comprehensive understanding of building use and condition is an important foundation for the Master Plan Update. At right are site plans identifying the location of existing buildings at Western. On the opposite page is a building inventory, itemizing the assignable square feet and overall gross square feet for each building.

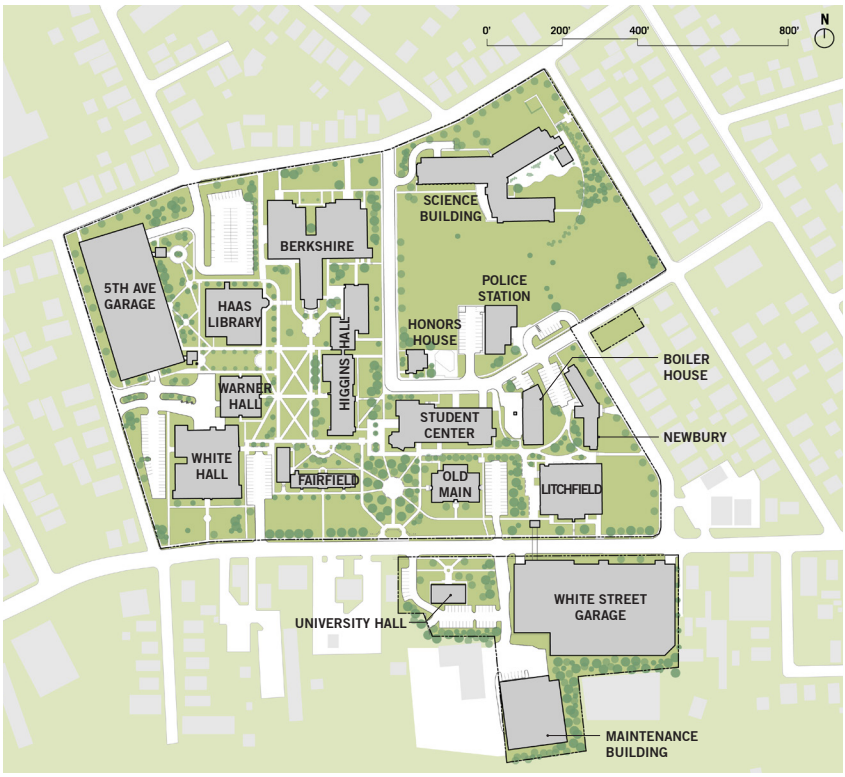


FIGURE 02.30 Midtown Existing Buildings



FIGURE 02.31 Westside Existing Buildings

EXISTING BUILDING INVENTORY

Campus	Building	Originally Constructed	Assignable Square Feet	Gross Square Feet
Midtown	Berkshire Hall	1958	43,948	62,745
Midtown	Boiler House	1960	8,998	10,773
Midtown	Haas Library	1969	67,243	113,021
Midtown	Higgins Hall	1950	55,311	85,674
Midtown	Honors House	1925	4,917	8,434
Midtown	Old Main	1904	28,822	42,207
Midtown	Science Building	2005	65,169	111,542
Midtown	Student Center	1959	46,179	71,880
Midtown	University Hall	1984	16,240	20,302
Midtown	Warner Hall	1999	20,104	34,078
Midtown	White Hall	1925	79,680	133,869
Midtown	Maintenance Building (190 White)		55,940	56,732
Westside	Athletics Complex	2003	12,000	18,273
Westside	Campus Center	2007	28,875	46,278
Westside	Classroom Building	1981	54,853	91,587
Westside	O'Neil Center	1994	65,680	82,282
Westside	Visual & Performing Arts Center	2014	115,981	137,330
Westside	Observatory	1994	2,146	2,694
Westside	Maintenance Garage	1998	2,146	2,566
Subtotal			**774,232**	**1,132,267**
Student Housing				
Midtown	Fairfield Hall	1927	22,620	52,771
Midtown	Litchfield Hall	1964	35,048	53,357
Midtown	Newbury Hall	1969	32,428	60,158
Westside	Centennial Hall	2004	102,000	131,038
Westside	Grasso Hall	1983	53,409	78,811
Westside	Pinney Hall	1999	126,691	193,772
Subtotal			**372,196**	**569,907**
Total			**1,146,428**	**1,702,174**

TABLE 02.1 EXISTING BUILDING INVENTORY

BUILDING USE

The Plan below identifies the primary use or uses in each existing building by category of space use. A more detailed assessment of existing space use follows in Chapter 3 Space Needs.

- Academic
- Library
- Residential
- Athletics/ Recreation
- Support
- Parking

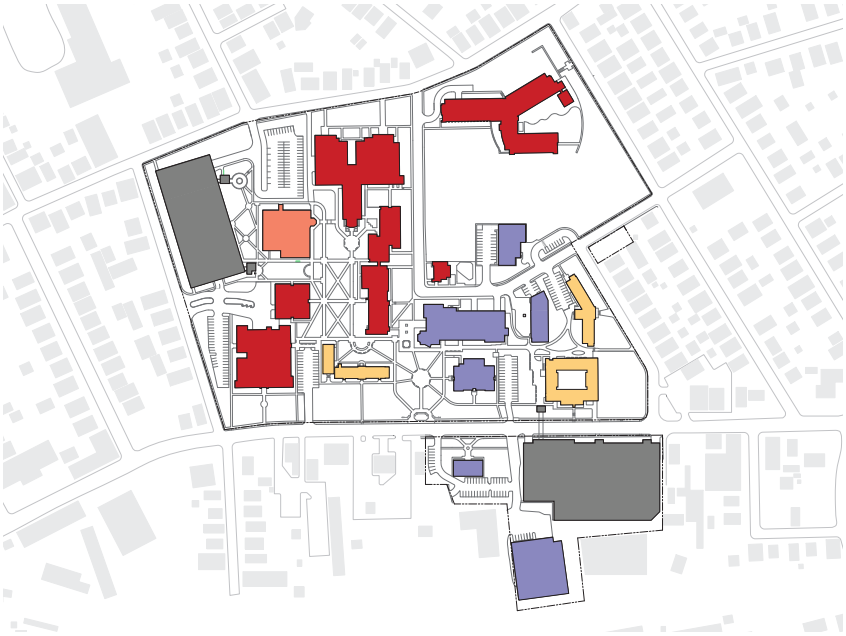


FIGURE 02.32 Midtown Existing Building Use

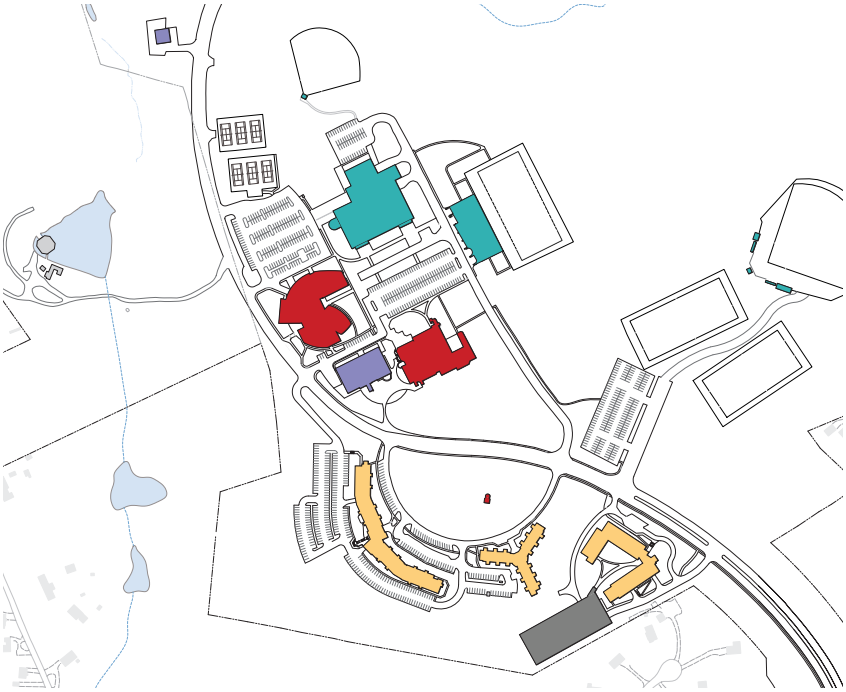


FIGURE 02.33 Westside: Existing Building Use

CLASSROOM UTILIZATION

The planning team analyzed the utilization of Western's classroom inventory using the Fall 2016 course schedule. The findings are summarized in the charts on the following pages. Western's utilization rates are close to our targets, but leave a little bit of room for improvement. Classrooms at Midtown are used slightly more often than at Westside (average of 3 more hours per week). Fill rates are nearly identical between the two campuses, usually about 60% of seats are full when rooms are in use. Classroom characteristics (room sizes, number of seats, ASF/seat) are almost identical between the two campuses. The main difference between the two campuses is that there are twice as many rooms at Midtown than Westside. Average hourly usage is slightly below target (26 hours/week vs target of 30). It's not alarmingly low, but shows that rooms could be better used. Medium size rooms (33-48 seats) get the best utilization rates, very close to the targets, at 27 hours per week, 62% of seats filled. Smaller rooms have higher fill rates when in use, while larger rooms tend to leave most of the seats empty when in use.

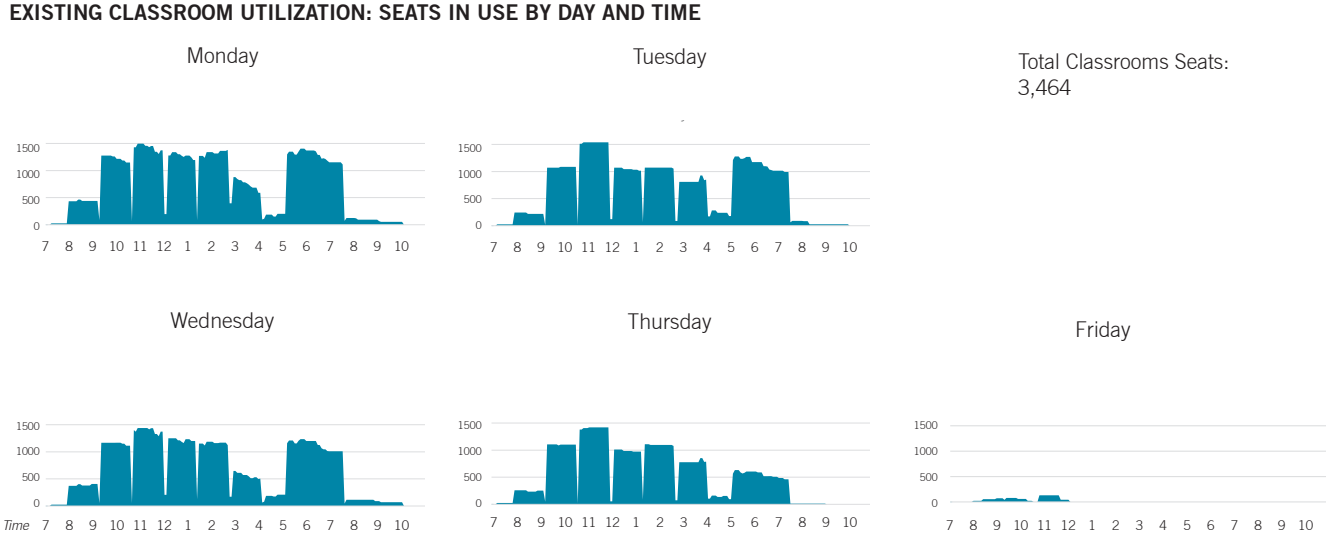


FIGURE 02.34 Classroom Utilization Analysis

UTILIZATION SUMMARY BY BUILDING

Campus / Building	Number of Classrooms	Total ASF	Total Seats	Average ASF Per Station	Average Seat Capacity per Room	Total Weekly Hours of Courses	Average Weekly Hours per Room	Average Fill Rate Per Room	Total Weekly Student Contact Hours
Midtown	**55**	**43,888**	**2,465**	**19**	**45**	**1,496**	**27**	**59%**	**32,864**
Berkshire Hall	10	6,126	366	17	37	298	30	60%	5,993
Higgins Hall	4	4,563	252	20	63	86	21	56%	1,885
Higgins Hall Annex	7	6,749	356	23	51	164	23	61%	3,897
Science Building	8	7,714	434	20	54	238	30	46%	4,475
Warner Hall	5	4,010	174	23	35	163	33	75%	3,849
White Hall	21	14,726	883	17	42	546	26	60%	12,766
Westside	**22**	**17,063**	**999**	**20**	**45**	**524**	**24**	**62%**	**11,229**
VPAC	1	574	38	15	38	20	20	70%	480
WS Classroom Building	21	16,489	961	20	46	504	24	62%	10,749
Total	**77**	**60,951**	**3,464**	**19**	**45**	**2,020**	**26**	**60%**	**44,093**

UTILIZATION SUMMARY BY SIZE TIER

Room Size	Number of Classrooms	Total ASF	Total Seats	Average ASF Per Station	Average Seat Capacity per Room	Total Weekly Hours of Courses	Average Weekly Hours per Room	Average Fill Rate Per Room	Total Weekly Student Contact Hours
0-20	1	795	16	50	16	12	12	141%	290
21-32	24	15,222	664	23	28	527	22	69%	10,239
33-48	40	28,498	1,590	18	40	1,094	27	62%	25,490
49-75	6	5,435	338	16	56	194	32	36%	3,428
76+	6	11,001	856	13	143	193	32	22%	4,645
Total	**77**	**60,951**	**3,464**	**19**	**45**	**2,020**	**26**	**60%**	**44,093**

UTILIZATION BENCHMARKING

State	Classroom Hours	Classroom Fill	Class Lab Hours	Class Lab Fill
Alaska	30	60%	20	80%
Arizona	35	65%	25	85%
California	42	71%	25	80%
Colorado	30	67%	20	80%
Florida	40	60%	20	80%
Kansas	30	60%	20	80%
Kentucky	38	67%	23	80%
Louisiana	30	60%	20	80%
Maryland	30	70%	21	79%
Nebraska	30	65%	20	65%
New Hampshire	30	60%	18	70%
New York	30	60%	22	75%
North Carolina	35	65%	20	75%
Ohio	31.5	67%	22.5	80%
Oklahoma	30	40%	24	80%
Oregon	33	60%	16	75%
South Carolina	35	60%	18	75%
South Dakota	30	60%	20	85%
Tennessee	30	67%	18	80%
Texas	38	67%	25	80%
Utah	34	67%	22.5	80%
Wisconsin	30	67%	24	80%
Wyoming	33	60%	20	75%
Average	**33**	**63%**	**21**	**78%**

TABLE 02.2 Classroom Utilization Analysis

UTILIZATION HOURS IN USE VS RATE BY ROOM

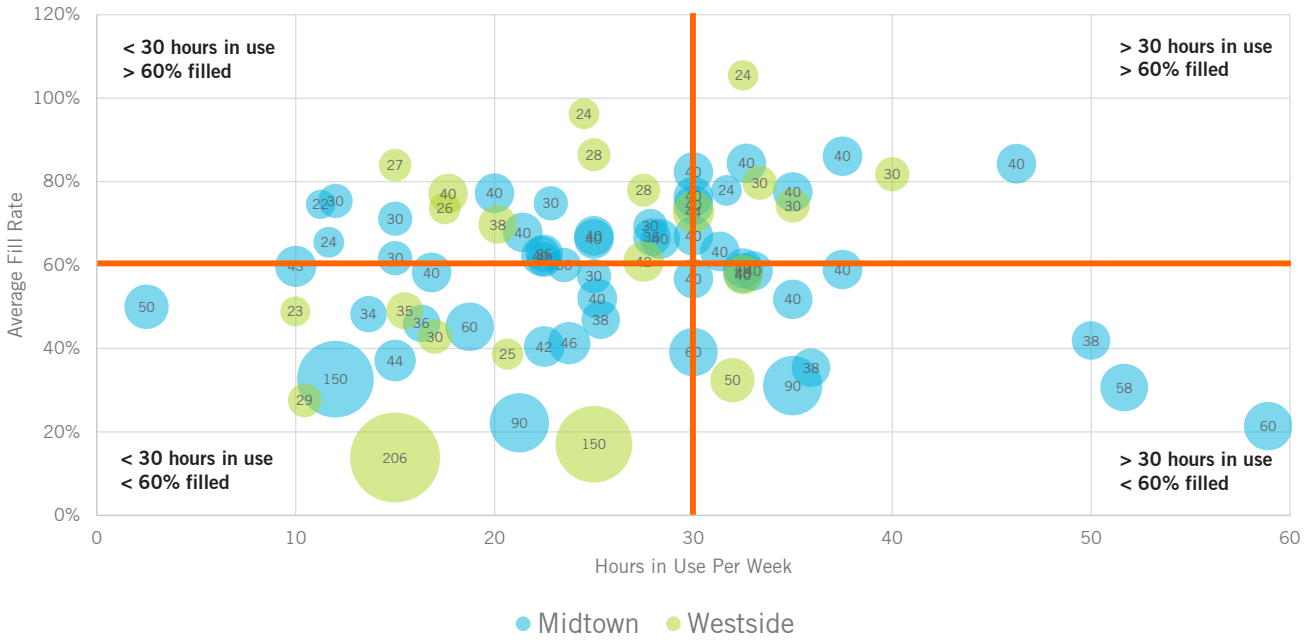


FIGURE 02.35 Classroom Utilization Analysis

ACADEMIC AND SUPPORT SPACE

A breakdown of overall existing space for academic, research, administrative and support space are illustrated in the chart and table below, as of Fall 2016 in assignable square feet for both the Midtown and Westside campuses.

Departmental Profile	Existing Fall 2015
Classroom Space	58,861 sf
Ancell School of Business	12,323 sf
School of Arts & Sciences	4,685 sf
School of Professional Studies	11,313 sf
School of Visual & Performing Arts	51,987 sf
Centers & Institutes	1,057 sf
Honors College (Irfan Kathwari Honors House)	568 sf
Hosted Entities	424 sf
Grant Funded Programs	0 sf
Academic Support	3,436 sf
Library	64,395 sf
Technology	17,442 sf
Assembly & Exhibition	52,354 sf
Athletics & Recreation	102,542 sf
Student Activities	45,476 sf
Child Care	1,836 sf
Student Services	41,236 sf
Administrative Services	28,745 sf
Campus Services	51,971 sf
Vacant	40,251 sf
Total	**590,902 sf**

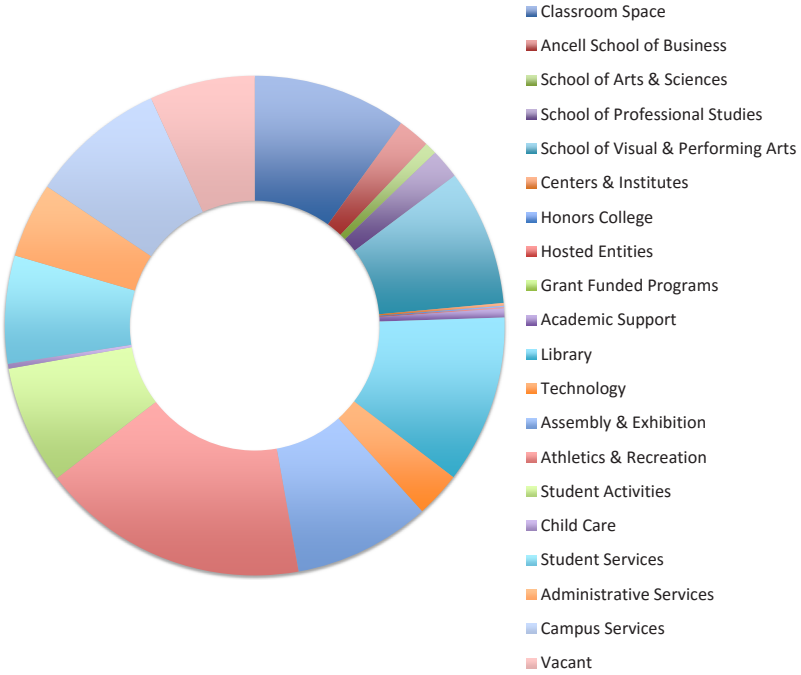


FIGURE 02.36 Existing Space Use (Fall 2016)

RESIDENTIAL LIFE FACILITIES

Western's student housing supports a positive progression from traditional accommodations at the Midtown Campus, mostly for first year students, to more independent living, mostly for upper class students, on the Westside Campus. Western houses approximately 35% of enrolled students on campus.

As illustrated in the campus maps at right and tables opposite, Midtown has three residence halls, Newbury, Litchfield and Fairfield. Together, these have 547 beds or 34% of Western's total, mostly in traditional corridor style. Litchfield Hall is currently being renovated to upgrade building condition, while maintaining the current layouts. The building houses a student health center on the ground floor, with its own entry. The gross floor area per bed for these three residence halls compares favorably to a national average range, illustrated as the yellow band.

The 1,043 beds at the Westside Campus represent 66% of the total, in apartment and suite styles. These house mostly upper class students, along with some first year VPA students needing proximity to this program in VPAC. While the GSF per bed for Pinney and Centennial compares favorably to a national average range, Grasso's 300 GSF/bed is at the low end of the range. Both Grasso and Pinney have building envelop deficiencies that need to be addressed.

There is market competition in several off-campus private developments within a 5 minute walk of the Midtown Campus. These include Chestnut Street townhomes, Brookview and Kennedy Flats (which actively markets to students). There may be another off-campus residential development coming near White Street. Western's peers for student housing include Keene State, Christopher Newport, Fitchburg State, Rhode Island College, Framingham State, Westfield State, Worcester State and Plymouth State Universities.

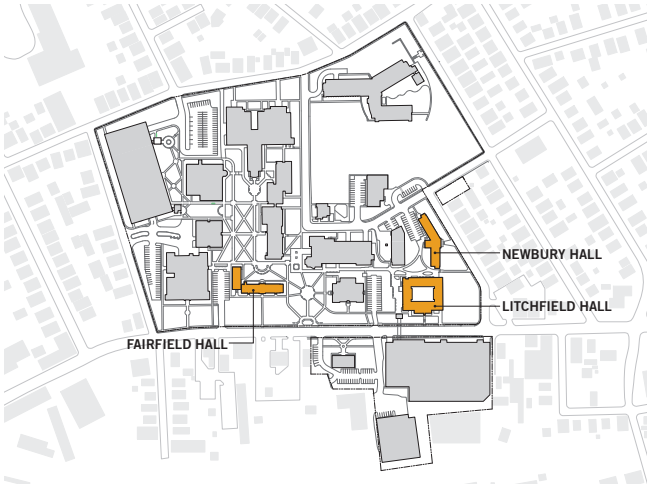


FIGURE 02.37 Midtown Campus Residence Hall Buildings

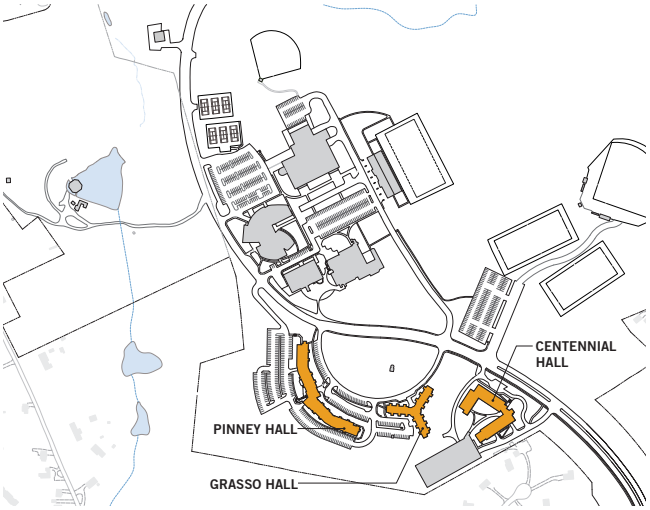


FIGURE 02.38 Westside Campus Residence Hall Buildings

Residence Hall Buildings

Campus	Building	Originally Constructed	Assignable Square Feet	Gross Square Feet	Beds	GSF/ Bed
Midtown	Fairfield	1927	22,620	34,771	108	323
Midtown	Litchfield	1964	35,048	53,357	231	231
Midtown	Newbury	1969	32,428	60,158	208	289
Westside	Centennial	2004	102,000	131,038	352	372
Westside	Grasso	1983	53,409	78,811	261	302
Westside	Pinney	1999	126,691	193,772	430	450
Total			**372,196**	**551,907**	**1,590**	

TABLE 02.3 Residential Building Inventory

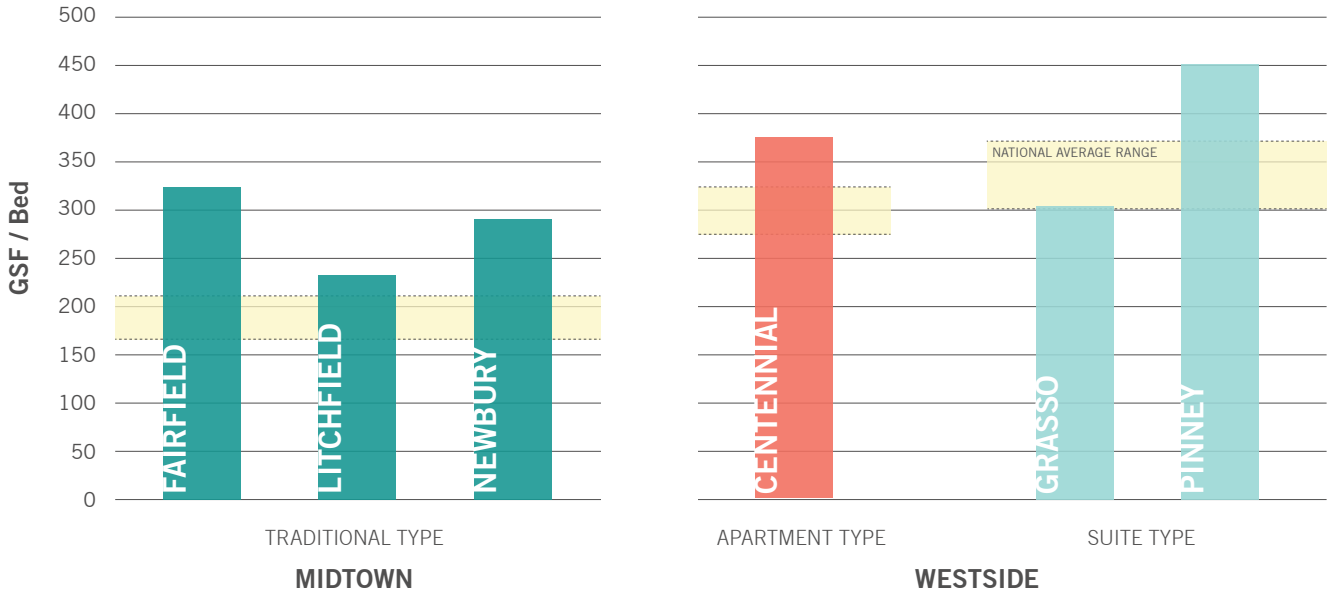


FIGURE 02.39 Residential Building Analysis

SPORTS AND RECREATION

Western's intercollegiate athletic facilities are located at the Westside Campus. Recreation facilities are at both campuses. Following is a summary their existing conditions, followed in the next chapter by an assessment of space needs.

Midtown

Berkshire Hall houses the Williams Gym and other recreation spaces and locker rooms. The vacant stage of the former theater is used for some recreation activity. Some of these recreation facilities are also used by the HPX program. There are few outdoor spaces designed for active recreation.

Westside

There are two indoor athletic facilities – the O'Neill Center and the Westside Athletic Center. The Western Connecticut Colonials are Division III and part of the Little East Conference.

O'Neill was reportedly programmed and designed in the 1970s, but not built and opened until 1994. This explains why the facility falls short of meeting Western's needs today for both athletics and recreation. The main space, called the Fieldhouse in the original plans, is an important resource for the University, serving both for university athletics and events, including revenue-generating contracts with and external groups. Western has a women's swim team and hosts area high school teams as their home site. The swimming pool in O'Neill is shorter than regulation length, however, and the equipment nearing the end of its useful life. O'Neill's lockers, strength and conditioning, sports medicine and storage areas are insufficient in floor area and quality. Athletes and students looking for recreation compete for use of the facilities.

The Westside Athletic Center (WAC) serves as the entrance to the stadium used for football, lacrosse and field hockey. It also houses staff areas, concessions and restrooms, a press box, VIP spectator area and team lockers on a lower level. The building's heating system runs on a glycol loop from O'Neill under the drive to the WAC. It frequently breaks down and needs to be replaced. The WAC is most recognizable from its tensile fabric roof canopy. This is nearing the end of its life and needs replacement, most likely with a more durably designed roof.

The lower level of the Campus Center was designed with a fitness area for students. This is in the process of being moved to available space in Pinney Hall.

Westside's outdoor athletic facilities include 6 tennis courts, the stadium field (artificial turf), a soccer field, a practice field, and a baseball field – all natural grass. There is currently no cross county course.



O'Neill Athletic and Convocation Center



Athletic Stadium Complex



The Feldman Arena in the O'Neill Center

BUILDING CONDITION

The site plans at right summarize the physical condition of existing buildings on both campuses. Buildings in excellent condition are new and require little to no capital improvements. Buildings in good condition are relatively new or recently renovated and require minor refurbishment. Buildings in fair condition require moderate upgrades to replace aging building systems and finishes. Buildings in poor condition require major reinvestment to replace obsolete systems and building envelope elements. Berkshire Hall and the Westside Classroom Building are notably in poor condition and are obsolete functionally. The plan studied the best future use of these buildings and sites.

Neither of Western's campuses have temporary buildings unlike its sister institutions.



FIGURE 02.40 Midtown Existing Building Condition



FIGURE 02.41 Westside Existing Building Condition

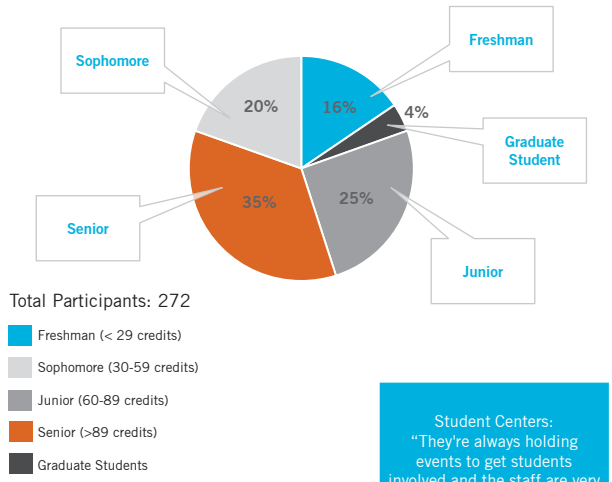
- Excellent Condition
- Good Condition
- Fair Condition
- Poor Condition

STUDENT OUTREACH

Students played an active role in forming the Master Plan Update. Student representatives served on the University Master Plan Advisory Committee that guided the development of the Plan.

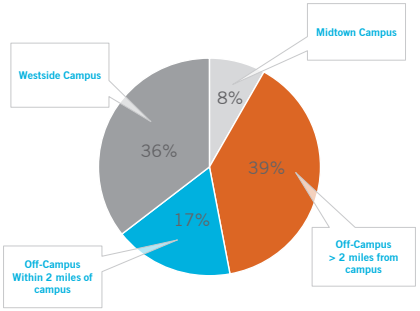
To supplement student input from regular meetings, the planning team also utilized a web-based application called Urban Interactive to engage the student body and learn more about goals for improving the campus to enrich the student experience. The site was open from April 12th to May 4th, 2016, and announced on electronic boards on campus, Twitter and Facebook. The site had included instant polls and open answer survey questions covering 12 topics with 73 questions. The site had over 272 participants. A sampling of the input follows:

What year are you?



Student Centers: "They're always holding events to get students involved and the staff are very helpful."

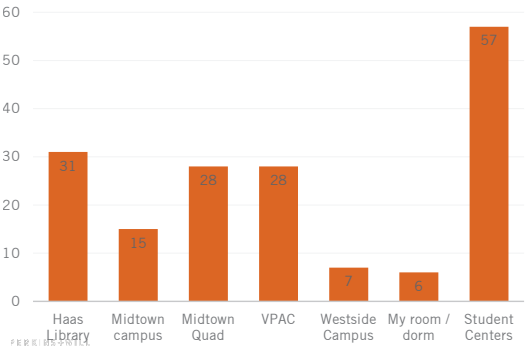
Where do you live?



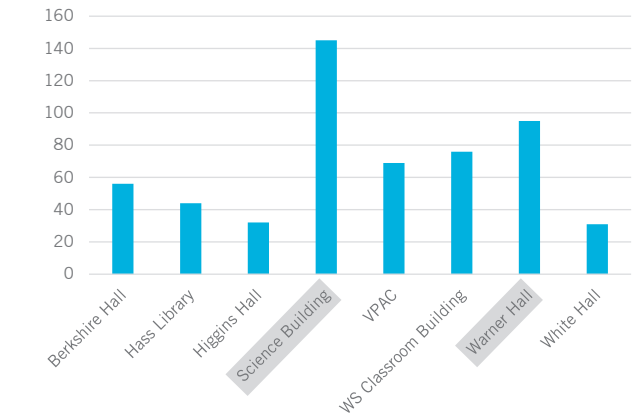
"I would live on campus if it was cheaper, meal plans were optional, and it was easier to room with your friends."

"Sometimes, I feel less connected to the school and those that go there. I don't know as many people or attend as many events because I live at home"

Where is the Heart of campus?



Where are your favorite Classrooms?



Where are your least favorite Classrooms?

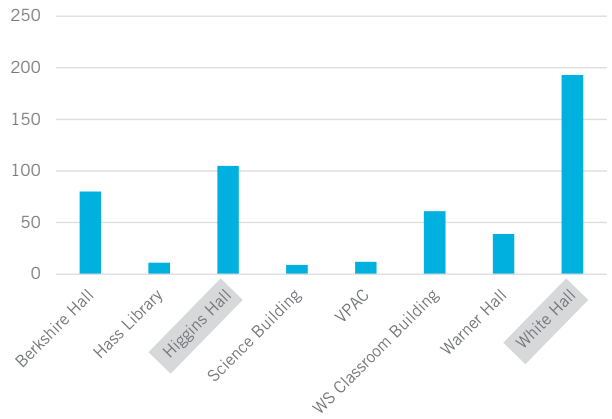
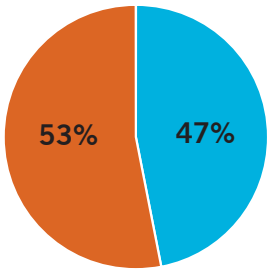


FIGURE 02.42 Online Student Outreach

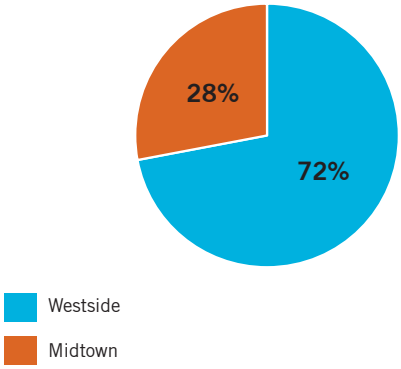
Campus Split

"I feel like I'm 'going out' rather than just being stuck in the same place all the time"

Where would you most prefer your classes be held?



Where would you most prefer to live?*
(assuming quality of rooms are the same)



"VPAC is a hub that generates amazing projects and culture, and the facility is brand new."

What do you like MOST about having 2 Campuses?

Summary:

- Different Environment: Diversity- Nature vs Urban
- Associate each campus with a major
- Make each campus smaller and easier to navigate/walk
- Reduce vehicular congestion: better parking

What do you like LEAST about having 2 Campuses?

Summary:

- General frustration with traveling between the two: Shuttle (hours of operation and reliability)
- Makes scheduling both classes and work difficult
- Student body/ community feels separated
- Campus looks empty
- Living or having all classes at Westside, but needing to go to Midtown for student services or to use the Library
- Campus events happening at Midtown are hard to attend when you live at Westside. Events not well promoted at Westside. Nothing "fun" to do at Westside
- Difficult for Athletes

"It makes scheduling classes very difficult. I have had to pass on taking core classes that I really needed because it's impossible to get there on time from one campus to the other"

What area/aspect of the college facilities do you think work BEST?

