HOUSATONIC COMMUNITY COLLEGE

CONNECTICUT STATE COLLEGE & UNIVERSITY SYSTEM

HOUSATONIC COMMUNITY COLLEGE
MASTER PLAN

SEPTEMBER 2016







PERKINS+WILL

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MASTER PLAN

SEPTEMBER 2016

01 INTRODUCTION
02 EXISTING CONDITIONS
03 SPACE NEEDS
04 RECOMMENDATIONS

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY



The Campus Today

EXECUTIVE SUMMARY

The Master Plan for Housatonic supports the College's strategic goals and a projected 34% credit enrollment increase without expanding facilities. It does so by identifying under-used, surplus and vacant space and repurposing it to align with future needs. The Plan also relieves a bottleneck which has impacted access and student success. A current over-supply of classrooms has made it possible to concentrate most course schedule offerings disproportionately in the middle of the day. By right-sizing the classroom inventory and spreading class starts more evenly across the day, students will have better access to the courses they need to graduate and garage congestion should be avoided. More importantly, surplus space is utilized to serve other needed functions, especially expanded out-of-classroom support services.

The Master Plan Team comprehensively assessed Housatonic's existing urban campus – its context, access, land use, buildings, circulation, landscape and infrastructure. It then projected future needs based on the projected enrollment, academic goals, student needs and building condition. The resulting conceptual recommendations will serve as a road map for capital investment and renewal for the next 10-year period. The Plan was a deeply collaborative effort, including stakeholders from across the College.

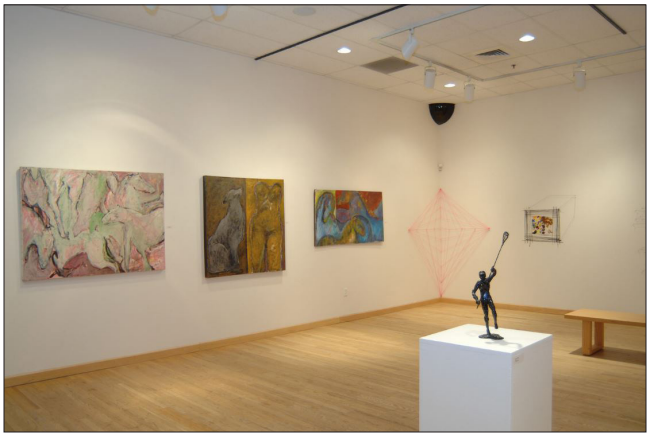
EXISTING CONDITIONS

Key Facts

- Campus: 9.8 acres
- 2015 Enrollment: 2,902 (FTE, degree credit)
- 2025 Projected Enrollment: 3,900 / +34% (FTE, degree credit)
- Currently have 68 classrooms
- Development: 3 Buildings / 426,898 GSF
- A new addition to Lafayette Hall is currently under construction. This project was considered an existing condition for the purpose of projecting space needs
- Parking: 1,418 spaces in 1 garage
- Transit: GBT bus access, walking distance from Metro North, Amtrack, and Port Jefferson Ferry.
- HCC is unique in also hosting an art collection with over 4,000 pieces

Key Findings: Existing Conditions

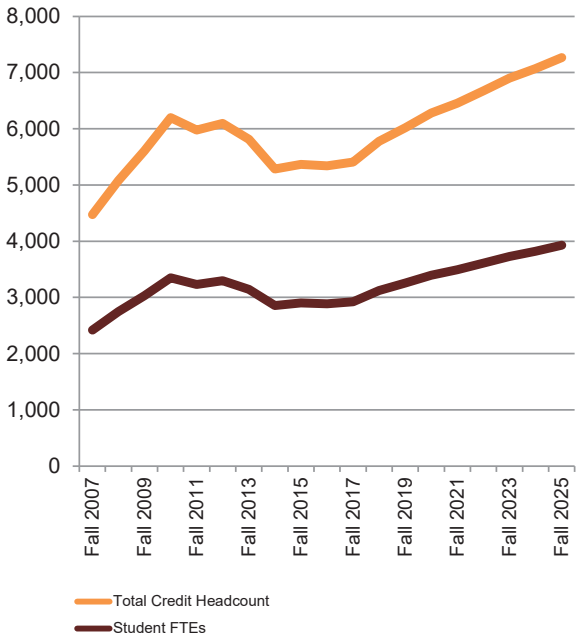
- The campus is compact and well located for access by car and transit
- HCC's original structures were repurposed from a shopping mall in the 1990s
- HCC's landscaped courtyard is a signature, unifying campus feature
- The College has multiple entrances on three of four frontages
- The typical entering the college experience is poor, via the garage and backdoor of Lafayette Hall
- HCC has significantly more classrooms than needed for current and projected enrollment
- Garage congestion at peak times was cited as the biggest facility problem
- There is a need to distribute the course offering, especially the key core offerings of English, Math, and Psychology
- The campus is underbuilt by zoning, but very limited buildable area remaining
- The campus can accommodate expanded enrollment without further facility expansion



Housatonic Museum of Art

ENROLLMENT

The College's enrollment projections include both a credit and a non-credit component. The current full time equivalent credit enrollment is 2,902 (fall 2015). HCC projected enrollment for the next 10-year period, factoring area demographics, academic programs and goals to further support retention. The resulting 10-year enrollment projection is 3,900 credit FTE, an increase of 34%, articulated by department. This projection became the foundation dataset for the Space Needs Assessment.



SPACE NEEDS

Once the Lafayette Addition opens, HCC will have a total of 255,031 Assignable Square Feet (ASF). 50% of this area is instructional space (classrooms, labs, faculty offices) and the other 50% for support space, including the library, student services, academic support services, continuing education, assembly and gallery, administrative services and campus services. There will be approximately 88 ASF per student FTE after the addition opens. The campus, once the addition is completed, is treated as the existing condition for the study.

The consultant team led a comprehensive process to analyze future space needs factoring current and projected enrollment by department, course offerings, planned new programs and strategic and academic goals. The process included over 20 interviews with stakeholders from across the College.
A key finding from the Space Needs Analysis is that Housatonic can meet its needs for the next 10-years with the expanded enrollment within the three existing buildings. The College has sufficient opportunity areas where under-utilized, surplus and vacant space can be right-sized and repurposed through renovations to meet other, higher priority needs for instruction, study, academic support and operations. The specific opportunity areas and need areas are described in Chapter 3.
The College is well served by transit, but is primarily accessed by car, using the large garage. The main issue with the garage is severe congestion at peak periods, primarily mid-morning. The proposed right-sizing of the classroom inventory and evening out of the course schedule will alleviate this problem. The College should have sufficient parking for the next 10-years. No garage expansion need is projected.

MASTER PLAN RECOMMENDATIONS

The HCC Master Plan transforms the experience of coming to the College and aligns the facilities with HCC's mission, projected enrollment growth and strategic goals without expansion.

A signature element of the Plan is relocating the Lafayette Hall entrance used when coming from the garage to be in the courtyard. This will provide a more welcoming, attractive and appropriate way to come and go from the College on a daily basis for the large majority of students, faculty and staff. The new Lafayette Courtyard Entrance is activated by a student lounge, a new Library entrance and a new stair to the second level.

The Academic Service Center and Center for Academic Progress are consolidated on the second floor of Lafayette and expanded. Locating this facility that is key to student success and retention in a visible, attractive location facing a new roof terrace, should improve use and impact. Consolidating the two areas that are now split on separate floors will make it more efficient, supporting improved student retention. This is done by repurposing surplus classrooms and relocating two computer labs. The roof of the Library, now covered in gravel and not used, will be transformed into a roof terrace with planting beds, open to students, faculty, staff and visitors. This new outdoor space will function as an extended part of the Lounge / Multipurpose Room outside the Academic Service Center. This small rooftop addition will be a signature space and serve many roles – for study, donor events, receptions and student club use.

The second floor of Lafayette is renovated to provide an Allied Health wing, consolidating multiple lab and support spaces for CNA, EMT, Surgical Tech, and Medical Assisting in one location, with its own identity around a new small atrium. The south wing of Lafayette is renovated to add science labs while maintaining sufficient space for faculty offices, storage and support functions. Other select renovations in Lafayette will provide faculty space, student services and career advisement.

Minor renovations are also recommended in Beacon Hall to optimize use of space in this relatively new building to align with the College's projected actual space needs. A large stair hall running through the building is reconfigured to capture usable space for a classroom and lounge areas, while maintaining code requirements for exiting. Faculty offices are

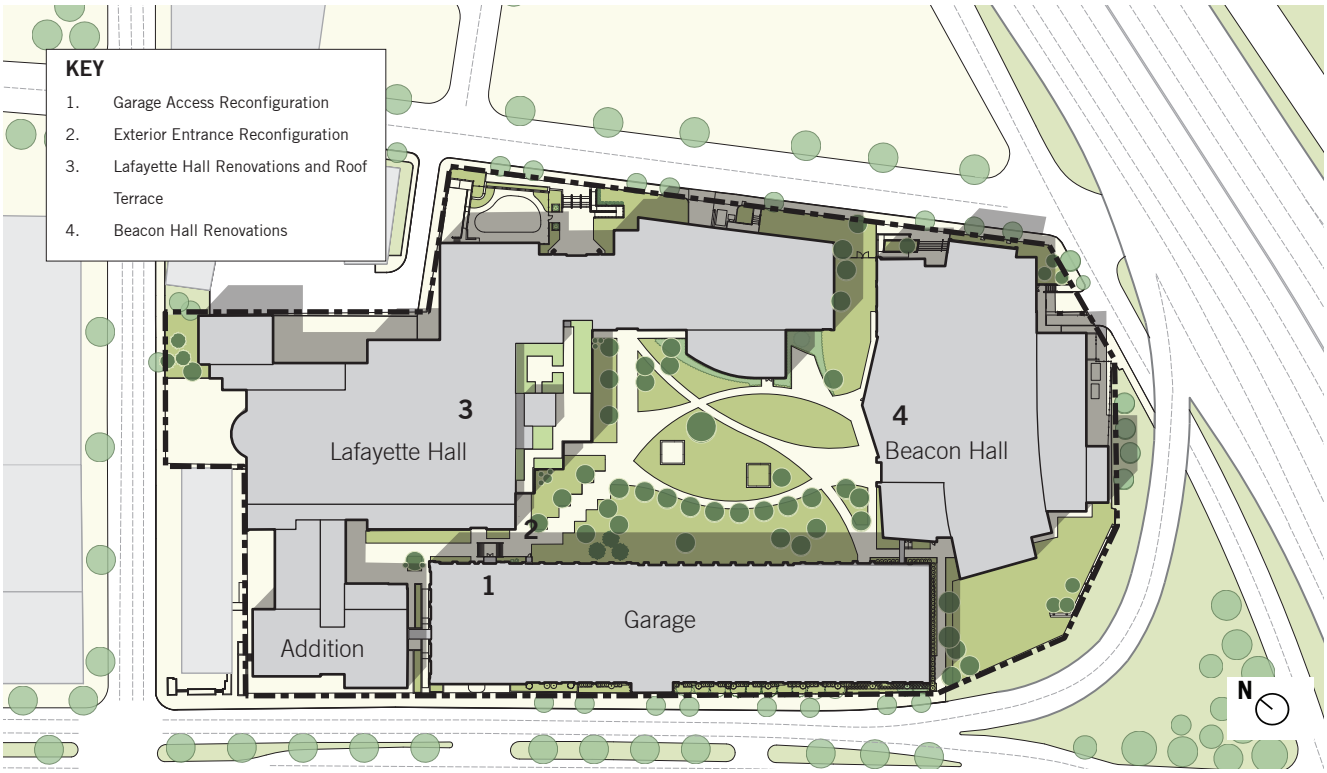


FIGURE 01.1 Master Plan Projects

consolidated and given appropriate space for each department, and the faculty lounge relocated to a better location overlooking the courtyard. Dedicated classrooms are provided for Continuing Education. The Plan expands museum collection storage in Beacon to support this unique and important aspect of HCC, while maintaining sufficient space for other support areas. Finally, the Veteran's Oasis is given proper, larger space in Beacon, facing the courtyard and off the main entrance.

The consultant team prepared order-of-magnitude cost estimates for the renovation projects. The team also discussed project priorities, implementation, and phasing with the College Master Plan Advisory Committee (CMPAC), who met regularly with the consultants and provided timely input and decisions. The CMPAC considers the Lafayette Renovations to be a higher priority than the Beacon renovations. If funding required a two-phase renovation of Lafayette, the most important elements of this to be included in the Phase 1 scope would be consolidating and expanding Center for Academic Progress/ Academic Service Center on the second floor, the Allied Health wing and the Science wing renovations.

In a time of many challenges for higher education, we believe the Master Plan for Housatonic Community College stands out as a success story and a potential model for how institutions can address their most pressing facility needs by making the best use of their existing facilities. Expansion is not always needed, or possible given near-term funding constraints. Transforming today's buildings to create a more welcoming, functional and supportive environment is key to recruitment, retention and institutional success. The HCC Master Plan provides a conceptual road map for capital investment to build on the College's recent success for years to come.