Summary:

- Science Building and VPAC, because they are the newest/ nicest
- Westside residences, because they are more modern and apartment style
- Both Student Centers
- The Library
- Having a bookstore/campus store on each campus
- Small Classrooms

What area/aspect of the college facilities do you think most NEEDS IMPROVEMENT?

Summary:

- The food service (quality, variety, and hours of operation)
- Getting entire majors on one campus
- White Hall (specifically AC/Heating and being outdated)
- Westside for commuter parking
- Athletic Facilities
- WIFI
- Not having wayfinding maps throughout campus

FIGURE 02.43 Online Student Outreach

ENERGY AND INFRASTRUCTURE

This section provides an overview of Western's central plant and utilities, the campus distribution system, recent energy use, and system types used for heating and cooling buildings.

CAMPUS UTILITIES

Heating Systems

A summary of the heating hot water system for both campuses is provided in the Buildings inventory – systems table provided in Figure 02.44 to the right.

Midtown Campus

Midtown campus has a central steam system fed from the Boiler House at the center of the campus. The steam plant has two (2) new boilers, 500HP each, and one older 525HP boiler for backup. The backup boiler was installed in 1959-60 and had its tubes replaced in 2016. The efficiency of this boiler is estimated at 64% whereas the new boiler efficiency is estimated at 82-84%. The new boilers currently cover the full campus demand.

Similar to Westside campus, all boilers are duel fuel capable and are served by natural gas and #2 fuel oil. They currently run on natural gas. The estimated output of each boiler is summarized below:

- Boiler 1, 16,750 kBtu/h input, 13,735 kBtu/h output
- Boiler 2, 16,750 kBtu/h input, 13,735 kBtu/h output
- Boiler 3, 17,588 kBtu/h input, 11,256 kBtu/h output

The boilers provide steam at 80 PSIG to the majority of the buildings on the Midtown campus. The exceptions are Honors House, University Hall, the parking garages and the new Police Station.

The campus estimates that approximately 80% of the steam is returned as condensate back to the boiler house for reuse. The lower return rate is due to the use of steam for humidification in some buildings. Leaks due to steam trap failures were indicated to be addressed promptly.

The main boiler plant is shut down between April 15th and October 15th each year. During this time pony boilers are used in some buildings such as the Science Center to provide heating if required.

There is a 400-kW fuel cell connected to the Science Center generating electricity, low and high grade heat to the building via a purchase power agreement.

The boiler plant is currently at or very close to its capacity.

Westside Campus

There are no central steam or heating hot water (HHW) distribution systems at the Westside campus. The campus is not currently provided with natural gas and therefore each building has its own local boiler plant fuelled by #2 fuel oil.

Most buildings on the campus such as the Campus Center and O'Neill Center have duel fuel boilers to allow the use of gas should service be provided in the future.

The Westside campus does not have natural gas service. The University is currently investigating how to bring natural gas to Westside in coordination with the utility company.

Chilled Water

No central chilled water system exists on either Westside or Midtown campuses. All cooling provided to buildings is handled on a per-building basis and ranges from chilled water to DX to heat pump systems. A summary of the chilled water system for both campuses is provided in the Buildings inventory – systems table provided in Figure to the right.



FIGURE 02.44 Existing Central Plant Building

WCSU - Existing Building Systems

				Heating				Cooling					Electrical	
	Name	Type	Gross S.F.	Heating Plant Steam	Local Heating System	Electric Heat	None	CHW System	DX System	Window AC Units	None	Heat Pump	Direct From Utility	Generator
Midtown Campus	Berkshire Hall	Academic & Support	62,745											
	Boiler House	Academic & Support	10,773											
	Haas Library	Academic & Support	113,021											
	Higgins Hall I & III	Academic & Support	85,674											
	Honors House	Academic & Support	8,434											
	Old Main	Academic & Support	42,207											
	Science Center	Academic & Support	111,542											
	Student Center	Academic & Support	71,880											
	University Hall	Academic & Support	20,302											
	Warner Hall	Academic & Support	34,078											
	White Hall	Academic & Support	133,869											
	Maintenance Bldg (190 White)	Academic & Support	56,732											
	Fairfield Hall	Residential	52,771											
	Litchfield Health Center	Academic & Support												
	Litchfield Hall	Residential	53,357											
	Newbury Hall	Residential	60,158											
	White St. Parking Garage	Garage	257,500											
	Fifth Ave. Parking Garage	Garage	215,421											
Westside Campus	Athletics Complex	Academic & Support	18,273											
	Campus Center	Academic & Support	46,278											
	Classroom Building	Academic & Support	91,587											
	O'Neil Center	Academic & Support	82,282											
	Visual & Performing Arts Cente	Academic & Support	137,330											
	Observatory	Academic & Support	2,694											
	Maintenance Garage	Academic & Support	2,566											
	Centennial Hall	Residential	131,038											
	Grasso Hall	Residential	78,811											
	Pinney Hall	Residential	193,772											
	WS Parking Garage	Garage	138,215											

TABLE 02.4 Western Building Systems Inventory

UTILITY DISTRIBUTION AND CAPACITY

Domestic Hot Water

Westside Campus
All buildings are fed with domestic water directly from the City of Danbury public water main network.

Each building has its own separate domestic water meter. No buildings require a domestic water booster pump system. The water supply to the new academic building (Ancell School) would need to be discussed and agreed with the utility company to confirm sufficient capacity is available.

Midtown Campus
All buildings are fed with domestic water directly from the City of Danbury public water main network.

Each building has its own separate domestic water meter. No buildings require a domestic water booster pump system.

The water supply to the new Berkshire Hall building and the future academic building would need to be discussed and agreed with the utility company to confirm sufficient capacity is available to support them.

Domestic Hot Water Within Buildings

Westside Campus
There is no natural gas available from the public utility company at Westside Campus. As such, each building is provided with a dual fuel (#2 oil and propane) domestic water heater. These type of heaters are provided so that if natural gas becomes available, these heaters can be utilized with only minor modification to run on natural gas.

Midtown Campus
Domestic hot water generation for Midtown campus is achieved via the following methods;

1. Central Steam from the campus system feeds a central heat exchanger providing domestic water to the building (4 buildings).
   Four of the buildings are fed directly using campus steam as the source to the heat exchanger to generate 140 OF or 120 OF domestic hot water. This applies to Berkshire Hall, Higgins Hall, White Hall and the Student Center.

2. Central domestic hot water circulating system (5 buildings)
   Central circulating domestic hot water system feeds Fairfield Hall, Old Main, Newbury Hall and Litchfield Hall. These buildings are fed from a central domestic hot water loop which is generated in the Maintenance Building from natural gas fired Patterson Kelley storage water heaters.

3. Standalone Natural gas fired heaters (3 buildings)-
   Natural Gas supplied by the local utility company is used to feed direct fired natural gas water heaters at the Science building, Alumni Hall and the new Police building.

4. Standalone Electric storage heaters (3 buildings)
   Electric storage water heaters are provided at University Hall, Warner Hall and the Haas Library.

ELECTRICITY

Westside Campus
A utility-owned MV distribution is run underground in a similar manner as the Midtown Campus to serve secondary-metered buildings via external pad-mounted transformers. Typically, a single transformer serves multiple buildings.

Lighting upgrades have been conducted in a manner similar to those on Midtown Campus, on a case-by-case basis standardizing on LED fixtures with occupancy sensors.

Campus staff expressed concern about the frequency VFDs (variable frequency drives) have required replacement. This indicates power quality may be an issue, assuming the installations were initially specified and installed correctly. A power quality study is recommended.

Since the primary distribution is entirely utility owned, future expansions and new construction must be coordinated the utility company.

Midtown Campus
A utility medium voltage (MV) distribution enters via two (2) S&C PMH-9 pad-mounted switch gears, adjacent to the Science Center. Campus buildings are fed from secondary metered, utility owned and maintained pad-mounted transformers and underground primary distribution. A single transformer typically serves multiple facilities. There are no off-campus buildings on the utility loop, hence capacity requirements for utility circuits are dedicated to the needs of WCSU buildings.

A subset of buildings are served by generator power, refer to Figure 02.47. A new installation of generators (April 2016) has been planned to reduce higher harmonics in the emergency supply. Inverters are generally supplied for buildings without generator power available.

Buildings typically lacked addressable, networked lighting controls. These have been upgraded on a case by case basis as buildings undergo renovations. Lighting upgrades have standardized on LED fixtures with occupancy sensors.

Since the primary distribution is entirely utility owned, future expansions and new construction must be coordinated the utility company

NATURAL GAS

Westside Campus
This campus does not have natural gas service currently and it is not available. Propane is used for cooking in the kitchen of the Campus Center.

Midtown Campus
This Campus has natural gas service available in the surrounding streets. As such several of the buildings utilize natural gas as their domestic hot water source.

Any new natural gas supply to the new academic building (Ancell School) would need to be discussed and agreed with the utility company to confirm sufficient capacity is available.

ENERGY USE

Energy use was evaluated in the parallel Energy Master Plan. (Refer to the Technical Appendix for Western's chapter)

	FY13	FY14
Electric (MWh)	17,699	20,033
Natural Gas (Therm)	729,842	861,430
Oil (Gal)	424,019	102,371

TABLE 02.5 Campus Energy Use

OPPORTUNITY SITES

Western's two campuses have sufficient capacity to accommodate needed development for the coming decade. The Midtown Campus, the smallest of all the university campuses, has some remaining development sites for new buildings, but is nearing capacity. There are several transformative opportunities for enhancing connectivity and open space. The much larger Westside campus has significant opportunities to enhance the quality of the open space to be a more campus-like setting. The opportunity sites for new buildings are sufficient to meet Western's needs for the foreseeable future, however the expansion sites are relative few given the steep slopes and wetlands.

MIDTOWN CAMPUS

A. Science Lawn

The large open space south of the Science Building is Western's largest remaining opportunity site. The site of a former school building that was acquired and removed, the site has space for one or two new buildings and a unifying open space. This area should be planned carefully to make the best long-term use of its capacity, given the site's strategic value and the relative lack of expansion sites in and around the Midtown Campus.

B. Honors House Area

The area north of Honor House could be suitable for a small to mid-size building. Care should be taken in siting any building to ensure cross campus paths and vistas are not blocked. The Honors House structure itself is one of the older buildings on campus, but not historically protected or significant given multiple alternations. Long-term, the site could be considered for redevelopment.

C. Berkshire Hall

The building occupies a valuable site on the campus, both facing Osborne Avenue and the main quadrangle framed by Higgins, Haas Library, Warner and other buildings. Berkshire is a low scale building on a high value site. Its north side has ample space for an addition. The former theater is largely vacated with the opening of VPAC. The site represents a significant opportunity to expand floor area and improve.

D. Berkshire Lot

The faculty staff lot is a potential development site – either for a new building or for open space and recreation, such as basketball courts. Using the site for something other than parking will likely trigger the need, however, to provide additional replacement parking. For this reason, it was not utilized in this Master Plan update.

E. Main Quadrangle

This area at the heart of the campus, framed by Fairfield at the south and Berkshire at the north, represents an opportunity to enhance the campus setting. It is telling that this significant space has no name. Its definition should be strengthened physically and functionally. The length of Higgins Hall and Higgins Annex blocks proper cross campus connections. Some buildings around this quadrangle front it with their entry ways, but none engage and activate the quad.

F. Roach Avenue

Now that the former school building west of Roach Avenue has been removed, this street that runs through the campus core can and should be reconsidered. Converting it into a defining pedestrian path would enhance the student experience. This can be done while still maintaining functional requirements for shuttle, service and emergency vehicle access.

G. Litchfield Hall Area

The open space west of Litchfield and Newbury Halls is simply lawn now and not utilized. It represents an opportunity for adding recreation space, if this can be done in a manner where it serves student community.

H. Property at Roberts and Eighth Avenues

This small vacant parcel was acquired by the Foundation relatively recently. It may be suitable for an ancillary use that is consistent in scale with the adjacent residential community.

KEY: OPPORTUNITY SITES

- Open Space
- New Building Opportunity
- Redevelopment Opportunity

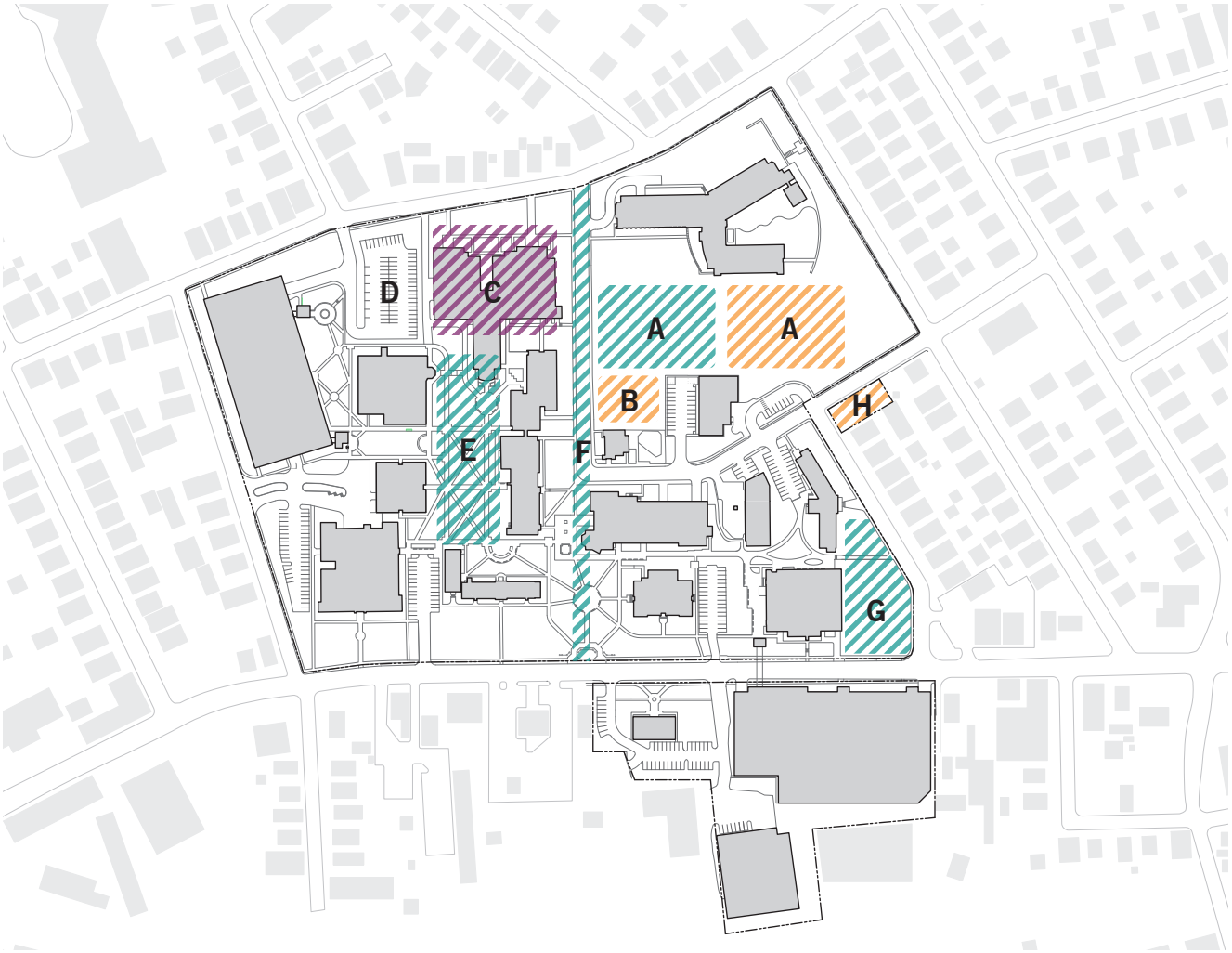


FIGURE 02.45 Midtown Campus Opportunity Sites

WESTSIDE CAMPUS

A. Faculty Staff Lot

This large expanse of asphalt at the core of the campus represents an important opportunity to improve Westside. Parking should be relocated so the area can become a signature, landscaped open space. Placemaking and people should be the focus, not cars. The new quadrangle would provide an appropriate setting for the VPAC building, which it lacks now. The area should not be used for a new building.

B. VPAC South Drive

This area between the Campus Center and VPAC is now occupied by a drive and ADA parking. It is a small, but valuable opportunity site. Western has near term plans to expand the undersized Campus Center dining space. Closing this drive and relocating the ADA parking will facilitate this expansion and provide an opportunity for adjacent outdoor dining.

C. VPAC North Lot and Tennis Courts

This large parking area is currently not designed for optimal use. A new, more efficient layout can capture more parking. The area north of the tennis courts is available for relocating some courts if needed to expand parking.

D. Westside Classroom Building Area

The area east the Westside Classroom Building (WSCB) represents an opportunity site for a new building, if the one-story WSCB extension is removed. The site is wide enough to fit a new building while retaining the WSCB. The area south of WBC is steeply sloping. It could be a potential development site if access and grading challenges could be addressed in a cost effective manner. The plaza between WSCB and the Campus Center is an opportunity area since the current design does not function well as a gathering or landscaped open space. The WSCB is a very a problematic building which itself is an opportunity site. Removing it and replacing it with a new building could be more beneficial to Western than a costly renovation. This was explored in the Scenarios phase.

E. WAC Access Drive Area

This two-lane drive, running past the WSCB and WAC to the Faculty Lot and O'Neill Center has parallel parking on one side. With widening it could accommodate a second side of parallel parking. The area to the east, down the steeply sloping embankment is an opportunity site for a garage or new building.

F. O'NEILL NORTH AREA

The area north of the O'Neill Center is available for expansion if needed. Clearance must be maintained from the mapped wetland in the ravine.



KEY: OPPORTUNITY SITES

- Open Space
- New Building Opportunity
- Redevelopment Opportunity

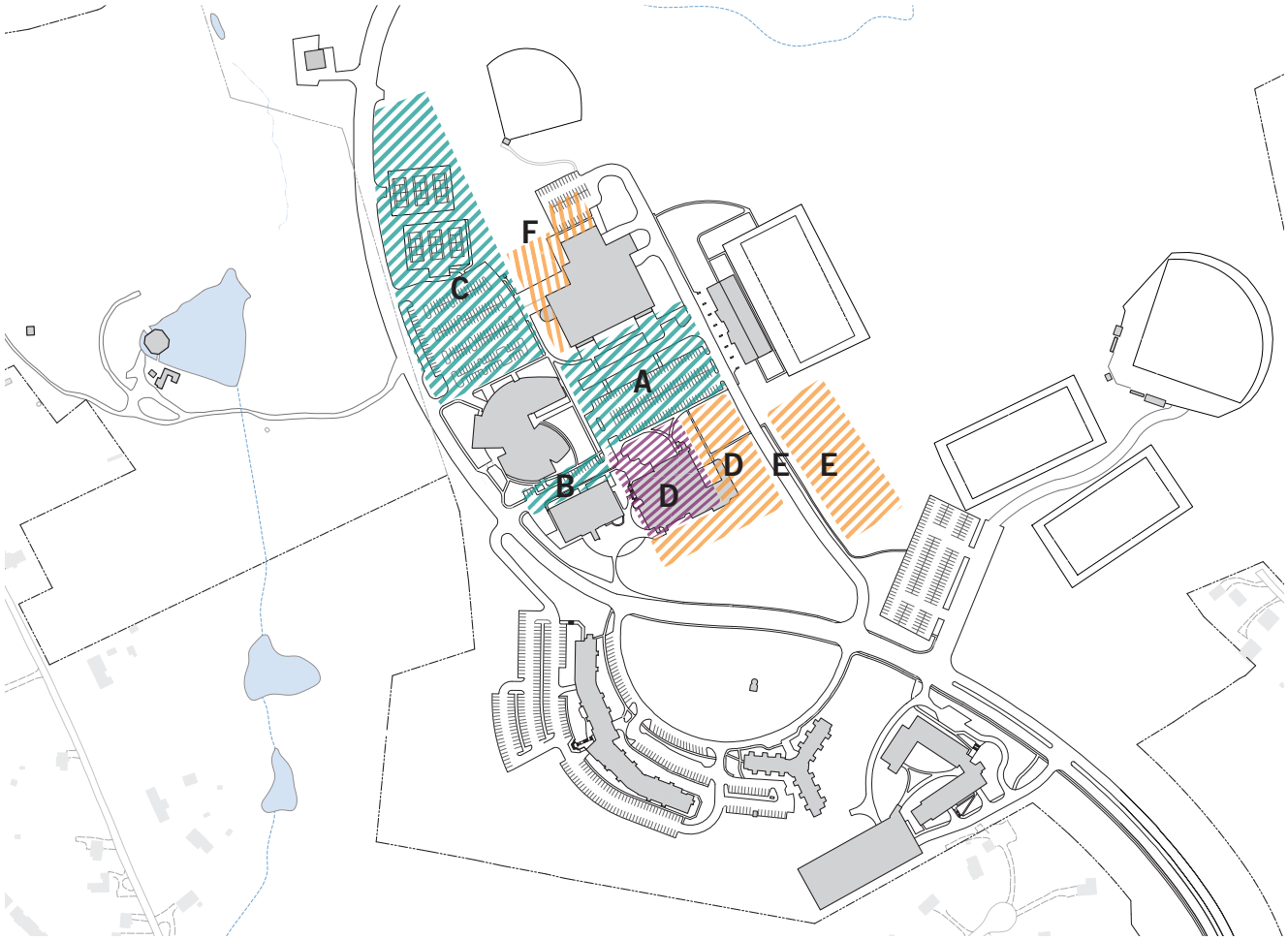
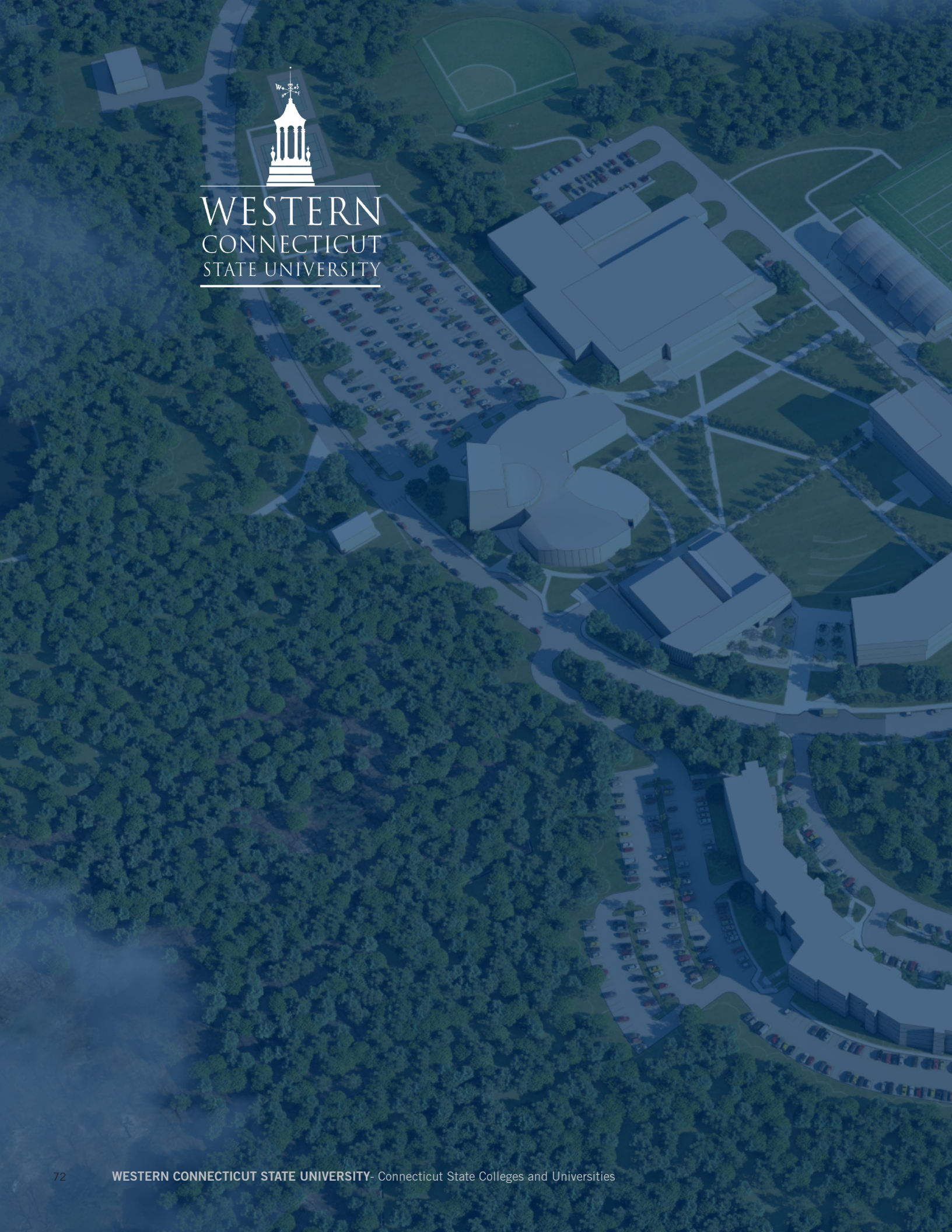


FIGURE 02.46 Westside Campus Opportunity Sites


WESTERN
CONNECTICUT
STATE UNIVERSITY



3 SPACE NEEDS

INTRODUCTION

INTRODUCTION
BENCHMARKING
ENROLLMENT PROJECTIONS
ASSESSMENT METHODOLOGY
SPACE NEEDS (NON-RESIDENTIAL)
RECREATION AND ATHLETICS
STUDENT RESIDENCE SPACE NEEDS
PARKING
SUMMARY



This section of the Master Plan Report focuses on the Space Needs Assessment (SNA). The goal of the Assessment is to establish the quantitative needs of the University, both today and through 2026. First, and foremost, the Space Needs Assessment is not a qualitative assessment. While quantitative assessments are primary driver in the development of new campuses, for older institutions such as Western Connecticut State University, quality in many cases takes precedent over quantity. An example is classroom space on both campuses. While the current assessment for classroom space at either campus is that there is a surplus, because the Assessment does not determine quality, it does not identify when the entire classroom inventory needs to be replaced. So rather than seeing the Assessment as an end in itself, given the continuous need to renew, adapt and recycle facilities, the Assessment is the starting point.

Constraining New Construction

The Assessment does provide the necessary constraint to expansion. Without the overall assessment, the institution would continually pursue new construction, resulting in higher operating costs and continued deterioration of existing facilities. By establishing the total need by campus, the Space Needs Assessment seeks to constrain the capital committed to new construction, placing greater emphasis onto the renovation and repurposing of the existing inventory.

Underlying Dataset – Enrollment Projections

The underlying dataset informing the Assessment is the projections provided by Western Connecticut State prior to the initiation of the Master Plan. These projections were provided in the form of Student Full Time Equivalents (FTEs) by Program Major. The base semester is Fall 2015, with annual projections through Fall 2026. The Assessment converts these projections into student FTEs by Department and Discipline. The reason for the conversion is that many of the departments, especially within the Macricostas School of Arts & Sciences, have a modest programmatic role at the University, yet have a substantive role either within the General Education requirements of the University, or the prerequisites and co-requisites supporting other majors within the University.

The Uniqueness of Western Connecticut State University

Western Connecticut presents several problems in order to properly assess the space required for the University, both currently and based on projected student enrollment. The principal issue is the two campuses. With both the Midtown Campus and Westside Campus, the University needs both campuses to be relatively whole and complete, capable of servicing the students where they reside and take courses—both during the day and at night. While students do commute between the campuses, this cannot be the default solution to every problem. Where possible the assessment allocates space to medicate commuting, allowing students to find resources and services where they are at the moment.

Unique to the four state universities, this aspect of Western results in some duplication of resources, and also a higher total assignable square feet (ASF) per student FTE—both current and projected—than either of the other three state universities. Whether this occurred implicitly or explicitly, as a result of deciding to have a multi-campus university, Western requires a greater capital allocation for new construction, as well as a larger, long term capital allocation for renovations.

BENCHMARKING

PROJECTED ASSESSMENT (ASF PER FTE) AND THE CONNECTICUT COMPREHENSIVE UNIVERSITIES

The goal of this Space Assessment Report is to explain the methodology for the space analysis of Western Connecticut State University, the result of that analysis, and how that analysis compares to the Connecticut State University System. The assessment, developed at the departmental level, includes faculty and staff lines. The assessment is far closer to a design program than a typical FTE based assessment. The effort is intended to allow the University and the System to be better positioned to implement the projects identified and developed during the scenarios phase of the study.

With total university enrollment in student full-time equivalent (FTE) projected to grow by 8 percent from 4,802.00 in the Fall 2015 to 5,189.00 by 2025, the analysis identifies the need for 215,333 Assignable Square Feet (ASF). While substantive, requiring 349,279 Gross Square Feet (GSF), excluding any additional student housing, the assessment projects a total need of 158 ASF per student FTE, a number 24 square feet above the current Connecticut State University median of 124 ASF per student FTE.

Figure 03.1 illustrates the projected need by student FTE and how that compares to the Connecticut State University System. The assessment for WCSU exceeds the current and projected assignable square feet per FTE at Eastern Connecticut State University, probably the closer peer of the other three universities. The driving factor in this higher assessment is the two-campus system at Western Connecticut State University.

The goal of these comparisons is to illustrate that capital allocation is a decision based on relative need. While Western Connecticut State University requires a substantive amount of new construction to meet the demands of current and projected enrollment, the total space required still remains below the level of other colleges within the Northeast.

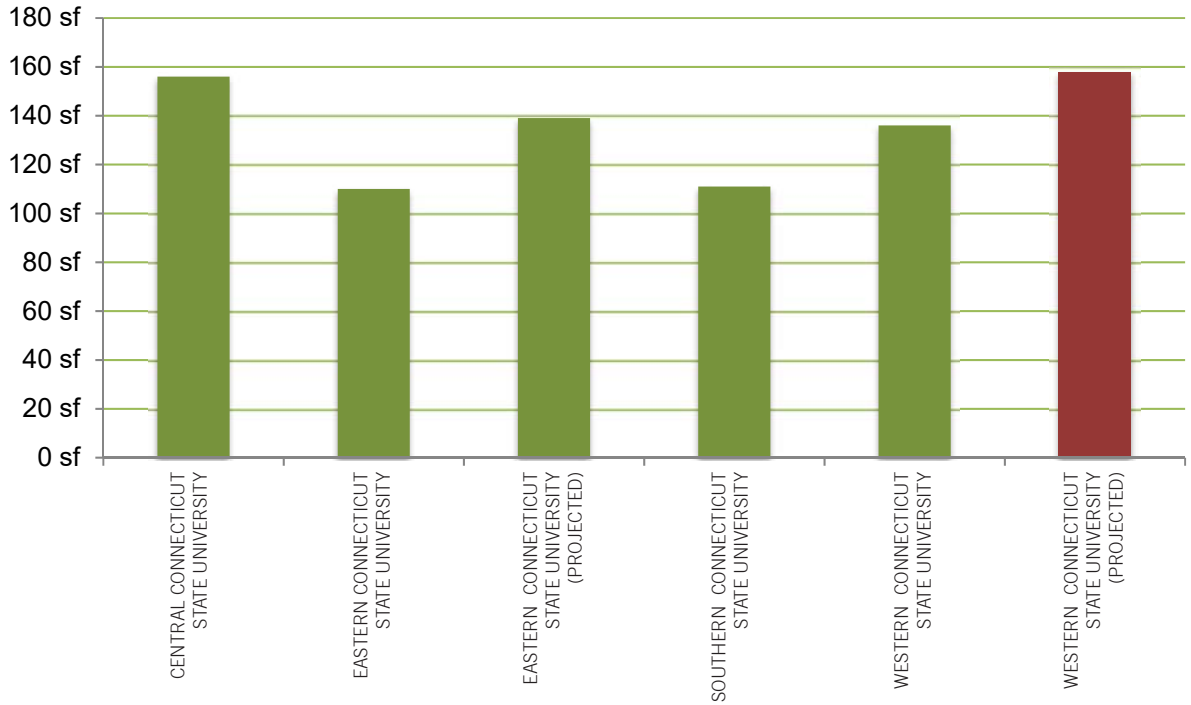


FIGURE 03.1 CSCU ASF Per Student FTE

OTHER STATE-OPERATED INSTITUTIONS

Figure 03.2 depicts the current ASF per Student FTE by many of the comprehensive colleges in the Northeast. The current level at Western is 136 ASF per student FTE, which is lower than almost all except those institutions that are located in dense urban location with either the constraint real estate, a higher capital requirement or both. At the assessed need of 158 ASF per student FTE, the University will be ahead of Southern and Eastern, and approximately equal to Central.

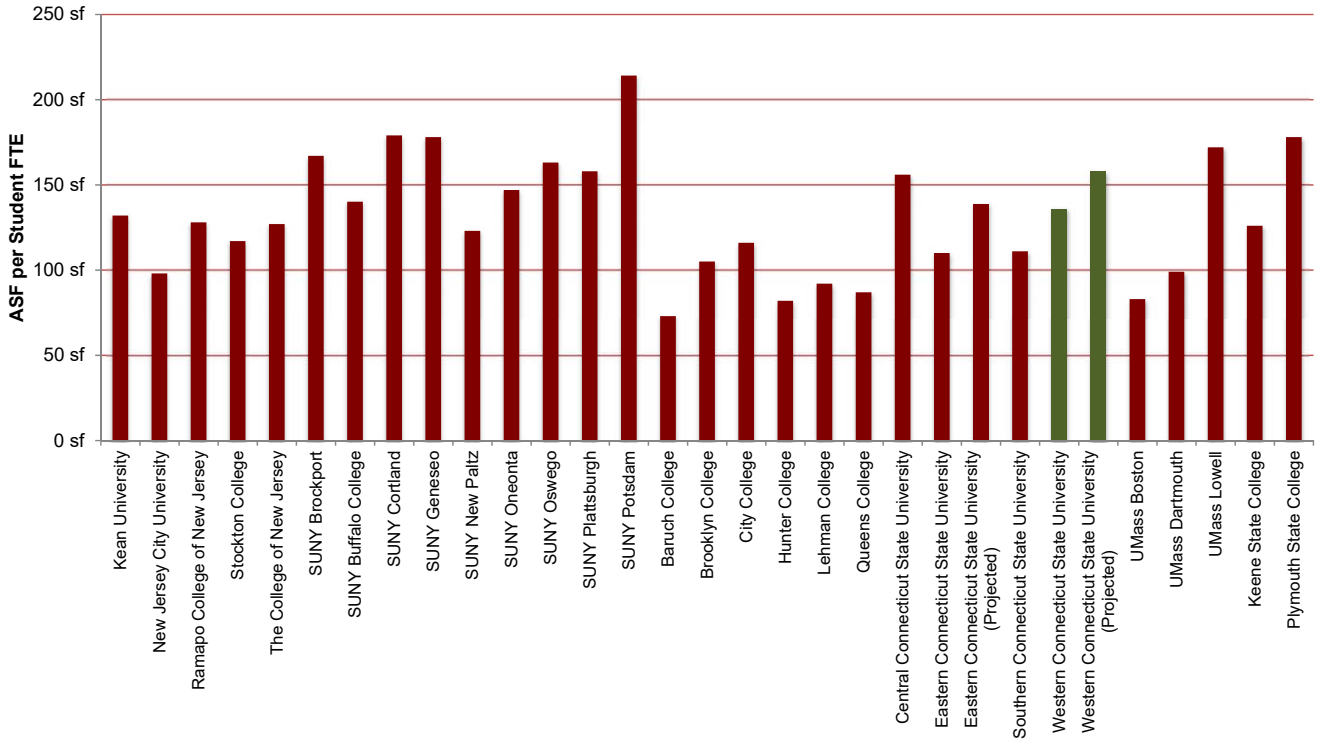


FIGURE 03.2 ASF Per Student FTE: Public Comprehensive Colleges in the Northeast

TOTAL ASSIGNABLE SQUARE FEET TODAY

Currently, the University has an adjusted total assignable square feet of 693,661. This number excludes the student housing on the two campuses along with structured parking facilities. The current assessment based on Fall 2015 enrollment is 845,684 for a current deficit of 152,023 ASF. This results in a current need of 253,372 GSF of additional facilities.

LONGER TERM NEED

While the majority of the total space required at the University is driven by the current deficit, the need does grow based on the anticipated enrollment growth. The chart below in Figure 03.3 represents the aggregate space assessment through 2026. By 2026, total gross square feet required will grow from 253,372 to 349,279 sf square feet. Once again these numbers exclude student housing.

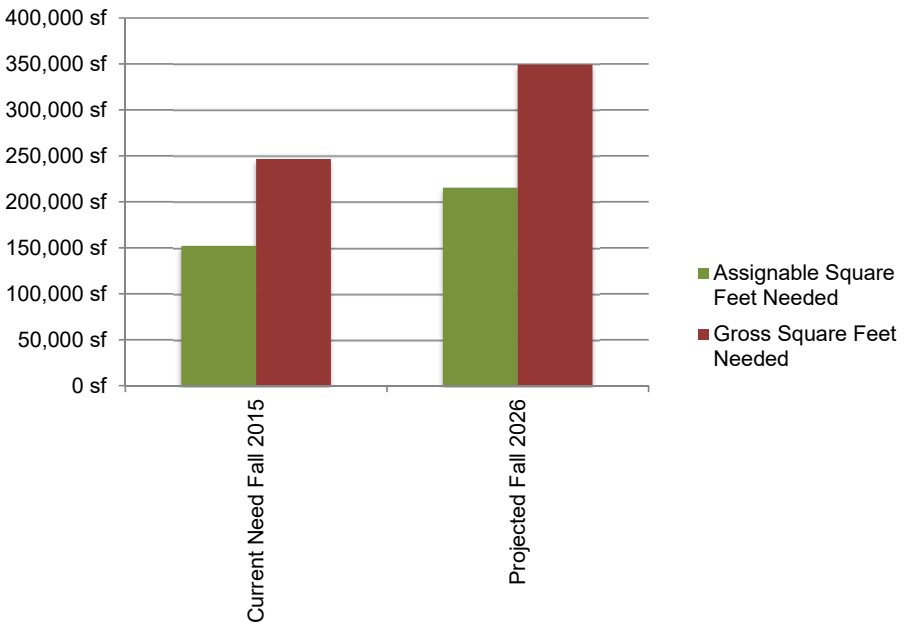


FIGURE 03.3 Non-Residential Additional Space Needs

ENROLLMENT PROJECTIONS

STUDENT FTE PROJECTIONS

In preparation to initiate the Master Plan, the University in conjunction with the System developed a student head count projection by department and level—undergraduate and graduate. In 2015, the University had 4,802 student FTEs with 4,543 undergraduates and 259 graduate student FTEs. The projection for 2025 is 5,189, with the distribution 4,759 at the undergraduate level and 430 at graduate level. The relative growth rate for the undergraduate population is modest at 5%, while the graduate enrollment is expected to grow to 66%.

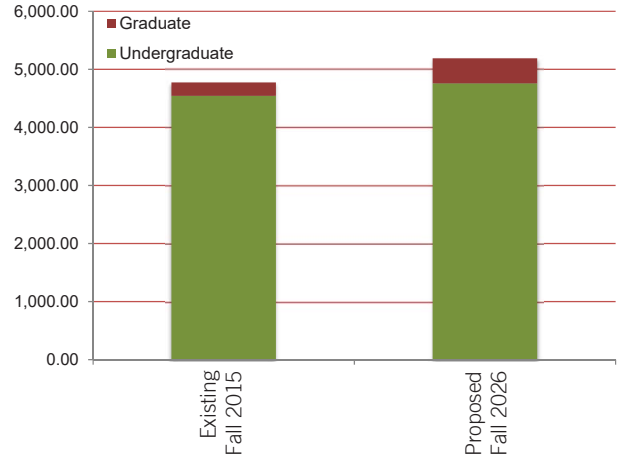


FIGURE 03.4 Student Headcount Projections

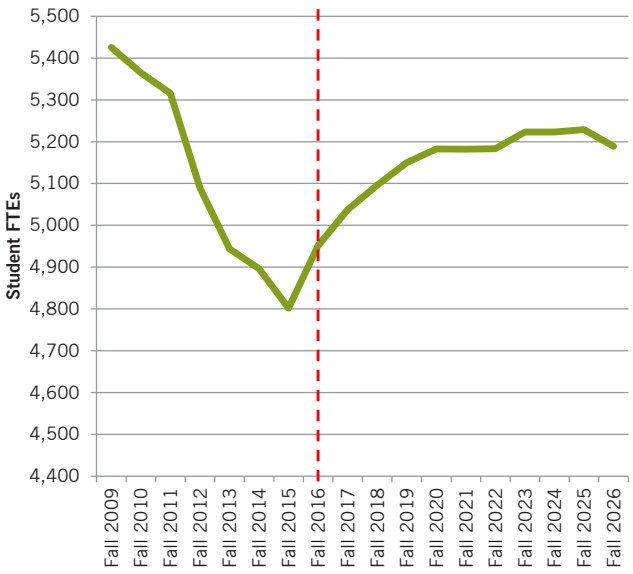
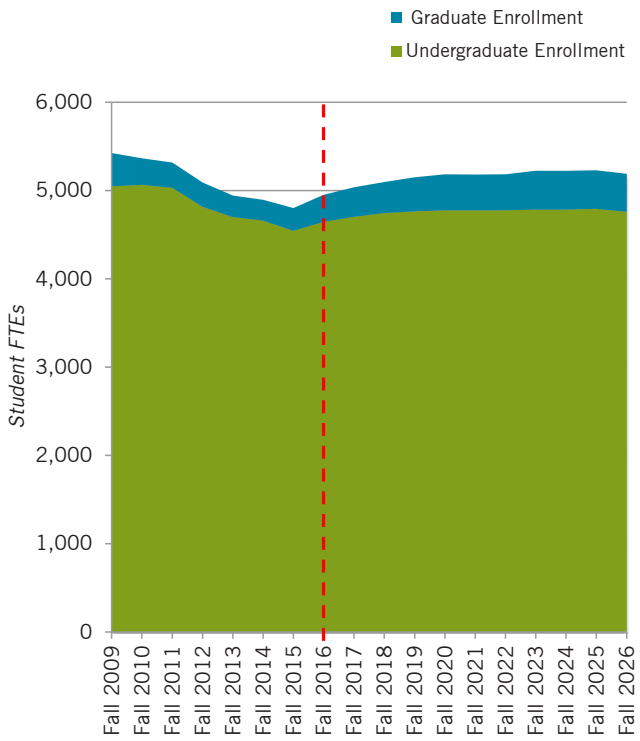


FIGURE 03.5 Student FTE Projections

UNDERGRADUATE & GRADUATE PROJECTIONS

As discussed earlier, WCSU is and remains a principally undergraduate institution. While there is a modest component of graduate studies scattered across all four schools, the majority belongs to in the School of Professional Studies. The graduate student FTE enrollment never exceeds 10% of the total university enrollment. The following tables below illustrate the distribution between undergraduate and graduate.

TOTAL STUDENT FTEs	EXISTING FALL 2015	PROJECTED FALL 2026	% CHANGE
Undergraduate	4,543.00	4,759.00	5%
Graduate	259.00	430.00	66%
TOTAL	4,802.00	5,189.00	8%



THE FOUR SCHOOLS

The University is comprised of four schools and one graduate division. The Space Need Assessment is built upon maintaining Westside as the home of the Ancell School of Business, the Macricostas School of Arts & Sciences, the School of Professional Studies and Visual & Performing Arts. Based on student FTEs, the largest of the four schools by far is the Macricostas School of Arts & Sciences. Currently totaling at 1,934 FTEs, the Macricostas School of Arts & Sciences consists of almost 40% of the FTE enrollment at Western. It provides the essential general education requirements along with services courses supporting non-Arts & Sciences majors while supporting the School's own majors. Figure 03.6 illustrates the current student FTE distribution by each school.

PROJECTIONS BY INDIVIDUAL SCHOOL

The following chart in Figure 03.7 represents the student FTE projections by 2026 for the four schools. The projections include both graduate and undergraduate enrollments. The Macricostas School of Arts & Sciences is expected to growth 9%, the Ancell School of Business will grow by 8%, and the School of Professional Studies is anticipated to grow 6%. The largest growth component is the School of Visual & Performing Arts at 16%, though the growth is occurring off a much smaller base enrollment than the other three Schools.

The projections are relatively constrained over the planning period for the Master Plan. This reflects that the underlying demographics are weak, with a recent high school graduate peak along with a traditional first time full time student peak entering college. The assumption is that the institution will remain competitive within the local region, both for undergraduates and graduates, along with enhancing its ability to attract and recruit out-of-state students. As the end of the decade approaches, the demographics for college bound population for the majority of the U.S. rebound, though slightly quicker than the Northeast.

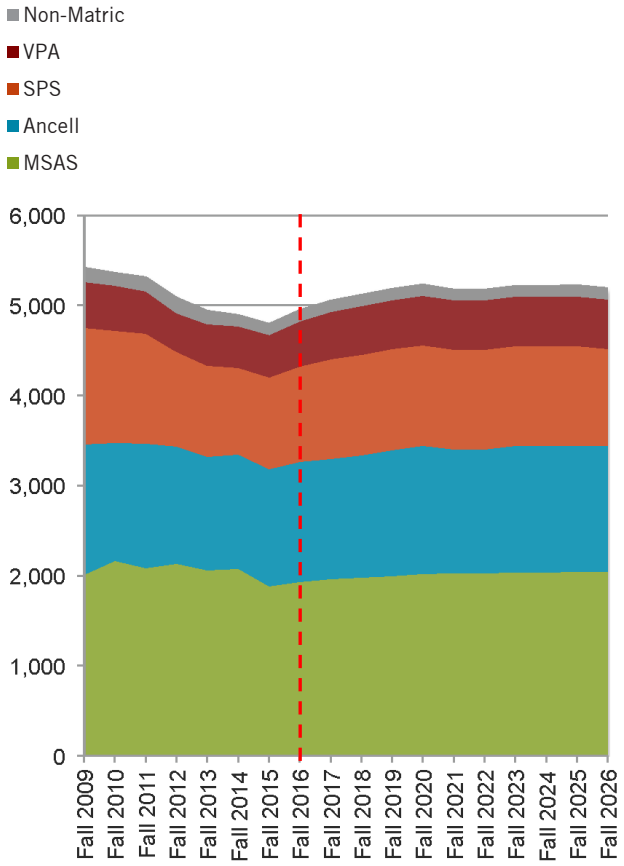


FIGURE 03.6 Student FTE Projections By School

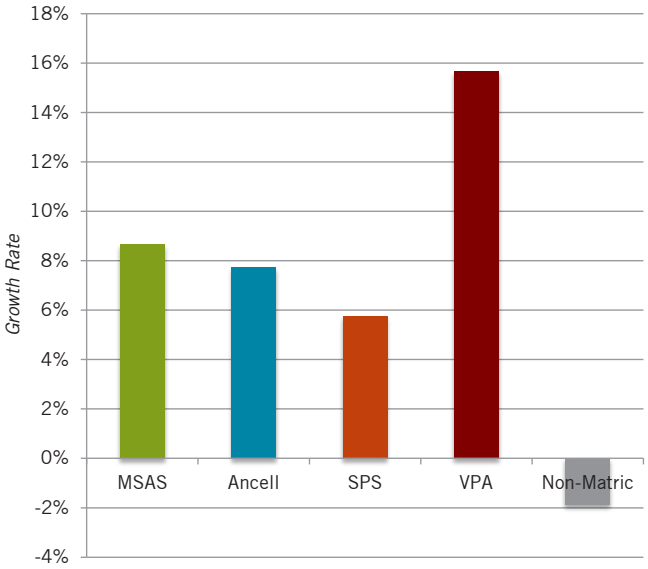


FIGURE 03.7 Student FTE Growth Rate By School

ASSESSMENT METHODOLOGY

ASSESSMENT METHODOLOGY

Most space analysis function much as a square footage cost estimate; the intent of the assessment for Western Connecticut State University is to provide a greater level of analysis closer to a quantitative takeoff estimate that a cost estimator might provide for either the design development or construction documentation phases of a building project. Square footage estimates are useful in the early stages for setting gross area, but are inadequate for the detail management of scope in the later stages of a project's development. The goal of this assessment is to establish sufficient specificity to enable the assemblage and execution of projects going forward.

The strategy is to focus on the time utilization and design standards rather than individual instructional space factors. By developing the assessment at the departmental level including faculty and staff lines, the assessment is closer to a design program. The desire is also to make the assessment more accessible.

To that purpose, the assessment extensively utilizes Weekly Student Contact Hours (WSCH). The consultant utilized 24 WSCH for all lecture hall and classroom analysis and 19.2 WSCH for all teaching lab and studio analysis. Space factors play a much more diminished role in providing corroborating evidence rather than being the primary driver of space. While much of the detailed analysis in the assessment will not be utilized, the Master Plan Team doesn't know which elements will be critical in their development of options.

STANDARDS

While there are various standards including CEFPI, many work with FTE space factors. This is something the Master Plan Team is trying to avoid. Both the standards and research studies of the Post Secondary Education Commission of California and the Texas Coordinating Board, oversight agencies for the allocation of capital in their respective states, inform the consultant's approach to the assessment.

CLASSROOM ANALYSIS

In 2004, the California Post-Secondary Education Commission (CPEC) commissioned a study addressing CPEC's concern about the "tight" scheduling imposed by their state legislature. The tables in that study make references to classroom hours and occupancy rates related to a 40 hour per week utilization target. But there are no references as to how that was derived. The Master Plan Team considers this appropriate because the original 40 hours is both irrelevant and difficult to utilize.

So when one looks for a consistent "frame" such as 40 hours, one cannot find any existing framework. The CPEC study simply disregards it in favor of setting an hour per classroom, avoiding the "frame" altogether. Now there are systems such as Maryland that calculate on the basis of daytime and nighttime FTEs. The assumption is that you build for the day and the nighttime enrollment is "free", at least from a space standpoint.

Now Western Connecticut State University has a disadvantage over SCSU and CCSU because of its largely full-time student population and limited night enrollment. A day and night assessment, similar to Maryland, would take away this disadvantage. And the Board of Regions would have to recognize this fundamental difference between the different institutions.

The Master Plan Team sees a daytime and evening WSCH target per seat, and it is up to the institution to utilize that resource effectively. Noted for its small sections, Western has few sections that exceed 45 students. The assessment assumes that the classroom inventory should be designed both for a daytime traditional student population and an evening professional program enrollment. To that purpose, the average station size has been set at 22 ASF.

EXISTING METRICS

Currently the combined campuses have 136 assignable square feet (ASF) per the student full time equivalent (FTE) that they service. This number includes academic space and support space, but excludes residential facilities. Also, because support resources, especially Athletics and Assembly Space, are unequally distributed between the two campuses, the Westside Campus has substantially more space per student FTE, resulting in 171 ASF per FTE, in contrast to 107 ASF per FTE at Midtown. These student FTEs are generated by credits (identified by credits, enrollment and location embedded within the course schedule) that actually occur on each of the two campuses, and may represent student FTEs from any of the four schools.

Impact of Residential Students

These comparisons and metrics do not reflect where on-campus residential students reside. Currently 76% of all student FTEs are generated at the Midtown Campus, or roughly 3,800. In contrast, of the 1,398 active beds combined at both campuses, 1,000 are at Westside, representing 72% of the total. While the on-campus residential population is approximately 20% of the total headcount enrollment, the placement of the residential facilities have a substantive impact on the location of students across the day. Upper class students are primarily housed on the Westside Campus, resulting in the need for substantive food and recreation facilities there, both in the morning and late in the day. In contrast, Midtown with a larger commuting population has a substantively larger demand for food facilities in the middle of the day. Total population on Midtown at midday, including residential students, commuting students and staff, exceeds the Westside Campus by approximately 2.5 to 1. Figure 03.8 represents the estimated population for all students and staff by Daypart.

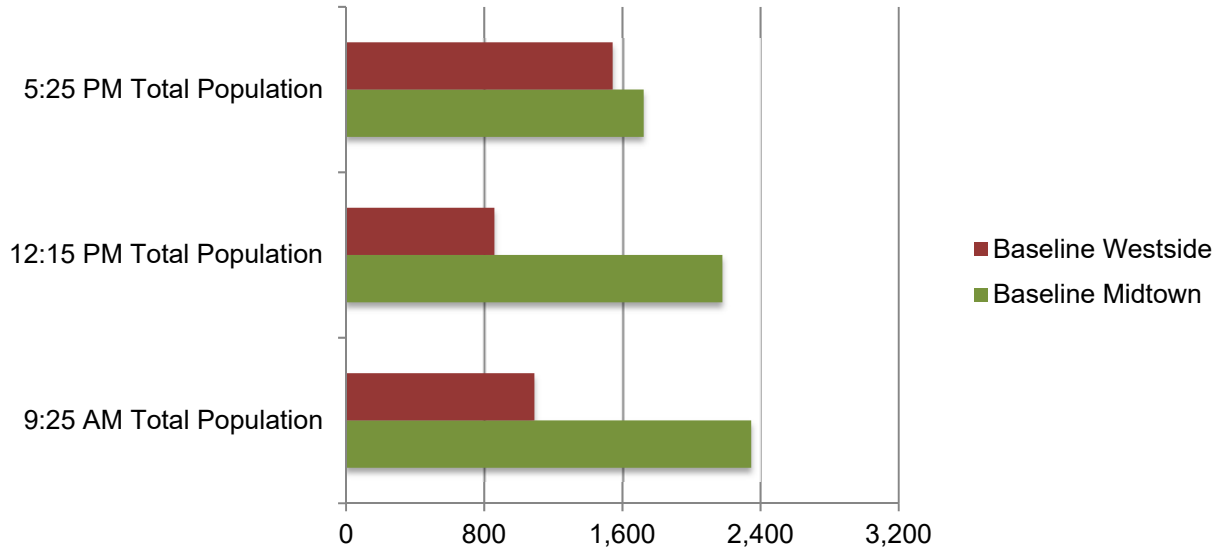


FIGURE 03.8 Estimated Campus Population by Daypart

SPACE NEEDS (NON-RESIDENTIAL)

The analysis is broken into two major components: Academic Space and Support Space. The Academic Space includes the four schools along with the shared classroom space. The Support Space includes two broad categories of space. The first are those spaces such as the Library and Student Activity Space - the Student Center as an example - that give character to the campus, affording students space for study and socialization.

THE TWO CAMPUS ASSESSMENT

The Assessment treats each campus as a separate entity, providing a complete academic and support space assessment adequate to support both the current and projected enrollments. Early in the master plan process, alternative scenarios were developed, looking at potential programmatic shifts between the two campuses. These included shifting the Ancell School of Business to Midtown and the possible retention of departments and programs within the School of Professional Studies at Westside. These were reviewed and rejected by the University Community. The Space Need Assessment is built upon maintaining Westside as the home of the Ancell School of Business and Visual & Performing Arts, while Midtown will be the home of a consolidated Macricostas School of Arts & Sciences and a consolidated School of Professional Studies. The individual campus assessments, to mitigate some inter-day commuting, allocates some space on Westside for Arts & Science general education sections and some space on Midtown for Visual & Performing Arts electives.

MIDTOWN CAMPUS BASELINE ASSESSMENT

The Midtown Campus currently has 406,552 ASF assigned for either Academic or Support functions. In addition, the Campus has 39,772 ASF currently unassigned. The majority of unassigned space is in White Hall, though significant vacant space is currently in Berkshire Hall, Higgins Hall and Higgins Hall Annex. Of the total 406,552 ASF at Midtown, 157,185 ASF or roughly 40% of that total is devoted to Academic Space. This broad category includes faculty offices, shared classrooms and computer labs, dedicated teaching labs, research space, and various different types of specialized spaces. These last spaces are unique rooms and/or functions required for a specific program or department that perform an essential task that is not easily classified into the other sub-categories.

The other category - Support Space - makes up the majority of the space at the Midtown Campus. Totaling 249,367 ASF, Support Space represents 60% of the Midtown Campus. The category represents a series of unique functions. Those sub-categories include Centers & Institutes, Honors College (Irfan Kathwari Honors House), Grant Funded Programs, Academic Support, Library, Technology, Assembly & Exhibition, Athletics & Recreation, Student Activities, Child Care, Student Services, Administrative Services, and Campus Services. The fact that the category is the majority of the space on campus is not unusual, with almost all of higher education having the majority of space devoted to non-academic functions.



ACADEMIC SPACE: MIDTOWN CAMPUS

The Assessment for the Academic Space at the Midtown Campus is divided into five sub-categories: the shared Classroom and the four Schools. The majority of the space is devoted to the Macricostas School of Arts & Sciences. The largest of the four schools in both space area and enrollment, Macricostas has several departments with substantive needs. Beyond relocating Computer Science from Westside, the School's major deficits, current as well as projected, are in Communication, Psychology and Social Sciences. The School of Professional Studies, the second school principally housed at Midtown, will be fully consolidated there. Major deficits exist in Health Promotion & Exercise Sciences and Social Work Department, along with the potential for a future Public Health Program. And expanded presence for the School of Visual & Performing Arts is also afforded in the Midtown Assessment.

Classroom Space

Currently the Midtown Campus has slightly more than 45,000 ASF devoted to classroom space. With approximately 3,900 student FTEs generated at the Midtown Campus, that number is substantively larger than required, even assuming a full modernization of the classroom inventory. The Space Needs Assessment currently assesses the need at 35,000 ASF. By 2025, this need will increase to approximately 41,000 ASF.

Ancell School of Business

Within this assessment, there is no plan to establish an Ancell presence at the Midtown Campus. While this was reflected in different planning scenarios, this might change in the future based on the University's strategies on retention. Because of overall weakness within the underlying demographics, much more emphasis is being placed by the University on recruitment and retention. Discussed with the University's previous Provost, the University might try inverting some of the program offerings. What this means is that the student will take more courses within their program within the first year. From a practical perspective, this might require a future presence by Ancell on the Midtown Campus to support first year students.

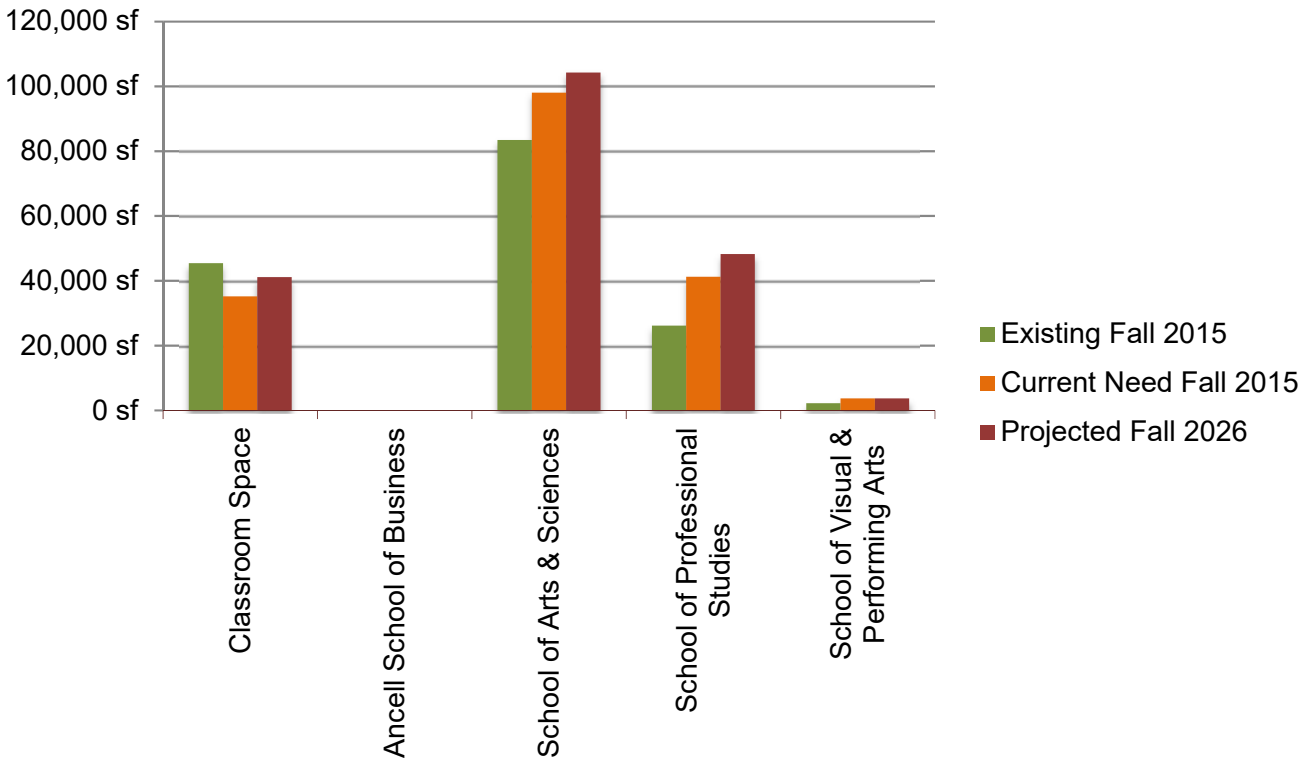


FIGURE 03.9 Academic Space Assessment: Midtown Campus

Macricostas School of Arts & Sciences

The Macricostas School of Arts & Sciences is by far the largest school within the University. With almost 3,000 FTEs generated by the School, MSAS occupies about 83,000 ASF, across twelve buildings at Midtown. The School is presently composed of thirteen academic departments:

- Biology and Environmental Science
- Chemistry
- Communication
- Computer Science
- English
- History and Non-Western Cultures
- Mathematics
- Philosophy
- Physics, Astronomy, and Meteorology
- Psychology
- Social Sciences
- World Languages and Literature
- Writing, Linguistics & Creative Process, Linguistics & Creative Process

As stated previously, Computer Science, which is presently located at Westside, will relocate to Midtown. Within the Sciences, while no substantive expansion is required, some modification are required to alleviate bottlenecks within the new facility. Currently all the science departments have a modest surplus. Critical deficits requiring resolution are in Communication, History and Non-Western Cultures, Philosophy, Psychology, Social Sciences, World Languages and Literature, and Writing, Linguistics & Creative Process, Linguistics & Creative Process. Modest surpluses also exist in English and Mathematics.

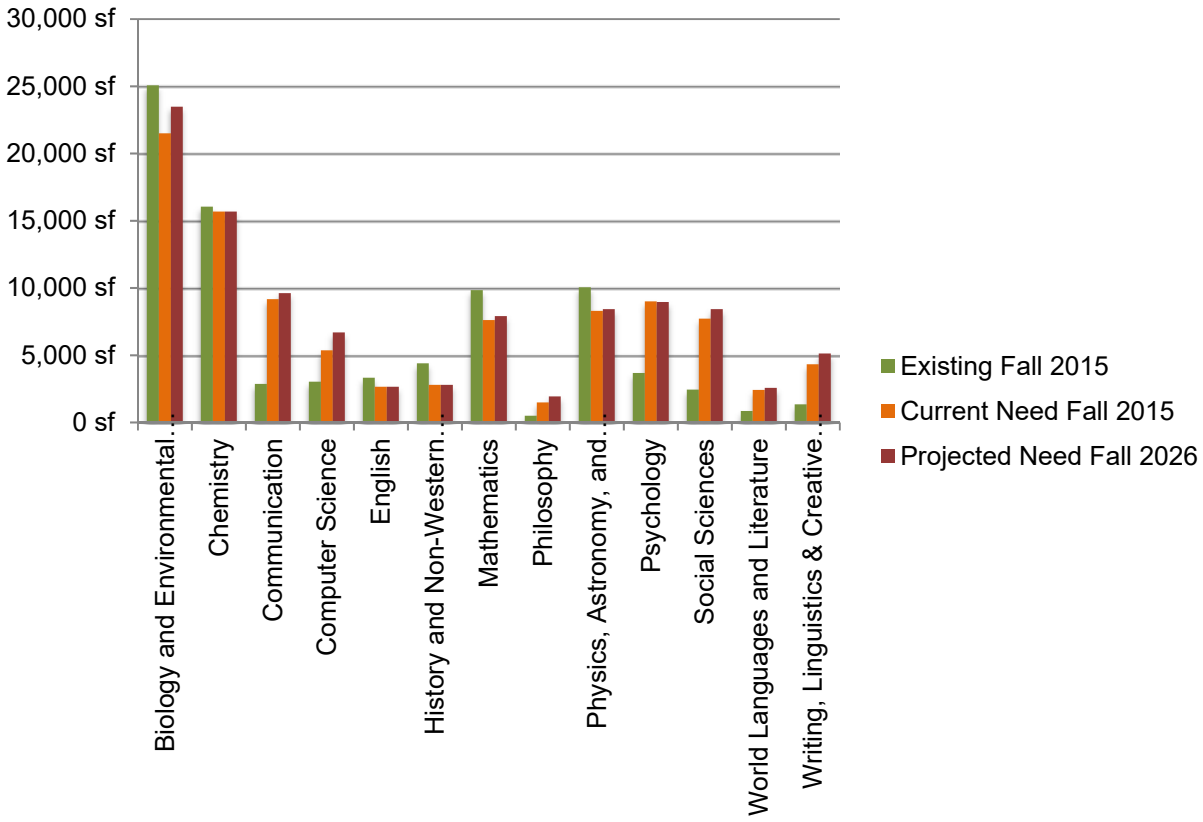


FIGURE 03.10 Academic Space Assessment By School: Macricostas School of Arts & Sciences

School of Professional Studies

The School of Professional Studies currently includes four departments: Education & Educational Psychology Department, Health Promotion & Exercise Sciences, Nursing Department and Social Work Department. The School currently occupies 26,159 ASF, with a current deficit of 41,233 ASF, and a projected need by 2026 of 48,216 ASF. Components in the assessment are listed below:

- Education & Educational Psychology Department
- Health Promotion & Exercise Sciences
- Nursing Department
- Public Health
- Social Work Department
- Simulation Center
- Western at Waterbury

The large projected deficit is partially driven by substantive deficits in Education & Educational Psychology Department, Health Promotion & Exercise Sciences, and the Nursing Department. The School's assessment also includes allocations for a potential program in Public Health and a centralized Simulation Center. The latter allocation, rather than being embedded within the Nursing Department, is an acknowledgement that a Sim Center is a substantive capital and operational investment, and should be viewed as a potential resource for other health-related programs

School of Visual & Performing Arts

Currently Visual & Performing Arts' presence at Midtown represents programs such as Ceramics, which could not for capital reasons be relocated to Westside. The goal in the future is to expand that presence at Midtown, providing electives to the undergraduate majors outside of Visual & Performing Arts there. Whether Ceramics should remain will have to be addressed in the future, but in all Ceramics facility would shift to Westside with any expansion to the Visual & Performing Arts programs at Westside campus..

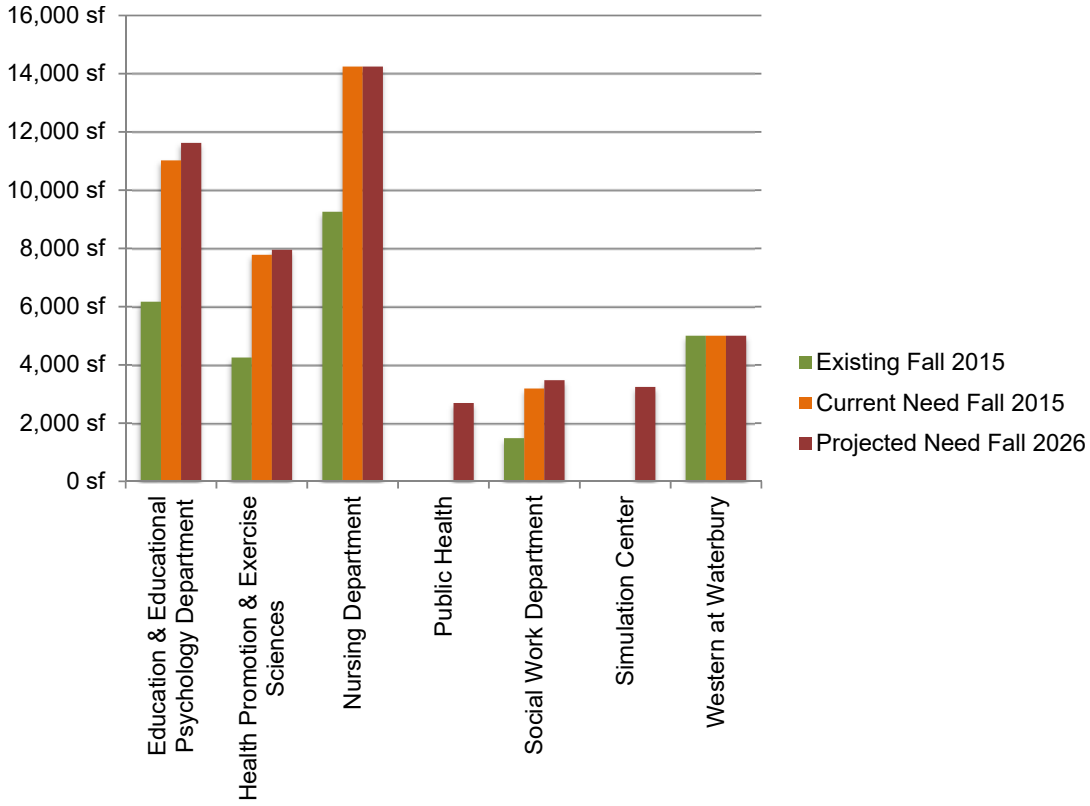


FIGURE 03.11 Academic Space Assessment By School: School of Professional Studies

SUPPORT SPACE: MIDTOWN CAMPUS

Support Space at Midtown consists of thirteen sub-categories. Composed of currently 249,367 ASF, the present deficit is 288,897 ASF, representing a 16% deficit. With the shift of academic programs and modest enrollment growth, the deficit will increase to 315,545 ASF. The sub-categories are listed below:

- Centers & Institutes
- Honors College (Irfan Kathwari Honors House)
- Grant Funded Programs
- Academic Support
- Library
- Technology
- Assembly & Exhibition
- Athletics & Recreation
- Student Activities
- Child Care
- Student Services
- Administrative Services
- Campus Services

Centers & Institutes

WCSU presently has a modest number of interdepartmental programs. The plan anticipates a substantive growth in this area, with the primary driver being the President's initiative for the Innovation Center.

Honors College (Irfan Kathwari Honors House)

Irfan Kathwari Honors House has become a central element in the University's efforts to both recruit and retain outstanding students. Established in 1987, the honors program was founded to foster and nurture academic excellence among outstanding students in all four schools of the university. The enrollment has grown substantively in recent years, inundating the facilities within Irfan Kathwari Honors House. With almost 600 ASF, the program will need to be expanded almost five-fold to accommodate current and anticipated enrollment. Obviously this cannot occur within the Honors House. Though the building will remain the iconic identity for the program, the majority of the space will need to be located elsewhere.

Grant Funded Programs

Similar to the Centers & Institutes, grant funded programs, outside of grants embedded within academic departments and schools, is fairly non-existent. The assumption is that this will grow substantively as the University pursues external funding in support of student and internal initiatives.

Academic Support

Academic Support covers a variety of programs that support students outside of the classroom. These functions include the Co-op Program, Student Technology Training Center and Tutoring Resource Center. Critical in student success and retention, this sub-category, occupying 3,325 ASF, will need to be expanded substantively to 7,458 ASF.

Library

The role of libraries are currently in flux, with their role as a monopoly on print diminished by electronic media. Yet libraries remain an essential element of a university campus. For the Master Plan, the assumption is that the Ruth Haas Library will remain the main library servicing both campuses, with a smaller and more virtual library at the Westside Campus. To that goal, over the next ten years, the Haas Library will need to expand from currently 60,246 ASF to 72,995 ASF. This should be reviewed closely at the time of any major investment.

Technology

The assessment assumes a consolidation of the operational components of Technology to the Midtown Campus. Space allocated at Midtown expands from currently 7,854 ASF to 9,660 ASF by 2026.

Assembly & Exhibition

The Assembly & Exhibition Sub-Category includes the Concert Hall in White Hall and the Gallery within Warner. The long term goal is the establishment of another assembly space at Midtown. The current space allocation of 14,643 ASF is expected to expand to 19,865 ASF by 2026.