Concept Rendering: New Entry from Courtyard and Multi-purpose Space with Roof Terrace

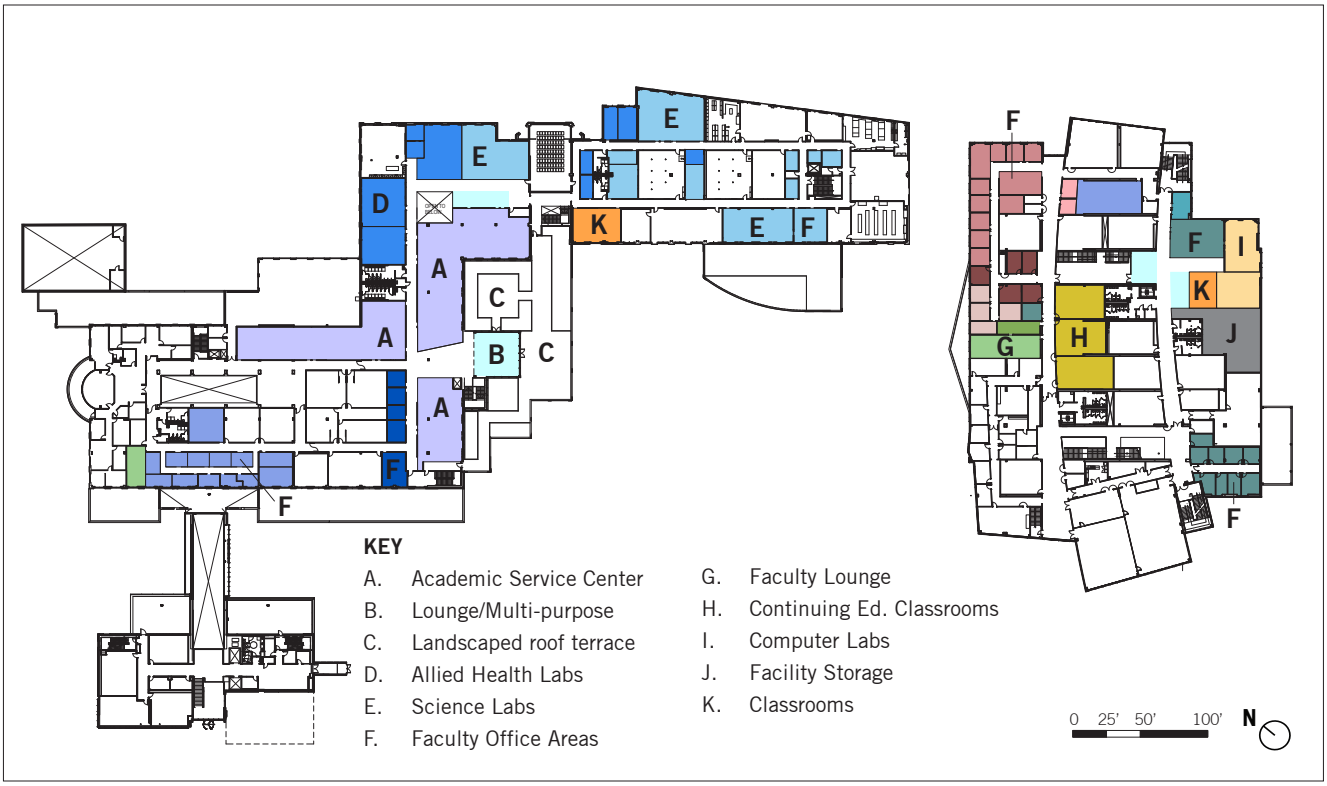


FIGURE 01.2 Master Plan: Second Floor Renovations

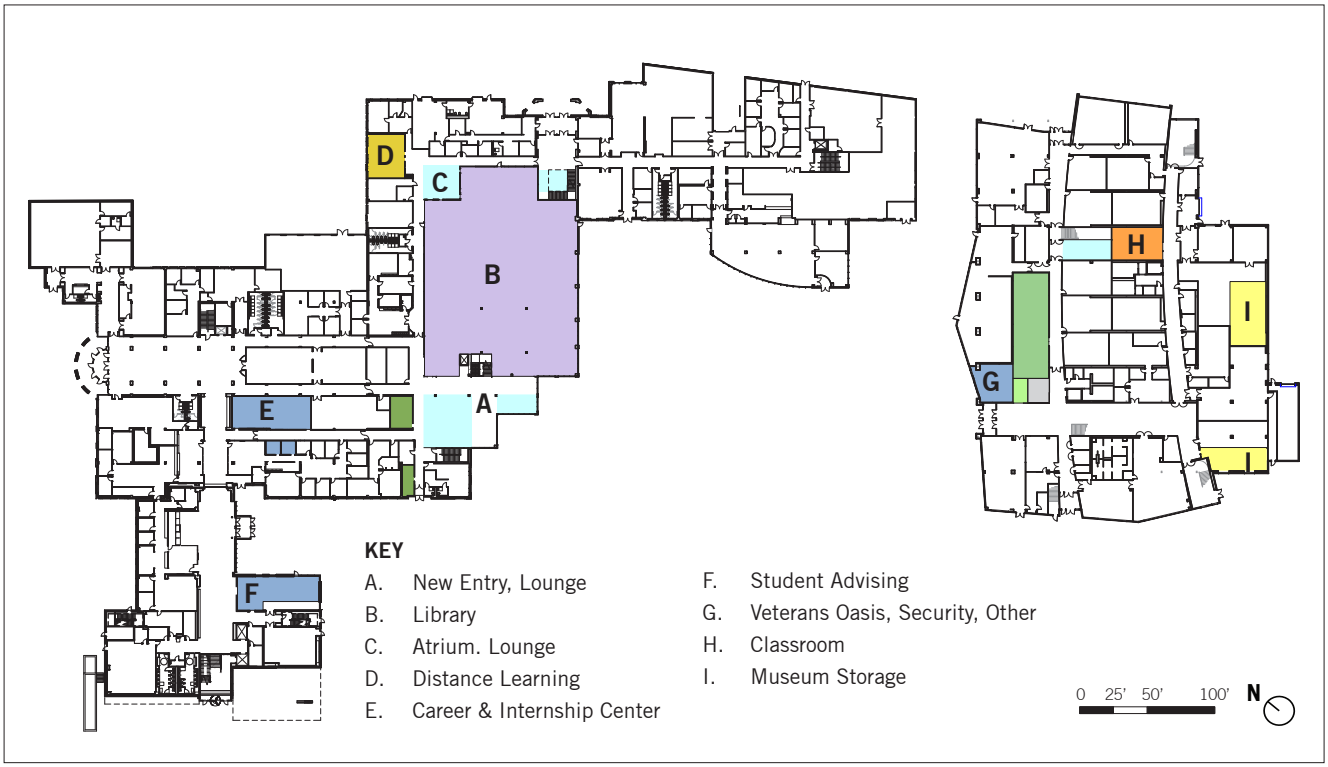
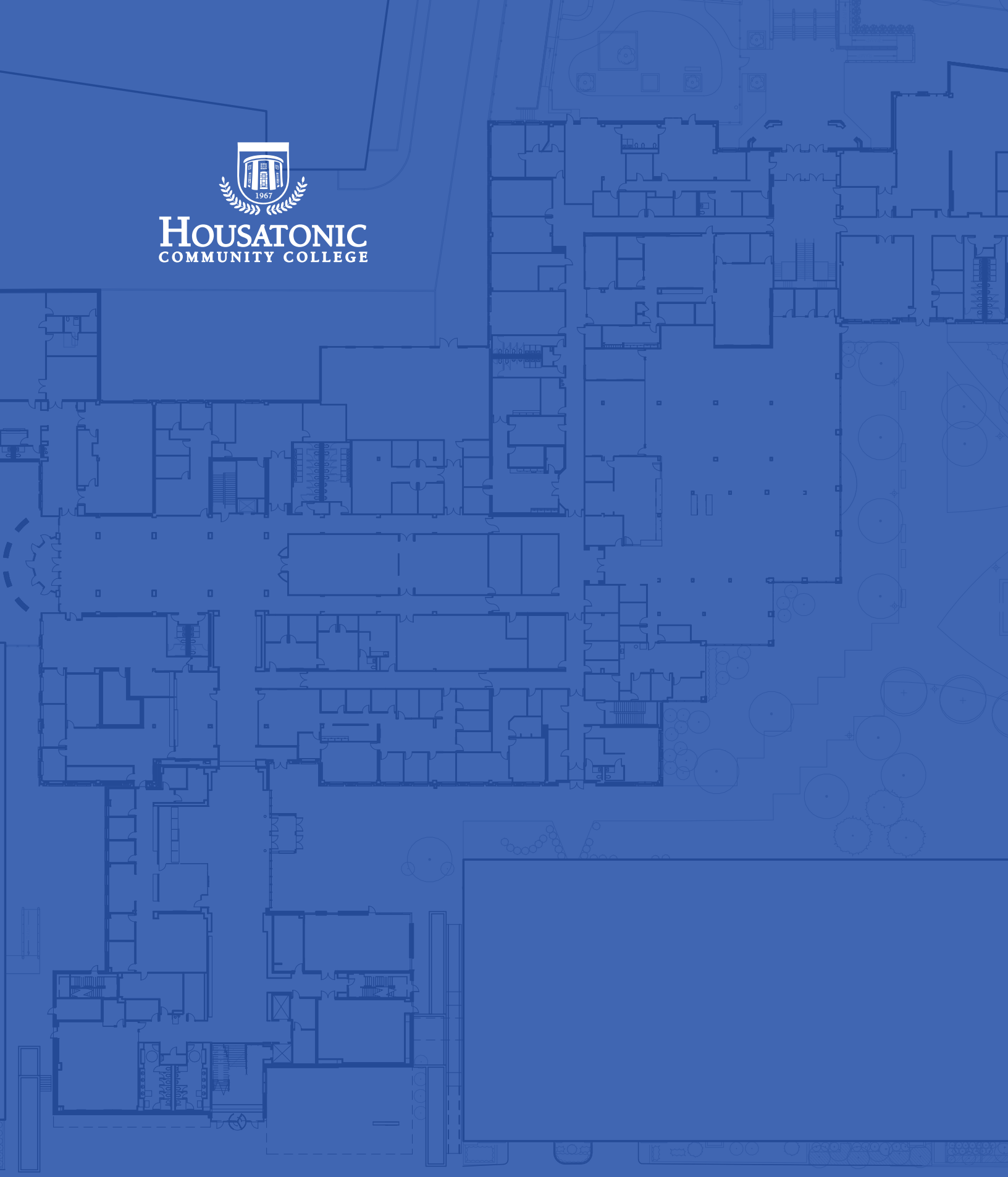
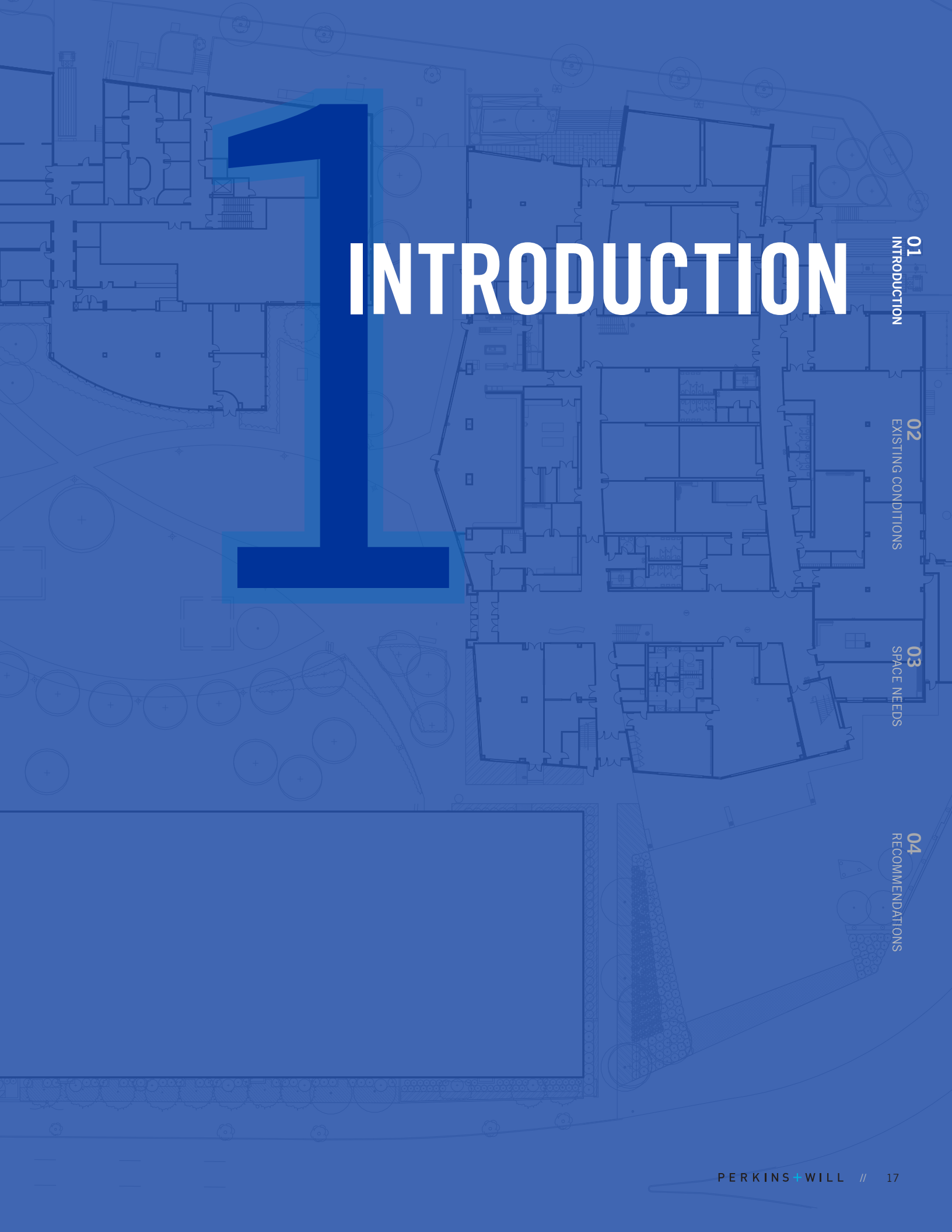


FIGURE 01.3 Master Plan: First Floor Renovations


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1 INTRODUCTION

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04 RECOMMENDATIONS

CSCU SYSTEM CONTEXT

The Master Plan for Housatonic Community College responds to the vision and mission of the Connecticut State Colleges & Universities (CSCU), as well as HCC's strategic and academic goals. As one of the twelve community colleges, Housatonic was the second to prepare its plan.

Housatonic's campus is located in downtown Bridgeport, 20 miles from New Haven and 55 miles from Hartford. The focus of this master plan is on capital needs for the main campus.

Our Vision for CSCU

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

CSCU's Mission Statement

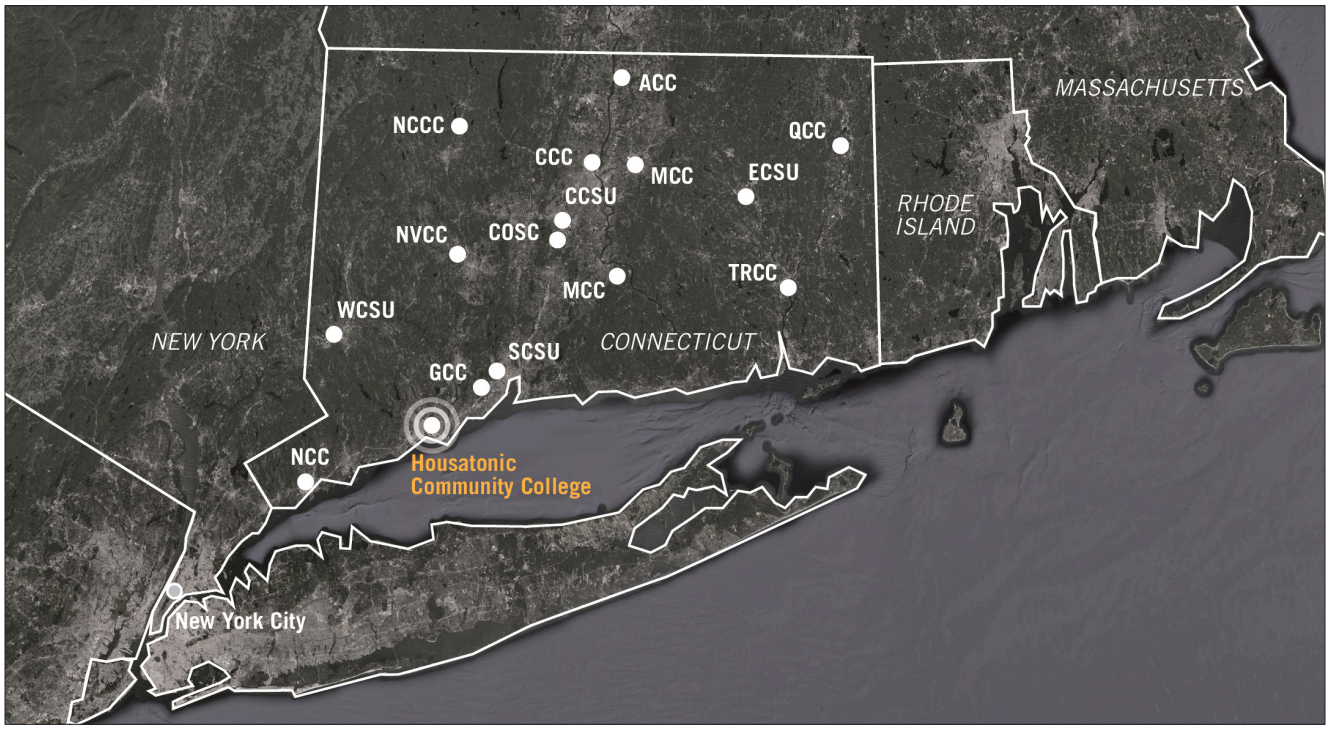
The Connecticut State Colleges & Universities contribute to the creation of knowledge and the economic growth of the state of Connecticut by providing affordable, innovative, and rigorous programs. Our learning environments transform students and facilitate an ever increasing number of individuals to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

Connecticut Community Colleges Mission Statement

As part of the CSCU system, the twelve Connecticut Community Colleges share a mission to make excellent higher education and lifelong learning affordable and accessible. Through unique and comprehensive degree and certificate programs, non-credit life-long learning opportunities and job skills training programs, they advance student aspirations to earn career-oriented degrees and certificates and to pursue their further education. The Colleges nurture student learning and success to transform students and equip them to contribute to the economic, intellectual, civic, cultural and social well-being of their communities. In doing so, the Colleges support the state, its businesses and other enterprises and its citizens with a skilled, well-trained and educated workforce.

HCC Mission Statement

Our purpose at Housatonic Community College is to empower all individuals to develop to their full potential. We are committed to liberal learning for all. As a knowledgeable and dedicated faculty and staff, we work together with students in a learner-centered, supportive, and stimulating environment. We prepare students to participate in, and contribute responsibly to, our global society.



GOALS AND OBJECTIVES

Intent

The Master Plans for the Connecticut State College and 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 for each college will reflect system-wide goals and projected demographics.

Goals

Through a collaborative effort between college stakeholders, CSCU and the consultant team, the Master Plan will integrate the system-wide Strategic Plan and the college mission into a comprehensive vision that promotes the advancement of higher education through state-of-the-art planning projections over the next decade. 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 CSCU Master Plan at each college:

- 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 will be a comprehensive vision comprised of a series of capital projects, with associated institutional priorities and phasing strategies.

PLANNING PROCESS

PROJECT TIMELINE

The Master Plan is organized in three main Tasks.

Task 1. Initiation	November to January 2016
Task 2. Assessment	January to March 2016
Task 3. Recommendations	March to July 2016

PROJECT OBJECTIVES

Task 1 Initition

- Establish the Advisory Committee, confirm project objectives and communications protocol.
- Collect data on the College today
- Establish the project schedule and milestones.

Task 2. Assessment

- Understand the history, mission and academic objectives of the College.
- 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 approved enrollment projections and academic goals.

Task 3. Recommendations

- Develop guiding design principles strategy.
- Assess pros and cons of potential development alternatives and assist the Advisory Committee in selecting the preferred approach.
- Refine the master plan elements for buildings, landscape and infrastructure.
- Prepare cost and phasing information.
- Document and present final recommendations to the College

CAMPUS ENGAGEMENT

The Master Plan was a collaborative process, informed and guided by significant input from College stakeholders.

COLLEGE MASTER PLAN ADVISORY COMMITTEE

The consultant team met five times with the CMPAC, a group which included President Broadie, other senior administrators, faculty, staff and students. As a broad cross section of the College, the Committee provided invaluable insights into programmatic, functional and aesthetic aspects of the Plan. The student representatives also contributed important insights for how College facilities could be further strengthened to support student success.

PROJECT STEERING COMMITTEE

The consultant team conferred regularly with Richard Hennessey, HCC Director of Facilities, and Keith Epstein and Ahmed Beerman-Ahmed of CSCU BOR to review the progress of the work and provide timely input to advance the work and maintain the project schedule.

PROGRAM INTERVIEWS

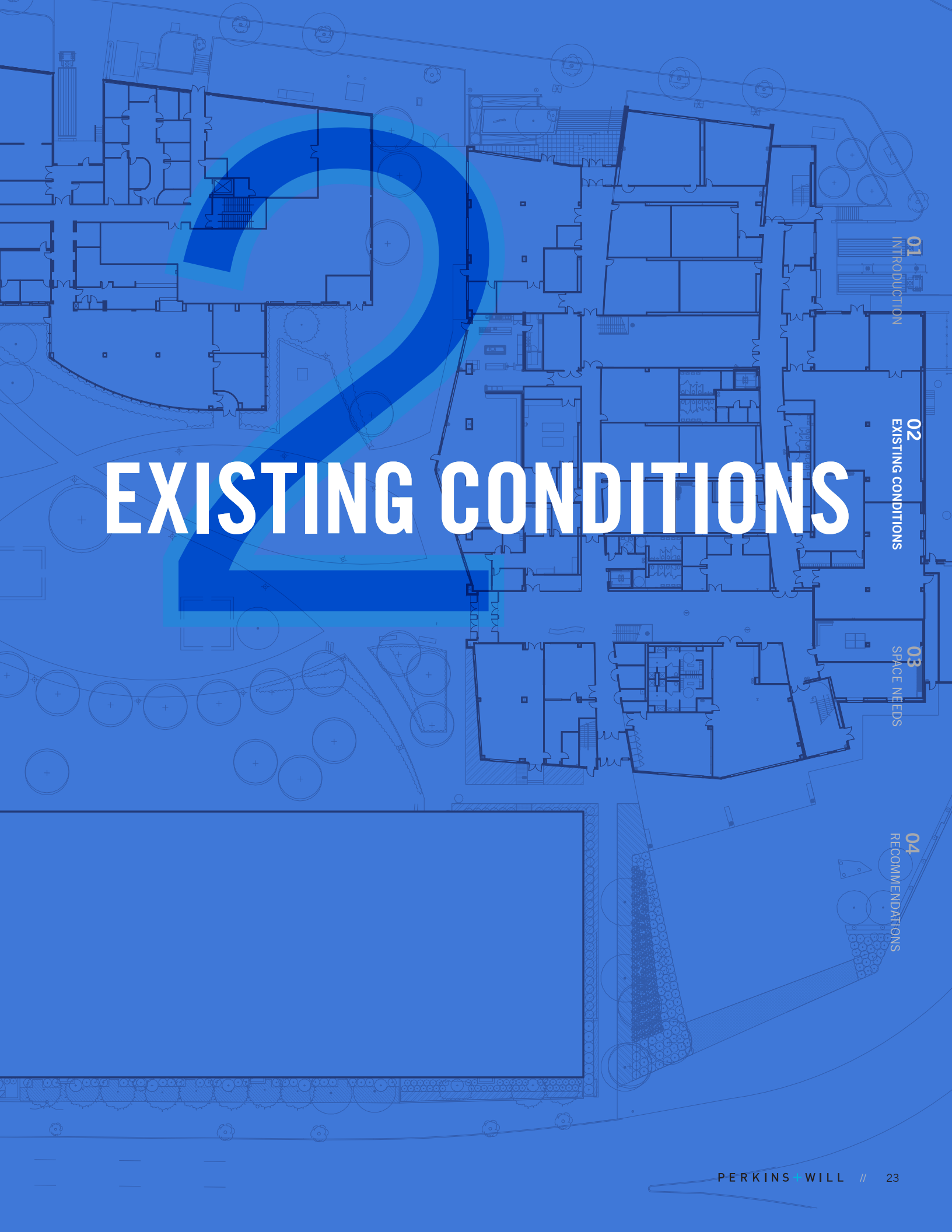
The consultant team conducted over 18 program interviews with a broad range of college stakeholders, including students, faculty, staff, industry partners and senior administration. The input informed the space need projections and the functional needs assessment.

ALL COLLEGE MEETING

The team presented a summary of the draft Master Plan Recommendations to the College community at the annual All College Meeting on May 6. The Plan was enthusiastically received.




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2 EXISTING CONDITIONS

THE INSTITUTION

- HISTORY OF THE PHYSICAL CAMPUS
- HCC ACADEMIC STRUCTURE

THE CAMPUS

- CONTEXT
- LAND USE AND ZONING
- TRANSPORTATION
- CAMPUS STRUCTURE AND SCALE
- CIRCULATION AND ACCESS
- FLOODPLAINS
- LANDSCAPE CHARACTER
- PARKING
- CAMPUS SECURITY

THE BUILDINGS

- ARCHITECTURAL CHARACTER
- BUILDING INVENTORY
- BUILDING USE
- BUILDING CONDITION
- CLASSROOM UTILIZATION

CAMPUS INFRASTRUCTURE

- PLANNED PROJECTS
- SITE
- HVAC
- ELECTRICAL SYSTEMS
- PLUMBING
- FIRE PROTECTION

COMMITTEE SURVEY

OPPORTUNITY AREAS

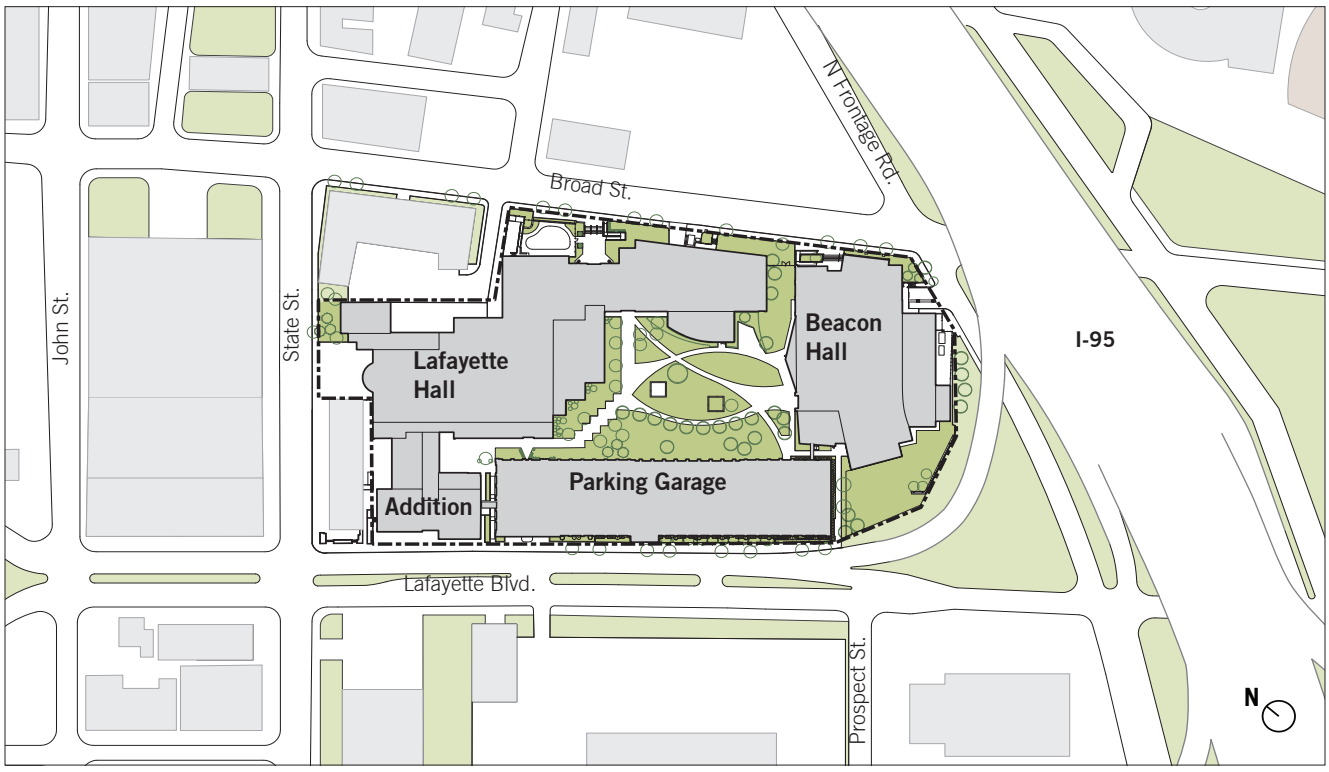


FIGURE 02.1 The Campus Today

THE INSTITUTION

HISTORY OF THE PHYSICAL CAMPUS

Housatonic Community College has a unique physical history among its system counterparts. Of its 50 years of establishment, less than 20 have been at a permanent campus. Prior to its relocation, HCC was the only state college in Connecticut without it's own property. As remarkable as the journey of the College to find a home, is the transformation of the current campus site, from an abandoned suburban style shopping mall, to a vibrant urban campus and major asset to Bridgeport's Downtown Business District.