Athletics & Recreation

Westside will remain the primary focus for Athletics and Recreation, with a substantive expansion of facilities. At the Midtown Campus, which currently has 25,111 ASF devoted to recreation, the goal is to modernize the facilities, but at the same time to downsize the footprint to 19,765 ASF. Concurrent with this effort is the expansion of academic facilities devoted to Health Promotion & Exercise Sciences.

Student Activities

Student Activities covers a broad variety of space extending from food facilities and campus stores to student organizations and informal lounge distributed across the campuses. The

Midtown Campus has a substantive shortfall in this category. With 21,567 ASF presently, the Midtown Campus has less than six square feet per student FTE. The goal is to almost double the Student Activities space to 40,650 ASF by 2026.

Child Care

Currently the Child Care Facility is located within the Irfan Kathwari Honors House with an adjacent playground to the North. The assessment assumes that licensure will remain constant, with incremental space additions addressing current deficits, not expanded enrollment. The space assessment is to expand the current 1,836 ASF to 2,456 ASF.

Student Services

While modest in expansion, with the majority of the services in Old Main, Student Services are presently gathered across seven buildings at the Midtown Campus. With expansion required from currently 39,899 ASF to 45,086 ASF by 2026, the majority of the effort needs to focus on placement and adjacencies.

Administrative Services

Scattered across six buildings, Administrative Services does not have the critical adjacencies that Student Services. Certainly the Senior Staff, distributed between Old Main and University, represent the critical adjacencies. Total space should be increased from 27,036 ASF to 31,420 ASF.

Campus Services

Campus Services currently occupies 46,417 ASF dispersed across eight buildings with the largest component in the recently acquired White Street Warehouse. The goal is to expand Campus Services to 54,637 ASF. Much of this expansion is going into the new facility for Campus Police.

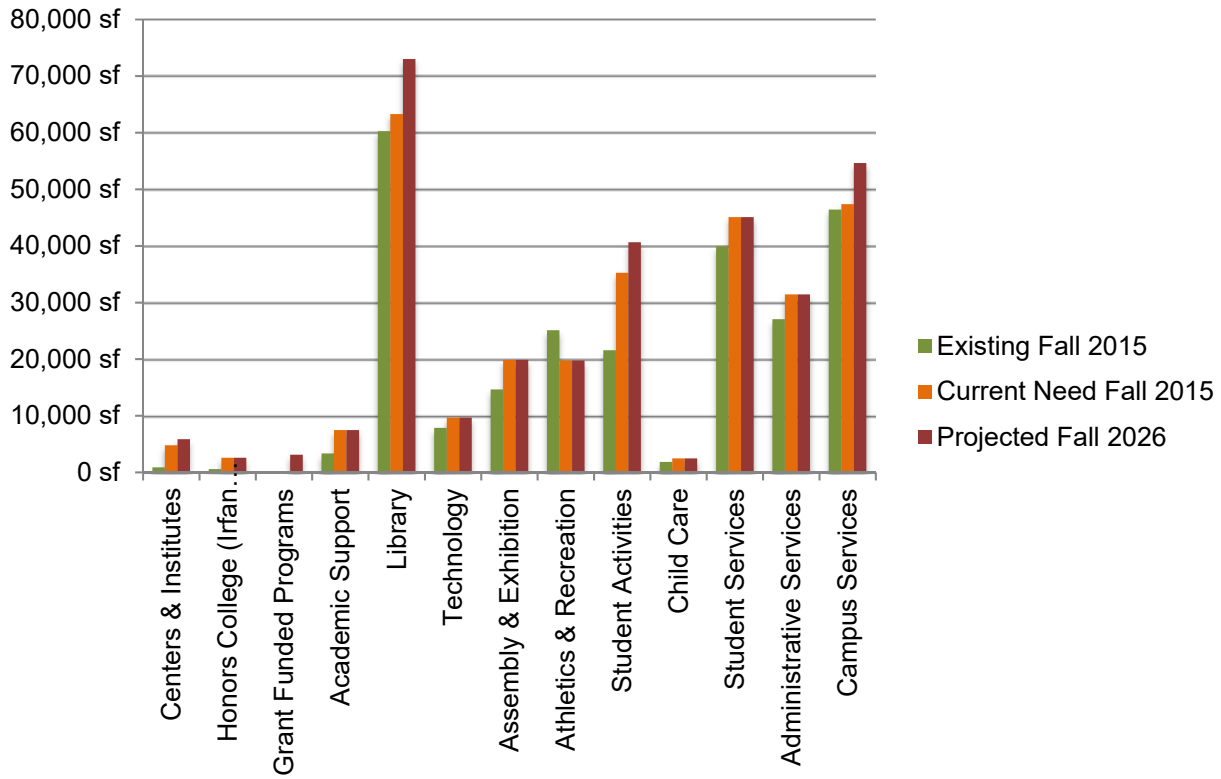


FIGURE 03.12 Midtown Campus Support Space Assessment

Departmental Profile		Existing Fall 2015	Projected Fall 2026
Classroom Space		45,419 sf	41,107 sf
Ancell School of Business		0 sf	0 sf
School of Arts & Sciences		83,423 sf	104,277 sf
School of Professional Studies		26,159 sf	48,216 sf
School of Visual & Performing Arts		2,183 sf	3,678 sf
Academic Total		**157,185 sf**	**197,278 sf**
	ASF per Student FTE	*41 sf*	*45 sf*
Centers & Institutes		865 sf	5,861 sf
Honors College (Irfan Kathwari Honors House)		568 sf	2,568 sf
Grant Funded Programs		0 sf	3,124 sf
Academic Support		3,325 sf	7,458 sf
Library		60,246 sf	72,995 sf
Technology		7,854 sf	9,660 sf
Assembly & Exhibition		14,643 sf	19,865 sf
Athletics & Recreation		25,111 sf	19,765 sf
Student Activities		21,567 sf	40,650 sf
Child Care		1,836 sf	2,456 sf
Student Services		39,899 sf	45,086 sf
Administrative Services		27,036 sf	31,420 sf
Campus Services		46,417 sf	54,637 sf
Support Total		**249,367 sf**	**315,545 sf**
	ASF per Student FTE	*66 sf*	*72 sf*
	Contingency		*12,821 sf*
Grand Total		**406,552 sf**	**525,643 sf**
	ASF per Student FTE	*107 sf*	*120 sf*
	Unassigned Space	39,772 sf	0 sf
Total Student FTEs			
	Undergraduate	3,456.33	3,861.46
	Graduate	332.10	509.50
	Total	3,788.43	4,370.96
	Percentage of Growth from Fall 2015		*15%*
	Assignable Square Feet Needed		*79,319 sf*
	Gross Square Feet Needed		*136,758 sf*

TABLE 03.1 Midtown Campus Space Need Summary

WESTSIDE CAMPUS BASELINE ASSESSMENT

Currently the Westside Campus, excluding the resident halls, occupies 247,337 ASF, with a current deficit of 367,009 ASF. With a present deficit of almost a third, the Campus' need is expected to grow to 383,351 ASF by 2026.

ACADEMIC SPACE: WESTSIDE CAMPUS

Total academic space at the Westside Campus totals approximately 85,000 ASF of classrooms, teaching labs, practice facilities, art studios and faculty offices. Representing 59 ASF per student FTE, or 46% more than the 41 ASF devoted for each FTE at Midtown. The primary drivers of this differential are the scale, the enrollment in student FTEs much smaller than the Midtown Campus, and the presence of Visual & Performing Arts. Of the four schools, the School of Visual & Performing Arts has the higher space requirements based on ASF per FTE. Currently at 79 ASF per student FTE, the assessment projects a requirement of 95 ASF per FTE in 2026. That is twice the assessment for Professional Studies, three time the assessment for Arts & Sciences, and four times the space requirement for Ancell.

The current academic space at Westside is 85,222 ASF. The current need is 109,753 ASF, though this number is slightly inflated because the number includes the assessment for departments within Arts & Sciences and Professional Studies which will be relocated to Midtown. The long term need, which excludes any elements of Professional Studies, and only components of Arts & Sciences to mitigate student commuting, is 112,207 ASF. And while the assessment almost doubles the space currently occupied by Ancell School of Business, most of the additional need is driven by the School of Visual & Performing Arts.

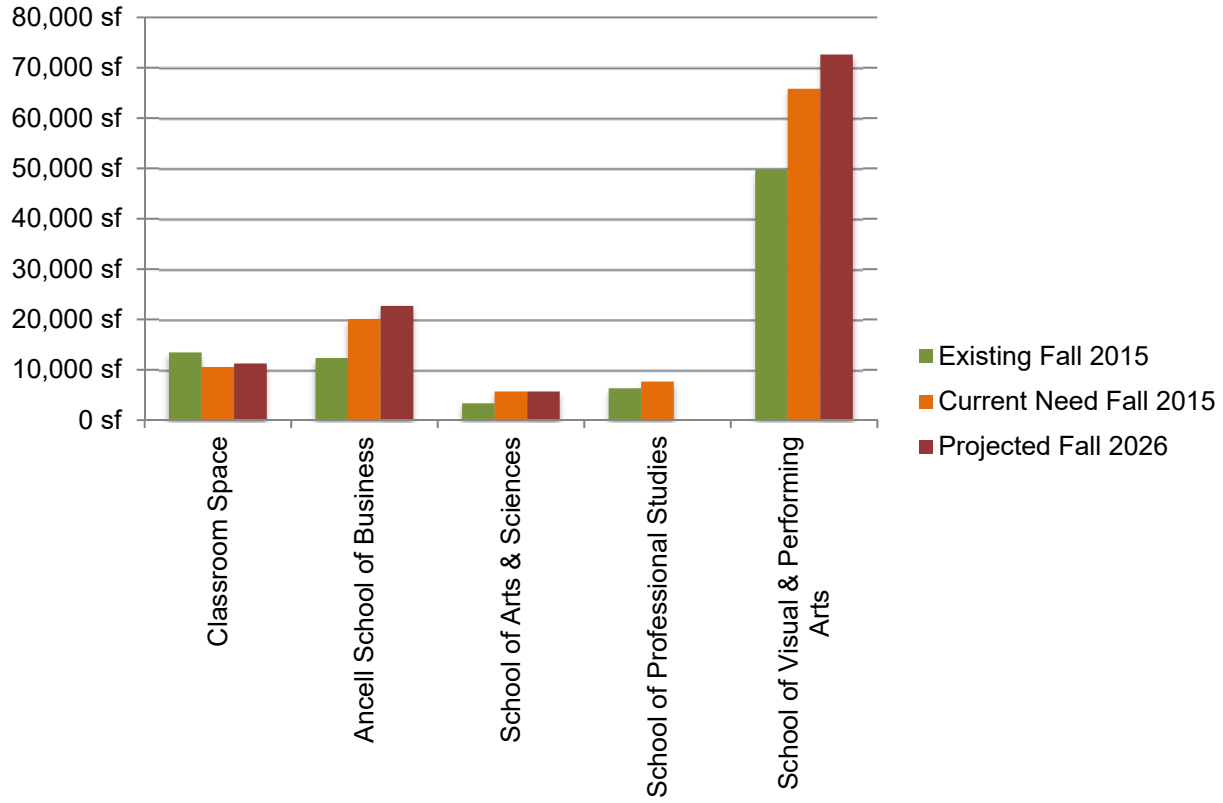


FIGURE 03.13 Academic Space Assessment: Westside Campus

Classroom Space

Currently the Westside Campus has slightly more than 13,500 ASF devoted to classroom space. With approximately 1,900 student FTEs generated at the Westside Campus, this number is substantively larger than required, even assuming a full modernization of the classroom inventory. The primary reason for the adequacy is the fact that VPA has modest classroom requirements, with 90% of all instruction happening in a studio or practice space. Classrooms are utilized for survey, or art history courses, with many of these sections scheduled on the Midtown Campus. The Space Needs Assessment currently assesses the need at 10,500 ASF. By 2026, this need will increase to approximately 11,200 ASF.

Ancell School of Business

Housed in the Westside Classroom Building, the Ancell School of Business is limited by both resources and curb-appeal by the existing facility. Current need is 20,065 ASF, or roughly a 60% expansion over the current 12,323 ASF. Enrollment growth results in a modest increase to 22,683 ASF by 2026. The departments within the School are listed below:

- Accounting
- Finance
- JLA (Justice & Law Administration)
- Management
- MIS (Management Information Systems)
- Marketing

Because of overall weakness within the underlying demographics, much more emphasis is placed on recruitment, and on retention. As stated previously, the University might try inverting some of the Ancell program offerings, discussed with the University's previous Provost. What this would entail is the student taking more courses within their program during the first year, resulting in the creation of a Ancell School of Business offering at Midtown.

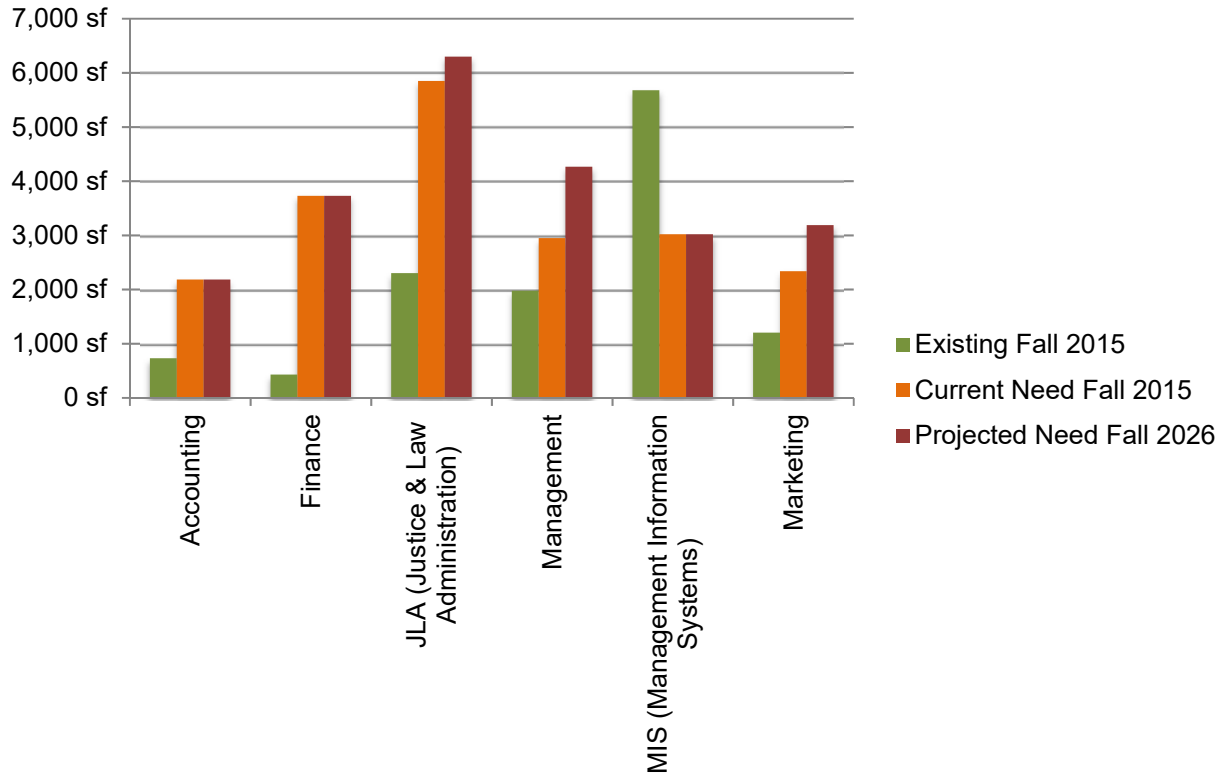


FIGURE 03.14 Academic Space Assessment: Ancell School of Business

Macricostas School of Arts & Sciences

As stated previously, Computer Science, which is presently located at Westside, occupying roughly 3,000 ASF. The department will completely relocated to the Midtown Campus. The remaining elements of Arts & Sciences at Westside will be sections, probably at the 100 and 200 level, supporting majors within the Ancell School of Business and the School of Performing Arts.

School of Professional Studies

Currently occupying slightly more than 6,000 ASF at the Westside Campus, The School of Professional Studies will relocate in its entirety to the Midtown Campus.

School of Visual & Performing Arts

While the smaller school by enrollment with a projected enrollment of 765 student FTEs versus Ancell's 864 student FTEs, the School of Visual & Performing Arts occupies nearly four times the space. At presently 49,804 ASF, the School will need 72,608 ASF by 2026. The two major houses - the Concert Hall and the Main Stage - are not included in this assessment. They are included within the Support Space analysis. The School is comprised currently of three departments:

- Art
- Music
- Theatre Arts

The chart below in Figure 03.15 represents the existing space, current need and long-term projection for the three department.

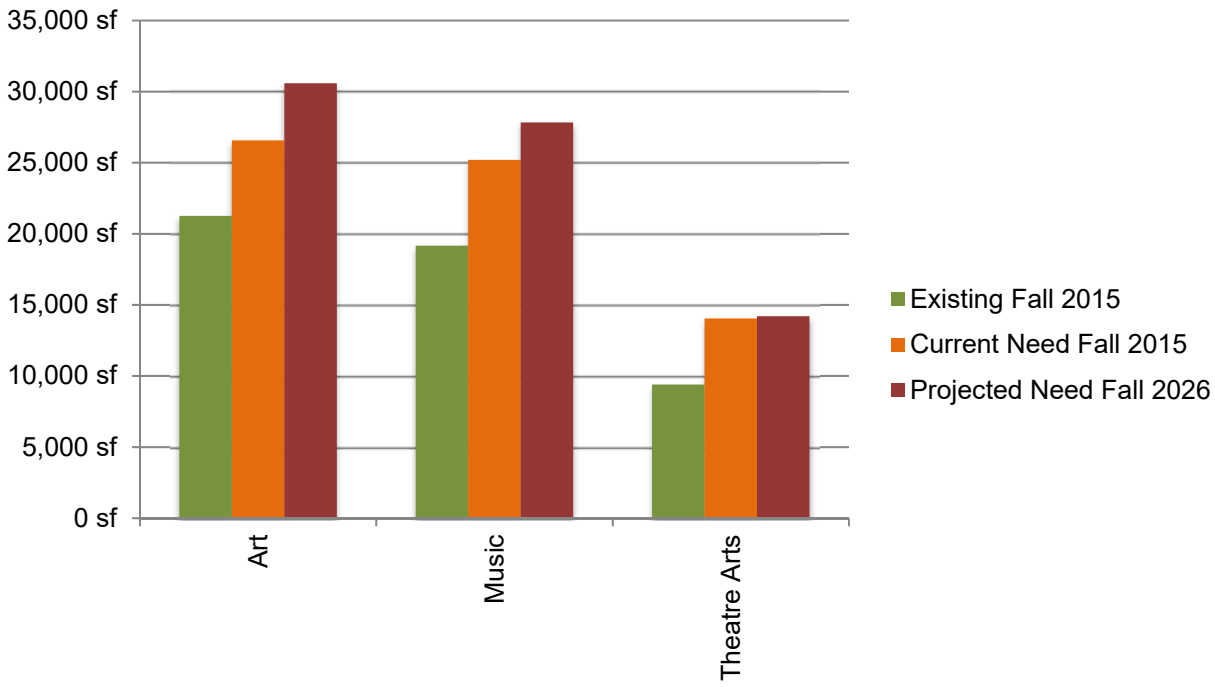


FIGURE 03.15 Academic Space Assessment: School of Visual & Performing Arts

SUPPORT SPACE: WESTSIDE CAMPUS

The Support Category at Westside, while providing incremental expansion to many functions, focuses on three critical components: Assembly & Exhibition Space, Athletics & Recreation, and Student Activities. These three subcategories drive the expansion of support space from presently 162,115 ASF to 261,793 ASF, with the majority of the expansion devoted to Athletics & Recreation.

Assembly & Exhibition

Assembly & Exhibition Space includes three venues within the Visual & Performing Arts Center: the Gallery, the Concert Hall and the Main Stage. Occupying 37,711 ASF, the assessment does not imply changes to the primary space, but all three lack adequate ancillary spaces. The goal is to expand the facilities to 44,515 ASF, investing in expanded support spaces.

Athletics & Recreation

The Athletics & Recreation investment defines the majority of expansion of Support Space at Westside. The centerpiece of the expansion of the development of a new Competition Gymnasium addition to the O'Neal Center. With improvement of ancillary space included new strength training facilities and expanded fitness facilities, the goal is to double the space from the current 77,431 ASF to 142,431 ASF by 2026.

Student Activities

While the Student Center is a relatively recent addition to the Westside Campus, the facility is still inadequate to support the residential population located at Westside. With the on-campus student population peaking in the morning and evening, the driving factor for expansion is food facilities, both dining area and kitchen facilities. The assessment projects a 50% expansion from presently 23,909 ASF to 34,400 ASF.

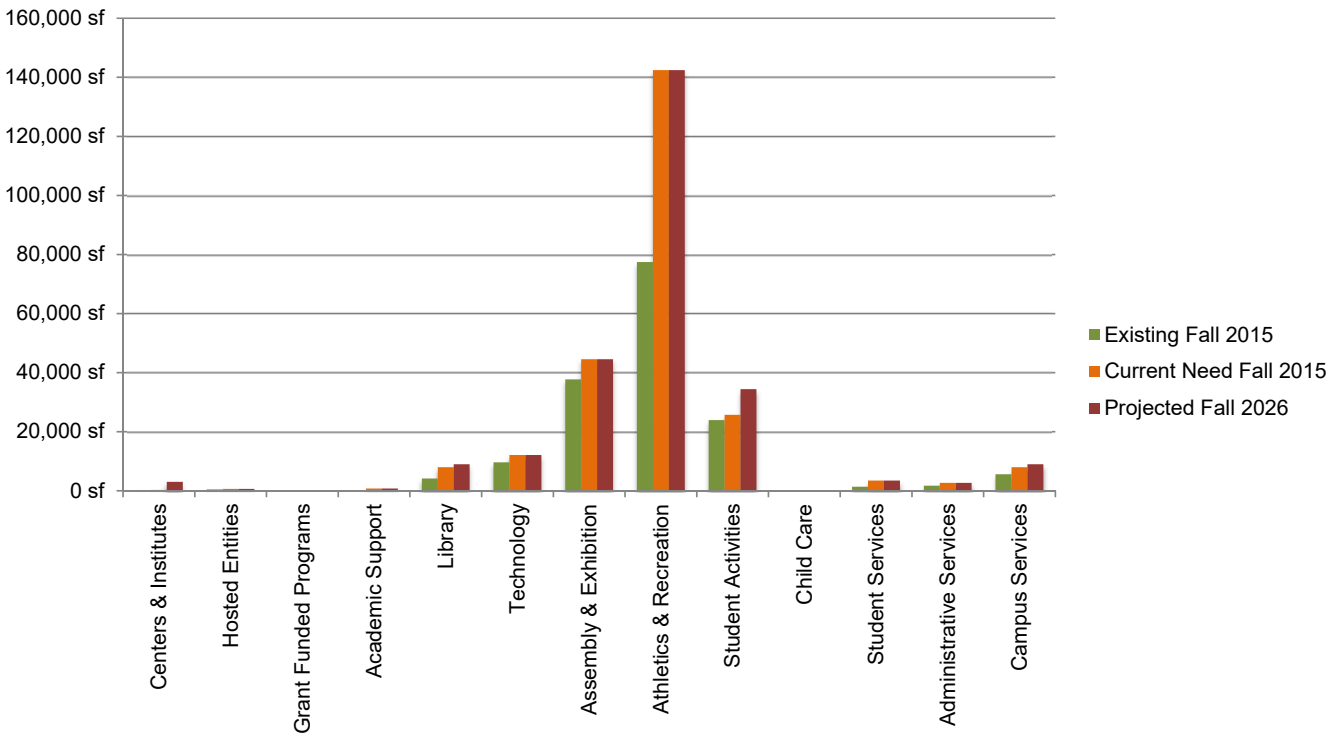


FIGURE 03.16 WESTSIDE CAMPUS SUPPORT SPACE ASSESSMENT

Departmental Profile		Existing Fall 2015	Projected Fall 2026
Classroom Space		13,442 sf	11,238 sf
Ancell School of Business		12,323 sf	22,683 sf
School of Arts & Sciences		3,340 sf	5,678 sf
School of Professional Studies		6,313 sf	0 sf
School of Visual & Performing Arts		49,804 sf	72,608 sf
Academic Total		**85,222 sf**	**112,207 sf**
	ASF per Student FTE	*59 sf*	*69 sf*
Centers & Institutes		192 sf	3,000 sf
Hosted Entities		424 sf	600 sf
Grant Funded Programs		0 sf	0 sf
Academic Support		111 sf	720 sf
Library		4,149 sf	8,958 sf
Technology		9,588 sf	12,098 sf
Assembly & Exhibition		37,711 sf	44,515 sf
Athletics & Recreation		77,431 sf	142,431 sf
Student Activities		23,909 sf	34,400 sf
Child Care		0 sf	0 sf
Student Services		1,337 sf	3,457 sf
Administrative Services		1,709 sf	2,657 sf
Campus Services		5,554 sf	8,958 sf
Support Total		**162,115 sf**	**261,793 sf**
	ASF per Student FTE	*112 sf*	*161 sf*
	Contingency		*9,350 sf*
Grand Total		**247,337 sf**	**383,351 sf**
	ASF per Student FTE	*171 sf*	*235 sf*
	Unassigned Space	479 sf	0 sf
Total Student FTEs			
	Undergraduate	1,389.18	1,502.00
	Graduate	56.15	126.65
	Total	1,445.33	1,628.65
	Percentage of Growth from Fall 2015		*13%*
	Assignable Square Feet Needed		*135,535 sf*
	Gross Square Feet Needed		*199,316 sf*

TABLE 03.2 Westside Campus Space Need Summary

RECREATION AND ATHLETICS

MIDTOWN CAMPUS

For the next 10-year period, the current amount of recreation space is sufficient to meet the needs of students at Midtown. The functionality and quality of the spaces should be upgraded, however, either in place or in replacement space. The Williams Gym can be maintained and refinished as needed.

More space designed for outdoor recreation is needed at Midtown for resident students, to supplement open space used for informal and passive recreation. The range of facilities could include a small field for soccer and other sports, basketball courts, volleyball and possibly bocce or pétanque courts.



Williams Gym at Berkshire Hall



Weight Room at Berkshire Hall

WESTSIDE CAMPUS

There is a significant space deficit for athletics and recreation at the Westside Campus. This represents a major component of the overall need. The quality of facilities also needs upgrading in many areas. The facility needs are expressed by building and for outdoor areas.

The O'Neill Center

The main space in O'Neill, the Feldman Arena, needs to be maintained and upgraded to continue to serve both athletics and events. The floor surface should remain a multi-purpose, resilient material to support multiple uses, (rather than change to artificial turf, for example). The space needs upgrading, with improved lighting, replacement of the degraded Kalwall clerestory and a proper entrance lobby. An improved concession area and expanded storage are also needed.

Additional gymnasium space is needed to provide needed capacity and flexibility for athletics and for recreation opportunities.

O'Neill's lockers, strength and conditioning, sports medicine and storage areas are insufficient in floor area and quality. Providing expanded areas, approximately 10,000 ASF in a Sports Performance Center, within O'Neill, would both benefit athletes and strengthen recruitment. Expanding fitness areas will also relieve the current competition for these facilities between athletes and student recreation.

Given that Western's swimming program is modest and the replacement cost high, the University does not consider replacing the pool to be a priority need in the 10-year time frame of the Master Plan update.



The O'Neill Athletic and Convocation Center

Westside Athletic Center

In addition to replacing the outdated roof, the WAC needs more space to serve its functions. The locker rooms are significantly undersized and need expanding. The VIP room adjacent to the Press Box needs more space for entertaining university supporters. Additional mechanical space is needed for equipment to replace the malfunctioning glycol system in O'Neill which runs under the drive to the WAC.

Other Indoor Recreation Facilities

The planned move of the Fitness Center from the ground level of the Campus Center to Pinney Hall, should meet the needs for resident students. Expansion of O'Neill will also provide more opportunity for students to use these facilities for recreation when they are not being used by teams.

Outdoor Facilities

While the Westside Campus is large, the amount of land suitable for fields is relatively small given steep slopes and wetlands. Since it would be very challenging and costly to expand the fields, it is all the more important to make the best use of existing ones.

Like many universities in New England, Western's spring teams need to practice in late winter when snow is often on the ground. Snow often prevents the Colonials teams from getting in the practice time they would like to be as competitive as possible. A new field house was discussed during the planning. Such buildings are in the range of 75,000 SF. This additional development was not considered necessary in the next 10 years. Instead, Western's needs artificial turf on a practice field so a plow can remove snow.

The six tennis courts are sufficient in quantity. They need to be resurfaced.

The softball field is relatively new and in good condition. The baseball field has multiple needs. The outfield slopes downwards and needs to be leveled and have better drainage. Spectator areas need upgrades as well. Detailed study is needed to assess needs and appropriate cost / benefit. A potential opportunity may exist for sharing facilities with the Danbury Westerners.

A new cross country course is needed. There should be ample land. Mapping an appropriate route will require additional detailed study.



Weight Room, O'Neill Center



Swimming Pool, O'Neill Center



Westside Athletic Center

STUDENT RESIDENCE SPACE NEEDS

At 1,590 total beds, Western has sufficient capacity to meet its 10-year enrollment projection. Additional capacity is not required. The main goal is to enhance the quality of the housing in key ways, and improve the residential experience while maintaining affordability.

Today an estimated 65-70% of students leave on weekends to go home. This de-energizes residential life and negatively impacts campus culture. Ideally, physical improvements and residential life programming can be funded to reverse this trend and encourage a more vibrant campus life on Fridays and weekends. Facilitating shuttle use and minimizing the need for unnecessary trips between campuses can also improve the student experience.

The residence halls currently do not host Living Learning Communities. With the exception of Fairfield, most do not have Faculty in-residence apartments. Adding these could strengthen the residential experience. Adding more tech savvy lounges could improve the quality of life as well.



Centennial Hall

MIDTOWN CAMPUS

Newbury Hall

In order to provide a greater variety of housing at Midtown, Western should consider converting a portion of this "straight-line" residence hall to semi-suite layouts. This would reduce bed count somewhat, but offer a more spacious alternative to the traditional corridor style units with shared bathrooms accessed by a common hall.

Fairfield Hall

A signature building for Western, Fairfield is general in good condition and its layout works well. Additional student lounge space could be needed, though there is a not a final consensus. A more detailed student survey of residents is recommended to confirm this need.

Litchfield Hall

The current renovation will address building condition problems. Longer term, a more suitable location for the student health center should be found. The current location embedded in Litchfield is not ideal.

WESTSIDE CAMPUS

Centennial Hall

The apartments in this building have above average space per bed and are relatively new. Centennial's main drawback is its poorly located and utilized lounge space on the lower level. The courtyard is also a lost opportunity. Relocating and expanding the student lounge would provide a focal point for strengthening the student community and a valuable amenity. Activating the outdoor space framed by the building by redesigning it would be beneficial also.

Grasso Hall

Grasso lacks common spaces on its upper floors for students to socialize. A minor renovation of each floor to provide this amenity would go a long way to upgrading this older building and making up for its relatively low amount of space per bed.

Pinney Hall

At 450 GSF per bed, Pinney is generously sized. Its main programmatic deficiency is its under-used common space. This is about to be repurposed as a fitness center that can be shared by all students. Building envelop deficiencies need to be addressed.

PARKING

MIDTOWN CAMPUS

The existing 1,823 parking spaces at the Midtown Campus are sufficient for the current and projected enrollment. 88% of these spaces are in the two garages at the edges of the campus. The White Street Garage with 802 spaces is rarely near capacity. The 804-car Osborne Street garage is well utilized, but rarely full. Funded by student fees, the Osborne Street Garage is typically restricted to students.

If some of the 217 surface parking spaces are removed for construction or other projects, replacement spaces should be provided if this results in a parking deficit.

WESTSIDE CAMPUS

The general consensus at Western is that the 1,622 total parking spaces at Westside are sufficient to meet the demand, but are not located in the right place. Some parking lots are full to capacity, including the Faculty Staff Lot, VPAC Lot, Commuter Lot and Pinney / Grasso Lots. The 405-car Centennial Garage, however, is rarely more than 50% full largely because it is remote and down the hill from the campus core. Lack of any identifying signage may also contribute to the Centennial Garage's low utilization.

Administrators at the Westside Campus responsible for running the VPAC and O'Neill Center event spaces report that event parking is not a problem except for rare times when the VPAC and O'Neill Center host simultaneous events. They believe it would be reasonable and feasible to avoid any conflicts by coordinating schedules, with VPAC, O'Neill, WAC and the Ives Concert Park. The absolute peak demand scenario could be a convocation with up to 4,000 at the O'Neill Center. If the average car had 2.5 occupants, and all residential lots were available the existing parking would still be sufficient.

In March 2015, Desman Associates prepared a study for WCSU identifying three potential locations for a 500-car parking garage. The study scope did not include an analysis, however, of parking utilization or projected future parking need.

In the event additional parking is needed in the next 10-year period at the Westside Campus, the Master Plan recommendations include a preferred garage site in the following chapter.



White Street Garage and Pedestrian Bridge



The Faculty and Staff Lot, Westside

SUMMARY SPACE NEEDS

The 2025 Program Needs for additional space for buildings and parking can be summarized as follows:

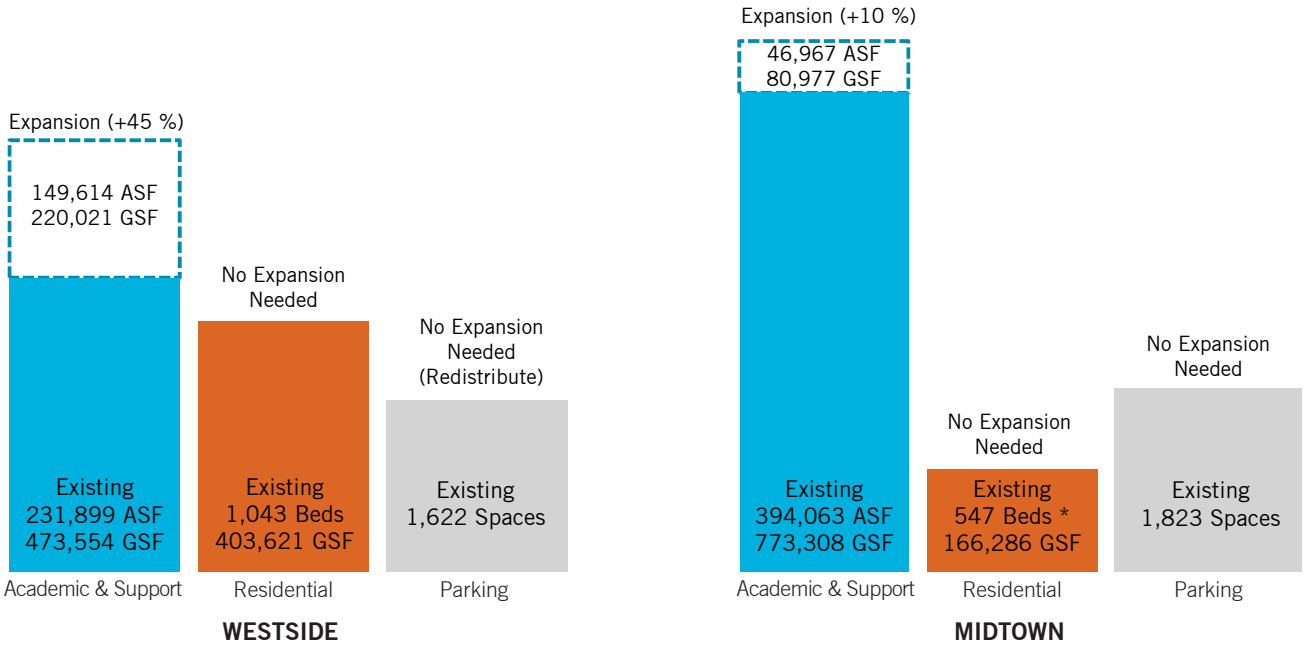


FIGURE 03.17 Expansion Needs

* *Assumes Litchfield renovation as planned*






WESTERN
CONNECTICUT
STATE UNIVERSITY



4 SCENARIOS

INTRODUCTION

Exploring a range of scenarios is a valuable exercise for any master plan. Assessing the benefits and drawbacks of a range of different approaches ensures that the final master plan approach is optimized. For Western with its two campuses, the Scenarios Phase of the Master Plan update was especially important. In a series of three sequential meetings, the planning team explored scenarios for each the following factors for each campus with the Master Plan Advisory Committee:

- The Student Experience
- Academic Program Location
- Physical Development

MULTI-CAMPUS UNIVERSITY PRECEDENTS

Western's two campuses present both opportunities and challenges. To understand how other universities operate on two or more campuses, the planning team looked at several precedents. Each revealed different models for differentiating campus uses and identities.

The University at Buffalo, SUNY

The University of Buffalo has three campuses, each with its own scale, character and uses. UB2020, the University's strategic vision calls for clarifying the identity of each campus, in part by a significant investment in relocation and replacement of facilities. UB's South Campus was its original site. It now houses primarily professional schools. A cornerstone element of the UB2020 Plan is relocating the Jacobs School of Medicine and the School of Nursing to UB's Downtown Campus, which is part of the larger Buffalo Niagara Medical Campus, shared with area healthcare providers, business incubators and other users. The Downtown Campus will then be distinct as UB's Health Sciences site, with the South Campus focus on professional schools. The North Campus several miles to the north in the suburb of Amherst is UB's largest campus. It will remain the focus of undergraduate life, as well as Science and Engineering Research.
There are several models for a multi-campus university. A key lesson learned from these precedents is the importance of defining the role and identity of each campus and leveraging the opportunities each location provides.

Fordham University

Fordham has two campuses. Rose Hill is an iconic green campus setting; Lincoln Center is a more vertical, urban campus. Undergraduates can chose either campus, as most majors are offered at each. Some science degrees are only offered at Rose Hill; dance and theater only at Lincoln Center. The Lincoln Center campus has the Schools of Law and Business. The combination of the two distinct settings offer a choice for students to appeal to both those who prefer a traditional campus and those who want to be immersed in an urban setting. Both campuses have residence halls.

FIGURE 04.1 Two-campus University Precedent: Fordham



Lincoln Center / "Professional" Campus



Rose Hill / Main Campus

Hunter College, CUNY

Hunter is a multi-campus model with a main campus and multiple satellite sites. The College originated in the Upper East Side when this area was relatively undeveloped. The Main Campus benefits from what is now a prestigious location with excellent transit access at 68th Street and Lexington Avenue. It has also been challenged over the decades to find available adjacent property to expand. As a result, the College has acquired facilities in different locations, including a campus for Nursing, Allied Health and other programs near Bellevue Hospital, and a School of Social Work in Harlem. To enable long-needed expansion and modernization of the sciences and to bring its Nursing and Allied Health programs closer to the main campus, CUNY and Hunter are currently part of a development partnership Memorial Sloan Kettering Hospital to build a new, shared 336,000 GSF facility, several blocks to the east of the main campus that will address both Hunter's needs and clinic needs for MSK.

FIGURE 04.2 Two-campus University Precedent: Hunter College, CUNY



86th Street / Main campus



Brookdale / Allied Health Campus

CAMPUS CAPACITY

An early finding from the Scenarios Phase was that each campus had sufficient capacity to meet Western's projected space needs for the next 10-year period.

The Midtown Campus at 34 acres, is the smallest of all of the CSCU university campuses. With the removal of the school site and creation of open space next to the Science Building, a site remains for future development. Other than parking lots, few additional opportunity sites remain. In the long term, beyond the 10-year horizon of this study, WCSU's facility needs may require the need for additional land adjacent to the campus for expansion.

The Westside Campus encompasses 364 acres, with about 68 acres of this is in the core of the campus, suitable for development. This core area has sufficient capacity for the next 10-year period and beyond. There is sufficient space for facility expansion and renewal, as well as open space projects for parking, access, athletics and recreation. The balance of the campus includes the Ives Concert Park and WCSU's Nature Trail. Much of the area is wooded area with steep topography and wetlands that would remain undeveloped.





FIGURE 04.3 WCSU Existing Campus Plan for Midtown and Westside

PLANNING PRINCIPLES

The Planning Team prepared the following principles to guide the study and testing of alternative futures for University development:

1 Maintain and strengthen the two-campus / one University model

2 Ensure a vibrant community exists at each campus in the mix of program offerings, uses and amenities

3 Enhance the individual identity and character of each campus, aligning place and programs

4 Optimize the investment in existing facilities

5 Locate and plan programs and facilities to enhance recruitment, retention and revenue



SCENARIO SUMMARY

STUDENT EXPERIENCE SCENARIOS

Western's two campuses each have student housing and student centers, and needs for student life programming and recreation. The Midtown Campus has first-year housing; the Westside most upper class housing. The unit types support this progression. The Midtown residence halls have traditional layouts; Westside housing is apartment and suite styles, offering more independent living arrangements.

The duplication of residence life services at each campus creates additional costs compared to a typical single-campus university. For this reason, early in the Scenarios phase, the planning team explored a possible alternative approach to differentiating the campuses. The concept was raised of developing the Westside Campus to support traditional students, bringing first year housing here in new or renovated facilities. The Midtown Campus would then support non-traditional students.

*A select number of first year students in the Visual and Performing Arts programs have housing at the Westside Campus.

Several challenges emerged in testing this alternative scenario for Student Life. First, there would still be a need for two dining facilities / campus centers at each campus to serve students throughout the day. Second, traditional and non-traditional students are mixed throughout the University's programs, rather than separated in programs that might be associated with each campus. Third, the vast majority of 100 and 200 level course offerings – those taken by first and second year students who are dependent on taking a range of these service courses to fulfill the requirements of their major – are provided at the Midtown Campus. These would associate most closely with a traditional student. A large number of upper level courses – those taken by upper class and graduate students who are more independent – are provided at the Westside Campus. The implication for making the Westside Campus a traditional residential experience was a daily mass commute for first and second year on-campus students from the Westside to Midtown and back again at the end of the day.

Midtown Campus

Largely Freshman
Traditional-Style Units

→

Positive progression from traditional to more independent living

Westside Campus

Largely Sophomore to Senior
Suites & Apartments

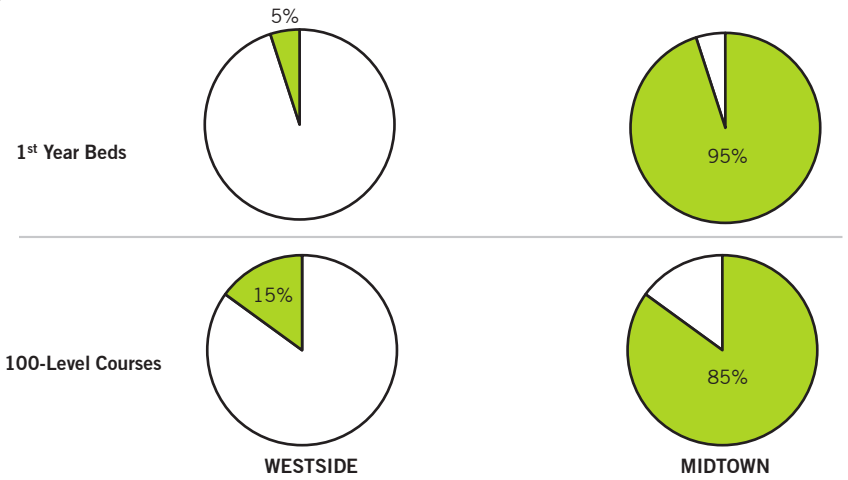


FIGURE 04.4 Residential Life Today: Positive Progression in Unit Types

The implication was clear. A first year student may at first welcome the chance to live in an apartment at Westside. But the inconvenience of daily commuting back and forth would define much of their daily experience. This would not be a scenario that would support retention.

Finally, the additional beds at Westside would also be a major capital investment, far eclipsing the operating costs saved by eliminating duplicate programming. For all these reasons, the planning team recommended and Advisory Committee affirmed that the current model would remain – with first year housing primarily at Midtown and upper class housing at Westside – with a recommendation for sufficient operating funding for robust student programming at each campus to support student success and retention.

First Year Residents / First Year Courses Today



Potential Alternative

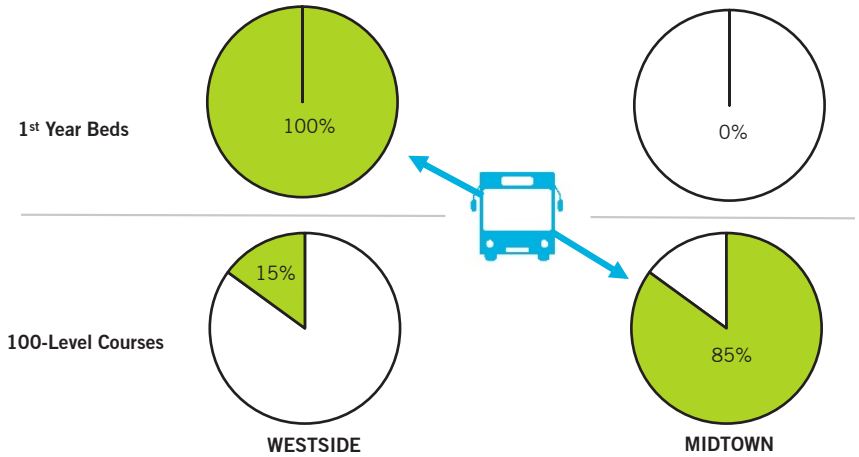


FIGURE 04.5 First-Year Student Experience

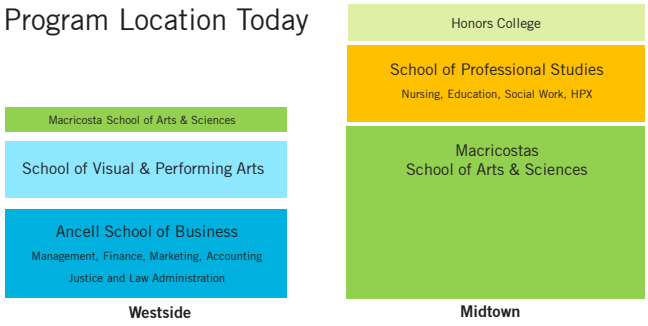
** Most freshman take 100-level courses.*

ACADEMIC PROGRAM LOCATION SCENARIOS

The Master Plan Update also provided a valuable opportunity to integrate strategic and physical planning in considering the best location for the University's academic divisions. While the Sciences and Visual and Performing Arts are firmly rooted to their locations, each with state-of-the-art facilities, other programs could potentially move. The diagram below summarizes the current location of programs by campus. This reflects planned consolidation of Education and Nursing back to Midtown to consolidate the School of Professional Studies in one location.

The diagrams show a distinctly lopsided distribution, with far less academic offering at Westside. The planning team decided to test model population by campus today and for this program location alternative, testing a possible move for Ancell to Midtown. The diagrams below illustrate the change. The resulting depopulation of the Westside campus by Ancell's relocation caused great concern. This direction went against one of the Planning Principles – to ensure a vibrant community exists at each campus.

As a result of this Program Location Scenarios study, the planning team recommended, and Advisory Committee affirmed, that the Ancell School of Business would remain at the Westside Campus.



The Ancell School of Business needs a new facility. Where should this be? Should it remain at Westside, or would there be potential benefits to being at Midtown, is a site could be found on this smaller campus? The diagram below illustrates the distribution of Western's academic divisions in this program location alternative.

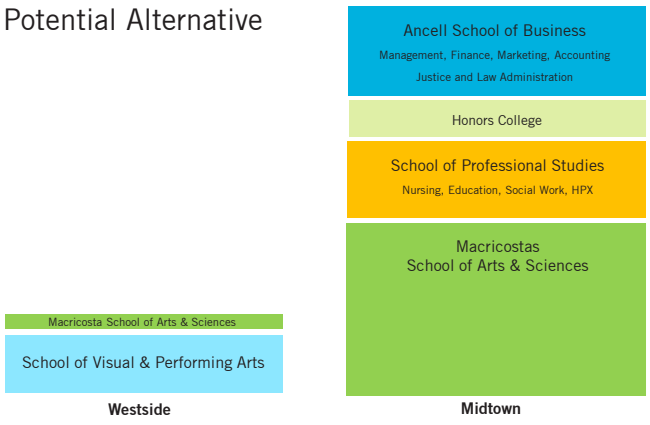
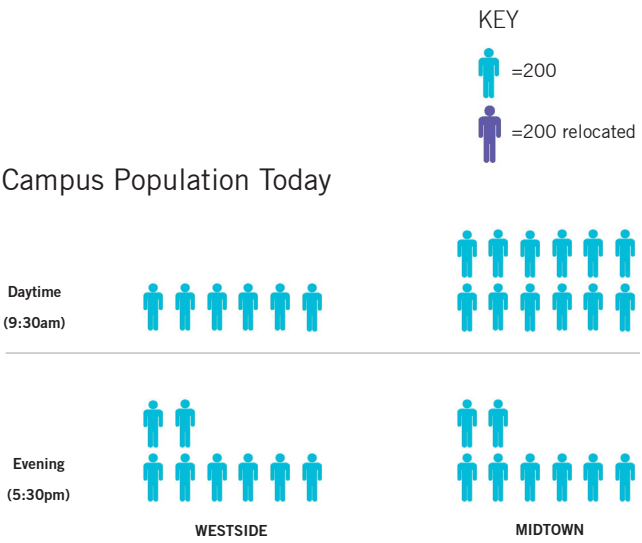


FIGURE 04.6 Program Location Scenarios



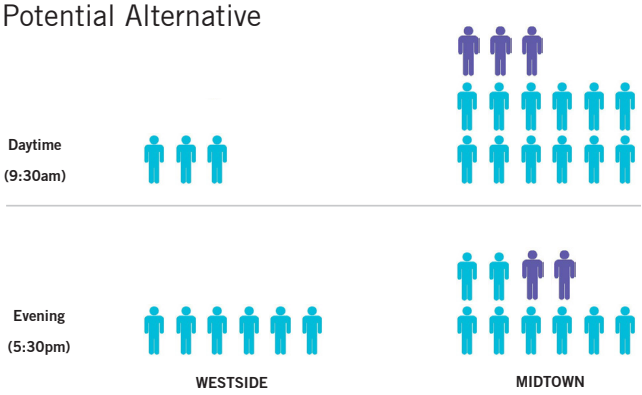


FIGURE 04.7 Campus Population - Program Location Scenarios

PHYSICAL PLANNING SCENARIOS

With the location of academic programs and approach to student residence halls confirmed, the planning team proceeded to analyze several scenarios for the development of facilities, open space and infrastructure to meet the University's 10-year needs. Three Physical Planning Scenarios were studied for Midtown; two for Westside

MIDTOWN CAMPUS

The scenarios for Midtown Campus focused on the optimal location for major new and renewed facilities for academics, the future of Berkshire Hall, a new Innovation Center and for the Student Center function.

Most other projects at the Midtown Campus were recommended to be included in any scenario. These concepts did not require extensive vetting and included the following common projects.

Common Projects to All Midtown Scenarios

- Pedestrian Mall linking the campus north to south
- A North Gateway entrance / Transit hub
- Science Lawn
- Residence hall renovations
- Renovations for Higgins and White Halls, currently in planning
- Science Building Lab renovations
- Central Plant Upgrade

Midtown Scenario 1

The Student Center is expanded and renovated in this scenario. Berkshire Hall is renovated and the gym repurposed for academic use and added student amenities. A large new academic building is proposed south of the Science Building to include the Innovation Center, academic space and additional recreation space. A plus for this scenario was the opportunity to have an interdisciplinary theme for the new building focused on health and wellness, combining HPX programs, Nursing, the Innovation Center and recreation. There were several drawbacks to this scenario, however. Expanding and renovating the Student Center dining functions would be very problematic while maintaining operations. The resulting location of the dining area would not enjoy good views. Finally, the opportunity to activate the Berkshire Hall site, both facing the main quad and fronting Osborne Street, is not fully realized

Midtown Scenario 2

A new Student Center is constructed, fronting the new Pedestrian Mall once Roach Avenue is closed to traffic, in this scenario. Berkshire Hall is renovated and the theater converted to serve academic uses, including HPX. The existing Student Center is repurposed for academic use once the new student center opens. This scenarios has several benefits, including good phasing and flexibility and the location of the new Student Center in the center of the campus along the new pedestrian "main street". It has several drawbacks, however. The location of the Student Center blocks east – west campus circulation, thwarting a key planning goal of providing better pedestrian connections. The new dining facility location will also prevent use of the Science Lawn for recreation and result in an exposed loading dock in the middle of the campus. The Innovation Center, located in the Student Center, would not have visibility at the campus frontage. Finally, this scenario also fails to take full advantage of the prominent Berkshire Hall site.

Midtown Scenario 3

In this scenario, Berkshire Hall is expanded to the north to serve as the new Innovation Center, fronting Osborne Street. The gym and theater shell are maintained and the balance of the building reconstructed to serve as the new Student Center, framing the north end of the main quad. The proposed compact footprint creates a new east-west pedestrian path, connecting the campus. Once this project is completed, the existing Student Center is gut renovated for academic use. A new academic building, south of the Science Building accommodates HPX, Nursing, classrooms, lounge/study space and other uses. While the scope of the Berkshire Hall project presents complexities with its staged expansion, partial demolition, renovation, Scenario 3 has multiple and significant benefits. It makes optimal use of the valuable Berkshire Hall site, energizing the main, west quad and providing a new front door to the campus facing Osborne with the Innovation Center. It locates the dining function near the campus edge, with better service access than today. Scenario 3 preserves open space and recreation opportunities, provides flexible implementation pathways, with minimal swing space need.



FIGURE 04.8 Midtown Scenario 1



FIGURE 04.9 Midtown Scenario 2



FIGURE 04.10 Midtown Scenario 3

Long-term Projects

While Western has sufficient parking at Midtown for the next 10-year period, additional parking could be needed later if enrollment grows. If so, the feasibility of vertical expansion of the current garages should be explored, to maintain a compact development footprint if technically possible.

The Science Lawn area fronting the proposed Pedestrian Mall represents a potential development site for another academic building if needed in the long term. Care should be taken not to block east-west campus pathways with such a building. The structure now housing Honors House and the Childcare Facility is on a valuable site, and is apparently not historically significant. If these functions are relocated, this site could be considered for development long term if needed.

WESTSIDE CAMPUS

The scenarios for Westside focused on the future of the Westside Classroom Building (WSCB) - whether this could remain and be upgraded to meet the University's needs, or if it had to be replaced.

Most other projects at the Westside Campus have one logical pathway, and did not require a study of alternatives. These included the following

Common Projects to all Westside Scenarios

- Greening the core of the campus
- Providing replacement parking
- A new academic building with the Ancell School of Business
- Expansion and renovation of the Campus Center
- Expansion and renovation of the O'Neill Center
- Expansion and renovation of the Westside Athletic Center
- Minor Residence Hall renovations
- Athletic field upgrades

The approach to each of these projects above was explored in the Recommendations phase.

Ancell School of Business

After thorough analysis by the planning team and discussions with WCSU stakeholders and leadership, it became clear that the Westside Classroom Building could not provide an appropriate facility for Ancell, even with a major renovation. Since providing a suitable facility for the School is a high priority for Western, a first step in the Scenario studies was assessing where a new building could be located for Ancell. One preferred site emerged – adjacent to the north side of the WSCB where the Alumni Pavilion is today. (This structure would be saved and moved). The site is relatively level and provides enough space for a major new academic building, with adequate setbacks from the access road and from the WSCB. The one-story wing extending from the WSCB would be demolished to make room.

Westside Classroom Building

Expansion is needed for academic space on the Westside Campus in any scenario. The scenarios tested keeping or removing the WSCB. Scenario 1 tested the feasibility of retaining the WSCB to serve other academic needs after a replacement building is built for Ancell. Scenario 2 identified how a second new academic building could be located to replace the WSCB before this is demolished.

A key goal for all CSCU Master Plan updates is optimizing the investment in existing facilities. Retaining, modernizing and older buildings where feasible is a more sustainable approach. For these reasons, the planning team comprehensively assessed the WSCB. After a thorough analysis, however, the team concluded definitively that WSCB could not be saved and repurposed without costs that approached that for a new replacement building. The result of such a costly renovation would still be a compromises building. The challenges can be summarized as follows:



FIGURE 04.12 Westside Classroom Building

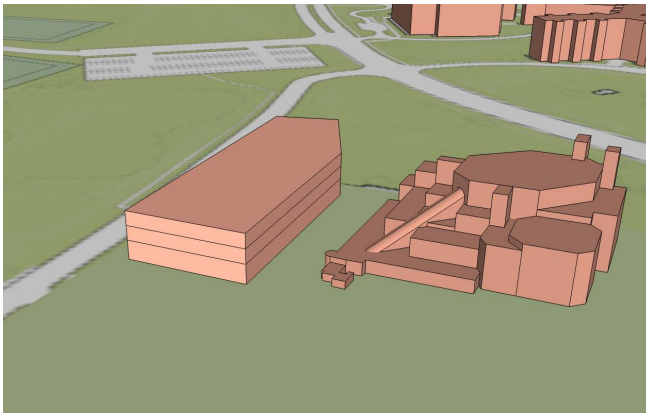


FIGURE 04.11 Massing Study: WSCB and new academic building

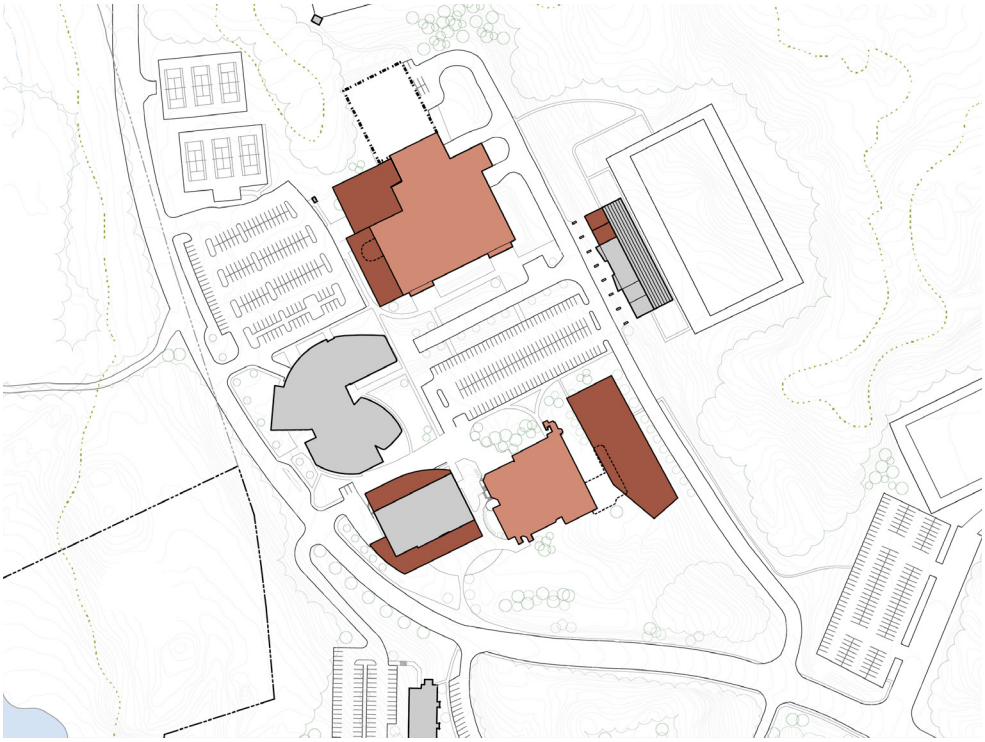


FIGURE 04.13 Westside Scenario 1: Building Projects

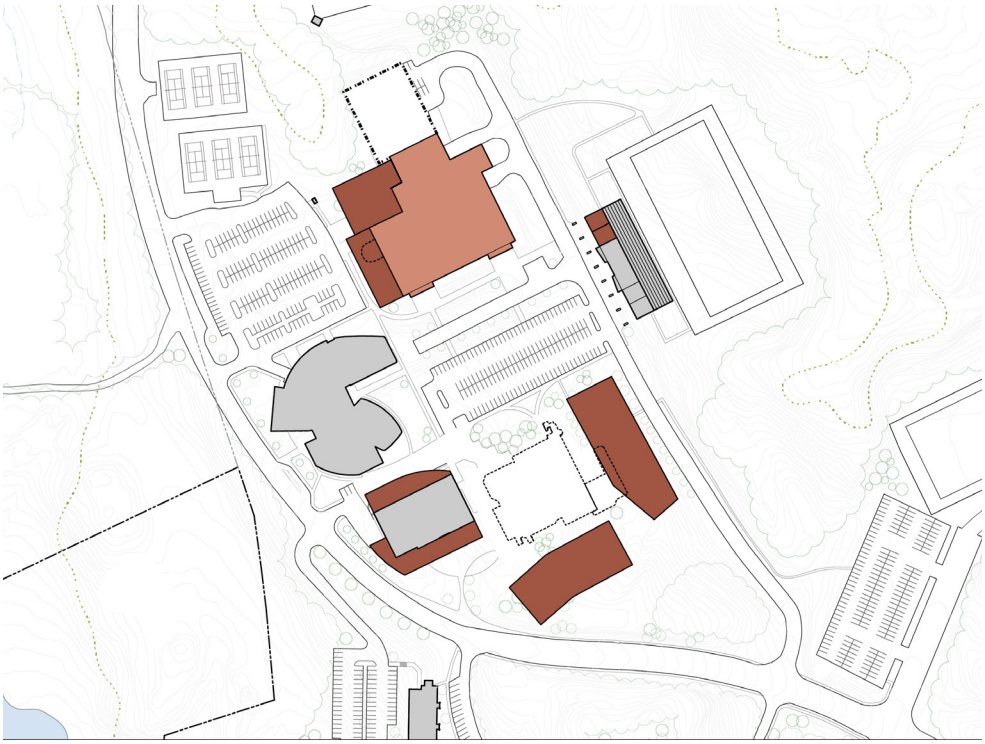


FIGURE 04.14 Westside Scenario 2: Building Projects

** Landscape, parking and open space projects not shown.*

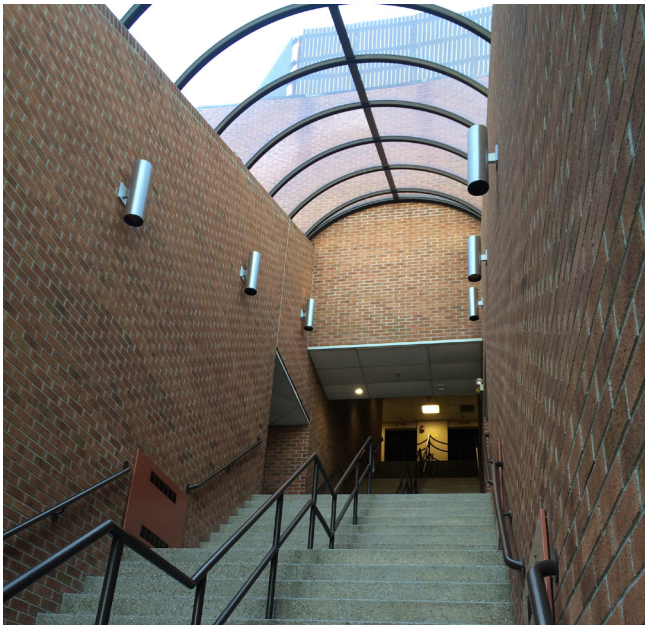
Westside Classroom Building Deficiencies

- **Layout Fit to Function:** The floor plan at each level, with a spiraling circulation system, is idiosyncratic and inflexible. Converting the plan to serve as a modern school of business would require full demolition of interior partitions
- **Structure:** Each floor has multiple sublevels to connect with the ascending ramp corridor. These multiple levels, illustrated in the diagram below, resist repurposing. Major modification to building structure would be needed to level out floors to provide new, flexible layouts.
- **Accessibility:** The building has major deficiencies for disabled access, since its design predates ADA and has multiple internal levels.
- **Energy Use:** The parallel Energy Master Plan found the WSCB to be a high energy user. This is likely because of a low-performing envelope, a high ratio of surface area, obsolete mechanical systems and other factors. While some upgrades are possible, such as window replacements, the profile of the building with its many steps and setbacks and high ratio of surface area to interior space is inherently inefficient.
- **Identity:** The building's appearance is unattractive, outdated, and unwelcoming. There is no clearly marked front entrance, but rather multiple minor entries at varying levels. The building's identity detracts from Western's goals of raising Ancell's profile and recruiting talented students.
- **Envelope:** The exterior brick is showing signs of deterioration. Windows are beyond their useful life and require replacement. Exterior hardscape around the building is also deteriorated.
- **Obsolete** HVAC System: The building's HVAC systems are at end of life and require replacement.
- **Relative Cost:** The Master Plan cost estimate indicated that the cost of an equivalently-sized new building would be only incrementally more than the major renovation / reconstruction needed to address these deficiencies. Even after this renovation, WSCB would still be a compromised solution, constrained by the limits of the original building structure.



FIGURE 04.15 Westside Classroom Building Floor Plan

For these reasons, the planning team recommended Scenario 2, replacing the WCS. The Master Plan Advisory Committee affirmed this recommendation. In the first phase of Scenario 2, the WSCB would remain following construction of the new Ancell School of Business and used for expansion of Visual Arts in the near term, until funding is available for a second academic building and demolition of WSCB.





Existing interior views at Westside Classroom Building

Long-term Projects

Garage Sites

Beyond the 10-year horizon of the current Master Plan update, there may be need for a second garage at the Westside Campus. The planning team assessed different locations. The north end of the VPAC lot is one possible site. Constructing a garage here would cause loss of parking during construction. It would also drive most traffic farther up University Boulevard, creating more challenges for pedestrians crossing to and from Pinney and Grasso. Another garage site is the sloped area east of the drive leading to the Westside Athletic Center. This site could be accessed both from this drive and from the commuter lot, allowing a large portion of traffic entering the campus to be diverted off University Boulevard before reaching the campus core. This garage site would be closer to planned new academic development. For these reasons, this site is recommended for a new garage if additional parking is needed beyond that recommended in the Master Plan.

Field House

Eventually, Western may need a new Field House to serve its athletic and recreation needs in the off-seasons when fields are not usable. The best location for this would be the south practice field.

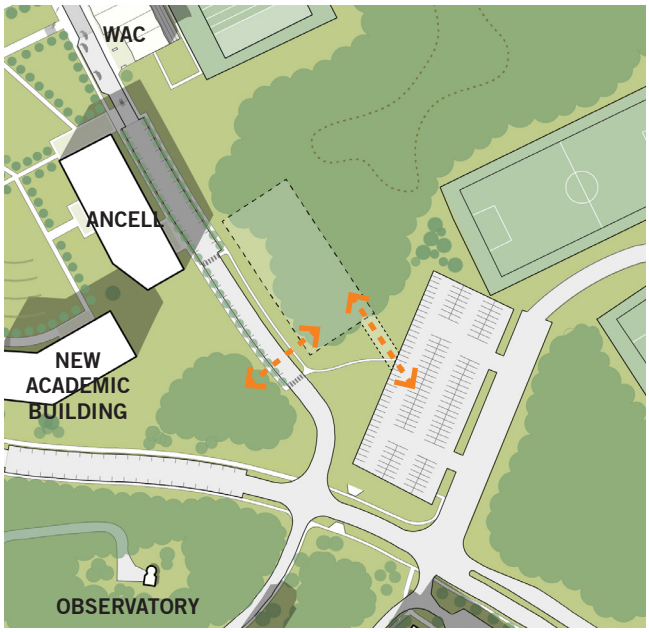
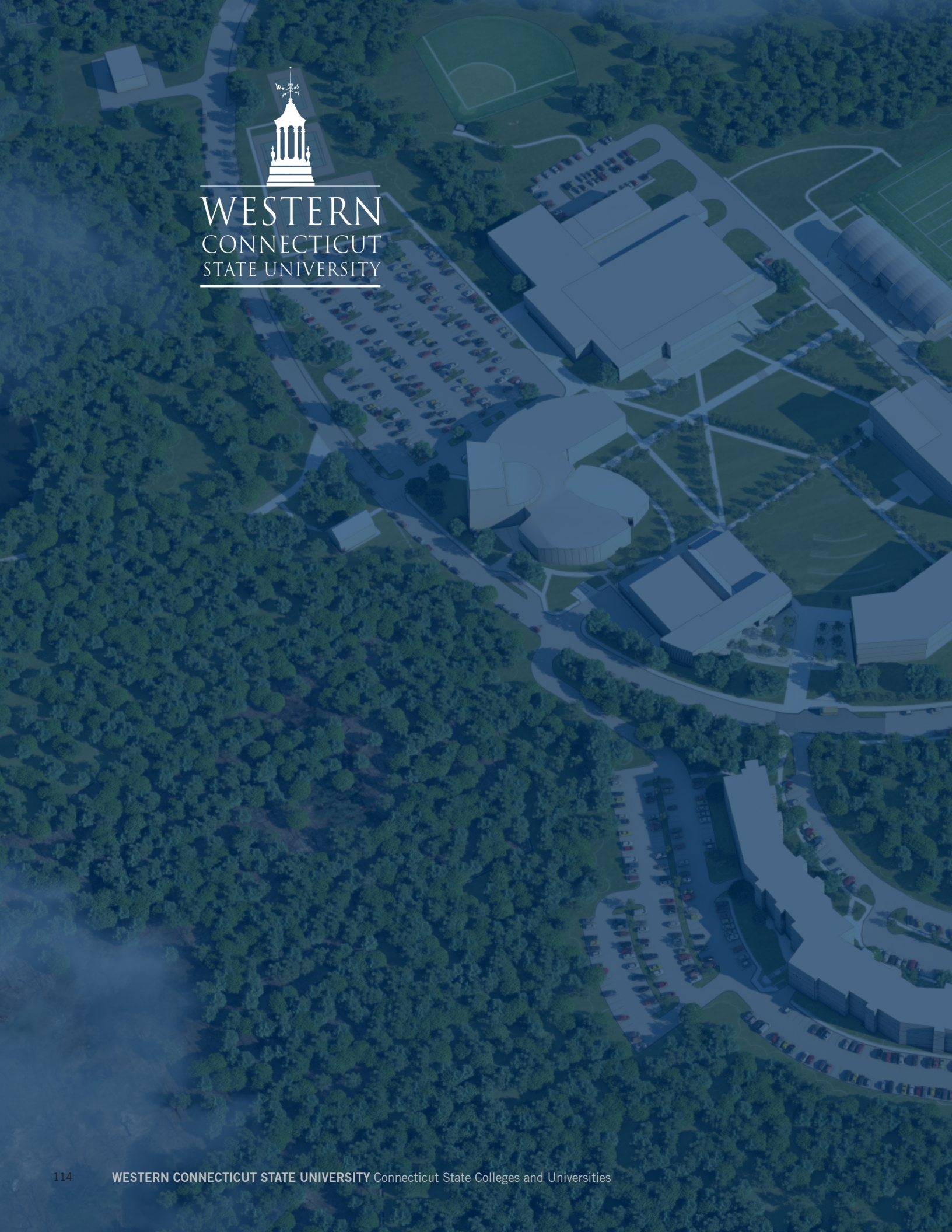
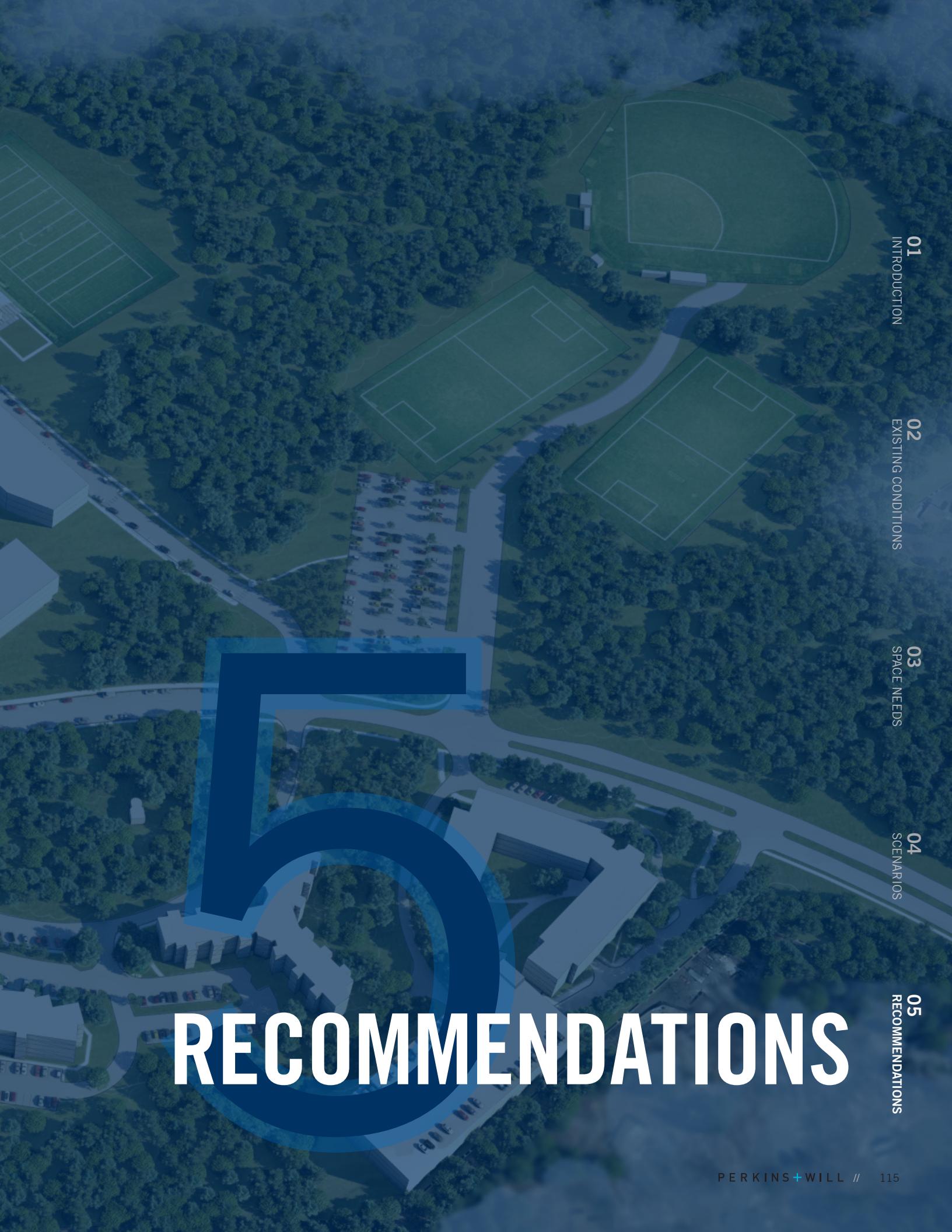


FIGURE 04.16 Future Garage Site


WESTERN
CONNECTICUT
STATE UNIVERSITY



5

RECOMMENDATIONS

INTRODUCTION

INTRODUCTION
LAND USE STRATEGY
BUILDINGS
- ARCHITECTURAL CHARACTER
- SUSTAINABILITY
- MIDTOWN CAMPUS
- WESTSIDE CAMPUS

ACCESS AND PARKING
OPEN SPACE AND LANDSCAPE
- FRAMEWORK
- IMPROVEMENTS

INFRASTRUCTURE AND ENERGY
IMPLEMENTATION AND COST
CONCLUSION

INTRODUCTION

Based on in depth analysis of Western's facility needs for academics, student life, recreation and athletics and campus systems, the Master Plan recommends the following range of capital projects. The Consultant Team and Advisory Committee recognize that all these projects likely will not be realized in the next decade, given the scale of capital investment and reinvestment.