Housatonic Community College roots began in Stratford, where in 1966 it opened as a branch of the Norwalk Community College with 378 students. The following year HCC became an independent part of the Connecticut Community College System. At the same time, the Housatonic Museum of Art was founded with works donated by artists and collectors,and is now one of the largest permanent collections of any two-year college in the US. Over the next few years the college occupied various sites including Bunnell High School, Wooster Junior High School, Stratford Public Library, United Methodist Church, and the Masonic Temple.

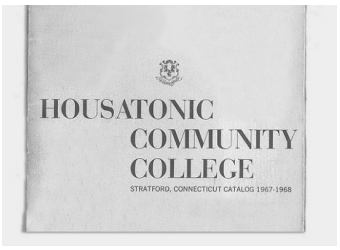
In 1971 Housatonic Community College moved to its temporary home in Bridgeport at the former Singer Metric Building. While state officials searched for a permanent site, HCC continued to lease the former factory building, where they remained for 26 years.

In 1993 bonding was approved to purchase the former Hi-Ho Mall at Lafayette Blvd. and in 1994 the state took title of the property. The original mall structure was completely gutted, keeping only the columns, beams, and floor slabs. About a third of the structure was demolished to create a courtyard, as well as a portion of the parking garage removed to create a main entrance on Lafayette Blvd. The long awaited campus opened in the spring of 1997. This same year the Housatonic Museum of Art, located wholly within the college building, had its opening, where over 8,000 visitors came to view the exhibition.

With increasing enrollment, the college expanded onto the southern portion of the site, occupying the former Sears building which was renovated as an academic building and opened in 2008 as Beacon Hall.

As Housatonic Community College approaches its 50th anniversary, the College undergoes further transformation, both with the ground breaking of the Lafayette expansion and renovation and the inauguration of Dr. Paul Broadie II as the 5th president of HCC.

1966



Stratford Community College Center
College opens as a branch of Norwalk Community College. The following year HCC became an independent institution.

1971



Moves to Bridgeport
After occupying various temporary facilities in Stratford, Housatonic moves to the Singer Metric Building in Bridgeport.

1997



First Permanent Campus
HCC moves to it's current campus on the site of the former Hi-Ho Mall, occupying what is now known as Lafayette Hall.

2008



Expansion
After the College Celebrates its 40th anniversary, and as enrollment exceeds 5,000 students, the Campus required expansion. Beacon Hall, the former Sears Building, opens.

2016



HCC: Then and Now
Ground breaks on the expansion and renovation of Lafayette Hall. Dr. Paul Broadie II is inaugurated as the 5th preseident of HCC.

FIGURE 02.2 Historic Timeline



FIGURE 02.3 Original Hi-Ho Mall, built in 1968 and closed in 1994



FIGURE 02.4 Adaptive Re-use of Mall into HCC Campus in 1997



FIGURE 02.6 Lafayette Hall Renovation and Addition starting construction, 2016.



FIGURE 02.5 Addition to Lafayette Hall. (Amenta Emma Architects)

ACADEMIC STRUCTURE

HCC ACADEMIC STRUCTURE

HCC offers over 60 degrees and certificates, as well as non-credit courses, seminars and workshops for professional development, career training and new technologies.

Programs include:

- The Arts
- Allied Health
- Behavioral Health
- Business & Finance
- Computer Science
- Criminal Justice
- Education
- Engineering & Technology
- General Studies & Libral Arts
- Language & Communication
- Mathematics & Science
- Continuing Education

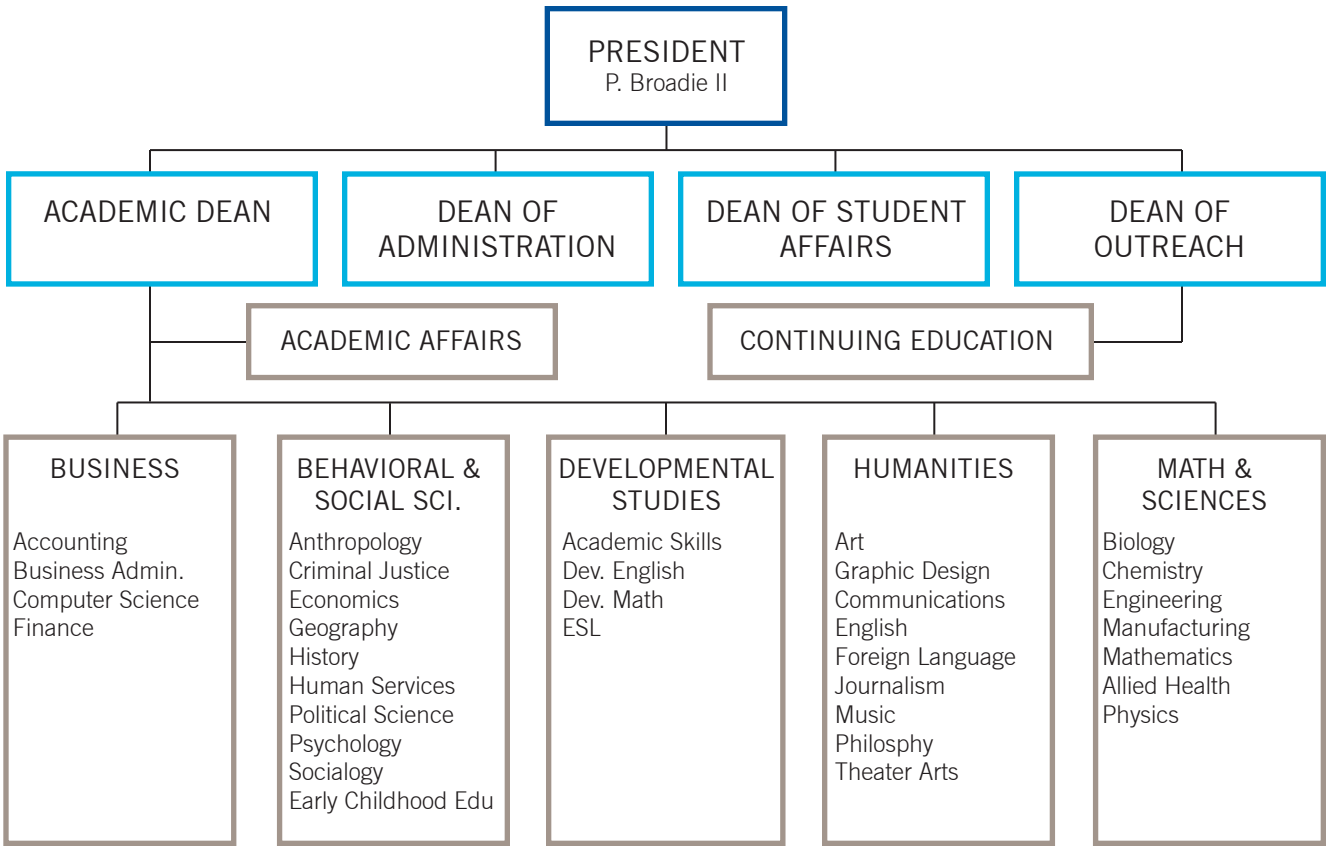


FIGURE 02.7 Organizational Chart

THE CAMPUS

CONTEXT

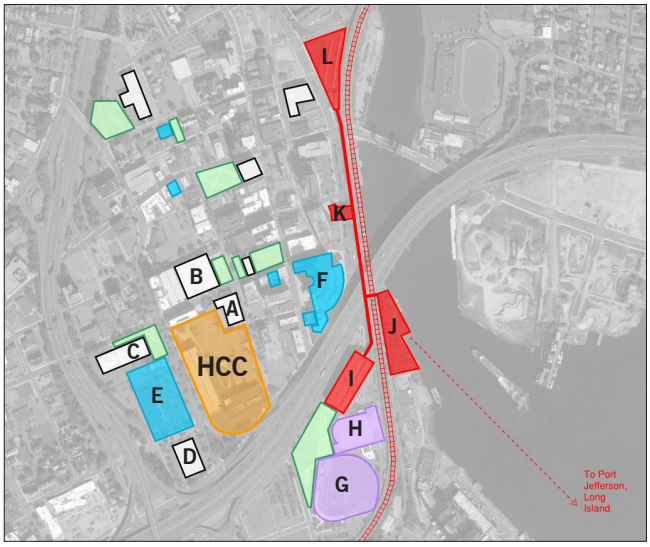
Regional Context

HCC's campus is located in Bridgeport, CT in the county of Fairfield. It is situated directly adjacent to I-95, the Connecticut Turnpike, as well as the terminous of CT-8. New Haven lies 20 miles northeast on I-95, while Stamford lies 22 miles southwest on I-95. Waterbury is 30 miles north on CT-8.

Area Context

HCC's campus is located in the Downtown Bridgeport Business District. It is largely surrounded by commercial and light industry with residential areas further beyond. I-95 runs adjacent to the south edge of Campus with Lafayette Blvd. fronting on the west, State St. to the north, and Broad St. to the east.

The college occupies most but not all of its block. The Bridgeport Public Library is located at the northeast corner of State St. and Broad St. A commercial building occupies the northwest corner of the block.



A	Bridgeport Public Library	**G**	Bridgeport Arena
B	Government Center	**H**	Webster Bank Arena
C	Federal Courthouse	**I**	Harbor Yard Parking Garage
D	Police Department	**J**	Port Jefferson Ferry
E	Shopping Center	**K**	Brirdgeport Amtrack/ Metro N.
F	Bridgeport Center	**L**	Bridgeport Bus Terminal

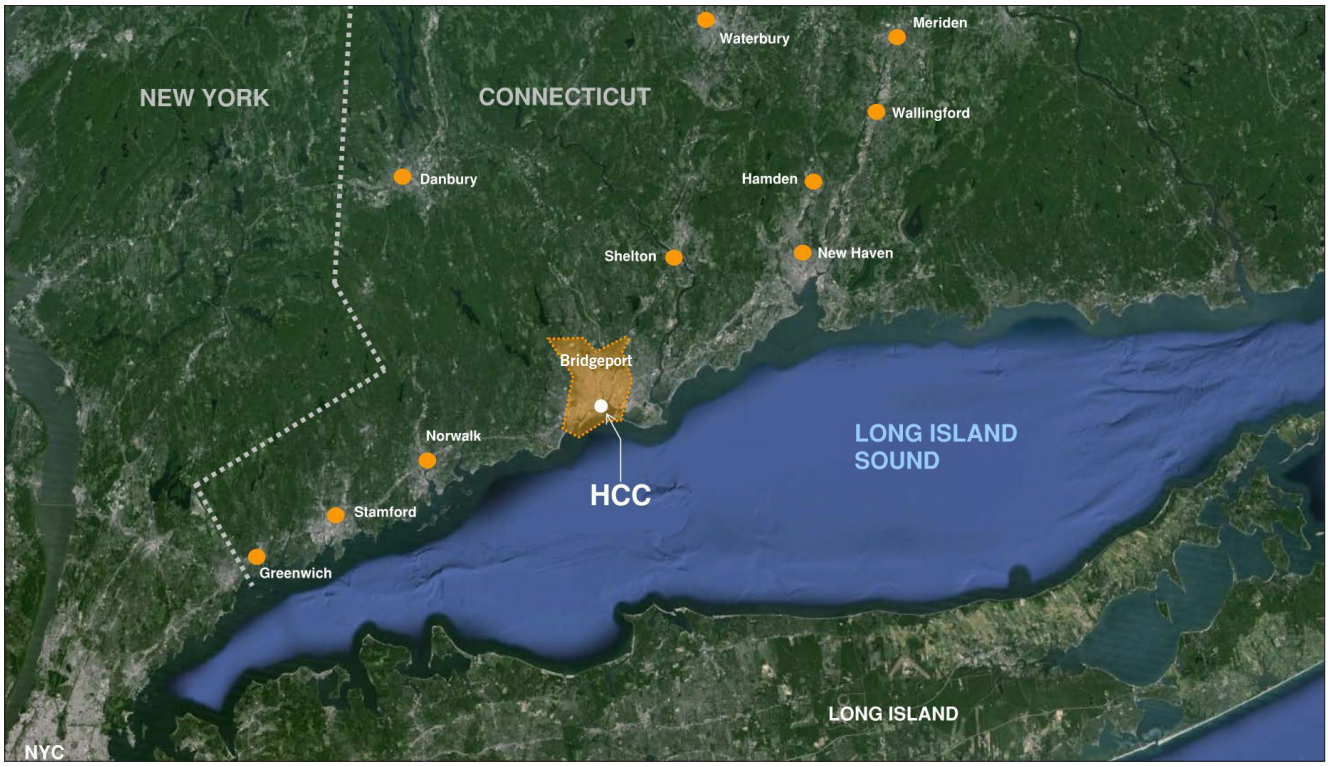


FIGURE 02.8 Regional Context

LAND USE AND ZONING

HCC's land use is as simple as the campus is compact. Academic uses and parking at the periphery surround a central open space.

The campus occupies the City of Bridgeport Downtown Village District Transit Oriented Development zone (DVD TOD), which permits high density development up to 120 feet high with a maximum lot coverage of 85%. The existing campus has approximately 59% coverage. The college has significantly less floor area than what would be permitted as-of-right under the current zoning. As a State property, HCC is exempt from zoning.



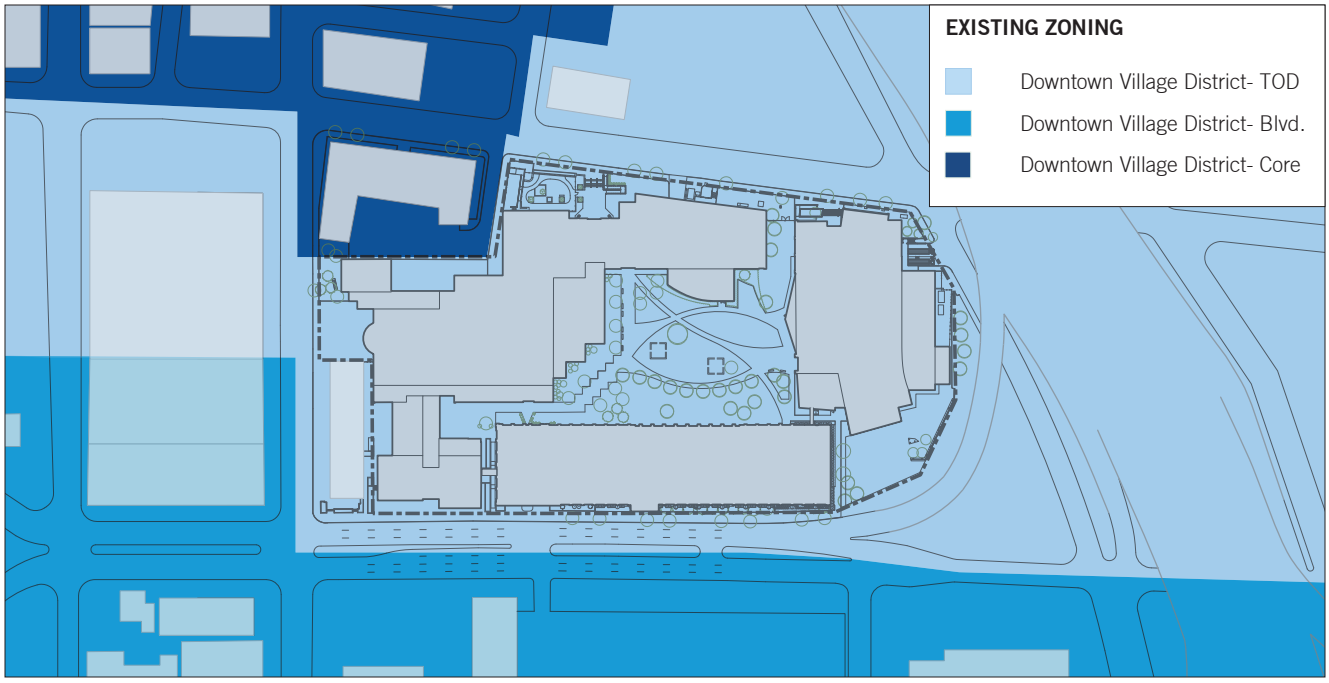


FIGURE 02.9 Existing Zoning Districts

FLOODPLAINS

A FEMA 100-year floodplain area occupies only a small portion of the site at it's low point on the SE corner of Campus. As shown in Figure 02.10 below, this area is subject to inundation by the 1% annual chance flood from the Pequonnock River, and extends further south and east past HCC's property line. Considering the existing use and lack of development potential of the location, this area does not present significant flood risk to the College.

While the FEMA flood maps illustrate areas at risk of annual chance flooding, they do not take into account sea level rise in future years. The "Coastal Collective Study" conducted by the federal organization 'Rebuild By Design' used both FEMA Special Flood Hazard Area Maps, along with projected sea level rise, to create a series of maps locating future at risk areas. HCC occupies an elevation of +24.6 feet and above, and as such is just outside projected risk areas over the next 65 years. Other nearby areas closer to Long Island Sound are projected to be directly impacted by sea level rise. In 2015 the State of Connecticut received 10 million dollars from the US Department of Housing and Urban Development to be used to develop a plan and pilot project for reducing flood risk and improving resilience for the South End and Black Rock areas of Bridgeport.

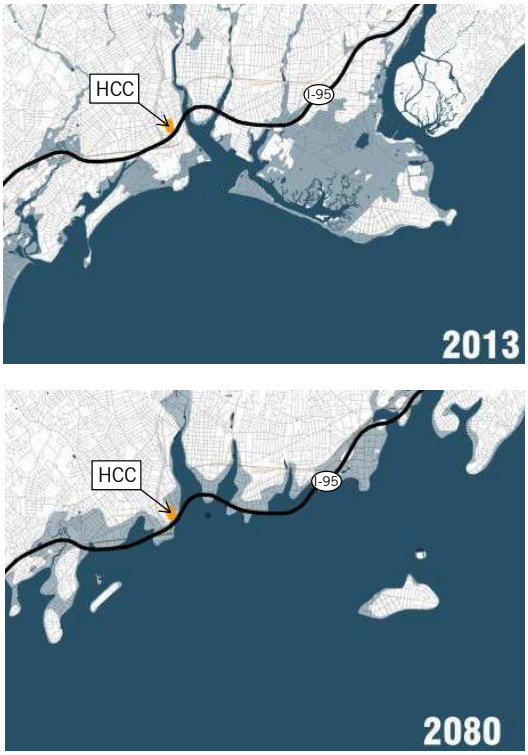


FIGURE 02.11 Coastal Collective Study maps

LEGEND

Special Flood Hazard Areas (SFHAs) subject to inundation by the 1% annual chance flood

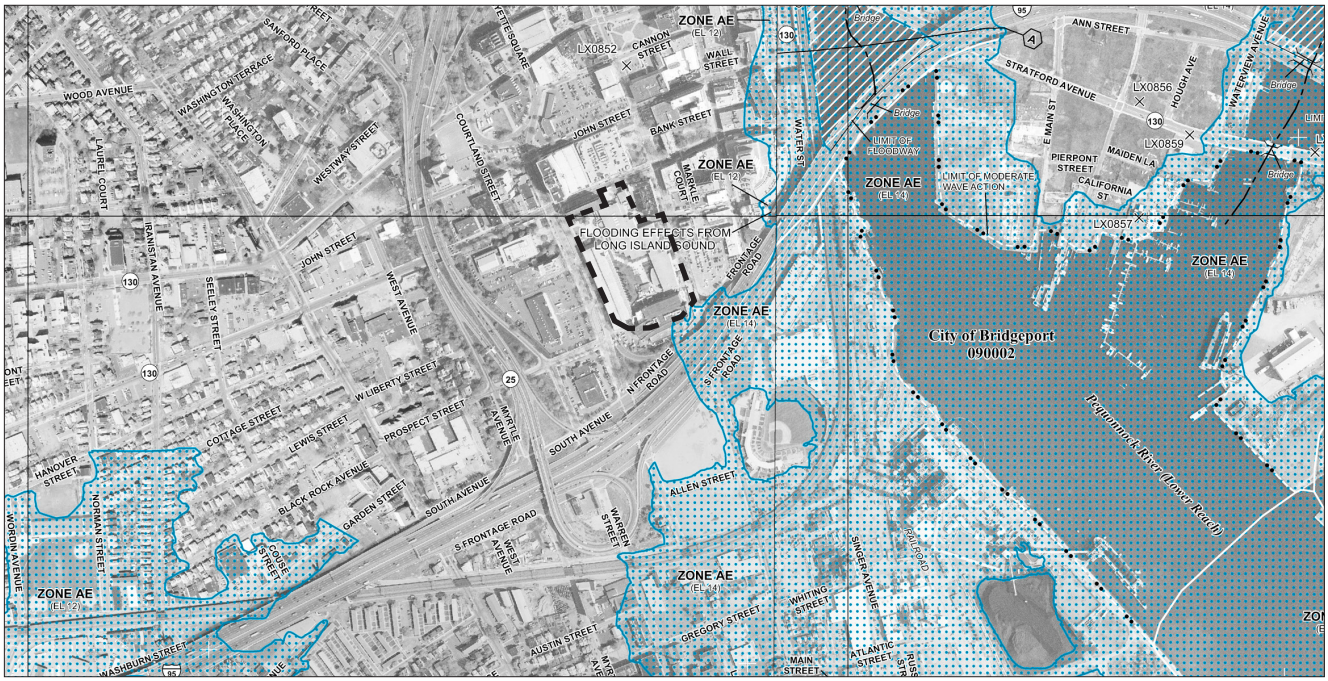
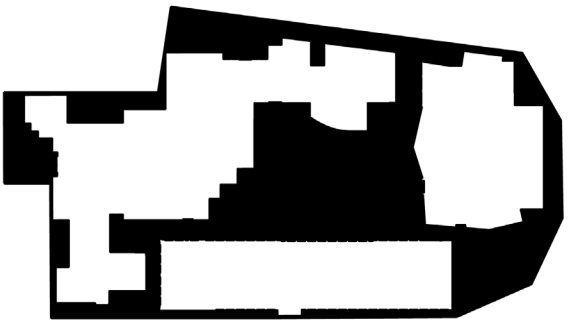


FIGURE 02.10 Existing Floodplains. Map by FEMA

CAMPUS STRUCTURE AND SCALE



The Campus is organized with its academic buildings and parking garage around the periphery of the site, creating a central courtyard connecting the 3 structures. The Courtyard is the core of Campus and a choice amenity, providing informal gathering spaces for socializing and studying, opportunities for recreation, space to display sculpture, and an oasis in a dense urban context.

The 9.8 acre campus is the largest block in the Downtown Business District. Prior to development a road ran through the site, however, when the Hi-Ho Mall was build in 1968, the road was closed to create a super block. Though the Campus is located on the southernmost edge of the Downtown Business District, it is still well located within a 5 minute walking distance from a variety of uses, including regional entertainment, civic, commercial, open space, waterfront, and regional transit.

Compared to its sister CSCU Colleges, Housatonic's campus is especially compact. While site coverage and density are high compared to other CSCU campuses, the landscaped courtyard and relatively low surrounding buildings create an attractive setting.

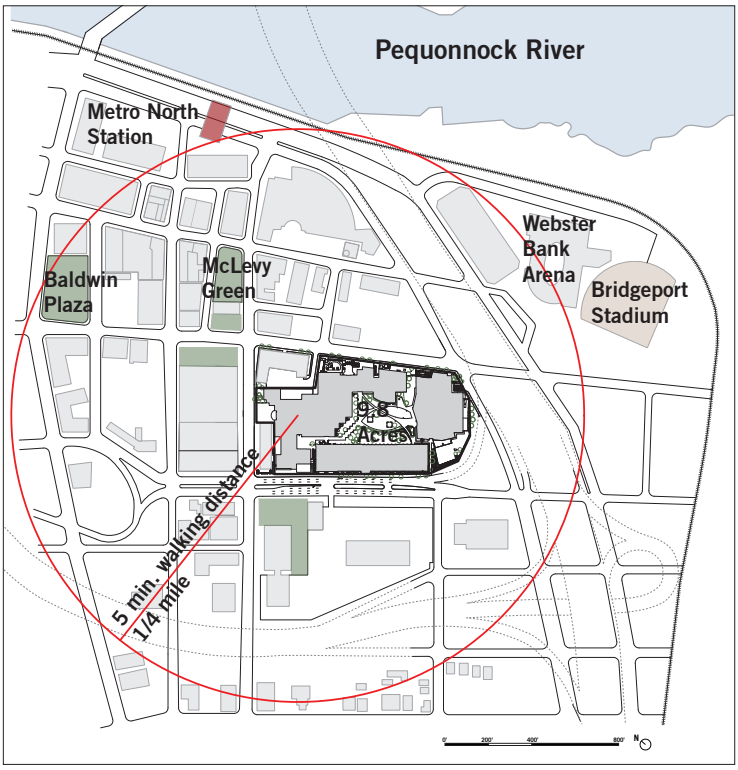


FIGURE 02.12 Campus Scale

PUBLIC TRANSPORTATION

While many arrive via single-occupancy vehicle, the College is also well served by public transportation. The Bridgeport train station, served by Metro North and Amtrak, is a few blocks and a short walk to the campus.

Greater Bridgeport Transit (GBT) provides bus service from the Bridgeport Transportation Center north of the train station. Multiple bus lines use State Street, adjacent to the campus, and John Street, a block to north of the campus (1, 3, 5, 7, 9 and CL lines). A significant number of students in the Bridgeport area reportedly use the bus, and some are able to walk to campus.