LAND USE STRATEGY

As the smallest campus by far of all the CSCU Universities, it is especially important to optimize the use of finite available land at Western's Midtown Campus. The core of the campus should prioritize pedestrians over vehicles, while permitting necessary access at times for service and emergency services. Academic functions should remain central. Support and service functions including parking should remain near the periphery. The overall pattern of land use will remain largely the same, with the exception of some open space near the science building being used as an academic building site.

The larger Westside Campus land use will also be optimized to move supporting functions to the periphery and locate green space, academic and athletics functions more centrally to create more of a sense of place and to concentrate activity. Student housing and athletic fields will remain at the periphery. The large wooded areas, including the Nature Preserve will remain largely in their current state, with the low-impact addition of a cross country trail.

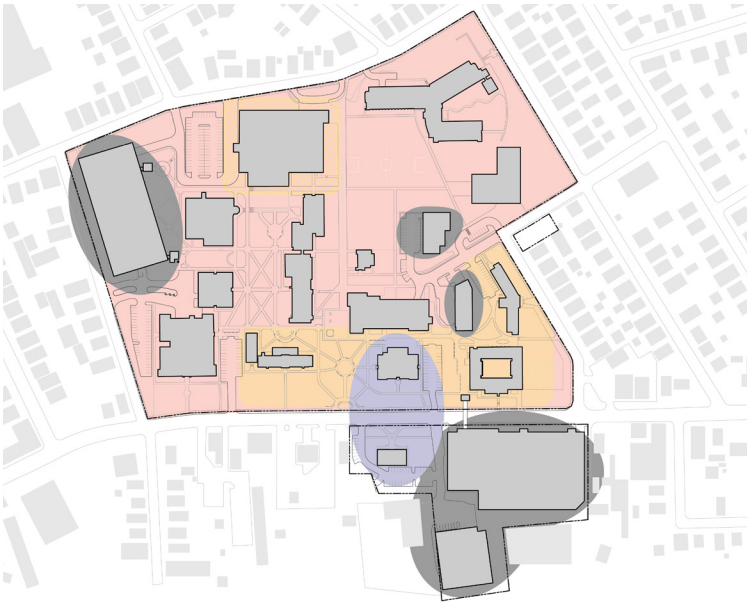


FIGURE 05.1 Midtown Proposed Land Use

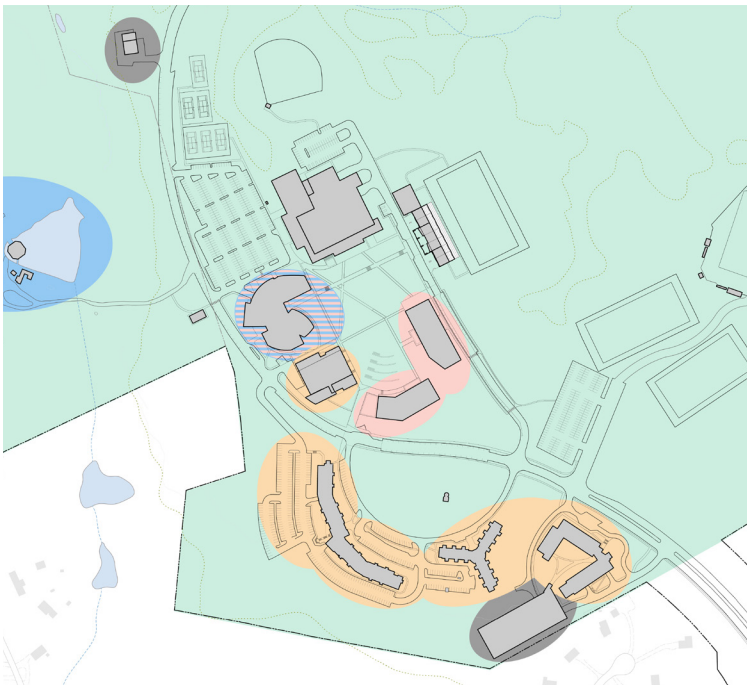


FIGURE 05.2 Westside Proposed Land Use

- Support/ Administration
- Academic
- Athletic / Recreation
- Student Residential / Dining
- Special Use Facilities
- Garage / Support / Maintenance

BUILDINGS

ARCHITECTURAL CHARACTER

Western benefits from a rich mix of traditional and contemporary architecture at Midtown. The use of brick in many buildings across the campus knits together the whole in large part. The Plan recommends that new academic buildings at Midtown have a contemporary expression, reflecting Western's progressive agenda and goals to advance innovation. The character should also be contextual, respecting the scale, massing and materiality of aesthetically contributing adjacent buildings. Brick should be incorporated to create a cohesive character for the larger setting.

The architectural character at the younger Westside Campus is eclectic and contemporary. A very wide range of materials is used. The VPAC exterior reportedly responds to this mosaic of existing materials by including them in this new building. The resulting campus architectural character as a whole is fragmented and not cohesive. The O'Neill Center is a large, hulking presence that does not contribute positively to the campus aesthetic, though façade have repainting with athletic imagery has helped in this regard. New buildings and additions at Westside should be similarly contemporary in expression. As a counterpoint to the "anything goes" character of all the various existing buildings, new building exteriors should aim through scale, placement and materials to pull together visually the many disparate parts into a more connected and memorable aesthetic whole, while maintaining an eclectic diversity.

SUSTAINABLE DESIGN

New buildings and additions are required to comply with the High Performance Building Standards of the State of Connecticut. This relates approximately to a U.S. Green Building Council LEED certified rating. The Visual and Performing Arts Center, opened in 2014, was designed to LEED Silver. The Planning Team encourages Western to strive for this highest level of sustainability in building design and energy use feasible within the project budget, including potentially Net Zero Energy.

The Plan recommends that new construction utilize a durable, high performance building envelop, energy efficient lighting, low-flow plumbing fixtures, recycled materials and high efficiency heating and cooling systems. The design should also consider such strategies as rainwater and gray water reuse for irrigation and green roofs for insulation value and stormwater management. Additional sustainability recommendations follow for landscape, stormwater, and energy use.

A separate system-wide Energy Master Plan has addressed opportunities at Western for energy conservation, renewable energy and procurement. An Energy Master Plan chapter on Western is included in the Technical Appendix.



Building:
Required - CT High Performance Building Standards



Land:
Compact Development
Minimize Additional Development Footprint



Stormwater:
Harvest
Retain / Treat / Infiltrate



Landscape:
Minimize added impervious area,
Provide attractive, sustainable plantings



Transportation:
Optimize Shuttle
Improve Pedestrian Connections
Manage Parking Demand
Bike Accommodations



Energy:
High performance new buildings
Energy Master Plan measures

MIDTOWN CAMPUS BUILDING PROJECTS

Building Projects

1. Berkshire Addition/ Renovation/ Innovation Center
2. New Academic Building/ Health and Wellness
3. Student Center Renovation/ Repurpose
4. Science Building Lab Renovations
5. Fairfield Hall Addition
6. Newbury Hall Renovation

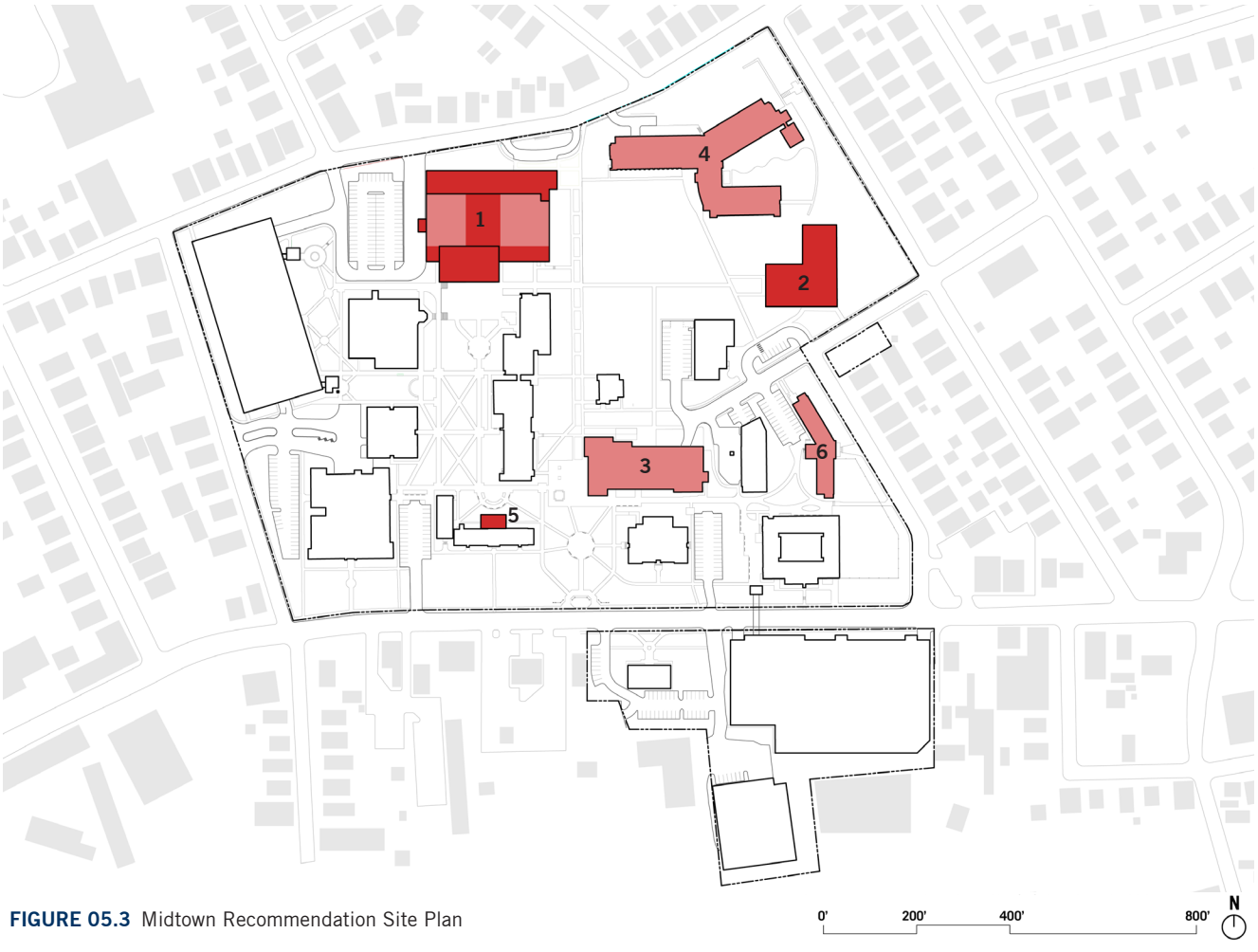


FIGURE 05.3 Midtown Recommendation Site Plan

Innovation Center / Berkshire Hall Student Center

This project transforms Berkshire Hall and its surrounding site to be a signature new, mixed-use facility for Western. A major addition will face a new campus North Gateway and transit hub off Osborne Street. This building expansion will include the new Innovation Center to support student success and entrepreneurial activity. The facility will include shared assembly spaces for events, conferences and instruction. The building entrance will engage and activate a new pedestrian mall that will unify the campus. The Innovation Center's location, orientation and functions will address President Clark's goal for Western to be a more outward facing University that engages more directly with the community and industry partners. In the near term before this project is realized, the Innovation Center will be in a start-up phase, located at the Westside Campus.

Another signature aspect of the Berkshire Hall project is providing a new state-of-the-art Student Center, including a replacement dining facility. Relocating student dining to this key location at the terminus of the main quadrangle should serve to activate the space and enhance the dining experience with pleasing views. The building will provide a new proper home for student activities, clubs and group study. The Master Plan recommends retaining the Williams Gym for recreation, supplementing this with upgraded fitness spaces to strengthen student experience. This can be used by the HPX program in addition to spaces in the new academic building described below.

In order to add capacity, replace obsolete space and create a compact footprint that opens up a needed cross campus pathway, the project entails a significant amount of demolition and new construction, as summarized in the table below. The Williams Gym and shell of the former theater are retained since these areas still have value. Single-story areas with layouts not conducive to repurposing are demolished and replaced.

The project location provides a good location for a loading area for food service near Osborne Avenue, removing this function and its impact from the heart of the campus. To accommodate loading, the project requires adding a loop drive around the full perimeter of the adjacent parking lot, for use by tractor trailers and other service vehicles accessing the new loading dock. The concept assumes part of the interior of the former theater would have a new flat floor installed to function as a kitchen / food service area. This will serve a large dining space facing the quadrangle.



Existing North facade of Berkshire Hall

PROGRAM AREA	ASF
Innovation Center	6,000
Career Center	3,600
Auditorium, Meeting	7,200
HPX	4,600
Gymnasium	10,300
Other Recreation, Physical Ed.	5,700
Student Dining	18,000
Lounge	4,500
Academic Computing	1,200
Other Student Space	5,600
TOTAL	66,700

CONSTRUCTION SCOPE	GSF
Demolition	45,000
Renovation / Williams Gym	10,300
Gut Renovate Theater Shell	7,100
New Construction	97,600
TOTAL	115,000

TABLE 05.1 Berkshire / Innovation Center Program Areas

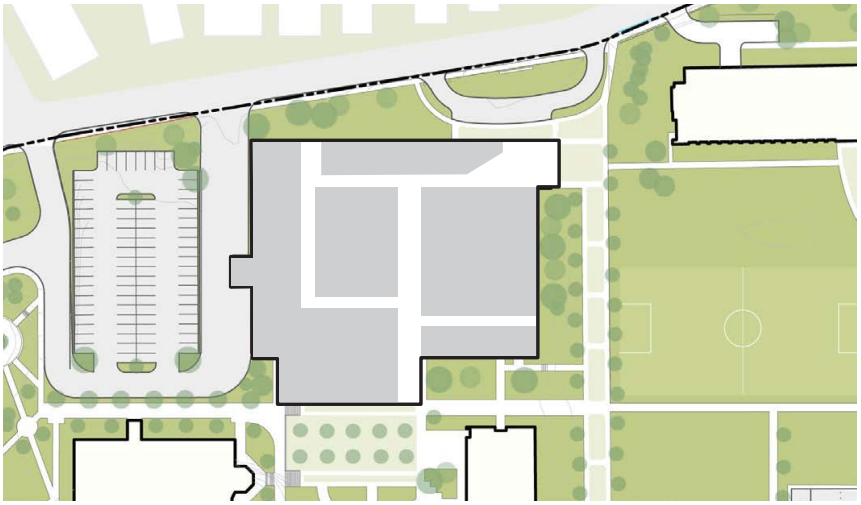


FIGURE 05.4 Berkshire Hall / Innovation Center site plan and interior circulation concept



FIGURE 05.5 Berkshire Hall / Innovation Center Aerial View



FIGURE 05.6 Concept: Innovation Center, North Gateway and Pedestrian Mall



New Academic Building

This new building will provide a significant portion of the needed academic expansion space at Midtown. The concept is for a 61,000 GSF, three story building with a partial basement for mechanical equipment and support. The recommended location, adjacent to the Science Building, will frame the east end of the campus and create an entry frontage on Roberts Avenue.

As summarized in the area allowances below, the building will accommodate shared classrooms, Nursing, a simulator, Health Promotion and Exercise Sciences (HPX), student lounges, and space for academic computing and campus services. The project assigned and gross areas reflect an assumed 54% net to gross efficiency, typical for this building type and allowing sufficient spaces between to foster a sense of community and to promote interaction between faculty and staff.

As this project may occur after Berkshire, the currently planned renovation of White Hall to meet Nursing's near-term needs is still recommended as a necessary interim step to keep this program competitive.

PROGRAM AREA		
Classrooms	7,000	
Nursing	14,425	
Simulator	3,400	
HPX*	6,400	
Lounges	2,100	
Campus Services	750	
Academic Computing	900	
TOTAL	33,175	ASF
	61,435	GSF

#From Berkshire Once New Academic Building is Complete.

TABLE 05.2 New Academic Building Program Area



FIGURE 05.7 New Academic Building Aerial View

Repurposed Student Center

The existing Student Center occupies a key location at the center of the Midtown Campus. Once the new Student Center and dining functions are relocated to the new Berkshire Hall / Innovation Center, this 71,900 GSF building represents a valuable opportunity through a comprehensive, gut renovation to address the balance of Western's needs for the Macricostas School of Arts and Sciences.

A key step in transforming this building, which may precede the overall renovation, is removing the lecture hall and small office area that protrudes from the west end of the building, blocking a clear line of sight from the main gate on White Street, to the north end of campus. The Open Space recommendations below describe this transformative project. The lost lecture hall is not highly utilized and its layout and high stage considered problematic by staff who use it. The exterior wall will need to be replaced with masonry to match.

The existing two story structure has a larger structural bay on the north side and a more closely spaced column grid along the south side. This suggests that the north side is best used for instructional space and the south side for offices and other smaller scale spaces. The atrium space in the entry should be redesigned to be more welcoming, attractive and functional. Removing the food service loading dock from this central campus location will be beneficial.

PROGRAM AREA	ASF
Classrooms	11,000
Arts & Sciences Programs	3,500
Lounges	3,250
Campus Services	750
TOTAL	45,500

TABLE 05.3 Repurposed Student Center Program Area

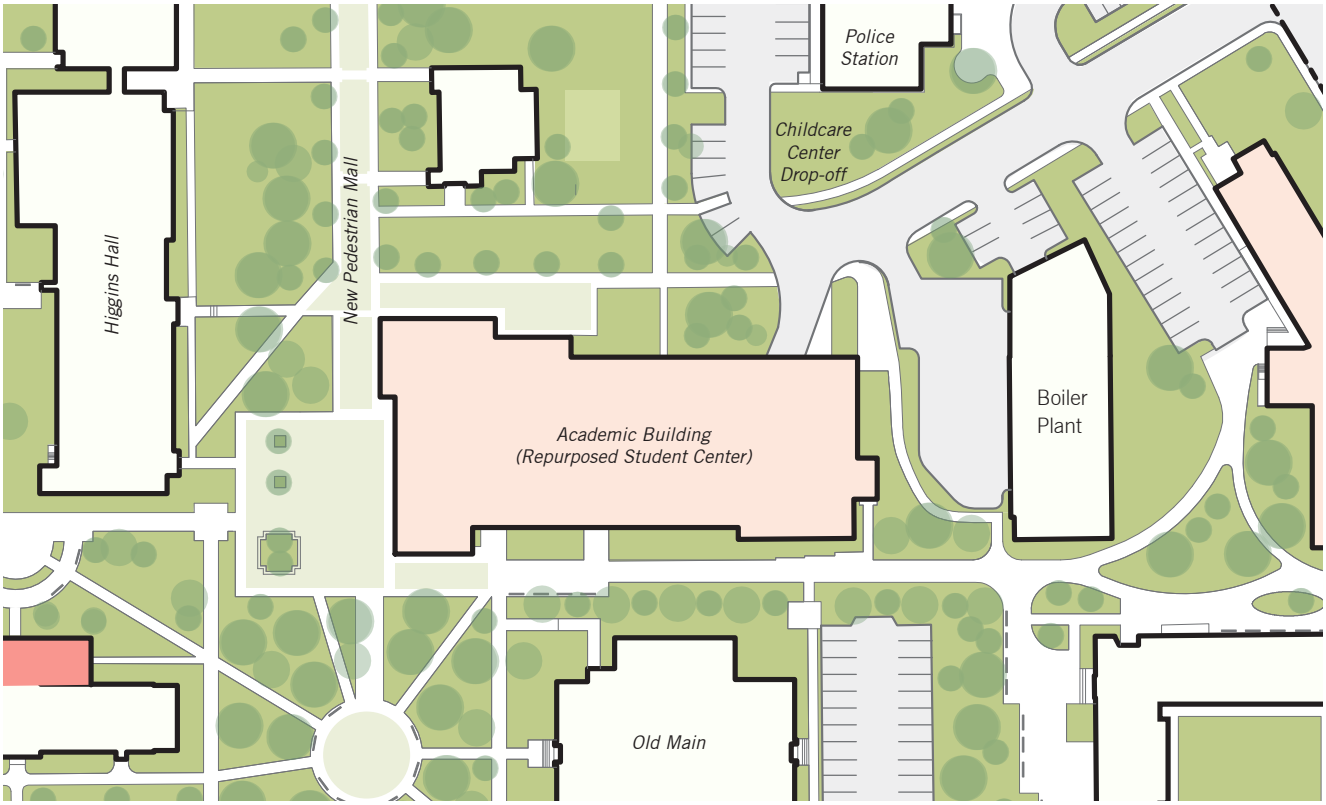


FIGURE 05.8 Repurposed Student Center Site Plan

Science Building Renovation

The Science Building is a relatively new facility and in good condition. The mix of laboratory types, however, does not fully align with Western's institutional needs. There are several specialized labs with low to no utilization on a given semester, while there is a shortage of labs needed for introductory and service courses. There is a need to expand section capacity for courses with greatest demand. This can be done without an addition to the building. By repurposing and perhaps combining select labs with presently modest use and converting these to labs in more demand, it should be possible to increase the station count for key introductory and service labs.

In order to resolve the current lab bottleneck, the Plan recommends conducting a detailed study to analyze current and projected curriculum, the existing laboratories, and current and historical utilization. The goal is to identify the labs with low utilization that could be renovated with minimal cost and maximum benefit, allowing enrollment growth.



Existing Science Building

Honors House / Childcare Center

The Honors Program has seen much growth and great success in recent years. The program needs more space. The Master Plan recommends that Honors retain a presence in Honors House, and get additional space nearby. The space could be in repurposed Student Center eventually, and in an interim location in the near term. It is not desirable or recommended to add to the Honors House building, as this will compromise the scale of the structure.

Western provides Childcare as an amenity to students, faculty and staff. The School of Professional Studies would like to build its early childhood program, using the Childcare Center. Today, 2 out of 3 children in the Center are not affiliated with Western. The Plan recommends that Childcare remain for now in the lower level of Honors House. Moving the facility and expanding it are not recommended with State funds since it is not central to Western's mission.

White Hall

This former school building will remain a key academic building for Western. The pending renovations to relocate Education and Nursing here and thus consolidate the School of Professional Studies at Midtown should proceed. Classrooms should be modernized to permit a wider range of teaching styles. The Plan recommends that the exterior of the building be cleaned to restore it more to its original appearance.

Higgins and Higgins Annex

A comprehensive redesign to modernize these two major buildings in the center of the Midtown Campus commenced during the Master Plan update. The planning team met with the renovation architects, Tai Soo Kim Partners, to discuss the Master Plan goals for the buildings and surrounding campus. The general recommendation is that Higgins and Higgins Annex remain academic buildings, with a mix of shared classrooms spaces, upgraded to support a range of contemporary teaching methods. The building redesign should facilitate east-west circulation across the campus, which it now blocks. Higgins and the Annex have prominent frontage on a new planned pedestrian artery – described below in the Open Space recommendations. The building east entries should capitalize on this relationship to this new signature campus element.



Existing Honors House



Existing White Hall



Existing Higgins Hall

Litchfield Hall

The renovation under way during the Master Plan update will correct deficiencies in the exterior envelop and upgrade interior finishes. The layout will remain largely unchanged. The Master Plan recommends no further changes in the next 10-year period, with the exception of exploring an alternative location for the Student Health offices. While the current location in the front of Litchfield has good access from the White Street garage, it is an incongruous use embedded in this residence hall. The space could be repurposed as common space to serve residents.



Existing Litchfield Hall

Fairfield Hall

This neo-Georgian residence hall generally serves Western well. Some have noted that the student residents would benefit from more lounge / game room space, in addition to the current ground floor space with the traditional interior finishes. The planning team explored a concept for an addition for more lounge space, with an adjacent terrace for student gathering, illustrated below. Before initiating this project, the team recommends that Western conduct a more detailed survey of students to confirm this need.



FIGURE 05.9 Fairfield Hall Proposed Concept Floor Plan

Newbury Hall

Newbury's traditional corridor style layout with shared restrooms on each floor fits a need for an affordable housing choice for first year students. To provide a wider variety of first year housing types to enhance recruitment, the planning team explored several ways of renovating Newbury. The preferred approach is to retain the current layout on floors 4 and 5 and renovate floors 2 and 3 to create semi-suites, as illustrated below. The minor loss in beds is a trade-off for a more attractive and diverse range of housing options. The ground floor would remain as common areas.

Design Capacity = 208 beds Max Capacity = 208 beds Traditional Style	
Level 5	52
Level 4	52
Level 3	52
Level 2	52
Level 1	0
TOTAL # BEDS	208



FIGURE 05.10 Newbury Hall Existing Floor Plan

Levels 4 & 5: Semi-Suites
Levels 2 & 3: Retain Traditional Style

Level 5	52	
Level 4	52	
Level 3	40	
Level 2	34	(with RA APT.)
Level 1	0	
TOTAL # BEDS	178	(-30)



FIGURE 05.11 Newbury Hall Proposed Concept Floor Plan

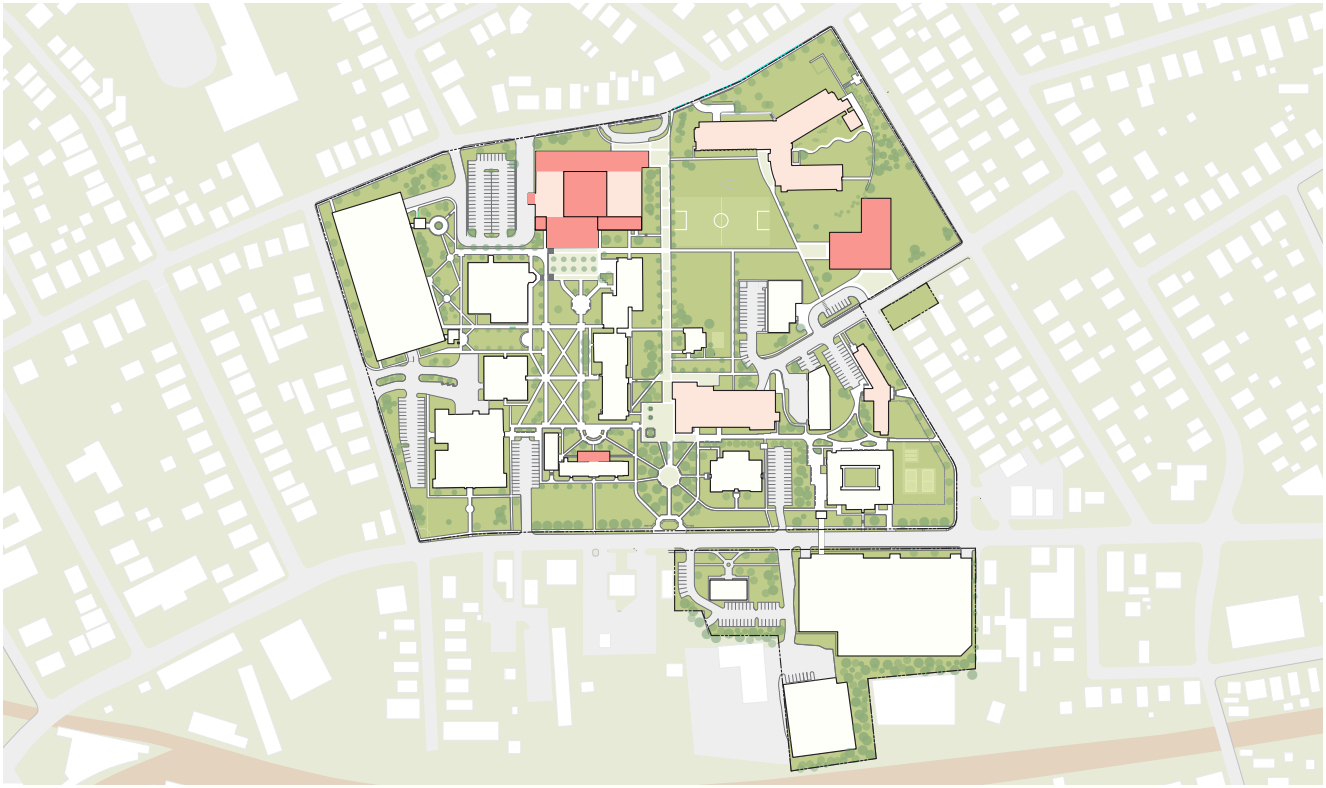


FIGURE 05.12 Illustrative Site Plan of Midtown Recommendations



FIGURE 05.13 Aerial View of Midtown Recommendations

BUILDINGS

WESTSIDE CAMPUS BUILDING PROJECTS

Building Projects

1. Relocate Alumni Pavilion
2. New Academic Building/ Ancell School of Business
3. O'Neill Center Expansion/ Renovation
4. Westside Athletics Center Expansion
5. New Academic Building/ Visual Arts
6. Demolish Westside Classroom Building
7. Campus Center Expansion
8. Grasso Hall Partial Renovation
9. Centennial Hall Partial Renovation

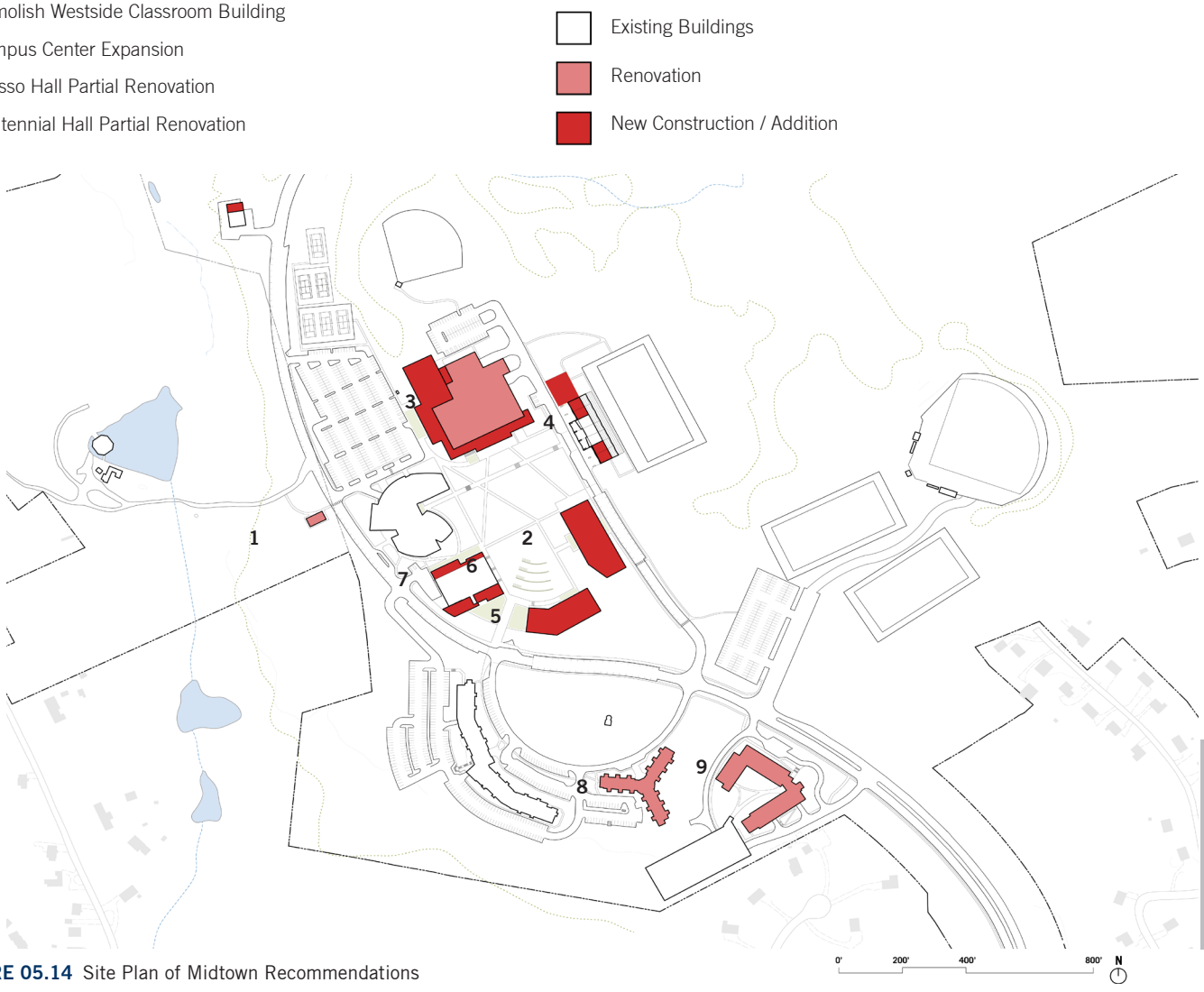


FIGURE 05.14 Site Plan of Midtown Recommendations

New Ancell School of Business / Academic Building Phase 1

Since the Westside Classroom Building cannot be modernized to properly serve Ancell and since the Westside Campus needs expanded academic space, the Plan recommends a new Academic Building. This project is a high priority, to provide a suitable facility for the Ancell School of Business to help meet its accreditation. The project will also include spaces shared by all Westside users, including classrooms, computer labs and a multipurpose space.