FIGURE 02.13 Bridgeport Transportation Center

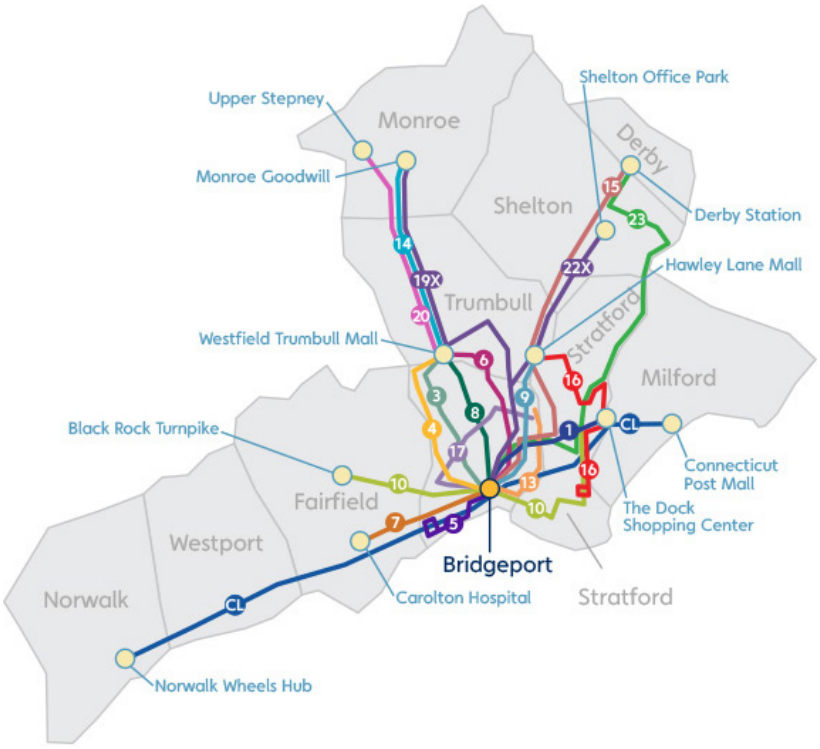


FIGURE 02.14 GBT Service Map

CIRCULATION AND ACCESS

HCC is well served by major regional highways. The Campus is located directly adjacent to I-95 at its on/off ramp on Lafayette Boulevard. It is also one block from the on/off ramp of the CT-8 at Prospect St. On either side of Campus are two main corridors running north/south through Downtown Bridgeport. The arterial roads running east/west surrounding the campus are one way streets. By vehicle, the campus has only one entry, to a parking structure with a single point of access from Lafayette Boulevard. The garage on campus is the only designated space for students, faculty and staff to park. There is short term metered parking on the streets surrounding the campus.

The campus is also well located in a network of tree lined streets and well maintained sidewalks with crosswalks, providing a safe and comfortable pedestrian connection to and from regional public transit and surrounding amenities. The College operates as an "open campus" with multiple points of pedestrian access and building entries. Lafayette Hall has three current entrances. The addition will provide a new visible front door on Lafayette Boulevard.

Most users arrive by car to the garage and enter the back door to Lafayette Hall. This is a direct, but not a welcoming, experience or appropriate since it does not connect to a significant interior space.

Beacon Hall has four entries, from the West, East to Broad Street, and North to the Courtyard, as well as from the 3rd Level of the Garage via a bridge.

LEGEND

- Pedestrian Circulation
- Primary Entry
- Secondary Entry
- Tertiary Entry
- Parking Garage Access
- Arterial Road (arrow indicates direction)
- I-95 Above (arrow indicates direction
- I-95 On/Off Ramps

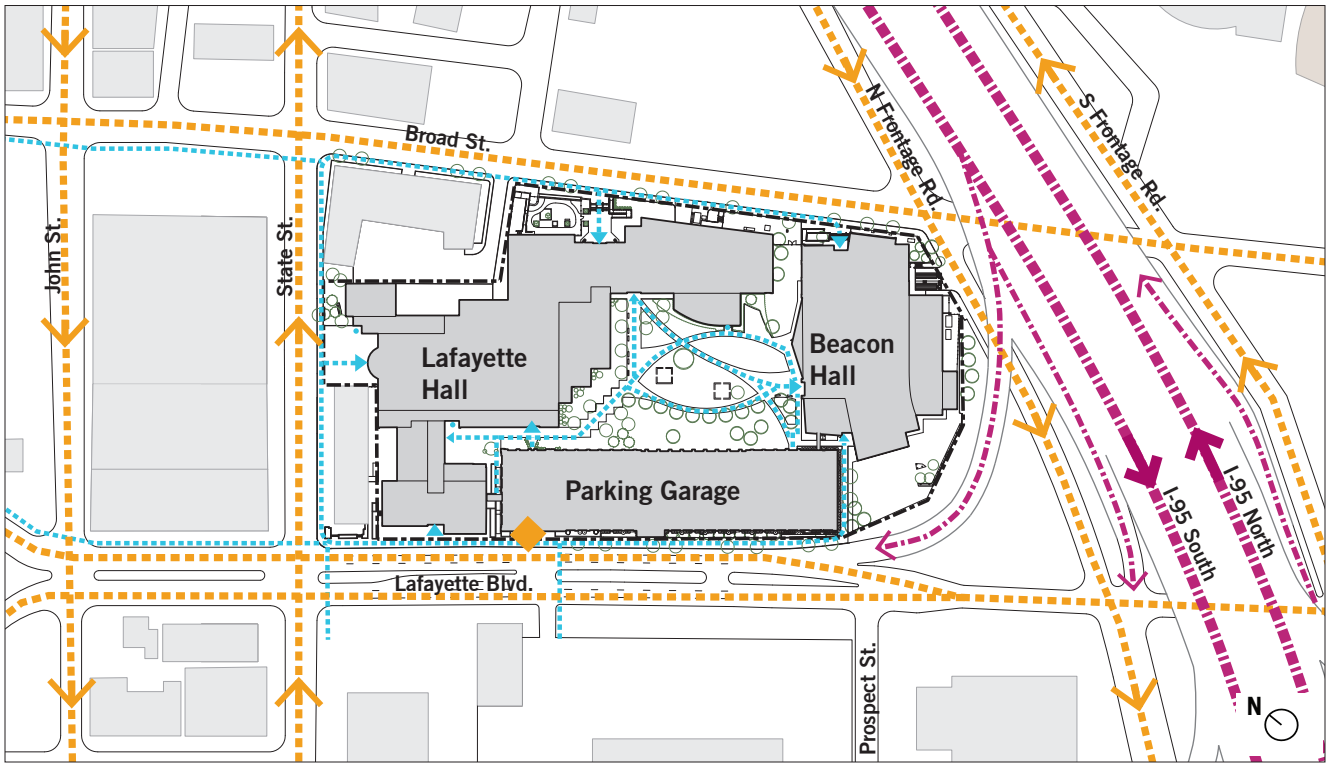


FIGURE 02.15 Existing Circulation and Arrival Points



FIGURE 02.16 Ground Level Existing Entries and Interior Circulation



Back Entry to Lafayette from Garage



Lafayette Hall East Entry to Broad St.



Beacon Hall East Entry to Broad St.

LANDSCAPE CHARACTER

The central courtyard at Housatonic Community College is an oasis for this urban campus. Originally carved out of a large original mall structure, the courtyard provides light and space for the surrounding buildings and a valuable outdoor amenity for students, faculty and staff. The collection of sculpture enriches the experience of the space.

Recently, the landscape architecture firm Towers Golde designed enhancements for the 65,000 SF courtyard. The design expanded the usable space, clarified circulation and re-engaged the sculptures in new ways. The sweeping curved paths unified the space and provided additional areas for future sculpture.

While Beacon Hall has an entry directly onto the courtyard, larger Lafayette Hall lacks a direct path to the courtyard. The path between the State Street entrance and gallery and the courtyard is indirect and circuitous. Better integrating the experience of the courtyard landscape into the building interior was a goal of the Master Plan.



Beacon lawn



Courtyard artwork



Courtyard and sculptures

PARKING

The eight-level parking garage, originally built for the shopping mall, is a significant asset for the College. Though located near regional rail and several Bridgeport bus lines, many students, faculty and staff drive to HCC. The 1995 garage renovation plans indicate a total of 1,418 maximum available spaces. The College utilizes somewhat fewer spaces in practice, to leave some areas more open to facilitate traffic flow congestion at peak periods.

A portion of the original garage was demolished to make room for a plaza for HCC on Lafayette Avenue (the area where the addition is now being built). This demolition removed a second set of garage ramps that provided redundancy to handle greater traffic. The current circulation relies on one 2-way ramp system. Input from the Advisory Committee and a campus-wide survey indicate that garage peak time congestion is perceived as HCC's most significant facility problem. Steps to alleviate this congestion are described in following chapters on Space Needs and Recommendations.

When the garage was converted from a shopping mall to the College, the structure was stripped of its original cladding and given a pre-cast concrete cladding at the base on most of its perimeter. The levels above are left simple and unadorned. The garage condition has deteriorated over the years, perhaps in part due to the relatively proximate marine environment. The College has a two-phase renovation plan to restore the garage. The first phase is about to be implemented, with the second to follow soon after.

There are several pedestrian access routes to and from the garage to the College. The main path is at the northeast end of the garage across the gap to the back door of Lafayette Hall. A secondary route with a ramp exits to the north, and another at the south end of the garage at grade. An upper level connection links the 5th level of the garage to the second floor of Beacon via a roof terrace.

Other than short-term metered street parking, there are no nearby off-campus parking lots that the HCC community can use. Parking in the shopping mall lot opposite Lafayette is prohibited.



Parking Garage from courtyard

CAMPUS SECURITY

The Public Safety Department has space in both buildings near the entry with locker facilties and a holding area in Lafayette. Additionally, there are security posts at each entrance. Since these posts are not all staffed, they provide more of a sense of security with their visible prominence.

There currently are multiple primary and secondary entrances to the College, making interior space accessible from nearly all frontages. Managing access and monitoring these multiple entries is difficult. The campus is currently planning to reduce the number of entry points, in an effort to further enhance security.

HCC is a public facility and has an open campus policy. As the home of the Housatonic Museum of Art, it is important that visitors have good access and a welcoming experience. The goal is to balance access and safety for visitors, students, faculty and staff.

BUILDINGS

While both buildings on the campus provide academic space, each has a unique role and program-specific identity. Lafayette Hall and its new addition have the most public-facing student and community services, housing the Welcome Center, Admissions, Financial Aid, Early Childhood Lab School, Performing Arts Theater, and the Housatonic Museum of Art. Beacon Hall also serves a community role with its Multi-purpose Events Center. Additionally, Lafayette Hall provides much of the Administrative functions as well as student support, with the location of Advising and Counselling, the Library, and Academic Service Center, and Beacon Hall serving as the focal point of student life on campus.

Each building has specific college programs. Lafayette Hall is the home of the Mathematics & Sciences department, which includes Technology and Engineering. Here, you will find all of the colleges teaching laboratories and Advanced Manufacturing Center. Developmental Studies is also located in this building, in close proximity of academic support and services. The Lafayette addition will be the new home of the Arts. Beacon Hall is the primary Classroom building and home of the English & Foreign Language, Social & Behavioral Sciences, and Business Administration Departments.

EXISTING BUILDING INVENTORY

Buildings	ASF	GSF	Floors	Year Built
Lafayette Hall	132,045	190,018	2	1968
Lafayette Addition*	29,271	51,822	4	2017
Beacon Hall	101,090	185,085	3	1968
	262,406	426,898		

* In construction 2016-2017

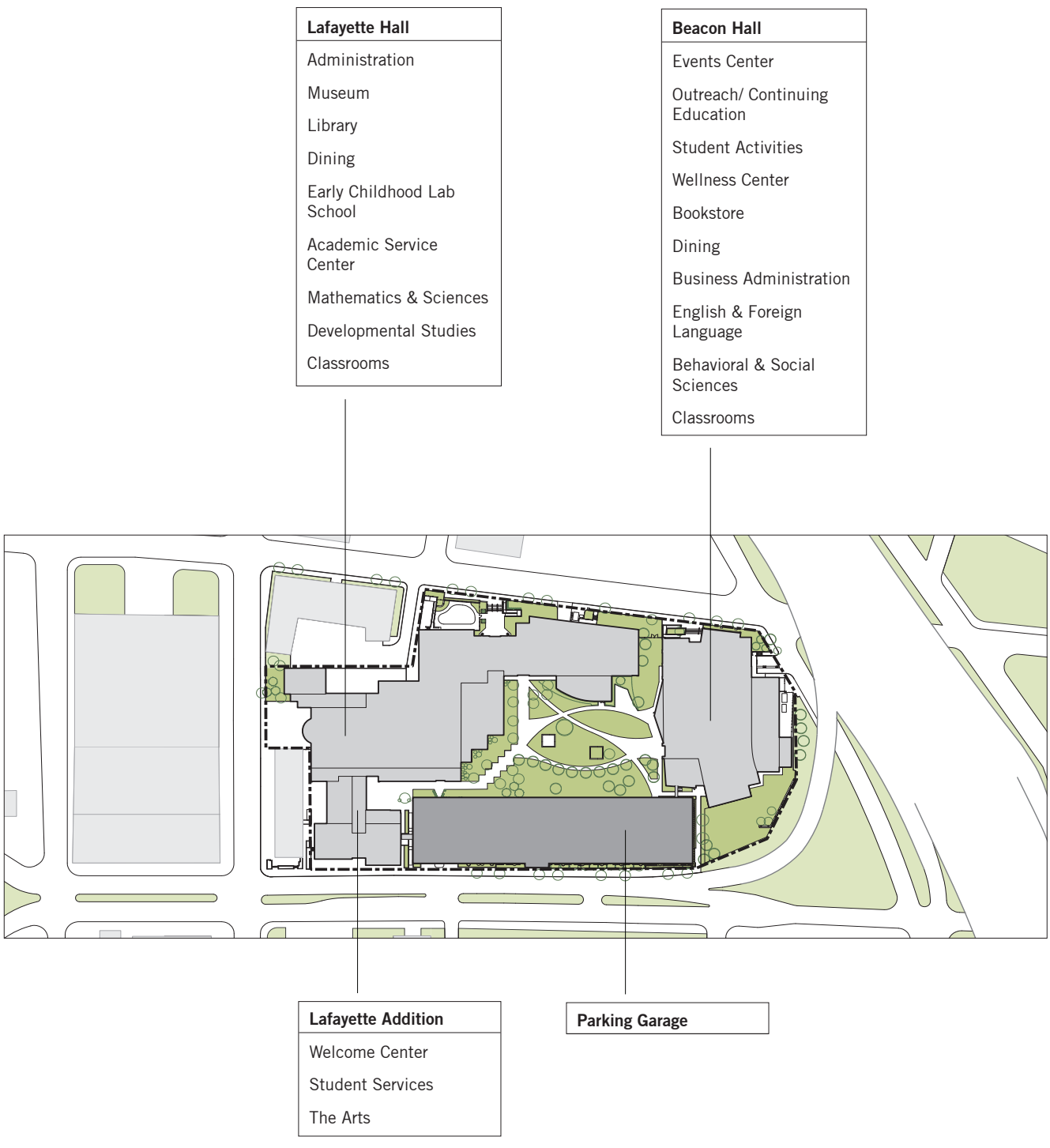


FIGURE 02.17 Existing Building Uses

ARCHITECTURAL CHARACTER

HCC's original structures were built at the same time, but were gut renovated a decade apart. In 1968 when the buildings were constructed, they were planned and designed as shopping centers. Lafayette Hall was formerly the HI-Ho Mall with attached parking garage and Beacon Hall the detached Sears building.

Prior to the college moving to the property in 1997, the Hi-Ho Mall was completed gutted, leaving only it's original structure and floor slabs. As a part of its retrofit for academic use, a portion of the structure and the garage were demolished to create a central courtyard and a plaza facing Lafayette Boulevard. The envelope of the building was completely re-designed, defined by vertical lines and curves through the use of brick and repeating punched windows. The architecture may best be described as Postmodern. The former Lafayette west entrance, pictured below, is the image on HCC's logo. It is being replaced by the new addition.

Beacon Hall, renovated in 2008, was also taken down to its original structure and then re-skinned. Though re-designed only a decade after Lafayette Hall, it takes on a much more contemporary expression. Its architecture well balances the traditional red-brick academic vocabulary with class curtain walls and aluminum exterior panels. The interior architecture of Beacon Hall is also more contemporary than its counterpart, Lafayette Hall. Beacon's gentle curving corridors, views to daylight, atrium-style communicating stairs, and finishes, all lend themselves to a contemporary expression, resulting in a more successful and pleasant learning environment.

Though the Lafayette Addition is still under construction, its design responds to much of the architectural language already established with Beacon Hall, including red brick and glass curtain walls, volumes, atrium space, and metal V-columns expressed on the exterior.



Former Lafayette Hall west entrance



New Lafayette west entrance addition



Lafayette Hall at Library



Beacon Hall

BUILDING CONDITION

A building assessment completed by HCC facilities staff rate both existing buildings as Good and the Parking Garage as Fair. Structural, exterior, interior and building systems were all evaluated independently and contributed to the overall score. The Lafayette Addition will be new and in excellent condition when completed in 2017. Condition deficiencies in the Parking Garage will be addressed in a two-phase renovation project. Phase 1 is expected in the near term.

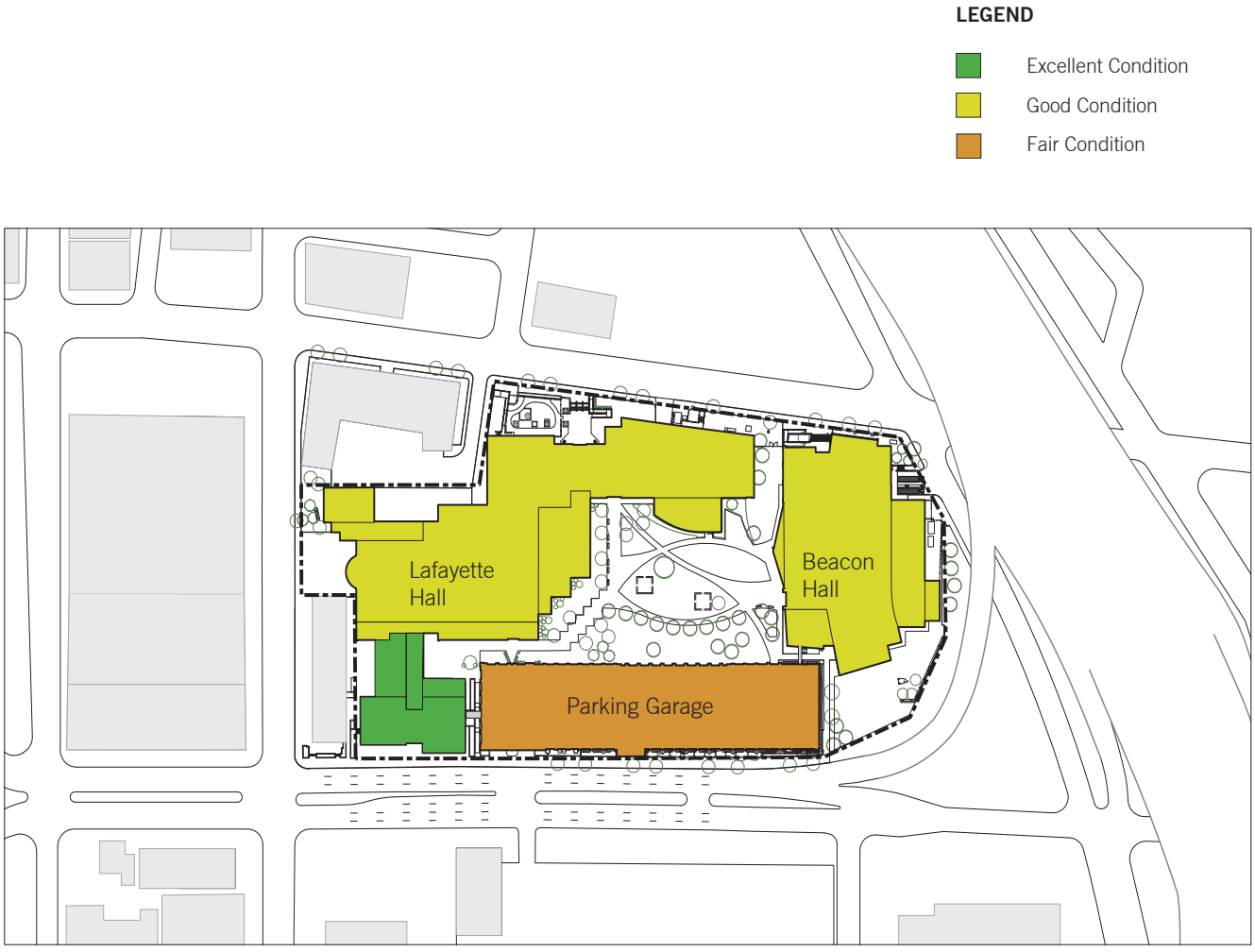


FIGURE 02.18 Existing Building Condition

CLASSROOM UTILIZATION

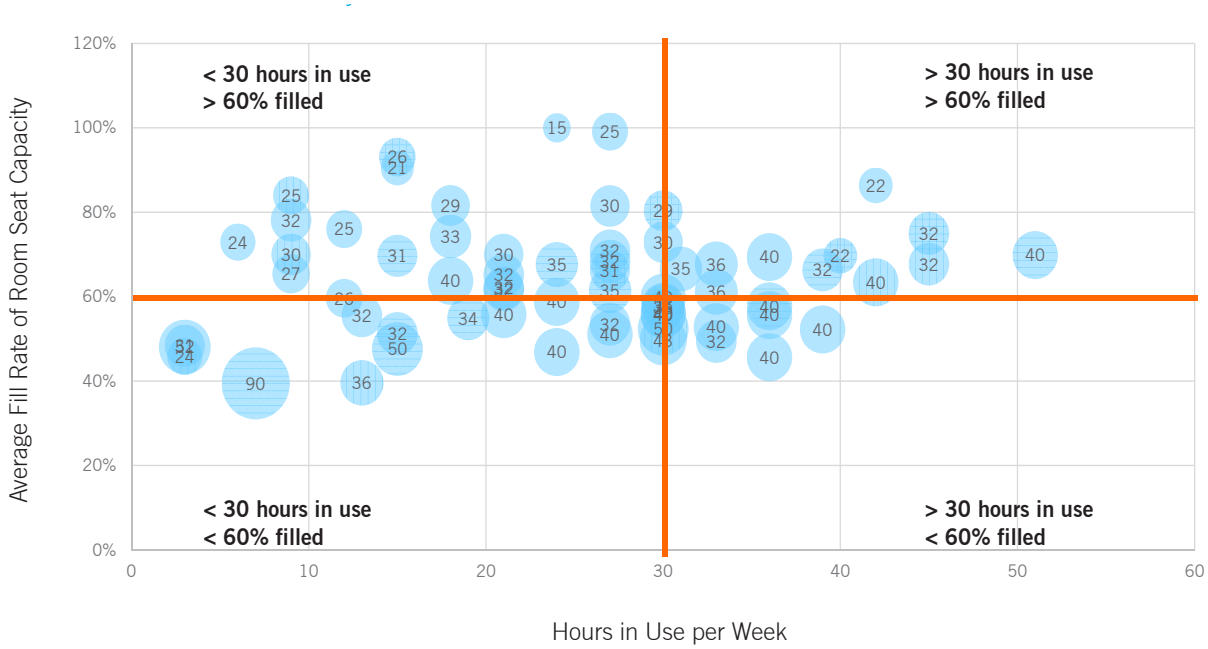
The planning team analyzed the use of the existing classroom inventory over the course of the week and each day. The utilization analysis reflects conditions in Academic Year 2015-2016, before a net addition of 5 more classrooms following the completion of the addition and Lafayette Renovation.

HCC has 68 total general classrooms as of Spring 2016, with an average seat capacity of 33. The analysis indicated that the classrooms are significantly under-utilized. This means that HCC has more classrooms than needed, even before more are added with the pending expansion. In comparison, Western Connecticut State University has a total of 77 classrooms to Housatonic's 68. This key finding is further analyzed in the following chapter to illustrate opportunities for the Master Plan.

CLASSROOM UTILIZATION SUMMARY: ROOMS IN USE BY DAY AND TIME



UTILIZATION HOURS IN USE VS. RATE BY ROOM



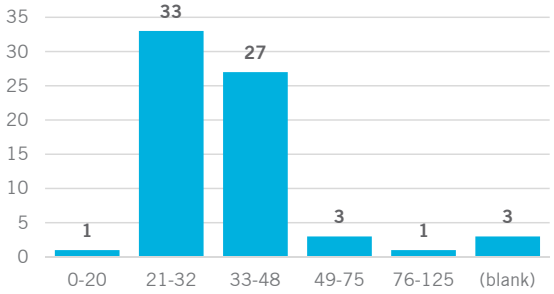
TOTAL COURSE DELIVERY PER THE COURSE SCEDULE

Space Type	Number of Rooms	Total Weekly Hours	Total Weekly Student Contact Hours
Classroom	68	1,626	35,044
Future Classroom	7	0	0
Class Lab	8	369	8,122
Off Campus / Online	3	183	3,570
Other	5	192	3,654
Total	**91**	**2,370**	**50,390**

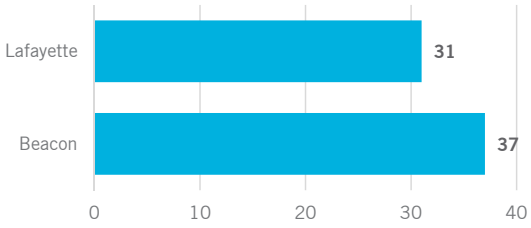
CLASSROOM DATA SUMMARY

Total # of Classrooms: 68
Total Classroom Seats: 2,245
Total Classroom ASF: 54,713
Avg. Classroom Room Seat Capacity: 33
Avg. Classroom ASF / Station: 23

NUMBER OF CLASSROOMS BY SIZE



NUMBER OF CLASSROOMS BY BUILDING



UTILIZATION SUMMARY BY BUILDING

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
Beacon	37	32,736	1,300	24	35	945	26	58%	20,785
Lafayette	31	21,977	945	23	30	681	22	66%	14,259
Total	**68**	**54,713**	**2,245**	**23**	**33**	**1626**	**24**	**61%**	**35,044**

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	403	15	27	15	24	24	100%	360
21-32	33	24,828	954	27	29	713	22	70%	14,649
33-48	27	23,129	1,034	22	38	801	30	58%	18,112
49-75	3	3,289	152	22	51	48	16	49%	1,218
76-125	1	1,450	90	16	90	7	7	39%	255
TBD	3	1,614	0	0	0	33	11	0%	450
Total	**68**	**54,713**	**2,245**	**23**	**33**	**1626**	**24**	**61%**	**35,044**

CAMPUS INFRASTRUCTURE

The Master Plan Team analyzed the existing campus infrastructure for heating, cooling, electrical service, plumbing and fire protection at a high level to inform the planning. The assessment was conducted by AKF Group. The consultants visited the campus and toured the complex with Richard Hennessey, Director of Facilities. They also assessed the service and systems for the pending Lafayette Addition and renovations. Following is an overview of key findings. A more detailed assessment is included in the Technical Appendix.

Concurrent with the HCC Master Plan, Perkins+Will and Woodard & Curran prepared a system-wide Energy Master Plan that included the College and informed the Master Planning.

CURRENT AND PLANNED PROJECTS

The College is in the middle of design and construction on several small and large-scale improvement facility projects. These were accounted for in the Master Plan and treated as "existing conditions". These projects include:

- 50,000 GSF addition to Lafayette Hall (Phase 1)
- Select renovations to Lafayette Hall (Phase 2)
- Extension of emergency generator power from Beacon Hall to Lafayette Hall.
- Change to Internet Protocol from cable television distribution campus wide.
- Expansion of Advanced Manufacturing Center.
- Part two of the structural, membrane and associated systems in the parking garage.
- Expansion and modernization of Lafayette Café server.