The optimal location for the project is next to the WSCB. To clear the site, the Alumni Pavilion will have to be relocated (see below) and the one-story WSCB extension demolished. There is sufficient space to locate this new building between the access drive and the WSCB. The 40-foot setback from WSCB will maintain light and views. Since the WSCB sets back as it rises, the actual separation is even more generous as shown in the massing diagram. (UMPAC 5 slide 56). In the near term, the WSCB would remain and have interim use as described below. Longer term, the plan recommends it be demolished and replaced with a Phase 2 Academic Building, also described below.

This new, 4 story, 102,600 GSF facility will set into the hillside. Its main entrance will face a new central quadrangle. A secondary entrance can be located at the south of the building for those arriving from that direction.

PROGRAM AREA		
Classrooms, Computer Labs	14,600	
Ancell Departments	37,500	
Administration	1,600	
Multipurpose Space	4,500	
Centers / Institutes	1,800	
Library	5,500	
Student Lounges	2,500	
Other	2,000	
TOTAL	55,400	ASF
	102,500	GSF

TABLE 05.4 New Ancell School of Business Building Program Area

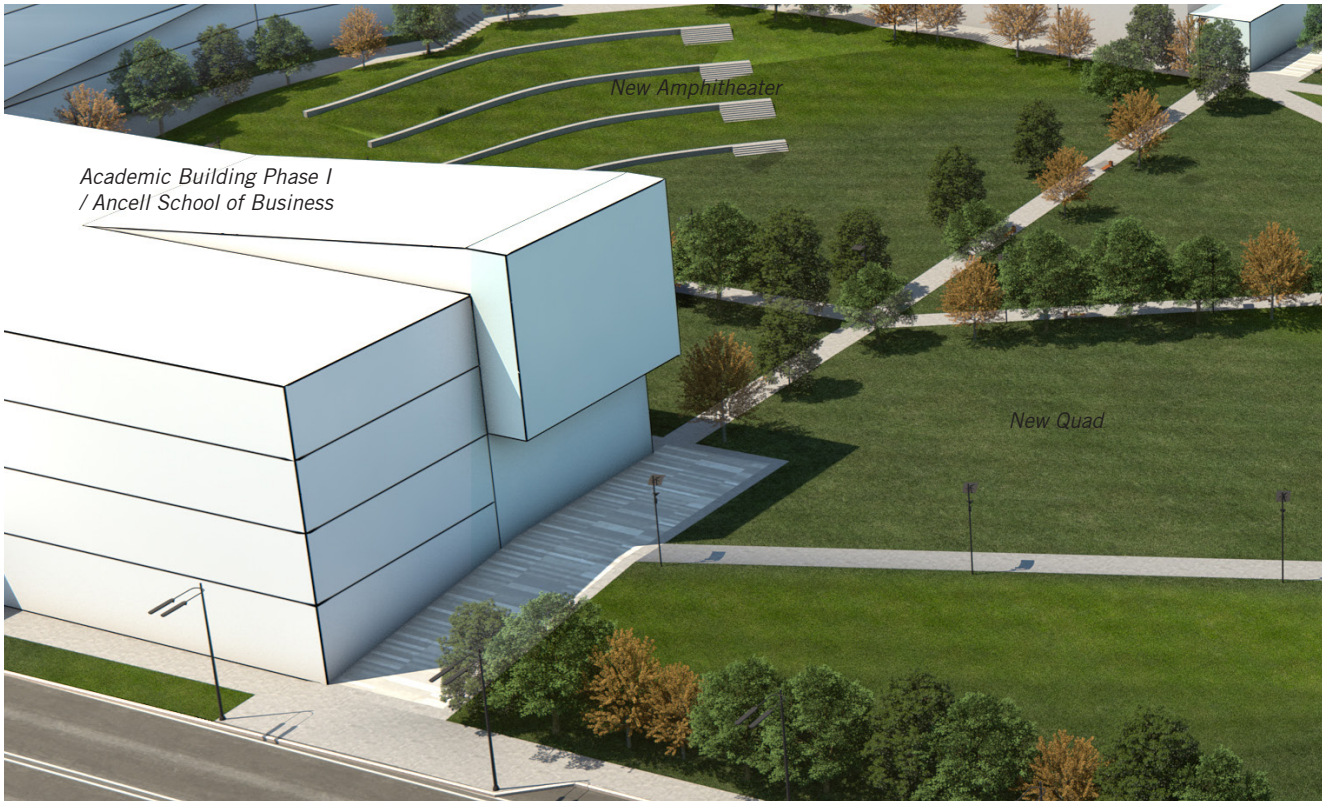


FIGURE 05.15 New Academic Building / Ancell School of Business

Westside Classroom Building

In the near term, the Master Plan recommends that Western retain the WSCB to optimize remaining life of this structure. The Visual Arts program has a near term space need. The Plan recommends that Visual Arts take beneficial occupancy of the building, with minimal changes to the existing, complex layout. This will serve as an interim expansion measure for Visual Arts before a purpose-build facility can be funded later. To keep the WSCB serviceable, some investment will be needed to replace failing HVAC systems. The goal would be to make sufficient capital investment to keep the building operational, but avoid major comprehensive renovations, as the building will be demolished once Academic Building Phase 2 opens.

EXISTING AREA	28,900	ASF
	46,300	GSF
ADDED PROGRAM AREA		
Dining Area	3,000	
Cafe / Daily Grind	900	
Kitchen*	2,010	
Campus Store, Meeting Rooms, Student Activities / Lounges	8,100	
TOTAL	14,010	ASF
	19,000	GSF

**Kitchen moves into vacated Fitness Center. No excavation required.*

TABLE 05.5 Campus Center Added Program Area

Campus Center Expansion / Renovation

Western has outgrown the Westside Campus Center. Near-term expansion of the dining area is planned to address the most pressing need. This one-story addition to the north side of the building will approximately double the size of the current dining area. It will also be connected to a new, adjacent outdoor dining terrace, made possible when the access drive is closed and ADA parking spaces relocated. The Plan also recommends expanding the student café, the Daily Grind, as part of this north addition to provide needed expansion here as well. To provide necessary kitchen / food service expansion, the Plan recommends backfilling space that will soon be vacated by relocating the Fitness Center from the lower level of the Campus Center to Pinney. In this way, costly below grade expansion for the kitchen is avoided.

The Plan also recommends an addition to the south of the Campus Center to fulfill expansion need for student services, student activities, lounge and assembly space. The addition will be two levels above grade, creating a new more welcoming entrance and a more transparency into the building. The existing south façade is very articulated, with a steel canopy, clock and other elements. The new façade should not only create an attractive, welcoming entrance, but also frame the entrance quadrangle, and ideally begin to connect through similar materials and architectural expression to the planned adjacent academic buildings, to create a more cohesive campus aesthetic.



Existing Campus Center

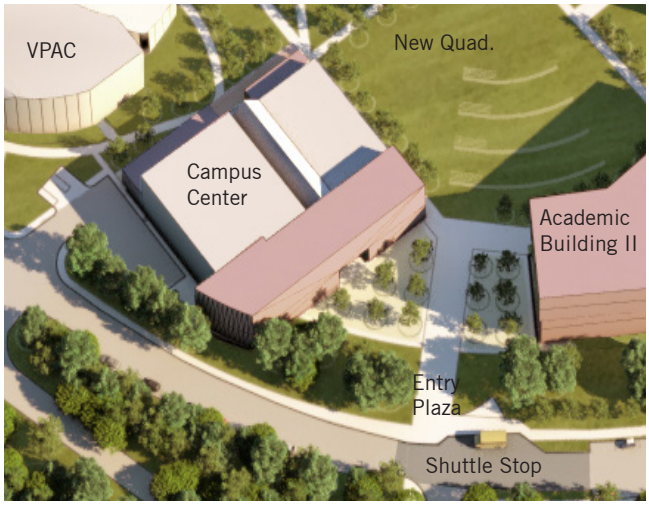


FIGURE 05.16 Campus Center Aerial View

O'Neill Center Expansion / Renovation

The Master Plan recommends an expansion and modernization of this large facility which serves the University and the larger community. The project will address pressing needs to provide more competitive facilities to recruit student athletes, expanded access to recreation and fitness space, and a more functional and attractive building inside and out, better integrated with its campus setting.

This 75,000 GSF addition addresses a deficit in space for athletics and recreation and for support space for large athletic venue / event space. An addition on the north side fits in available open space and avoids the wetland area to the north. The upper level of the north addition is a new gymnasium, sized to provide a competition basketball gymnasium with pull out bleachers and at other times for multiple practice courts. This addition provides a Sports Performance Center, with windows facing the woods to the north. The Center will provide a state-of-the-art facility that will be especially useful for recruiting athletes. This new space can act as swing space to facilitate the phased renovation of existing obsolete locker, equipment and office areas.

Additions on the west and south sides of O'Neill provide new, visible public entrances facing both the expanded VPAC parking lot as well as the new main quadrangle. These entrances and their concourses, restrooms and other amenities address a deficit in these types of areas today supporting the main event space. The south lobby also connect to the new elevation of the main quad. A relocated Sports Hall of Fame is provided in a more visible and accessible location at the southeast corner of the building facing the WAC and main quad.

The swimming pool will remain for the next decade. In the long-term, there is sufficient space in the north parking lot to build a regulation-size replacement natatorium. The old obsolete pool could then be demolished or decked over to be repurposed for other needed functions.

EXISTING AREA	65,700	ASF
	82,300	GSF
ADDED PROGRAM AREA		
Competition Gymnasium	13,500	
Sports Performance Center	12,000	
Hall of Fame	1,600	
Offices, Athletics Areas, New Entries, Concourse, Storage, Concess., MER, Restrooms	7,000	
TOTAL	34,100	ASF
	75,000	GSF

TABLE 05.6 O'Neill Center Added Program Area



Existing O'Neill Center

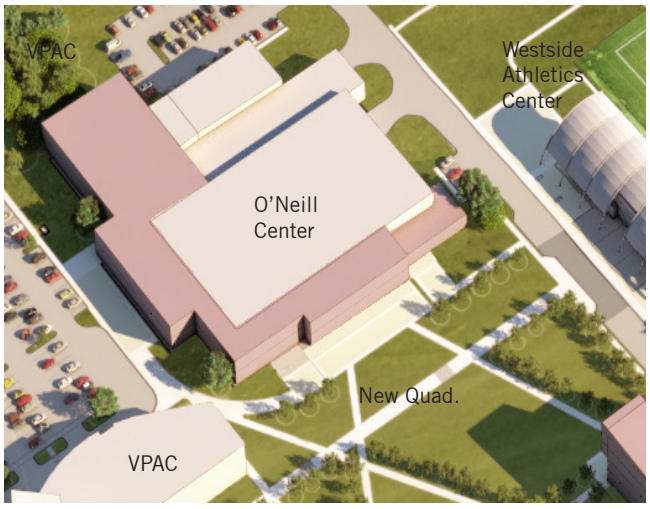
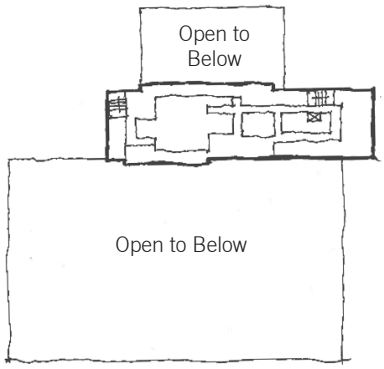
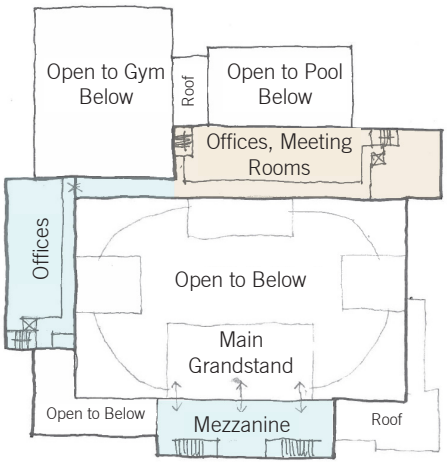


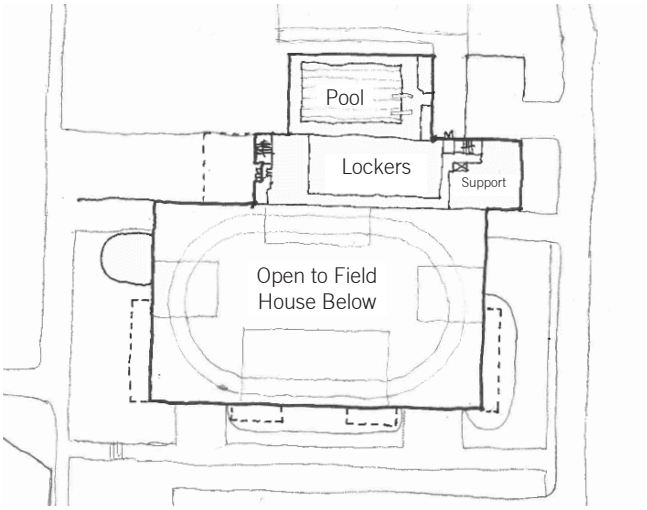
FIGURE 05.17 O'Neill Center Aerial View



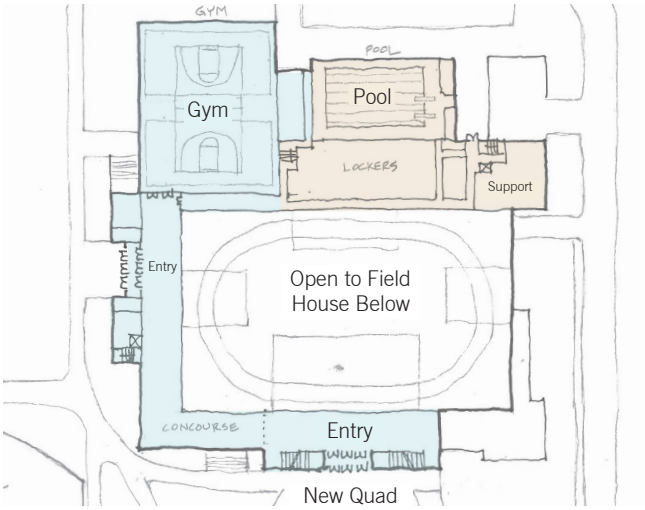
Existing Level 2



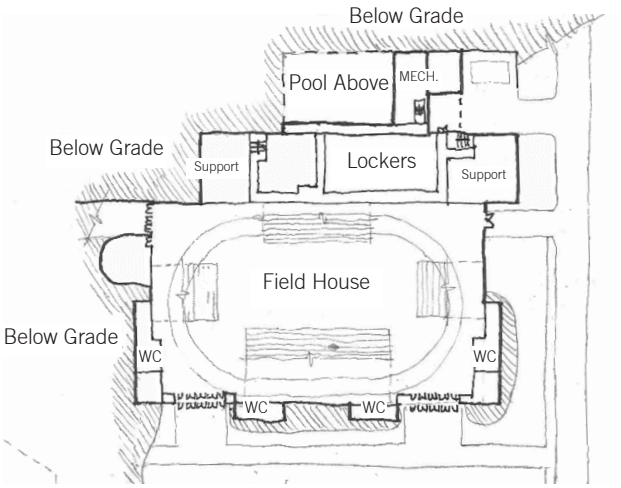
Recommended Level 2



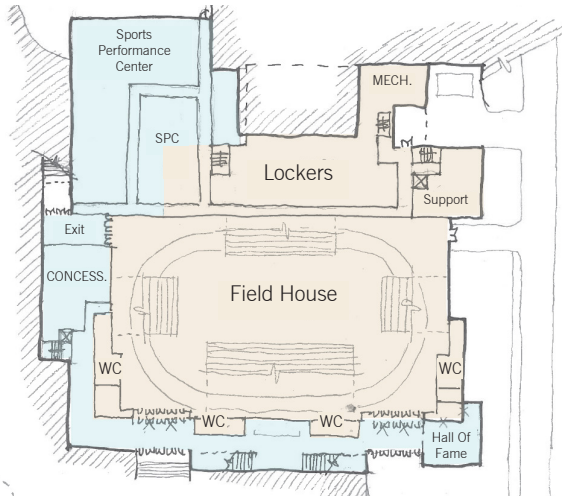
Existing Level 1



Recommended Level 1



Existing Lower Level



Recommended Lower Level

FIGURE 05.18 O'Neill Center Floor Plans

Westside Athletic Center Expansion / Renovation

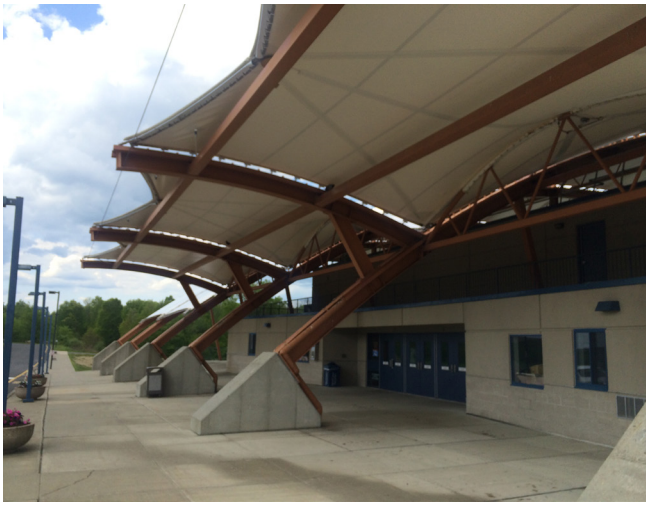
The recommended project for WAC works with the unique existing configuration of this facility, set into the slope, to provide needed expansion and modernization in a manner that is sympathetic to the original design concept. The most pressing space deficiency relates to functions on the lower level. The current team locker rooms are severely undersized relative to comparable facilities at Western's peers. The WAC also needs its own replacement mechanical system to end its dependence on a failing glycol loop system running from O'Neill. To meet these needs, expansion to the north is recommended at the lower level. The roof of this addition can be set at an elevation to serve as a spectator terrace above, at the level of the WAC entry.

Expanding the modest VIP reception room on the second level is a goal for the University to cultivate supporters. This can be accomplished by adding on top of the existing one-story area (with structural reinforcing as needed) and an extension over the grandstand entrance below at the north end. A similar second level addition is recommended on the south end to maintain symmetry in the design. This addition can serve as multipurpose team room or lounge space.

The fabric roof will be replaced with a more durable permanent fixed roof.

EXISTING AREA	12,000	ASF
	18,300	GSF
ADDED PROGRAM AREA		
Event, Reception, Conference (Mezzanine)	1,600	
Lockers / Mechanical Space	5,200	
Replace Fabric Roof		
TOTAL	6,800	ASF
	7,200	GSF

TABLE 05.7 Westside Athletic Center Added Program Area



Existing Westside Athletics Center

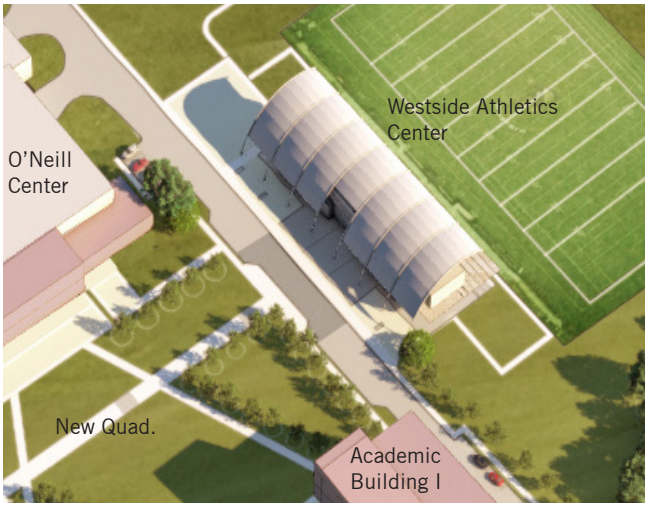


FIGURE 05.19 Westside Athletics Center

Academic Building Phase 2

This project is needed primarily to provide replacement academic space for the obsolete Westside Classroom Building (WSCB). The proposed location is just south of WSCB, to permit the new building to be built before demolition of WSCB. The location requires WSCB to be removed. Accordingly the construction of this building and demolition of WSCB should be bundled as a single project.

The proposed 89,000 GSF building is envisioned as having 4 levels above grade and a partial basement for mechanical services and building support. The recommended location frames the surrounding open space to create several "outdoor rooms", including a new gateway quadrangle into the Westside Campus, and a terraced quadrangle that may serve as an amphitheater (described more below).

The primary academic use will be expansion space for the Visual Arts programs. While visual arts functions are in the new VPAC facility, long term there is a need to right-size these spaces to provide studio space and accommodate enrollment growth driven by the success of this program. The building will also include a gallery, a Bookstore/C Store, student lounge and facility office space.

PROPOSED AREA	48,200	ASF
	89,000	GSF
PROGRAM AREA		
Visual Arts Studios	41,500	
Gallery	1,800	
Bookstore / Concession Store	1,500	
Student Lounge	2,500	
Facilities	900	
TOTAL	48,200	ASF

TABLE 05.8 Academic Building Phase 2 Program Area

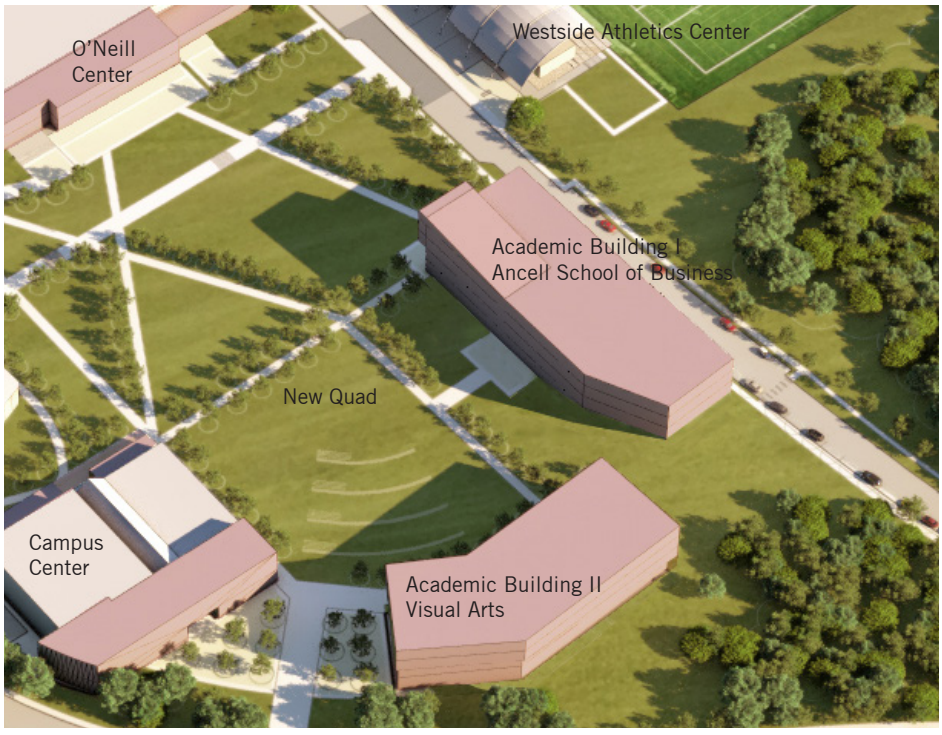


FIGURE 05.20 New Academic Building I and II Aerial View

Grasso Hall Renovation

To provide more common space, the Plan recommends a minor renovation for Grasso Hall to convert a one-bedroom apartment and shared lavatory to a 580 SF shared student lounge on floors 2 through 4. The bed loss is relatively minimal (3) and the benefit significant. At the juncture of the three wings, the narrow hallways will open into a common space with beautiful views. The location at the center, rather than the periphery of the building, should make each lounge a hub of activity.

Eventually when natural gas service is brought to the Westside Campus, a small ground level addition to Grasso is recommended on the back side to expand the Mechanical Equipment Room for a new gas-fired boiler.



Existing Grasso Hall

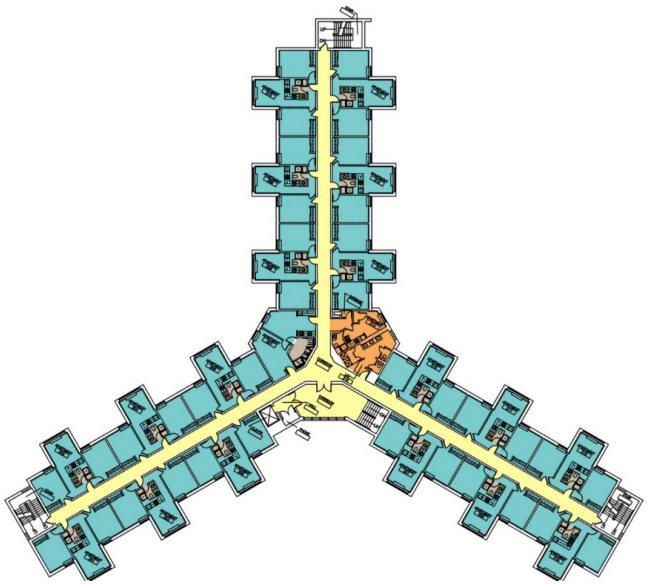


FIGURE 05.21 Grasso Hall Typical Residential Level Floor Plan



FIGURE 05.22 Grasso Hall Proposed Lounge Layout

Pinney Hall

The University is about to implement a near-term project to convert an under utilized common space to a new fitness center, relocating this from the Campus Center. The Plan recommends that building envelop deficiencies be corrected, as intended, as soon as funding allows.

Centennial Hall Renovation

To further activate student life in Centennial, the Plan recommends relocating the under utilized student lounge / multipurpose space from the ground level to the first floor off the main lobby. The current student lounge is hard to find on the lower level and out of the day-to-day flow. A small space off the main lobby, labeled “Formal Lounge” is too small to be a vibrant social space. The recommendation is to convert some bed space on the first floor to lounge, and build a modest addition to create a spacious lounge facing the courtyard, with a connecting terrace. The space could include a kitchen for shared meals. The ground floor space would be converted to suites, partially or fully offsetting the loss of beds on the first floor.

A near term step, before funding is available for this project, could be to experiment with different equipment and furnishings in the existing ground level lounge space to provide more definition and functionality to encourage greater use.



Existing Pinney Hall



Existing Centennial Hall



FIGURE 05.23 Centennial Hall Existing First Floor Plan

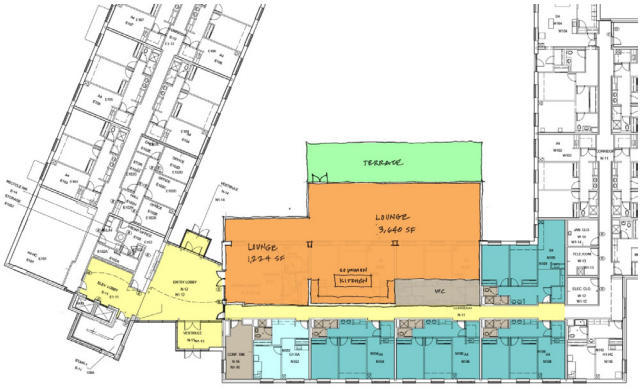


FIGURE 05.24 Centennial Hall Proposed Lounge Layout

Alumni Pavilion

This open air, timber pavilion will be relocated from east of the WSCB to a new site near the path into Ives Concert Park. This will clear the site in the core of the campus for the new Academic Building Phase 1 with the Ancell School of Business. The new site for the Alumni Pavilion will be surrounded by trees, within an easy walk from parking off University Boulevard. The path will be ADA compliant. As a post and beam structure, the pavilion can be disassembled and reassembled easily. A new concrete pad and foundations will be needed plus electrical conduit to the site.



Existing Alumni Pavilion

Maintenance Facility

The Plan recommends expanded Maintenance Facilities to provide more space for protected vehicle storage, general storage and staff lockers and support space. The expansion will be in the current area, west of University Boulevard and north of the campus core. More detailed programming is needed to identify specific needs.



Existing Maintenance facility

Ives Concert Park Facility

The 40-acre Ives Concert Park is located on the Westside Campus. It hosts a variety of national, regional and local performing artists. The facility is an open-air venue with lawn seating and a covered performance area. It is run by the Charles Ives Authority for the Performing Arts and is an important resource both for Western and the broader community. As facilities under separate ownership and management from CSCU/WCSU, facility needs for Ives Concert Park were not included in the Master Plan Update.

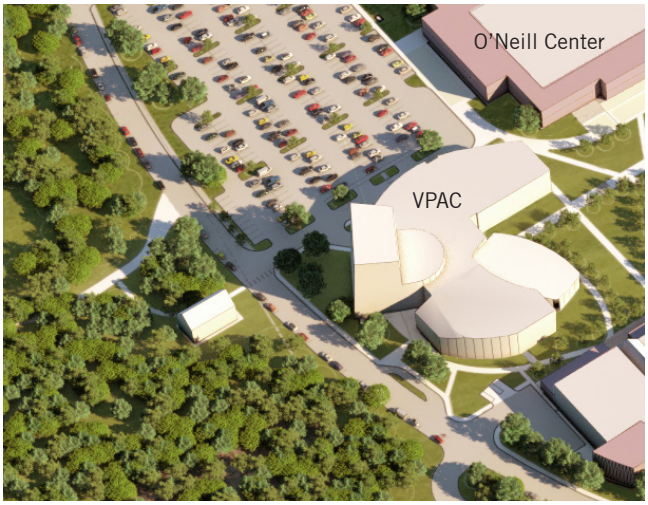


FIGURE 05.25 Alumni Pavilion Aerial View



Ives Concert Park

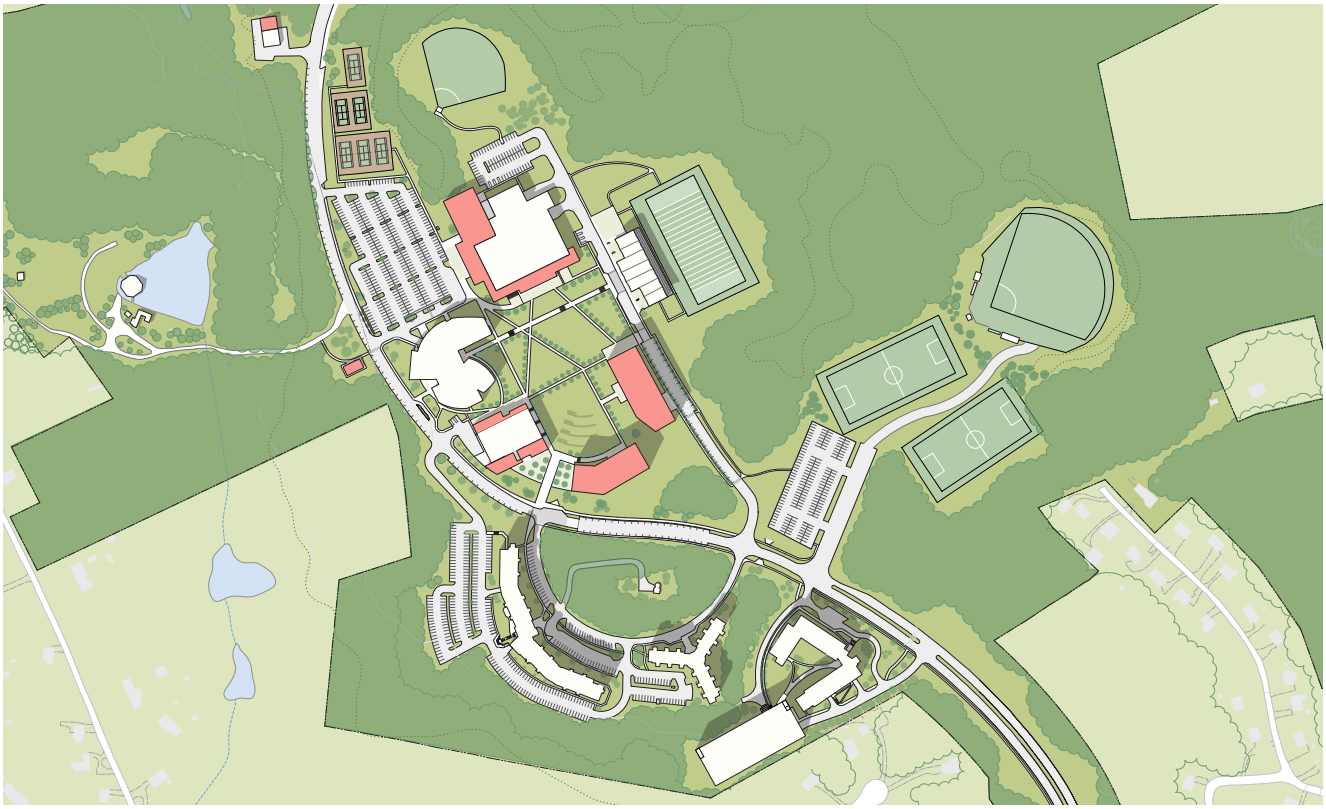


FIGURE 05.26 Illustrative Site Plan of Westside Recommendations



FIGURE 05.27 Aerial View of Westside Recommendations

ACCESS AND PARKING

MIDTOWN ACCESS

Dr James Roach Avenue

The recommended plan suggests the closure of Dr Roach Avenue from Osborne Street south to the existing Student Center Loading dock. The north-south portion of the road will be converted to a pedestrian mall linking the southern and northern gateways to campus. The road closure will terminate Roberts Ave at the Student Center loading dock and sufficient area for entry and exit maneuvering should be maintained as part of the road improvements. Designated parking for the adjacent Day Care building and access to the Police Station parking lot are two of the key considerations in the future redevelopment of this area.

North Gateway and Transit Hub

In conjunction with the Roach Avenue closure and redevelopment of Berkshire a new northern campus gateway and transit hub is envisioned. The Gateway would anchor the northern end of the new pedestrian mall and provide a new identity and backdrop for the Berkshire Innovation Center entry. It is recommended that the gateway also incorporate a ceremonial gate to mirror the existing gate along White Street. The transit hub would serve as primary shuttle stop at the Midtown Campus.

Berkshire Loading

In order to provide adequate loading access for future dining facilities in a Berkshire Hal that has been renovated into a student center a new loading dock and access is required on the westside of the building. This will require some reconfiguration of the existing parking lot between Berkshire and the parking garage. The access drive would operate as a one-way loop beginning at the entry drive, and should be sized to accommodate a passing lane at the Berkshire loading dock.

MIDTOWN PARKING

The Midtown access projects largely maintain the current parking supply. A limited number of spaces along Roach Avenue and in the existing Osborne lot are lost. It is expected that given current parking supply and enrollment projects that impact on overall supply would be negligible and not a priority for replacement. The exception being replacement of the existing Day Care parking space off of the adjacent Police Station drive.



Existing Dr. James Roach Avenue



Existing White Street Garage

WESTSIDE ACCESS

University Boulevard

Each recommended access improvement on the Westside campus attempts to increase overall pedestrian safety and connectivity. The first recommendation is to narrow University Boulevard to the east of Centennial Hall and provide a more clearly defined transition zone between double and single lane traffic. This narrowing is intended to reduce speed better manage crossing traffic as cars enter the core of campus. Additionally speed tables constructed of unit pavers are recommended at the main shuttle stop in front of the Campus Center and in front of the football stadium. Raised tables with a change in road surface are proven to slow traffic and alert drivers to crossing pedestrians.

Lastly, reconfiguring angled parking along University boulevard to parallel parking is recommended to decrease conflicts between through traffic and cars exiting parking spaces. The excess road width recaptured should be relandscaped and planted with trees to further improve the pedestrian experience.

WESTSIDE PARKING

Expanded VPAC Lot

An expanded VPAC lot is recommended to accommodate the displacement of the facility lot between VPAC and the Football stadium. Three of the existing tennis courts would also need to be relocated to the north, along University boulevard. Some site grading and modest retaining walls would likely be required along the east side of the new tennis courts.

WAC Access Road

Parallel Parking could be accommodate along a reconfigured WAC access drive, providing necessary ADA spaces to the new Business School.

Centennial Garage

A sidewalk connection the Centennial garage to University boulevard is recommended to increase access to the garage stair tower from the North. A small ramp and stair case to resolve the 5-6' foot grade change at the northeast corner of the garage would be required.

Potential Parking garage location

Overall growth in the Master Plan suggests that a future parking garage may be required to accommodate the increase in student academic space at Westside. If required, a future parking garage could be located on the existing surface lot to west of the practice and baseball fields. A pedestrian connection from the roof the garage could connect to the WAC access drive and the new Business school.



Existing University Blvd. street parking



Existing Campus Center access road

OPEN SPACE AND LANDSCAPE

MIDTOWN OPEN SPACE FRAMEWORK

The overall approach to open space and landscape recommendations at Midtown focuses on connecting and clarify the existing open space framework, or structure of campus. The existing campus is composed of multiple quad, lawns and plazas of varying size and landscape quality. The connections between these spaces are often restricted or impaired by building placement, internal roads, or lack of pedestrian pathways.

The Master Plan recommends that an overall open space framework be established and that all future buildings and landscape project work around, and in support of strengthening it as the collective and shared public realm of the campus. In part, this is achieved by locating active and transparent building frontages facing key open spaces. The spaces themselves should also be fully engaged in the campus community experience, providing places for a range of active and passive recreation, outdoor teaching, formal and informal gatherings and the appreciation of the campus landscape and trees.

For visitors, students and the greater campus community, become part of the Western's identity and positively shape ones experience and memory of the university.

Key open space projects identified in the Master Plan include: new northern gateway and transit hub, new pedestrian mall, new dining terrace at a renovated Berkshire Hall, Science Lawn improvements, new outdoor recreation facilities at Litchfield.



FIGURE 05.28 Existing and Proposed Pedestrian Circulation Diagrams

Key Open Space and Landscape Projects

A Pedestrian Mall

B Berkshire Dining Terrace

C Science Lawn and Recreation Enhancements

D Outdoor Recreation, Litchfield Hall



FIGURE 05.29 Key Midtown Open Space and Landscape Projects

MIDTOWN OPEN SPACE IMPROVEMENTS

Pedestrian Mall

The most transformational open space improvement recommended in the Master Plan is the conversion of Roach Avenue to a pedestrian mall. This creates a new central spine to campus. A space that brings clarity to the overall structure of a central pedestrian spine with intersecting east-west pedestrian paths, each parallel to one another running the full length of campus, as ribs along the spine. The pedestrian mall model is widely used in traditional campus planning, Locust Walk at University of Pennsylvania and Appian Way at Keene State being two famous examples. The pedestrian mall would be roughly 25'-30' wide, preserving the existing storm drain infrastructure. It would also have clear central area with sufficient width and bearing capacity in its paving material to accommodate emergency vehicle access.

Science Lawn

Improvements to the Science Lawn focus on making it a more active and connected space in the heart of campus. A new academic building will have a prominent entry facing onto the lawn and will serve as eastern end of a new pedestrian path through campus. Along this path are opportunity for more seating and permanent lighting for a future intramural field in front of the Science building, further reinforcing it as a major circulation 'rib' on the open space framework. Another key pedestrian path should be extended from the southern residential cluster to the front door of the Science building.

Parking at he shared Police Station and Academic drop-off will need to accommodate for this pedestrian route. The remainder of the lawn should remain open and flexible for a broad range of campus gatherings and informal student use.

Berkshire Quad

A new dining terrace is recommended at the north end of the central campus mall. This provides an active student destination as the terminus of the open space and further reinforces the renovated Berkshire building as the central student hub of the campus. It's envisioned that the campus dining facilities that would front the mall is a large interior space with transparent walls facing the quad and that when weather permits, that terrace could be used for outdoor dining or gatherings.

Litchfield Outdoor Recreation

The Master Plan recommends that the area east of the Litchfield Hall be utilized for small-scale outdoor student recreation. This area could include such uses as bocce courts, horse shoes, volleyball or basketball. The area could potentially be enclosed by a perimeter fence, one that matches the steel and brick pier fence at the Science Building. While it is recommended that the majority of the campus remain open and unfenced, adding a perimeter enclosure at this location could help ensure that the recreation facilities are reserved for use by Western students.



University of Pennsylvania, Locust Walk



Conceptual rendering of proposed Pedestrian Mall

MIDTOWN LANDSCAPE IMPROVEMENTS

Some specific and general approaches to improving landscaped areas at the Midtown Campus include:

- The area between Fairfield and Old Main, in close proximity to the White Street Gate, may be the best location for a future campus fountain or iconic element in the landscape
- Transition for overabundance of pear trees to more balanced mix of trees that have higher habitat value
- Additional arborist evaluation (preferably a soil scientist) would help identify and suggest a test strategy for improving pervasive root exposure conditions
- Many of the concrete unit pavers are approaching their expected service life, in the 40-50 year range. Widespread replacement of unit pavers with stone or the cheaper concrete is expensive and disruptive. The preferred approach is to assign a hierarchy of priority of pedestrian (and vehicular-capable pedestrian pavements), and incrementally replace unit pavers with slab concrete in less prominent areas, whereas replacement with new concrete units or better yet, stone, will accentuate high visibility zones. While the attraction of slab concrete is primarily low cost, the shorter service duration should be a longer term fiscal deterrent to widespread replacement
- Between the Science Building and the corner of Osborne and 9th Avenue, is currently occupied by a garden and the fuel cell associated with the building. Though not likely an active use opportunity, this area could possibly be available for a demonstration garden or other academic outdoor laboratory
- No process for LED upgrade and swap out has yet been initiated. The parallel objectives of reducing maintenance and operating costs, with the added bonus of increasing proper color rendition to make the night campus more comfortable to pedestrians is achieved by transitioning to LED fixtures
- Midtown appears to have a need for additional blue emergency light. Blue emergency lights are typically positioned within direct line of sight from one to the next. This is often difficult to achieve, aiming for +/-200' distances



Conceptual rendering of proposed Science Lawn improvements

WESTSIDE OPEN SPACE FRAMEWORK

The overall approach to the recommended open space framework at Westside is to green and transform the campus. The center of the campus is currently defined by a large faculty parking lots, with multiple existing buildings framing the central space, the faculty lot clearly has the potential to became a signature central open space and a defining image of the Westside campus.

The cluster of residential buildings to the south will continue to be physically separated from the hilltop academic core by a combination of University Boulevard and a significant drop in elevation.

It is recommended that the wherever possible, connections to the Ives Concert Park, athletics fields, cross country trail, nature trail and other Westside campus amenities be strengthen through new and improved pedestrian pathways and signage.



FIGURE 05.30 Aerial View of Westside Recommendations

Key Open Space and Landscape Projects

A Central Open Space

B Campus Center Dining Plaza

C South Quad Amphitheater

D Streetscape Improvements

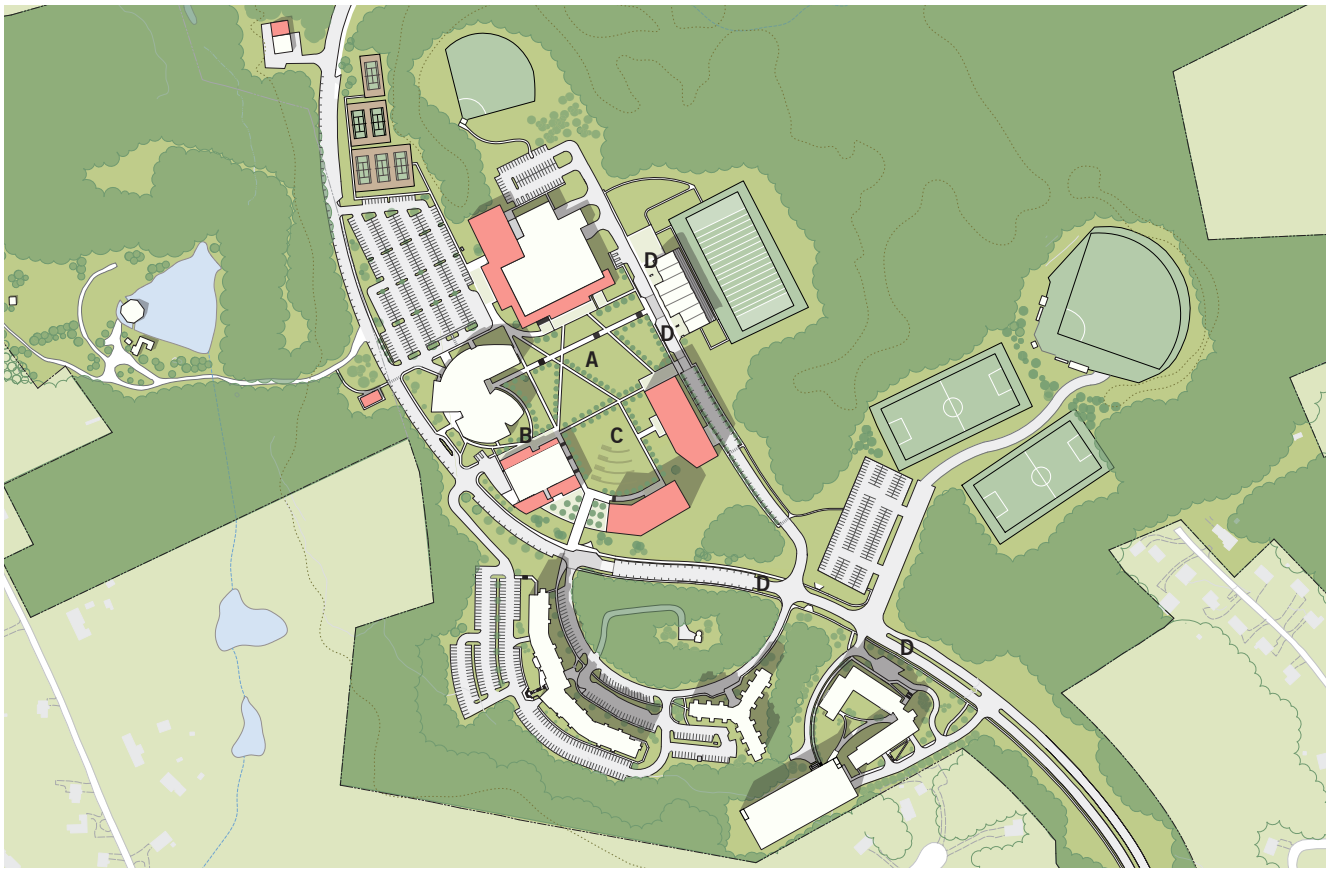


FIGURE 05.31 Key Open Space and Landscape Projects

WESTSIDE OPEN SPACE AND LANDSCAPE IMPROVEMENTS

CENTRAL OPEN SPACE

Transforming the heart of the Westside campus would provide new identity and much needed student open space on the Westside campus. By enlarging the lot to the north of VPAC, the faculty lot can be replaced by a grand central open space with new and existing buildings defining its edges. There is significant change in grade from the southeast to northeast corner of the new open space. It is recommended that each adjacent building have building entries at grade with the new open space. This may require significant fill on the current access drive to the south of the existing WAC building. While it is not possible to have a consistent ADA-compliant path from the west to the east, it is recommended that an consistent ADA-complaint path lead from the Campus Center to the WAC and back to the new Business School, providing access to each major building entry without the use of stairs. It is also recommended that while stepping and sloping of the open space is needed to accommodate the change in grade, that to the greatest degree possible the design of the open space strike a balance between providing large and contiguous area of flat open space with the need for retain walls and terracing.

CAMPUS CENTER DINING PLAZA

It is recommended that the access drive to the north of the campus center is removed and replaced with an outdoor dining terrace and plaza. This would allow for great connection between the VPAC and the Campus center and provide students with an area directly adjacent to the dining concourse for outdoor study and dining space. The dinning plaza should be designed in such a way that the bearing capacity of the pavers and furnishings permit future access for emergency vehicles.

CAMPUS CENTER ENTRY PLAZA

It is recommended that the shared courtyard space at Centennial Hall is improved with more active building uses fronting the area and outdoor plaza areas to better accommodate informal student uses.

SOUTH QUAD AMPHITHEATER

It's recommended that after the removal of the classroom building that the new central open be connected to a new quad defined by a New Fine Arts building to the south, Business School to the north, and campus center to the west. As with the central open space, this quad will need to accommodate a significant change in grade from southeast to northeast. The Master Plan recommends the concept of an outdoor amphitheater for student gathering as outdoor teaching to accommodate the site slope. The amphitheater is envisioned to have large terraced stepped, planted with grass and perhaps be planted with trees and landscaping to integrate into the overall open space.



FIGURE 05.32 Recommended New Central Open Space

WESTSIDE LANDSCAPE IMPROVEMENTS

Some specific and general approaches to improving landscaped areas at the Westside campus include:

- Westside has a mix of standard asphalt and concrete slab paving, punctuated with both permeable and impermeable pavers and surfaces. Shifting away from slabs and bituminous paving helps clarify a pedestrian scale, and differentiate from the ample vehicular parking pavements.
- As with Midtown, there is evidence of eroded unit pavers, suggesting that heavy salting and/or vehicular loading for pedestrian paving occurs systemically.
- Astroturf atypically applied to steep slopes at the O'Neil Center has provided a effective alternate to languishing grass, though perhaps not the best long term sustainability strategy.
- There is evidence of surface roots and eroding soils at Grasso Hall. This occurrence so similar to that at Midtown suggesting standard installation practices, or similar soil characteristics, are at least partially to blame, compounded with compaction occurring over time. As at Midtown, a soil scientist and/or horticulturists would be able to diagnose and recommend likely avenues of conserving existing trees, and strategies for improving soil and lawn conditions accordingly.
- At Centennial Hall, the absence of building gutters led to sustained splashing of rainwater from above, thwarting vegetation along University Boulevard. Angular crushed stone and possibly durable plants would help return viable vegetation to this prominent location at the building entry.
- At Pinney Hall, the normally rugged honey locust have not thrived, and an atypically vigorous hedge has been cut down to provide basic pedestrian circulation along an inadequate path. This instance points highlights the challenge of site development and the difficulties of inserting vegetation into a tightly constrained site with adequate pavement and the buildings.
- The existing rail at the tunnel beneath University Boulevard: is a non-ADA-compliant deterrent. Upgrading this to a fully compliant guardrail would prevent inadvertent falls or accidents.
- The surface lot behind Pinney Hall has large, residual slopes from cut/fill grading operations that have proven difficult to maintain. The primary slope has been replanted, and though appearing vigorous, has become a maintenance challenge with respect to removing litter. Thriving vegetation on a difficult site is a good thing, and the litter issue might better be handled through student outreach and adequate receptacles.

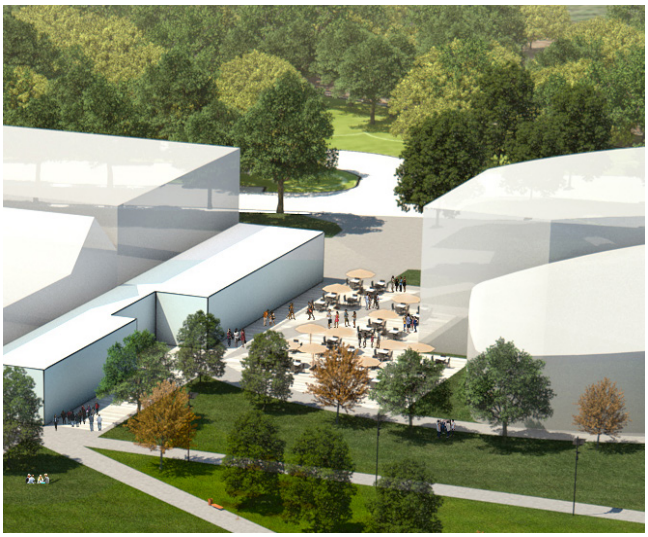
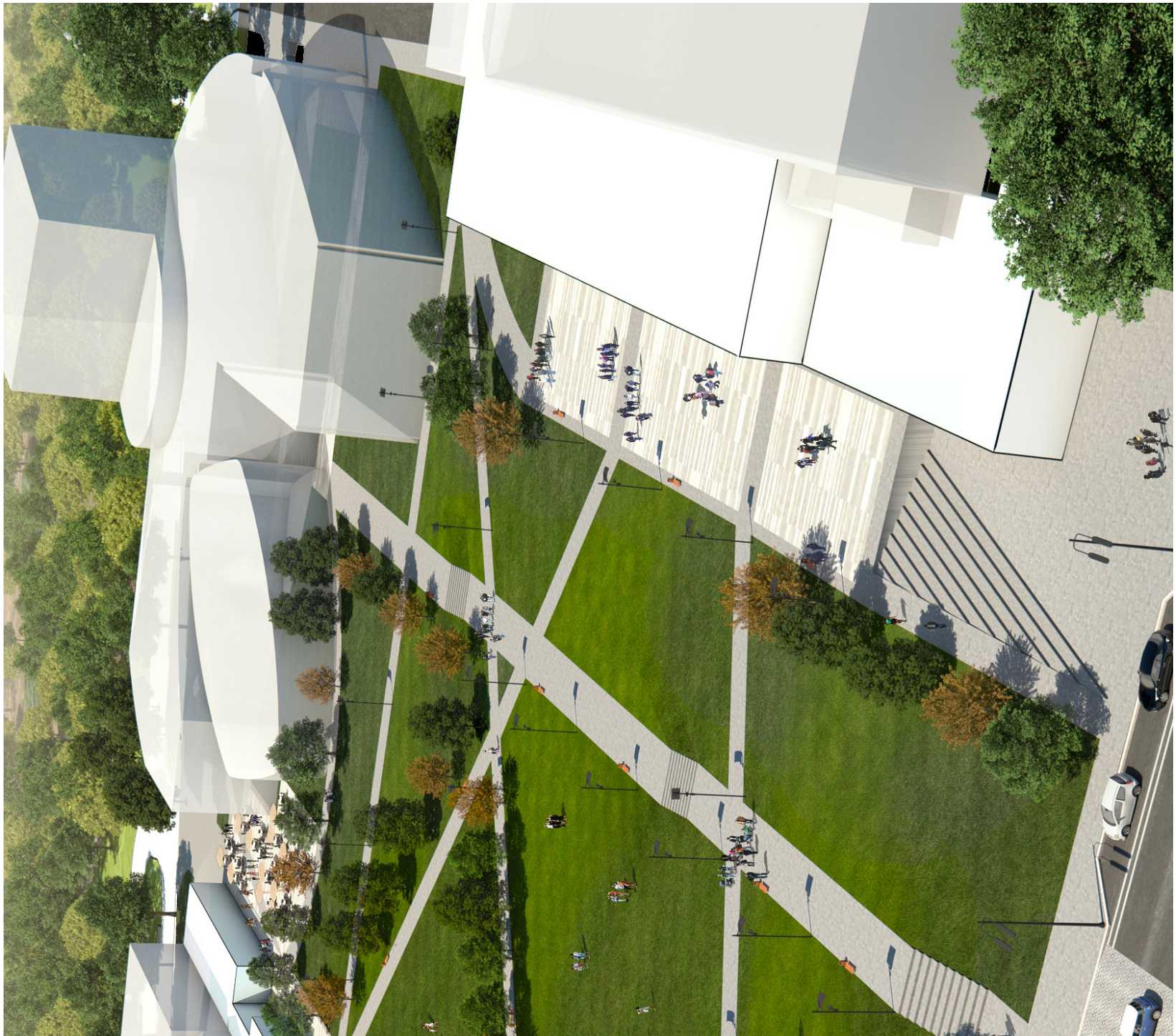


FIGURE 05.33 Recommended Dining Terrace at the Campus Center



FIGURE 05.34 Conceptual Rendering of New Central Open Space



INFRASTRUCTURE AND ENERGY

A parallel Energy Master Plan study was conducted during the Master Plan Update for Western. The Energy Master Plan (EMP) explored a range of measures for Energy Conservation, Renewable Energy and Procurement. Refer to the Technical Appendix for specific recommendations for Western's two campuses, including

MIDTOWN CAMPUS

CENTRAL PLANT / HEATING

The boiler plant is currently at or very close to its capacity. Without the expansion of the existing boiler plant, the redundancy of the boiler plant is reduced from the current estimate of 75%, assuming one boiler is out of operation.

In order to serve the projected new development and provide in demand are planned, an expansion of the existing boiler capacity is recommended, by replacing the backup boiler and using this space to install a new more energy efficient 500HP boiler. The backup boiler, originally installed in 1959-60 and upgraded in 1993, has an estimated of 64% compared to 82-84% efficiency for a new boiler. Another option to locate a new boiler is to reconfigure space at the north end of the building once the police station is vacated to shift space to make rooms for expansion of the boiler room. The additional 500HP boiler will provide 100% redundancy as well as additional future capacity for new construction on campus.

The Plan recommends retro-commissioning the Central Plant boilers to manage flow and/or return temperatures, adding or tuning temperature resets.

The science building has both a fuel cell and back up boilers for summer reheat as alternative heat sources.

The Master Plan recommends that renovation projects include energy efficiency measures to improve insulation and infiltration to reduce the net increase in heating loads.

STEAM DISTRIBUTION

For the Innovation Center / Berkshire Hall project and new Academic Building, steam service should be connected from the nearest steam lines.

The Plan recommends exploring a steam trap maintenance program, either automatic, such as Armstrong Steam-Eye, or perform at least an annual survey of all steam traps using ultrasonic or other means of detecting failed traps. Insulating steam pipes is also recommended.

The Plan recommends sub-metering buildings to calculate, archive and manage energy use by building.

COOLING

No central chilled water system exists on the Midtown campus. All cooling is handled on a per-building basis and ranges from chilled water to DX to heat pump systems. For new and expanded buildings, the Plan recommends new, high efficiency localized cooling systems at each building.

ELECTRICAL INFRASTRUCTURE

Since the primary distribution is entirely utility owned, future expansions and new construction must be coordinated the utility company.

New generators were installed (April 2016) to reduce higher harmonics in the emergency supply. Inverters are generally supplied for buildings without generator power available.

Buildings typically lacked addressable, networked lighting controls. These have been upgraded on a case by case basis as buildings undergo renovations. Lighting upgrades have standardized on LED fixtures with occupancy sensors.

WESTSIDE CAMPUS

CENTRAL PLANT / HEATING

The Westside campus lacks a central steam or heating hot water (HHW) distribution system. Since the campus does not have natural gas service, each building has its own local boiler plant fueled by #2 fuel oil.

Bringing natural gas service to the Westside Campus is recommended, for several reasons, including lower costs, improved maintenance, lower GHG emissions and air quality benefits. The University is currently exploring with the local utility bringing natural gas to the base of the campus. The University estimates the cost to bring a gas line up to the campus core to be approximately $2 million.

Once gas is brought to the campus, central plant alternatives could be considered, including CoGen to serve expansion in projected new buildings at the Westside Campus.

In the meantime, before natural gas service can be introduced, the Plan recommends for heating that new buildings have new duel fuel condensing boilers and associated fuel tanks and HHW systems.

COOLING

Since no central chilled water system exists on the Westside campus, all cooling is currently provided on a per-building basis. Types of localized plants ranges from chilled water to DX to heat pump systems. For planned new buildings and additions, cooling will be provided by a localized cooling plant at each building.

Utilizing lake water for a campus-wide cooling loop was considered, but is not recommended given that the lake north of the Westside Campus is a source of drinking water. Approvals would likely be problematic.

ELECTRICAL INFRASTRUCTURE

For serving expanded and new buildings, the Plan recommends the University coordinate with the utility to confirm capacity and provide interconnection to utility loop.

IMPLEMENTATION AND COST

Project feasibility hinges on a careful understanding of implementation factors. The Master Plan Update considered swing space and sequencing, and project priorities. The Recommendations also factored land use and environmental issues that could affect subsequent project approvals. To guide the capital budgeting process, the Planning Team also prepared order-of-magnitude cost estimates for the project concepts.

The Master Plan coordinated with projects currently in the planning, design and implementation stages. These included:

- The Police Station: In design
- Higgins Hall Renovation: In design
- White Hall Renovation: In planning
- Litchfield Hall Renovation: In construction

INDEPENDENT PROJECTS

Many projects recommended in the Master Plan can be implemented directly once funding, detailed programming, design and approvals are in place. These could be considered "Independent" Projects since they do not require any enabling projects – swing space, demolition or relocations – before construction. These are listed as follows:

- Innovation Center / Berkshire Expansion, Renovation
- New Midtown Academic Building
- Residence Hall Upgrades
- Westside Campus Center Expansion / Renovation
- Drive Closure between VPAC and Campus Center
- O'Neill Expansion / Renovation
- Westside Athletic Center expansion / reno
- Artificial turf field / soccer
- Baseball field regrade, artificial turf



LINKED / SWING SPACE PROJECTS

Other projects recommended in the Master Plan do require either swing space, relocation of other functions and / or demolition of existing structures to be realized. These could be considered "Linked" or "Swing Space" Projects. The prior enabling tasks required are listed below each such project, as follows (not in sequential or priority order):

Adaptive Reuse of Student Center as Academic Space
- Requires relocation of student center functions to Berkshire Hall

Convert Roach Avenue to Pedestrian Mall
- Requires transit hub at Osborne Avenue to replace Student Center shuttle stop

Westside Parking Expansion Project
- Requires relocating 3 tennis courts

Greening Westside- Quad
- Requires Parking expansion project

Academic Building I (Ancell School of Business)
- Requires relocation of Alumni Pavilion

Academic Building II (Visual Arts)
- Requires demolition of Classroom Building

COST ESTIMATES

The Planning Team prepared order-of-magnitude cost estimates for the Master Plan recommended projects. The estimates were based on the space program, site design and building massing assumptions noted above. The basis of the estimate reflects the following approach / assumptions. Given the broad, preliminary scope of Master Plan projects, and the fact that needs, conditions, and priorities can change over time, it is important to review and refine program and budget assumptions prior to implementation.

The construction cost includes markups for General Conditions, General Requirements, Insurance & Bond, Permits (15%); Construction Manager Fee (4%) and a planning contingency to address the preliminary conceptual nature of the project scopes.

The construction cost excludes a construction contingency (5%). Costs are 2017 dollars; Escalation is not included. Once a project bid date known, budget figures to be will need to be updated / escalated to reflect inflation in intervening years. Construction costs assume labor costs included at local union rates, and that long lead items can be purchased to meet schedule.

Project Cost below includes a CSCU recommended markup of 45% to include the following soft costs: pre-design studies, AE Fees, DCS Fee, CA Fee, Construction Contingency, Public Art, Testing, Surveys, Geotech, Commissioning, Third Party Review, Moving and Miscellaneous other project requirements.

An additional 20% of Hard Cost is recommended for the Equipment and Telecom Budget.

COST ESTIMATE

GENERAL FUND PROJECTS				
Building Projects	Location	BLD GSF	Const. Cost	Project Cost
New Academic Building / Health and Wellness	MT	61,400	$32,664,800	$47,363,960
Student Center Renovation for Academic Use	MT	77,000	$29,481,500	$42,748,175
Relocate Alumni Pavilion	WS	1,600	$100,000	$145,000
New School of Business / Academic Building	WS	103,000	$54,075,000	$78,408,750
O'Neill Center Expansion / Renovation	WS	152,000	$61,848,900	$89,680,905
Westside Athletic Center Expansion	WS	25,000	$5,931,200	$8,600,240
Academic Building II / Visual Arts	WS	86,000	$57,939,000	$84,011,550
Maintenance Facility Expansion, Utility Extension	WS	2,000	$1,264,000	$1,832,800
Subtotal			$243,304,400	$352,791,380
Demolition Projects				
Demolish Westside Classroom Bldg, Create Terraced Quad			$4,126,000	$5,982,700
Circulation, Landscape and Open Space Projects				
North Gateway Transit Hub	MT	n/a	$840,000	$1,092,000
Convert Roach Ave. to Pedestrian Mall	MT	n/a	$2,160,000	$2,808,000
Expand VPAC Lot, Relocate Tennis Courts	WS	n/a	$3,103,000	$4,033,900
Convert Faculty Lot to Landscape Quad	WS	n/a	$3,562,000	$4,630,600
Artificial Turf Field & Lights	WS	n/a	$2,400,000	$3,120,000
Facility and Field Improvements at Existing Baseball field	WS	n/a	$5,100,000	$6,630,000
Reconfigure University Boulevard Parking	WS	n/a	$270,000	$351,000
Subtotal			$17,435,000	$22,665,500
Infrastructure Projects				
Add new 500HP boiler to existing boiler plant		n/a	$1,421,000	$1,634,150
Provide natural gas service to Westside Campus (no equipment)*		n/a	$1,738,000	$1,998,700
Subtotal			$3,159,000	$3,632,850
TOTAL / GENERAL FUND PROJECTS			**$268,024,400**	**$385,072,430**

CHEFA FUNDED PROJECTS				
Building Projects				
Berkshire Addition / Renovation / Innovation Center**	MT	115,000	$59,074,315	$85,657,757
Newbury Hall Renovation	MT	42,600	$9,005,400	$13,057,830
Fairfield Hall Addition	MT	2,500	$2,205,000	$3,197,250
Campus Center Expansion / Renovation	WS	65,000	$32,974,770	$47,813,417
Grasso Hall Renovation	WS	4,000	$1,615,000	$2,341,750
Centennial Hall Renovation (Partial Renovation)	WS	8,500	$4,697,400	$6,811,230
Subtotal			$109,571,885	$158,879,233
Circulation, Landscape and Open Space Projects				
Science Lawn / Recreation Enhancements	MT	n/a	$1,152,000	$1,497,600
Outdoor Recreation, Litchfield Hall	MT	n/a	$1,257,750	$1,635,075
Access Improvements to Centennial Garage	WS	n/a	$296,000	$384,800
Subtotal			$2,705,750	$3,517,475
TOTAL / CHEFA PROJECTS			**$112,277,635**	**$162,396,708**

MT Midtown Campus
WS Westside Campus

** Source: WCSU*
** May also include General Fund funding*

TABLE 05.9 Cost Estimate

PROJECT PRIORITY CATEGORIES

The University Master Plan Advisory Committee considered the relative need of the range of recommended projects. The Committee with the Planning Team arrived at these two priority categories:

Priority 1: Projects with the greatest need
Priority 2: Projects to follow

The Advisory Committee confirmed the Master Plan projects in the categories below. The following lists are not in priority or sequential order. Project funding is designated through two district sources: General fund projects funded from state bond funds, and the student use projects financed from student funded bonds through the Connecticut Health and Education Authority (CHEFA)

PRIORITY 1 PROJECTS*

General Fund

- New Ancell School + relocate Alumni Pavilion + interim Innovation Center
- Science Building Lab Renovation
- Classroom upgrade strategy
- Expand VPAC Lot / relocate tennis courts + Convert Faculty Lot to Quad
- Midtown Student Center Renovate / Repurpose for Academic Use
- Convert Roach Avenue to Pedestrian Mall + North Gateway / Transit Hub
- Renovate and reconfigure select labs within Science Building
- Add artificial turf to practice field, Westside for expanded use by teams

CHEFA

- Innovation Center / Berkshire Hall Expansion as new Student Center**
- Campus Center expansion / renovation, Westside
- Litchfield Hall outdoor recreation areas
- Add artificial turf to practice field, Westside
- Grasso Hall renovation
- Fairfield Hall Lounge addition

PRIORITY 2 PROJECTS*

General Fund

- Midtown Academic Building / Health and Wellness Center
- Westside Academic Building / Visual Arts + Demolish Westside Classroom Building
- O'Neill Center Expansion
- WAC Expansion / renovation
- Reconfigure University Boulevard Parking
- Baseball field improvements / Westside

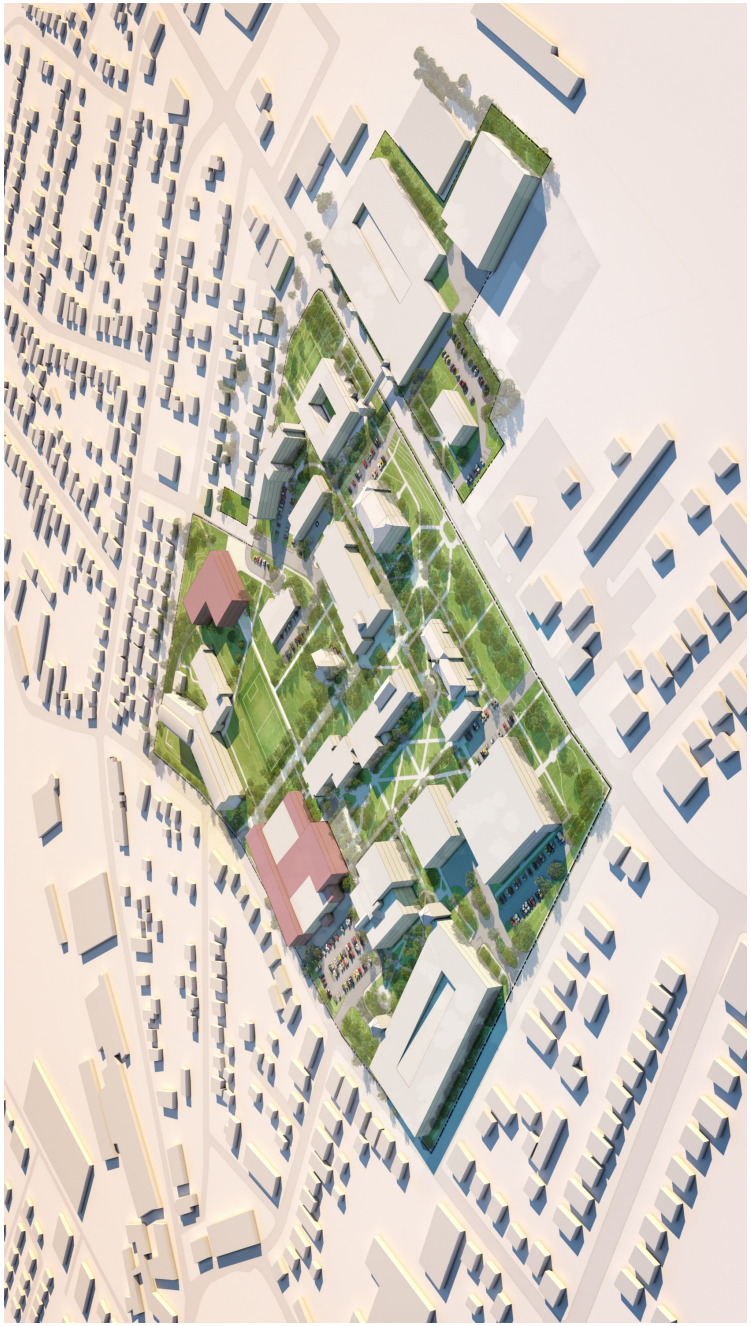
CHEFA

- Newbury Hall renovation (2 floors of semi-suites)
- Science Lawn improvements for recreation
- Centennial Hall renovation to relocate student lounge
- Centennial Garage improved pedestrian access

* Not in priority order or implied sequence of implementation
** Can also be funded with General Fund

CONCLUSION

The 2016 Master Plan Update responds to Western's highest priority strategic needs to support recruitment, retention and revenue and projected academic programs. Western's situation is unique within the CSCU system, with its two academic campuses. The Midtown and Westside Campuses truly can provide the best of both worlds – a vibrant urban campus connected to the city and a spacious, exuberant campus with ample space for recreation and culture. The recommendations aim to fulfill the full potential of each campus, by improving connections and greening the heart of each, with a harmonious mix of buildings and framed quadrangles. Existing buildings are renovated where ever feasible and cost-effective to optimize resources. The Master Plan recommendations for both campuses aim to build on the Western's recent successful development and provide a road map for capital investment for the next decade and beyond to address the University's most pressing needs for academics, student life, and career success.





MASTER PLAN TEAM

MASTER PLAN TEAM

PERKINS+WILL
Master Planner / Architects

William MacIntosh
Mike Aziz
Ashley Young
David Dymecki
Yanel deAngel
Bradley Rodgers
Lois S. K. Suh

SCOTT BLACKWELL PAGE
Academic Space Programming

Scott B. Page

HARGREAVES ASSOCIATES
Landscape Architect

Kirt Rieder

NITSCH ENGINEERING
Civil Engineer / Traffic Planner

Scott Turner
Brian Creamer

ARUP
MEP / Energy Infrastructure

Mark Walsh-Cooke
Rebecca Hatchadorian
Hilary Williams
Geoff Gunn
Leroy Le-Lacheur

VJ ASSOCIATES
Cost Estimating

Clive Tysoe
Kevin Putney