SITE

Electrical Service
Housatonic Community College is currently served at 13.8kV. Medium Voltage service entrance switchboard is located outdoor. Service entrance switchboard consists of (5) 600A, 13.8kV switches to serve Lafayette Hall, Beacon Hall and Garage building.

Site Lighting
Site lighting consists mainly of LED pole light fixtures and LED wall mounted light fixtures. Exterior lights are controlled mainly by individual and group photocells. Excluding Parking Garage, exterior lighting is fairly new and very good conditions.

Domestic Water Services
Lafayette Hall is served by a 4 inch metered water service from the Municipal water main on Broad Street. The domestic water service is not protected by a backflow prevention device. Beacon Hall is served by a 4 inch metered water service from North Frontage Road water main. The domestic water service is protected by a backflow prevention device

Fire Protection Services
Lafayette Hall is supplied from an 8 inch fire service from Broad Street. The fire service is protected by a 6 inch backflow preventer. Beacon Hall is supplied from a 6 inch fire service from North Frontage Road water main. The fire service is protected by a 6 inch backflow preventer.

Natural Gas Services
Lafayette Hall is supplied with high pressure gas service. The service is provided with two meters. Beacon Hall is supplied with high pressure gas service. The service is provided with two meters.

Sanitary Drainage
Lafayette Hall is served by a two 4 inch sewer that connects to the municipal sewer. One connects on the State Street and the other on Broad Street. Beacon Hall sewer leaves the building to connect to the North Frontage Road sewer main.

Storm Drainage
Lafayette Hall is served by a two lines; one 8 inch storm connects on the State Street and the other 12 inch storm on Broad Street. Beacon Hall drain leaves the building to connect to the North Frontage Road sewer main.other on Broad Street. Beacon Hall sewer leaves the building to connect to the North Frontage Road sewer main.



Beacon Boilers

MECHANICAL (HVAC)

Lafayette Hall

The building was renovated in 1997 from a retail mall originally built circa 1968 to create the first phase of the college campus. During this renovation all MEP systems and building services were replaced with new. These services and systems remain in place and in operation.

Heating Plant

The building is served by a pair of Weil McLain model 1888 sectional cast iron hot water boilers. These are conventional boilers with dual fuel burners capable of firing number 2 fuel oil or natural gas. Capacity of these boilers is 4640 mbh each. Currently, natural gas is the primary fuel source. The plant has excess capacity that is being applied to the current Lafayette Hall expansion. Fuel oil is stored in an above-ground steel storage tank. Hot water pumps are controlled with variable frequency drives (VFD) for variable flow operation.

Founders Hall does not utilize campus HTHW. This building is currently under renovation and will be provided with a stand-alone boiler plant.

Cooling Plant

The building is served by two McQuay centrifugal chillers; total capacity is 800 tons. Heat rejection is provided by a condenser water system with open cooling towers on grade. Plant is in good operating condition. Plant has excess capacity that is being applied to the current Lafayette Hall expansion. Chilled water pumps are controlled with variable frequency drives (VFD) for variable flow operation. Condenser water pumps are constant flow. Cooling tower fans have VFD's.

Air Handling/ Ventilation

The building is served by several mechanical equipment rooms housing central station air handlers. These units are McQuay and are equipped with chilled and hot water coils for cooling and heating. Free cooling in the building is done with outside air. Blowers are equipped with variable frequency drives (VFD) for variable volume operation. Air handlers show little to no corrosion and no vibration; good condition. Air terminal control units are variable volume boxes with hot water reheat coils. Science room air handlers have a glycol "run-around" loop to recover exhaust heat to the outside air.

Controls

Temperature controls are a digital (DDC) type system by Alerton. This system is campus-wide. System is in good operating condition. VFD's for fans and pumps were replaced five years ago with ABB units. All drives are in good condition.

Beacon Hall

The facility was renovated in 2008 from a retail store originally built circa 1968 to create the second phase of the college campus. During this renovation all MEP systems and building services were replaced with new. These services and systems remain in place and in operation.

Heating Plant

The building is served by a pair of Burnham model 1888 sectional cast iron hot water boilers. These are conventional boilers with dual fuel burners capable of firing number 2 fuel oil or natural gas. Capacity of these boilers is 3957 mbh each. Currently, natural gas is the primary fuel source. Plant is in good operating condition. There is no excess capacity available for expansion. Fuel oil is stored in an above-ground steel storage tank. Hot water pumps are controlled with variable frequency drives (VFD) for variable flow operation.

Cooling Plant

The building is served by two York screw chillers. Heat rejection is provided by a condenser water system with open cooling towers on low roof. Chiller operation has been somewhat unreliable, Facilities reports that frequent servicing is required. There is no excess capacity available for expansion. This building is equipped with a plate/frame heat exchanger that creates chilled water from condenser water for economizer operation. This system is preferred by Facilities to airside economizer.



Beacon Cooling Towers

Air Handling/ Ventilation
Air handlings units for this building are located on the roof with exposed ductwork. These units are in good operating condition however maintenance and service is compromised by the location. Air terminal control units are variable volume boxes with hot water reheat coils

Controls
Beacon shares the Alerton DDC control system backbone with Lafayette Hall.

ELECTRICAL

Lafayette Hall
The building is energized from an exterior transformer. Transformer (13.8V Primary /480V Secondary) energizes a 3000A, 480V/3PH switchboard located inside main electrical room. Electrical switchgear including electrical panelboards, and transformers are in good conditions. Approximately 20 years old.

Lighting for Lafayette Hall consists mainly of LED type fixtures for corridor and common areas. Linear T-8 fluorescents fixture are located at classrooms, mechanical/electrical rooms, and storage rooms. Lighting controls for classrooms, offices, and mechanical rooms consists of single toggle switch located by entrance door with no occupancy sensor. Corridors lighting controls consist of keyed operated switches located by corridors ends.

Fire Alarm for entire campus is by GE EST 3 series. Lafayette Hall fire alarm panel is located by security office. Fire Alarm system for entire campus is the process of being fully replaced to make all fire alarm devices and panels addressable type. Lafayette smoke detector layout is currently lacking coverage at electrical and mechanical rooms. Fire alarm system also lacks audio/visual devices coverage inside classrooms and electrical/ mechanical rooms.

Emergency lighting for Lafayette Hall is currently accomplished by the use of battery back-up two-head emergency light fixture located at public corridors, places of assembly, and electrical/ mechanical rooms.

Beacon Hall
Lighting for Beacon Hall consists mainly of T8 Linear Fluorescent fixtures for corridor, common areas, classrooms, mechanical/electrical rooms, and storage rooms. Lighting controls for classrooms, offices, and mechanical rooms consists of dual toggle switches located by entrance door.

Occupancy sensors have been provided at most classrooms and private offices. Corridors and places of assembly lighting controls consist mainly of multiples keyed switches located by corridors ends or main entrances. Mechanical/Electrical rooms lighting controls consist of dual switched located by room entrance with no occupancy sensors.

Emergency lighting is currently accomplished through the use of lighting inverter system and emergency generator. Emergency lighting fixture quantities and locations could not be verified at time of survey as these are not identified.

Fire Alarm for entire campus is by GE EST 3 series. Beacon Hall fire alarm panel is located by security office. Fire Alarm system for entire campus is the process of being fully replaced to make all fire alarm devices and panels addressable type. Beacon Hall appears to have better smoke detector and Audio/ visual coverage than Lafayette Hall.

Garage
Parking Garage is energized from exterior transformer. Transformer (13.8V Primary /480V Secondary) energizes a 600A, 480V/3PH switch located inside ground floor electrical room. 600A service switch feeds a number of 100A, 480/277V panels located every other level inside parking garage. 100A, 480/277V panels are using to energizes normal lighting, and emergency lighting two head units located throughout parking garage area. Also, 100A 480/277V panel-boards feed 9kVA Transformers to energize 30A, 208/120V panel-boards that feed miscellaneous receptacles and fire alarm booster panels. Most 100A, 480/277V panel-boards located inside parking garage area old, original to building and reaching end-of-life. However 600A, 480/3PH service switch appears to be newer, probably installed approximately 10 years old.

Lighting for parking garage consists mainly of T8 Linear Fluorescent fixtures suitable for exterior locations. Light fixtures for parking garage are in working conditions; however most light fixture's lenses are yellow and it appears that light fixtures are reaching end-of-life.

Emergency lighting for parking garage is currently accomplished by the use of battery back-up two-head emergency light fixture. Emergency light fixture are Dual-lite type suitable for wet locations. However it was noticed at time of visit that some of these fixture are missing heads due to vandalism or vehicles hitting them. Emergency lighting fixture and coverage is in poor condition.

PLUMBING

Lafayette Hall

Domestic Water Systems

Water is distributed throughout the building by street pressure. The street pressure at the time of our visit was approximately 90 psig static. Domestic hot water for the public bathrooms is generated by point of use electric hot water heaters. The cafeteria and the Science classrooms are provided with central gas fired hot water heaters. They are in fair condition. The cafeteria hot water is generated at 140 degrees F by the heaters and delivered at 120 degrees F to the plumbing fixtures by the use of mixing valves. The temperature is maintained by the use of circulating pump and return pipe. The domestic piping system is copper tube with solder joints. All appears to be in good condition.

Sanitary Drainage and Vent System

The building's sanitary system consists of gravity sanitary drains and ventilating lines serving all the plumbing fixtures in the building. The cafeteria waste is provided with 1000 gallons outdoor grease interceptor. The Science classrooms drains by gravity through acid resistant waste and vent piping into a central acid neutralizing tank then connect to the sanitary system. The pipe material is primarily cast iron hubless piping. The acid waste piping is polypropylene. The sanitary and vent piping appears to be in good condition. .

Storm Drainage System

The storm drainage system conveys water from the roof by gravity through interior leaders and it leaves the building to connect to the municipal storm system. The piping material is cast iron hubless piping. The piping appears to be in good condition.

Natural Gas System

The piping extends from the service to supply gas to the cafeteria, science classrooms, boilers and domestic water heaters.The piping system is Schedule 40 black steel with threaded fittings and appeared to be in good condition.

Laboratory Gas System

The building is provided with vacuum and air system for the sciences classrooms. The piping material is copper tube with solder joints. All appears to be in good condition.

Beacon Hall

Domestic Water Systems

Water is distributed throughout the building by street pressure. Domestic hot water is generated by a 900 gallon, 1,020 gph recovery water-to-water domestic hot water heater. The heater is original of the building installed in 2008. The hot water is delivered at 120 degrees F to the plumbing fixtures. The temperature is maintained by the use of circulating pump and return pipe. The domestic piping system is copper tube with solder joints. All appears to be in good condition.

Sanitary Drainage and Vent System

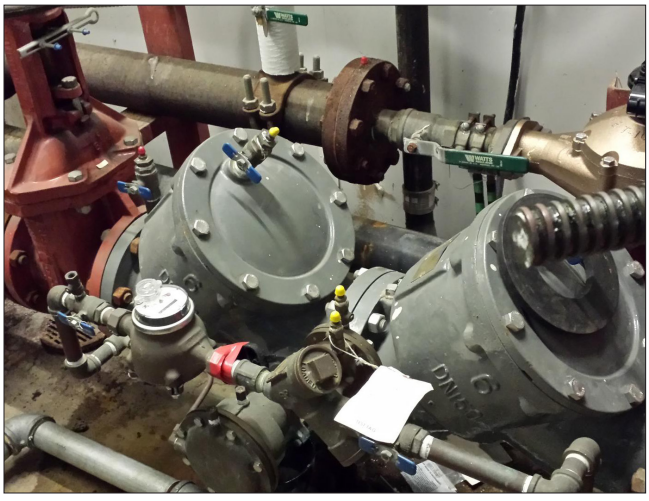
The building's sanitary system consists of gravity sanitary drains and ventilating lines serving all the plumbing fixtures in the building. The building sewer connects to North Frontage Road sewer main. The pipe material is primarily cast iron hubbless piping. The sanitary and vent piping appears to be in good condition.

Storm Drainage and Vent System

The storm drainage system conveys water from the roof by gravity through interior leaders and it leaves the building to connect to the North Frontage Road sewer main. The piping material is cast iron with hubbless piping. The piping appears to be in good condition.

Natural Gas System

The piping extends to supply gas to the cafeteria and boilers. The piping system is Schedule 40 black steel with threaded fittings and appeared to be in good condition.



Lafayette Hall Backflow preventer

FIRE PROTECTION

Lafayette Hall

The fire standpipe system consist of a 6 inch fire main and branches distributed on the first floor level to the 2½ inch hose valve outlets located throughout the building.

The building is provided throughout with sprinkler protection. The sprinkler system consists of floor control valves and alarm bells, activated upon waterflow. The Museum and Art storage & Gallery is provided with Pre-action sprinkler system and the MDF room is provided with Inergen gas fire suppression system. The pipe material for the sprinkler system is black iron steel with mechanical couplings. The pipe material for the pre-action system is galvanized steel. The sprinkler system is in good condition.

Beacon Hall

The fire service extends to separate fire standpipe and sprinkler systems to serve the building. The fire standpipe system consist of a 6 inch fire main and branches distributed on the ground level to the 2½ inch hose valve outlets located throughout the school. The pipe material for the fire standpipe system is black iron steel with mechanical couplings. The fire standpipe system appears to be in good condition.

The building is provided throughout with sprinkler protection. The sprinkler system consists of floor control valves and alarm bells, activated upon waterflow. The IDF room is provided with Pre-action sprinkler system. The pipe material for the sprinkler system is black iron steel with mechanical couplings. The pipe material for the pre-action and dry-pipe system is galvanized steel. The sprinkler system is in good condition.

Garage

The parking garage is provided with dry fire standpipe system. The pipe material for the fire standpipe system is black iron steel with mechanical couplings. The fire standpipe system appears to be in good condition. The lower level parking garage is provided with a dry-pipe sprinkler system. The dry-pipe sprinkler system is original of the building installed in 1998. Some portions of the sprinkler system have been replaced due to internal pipe corrosion.

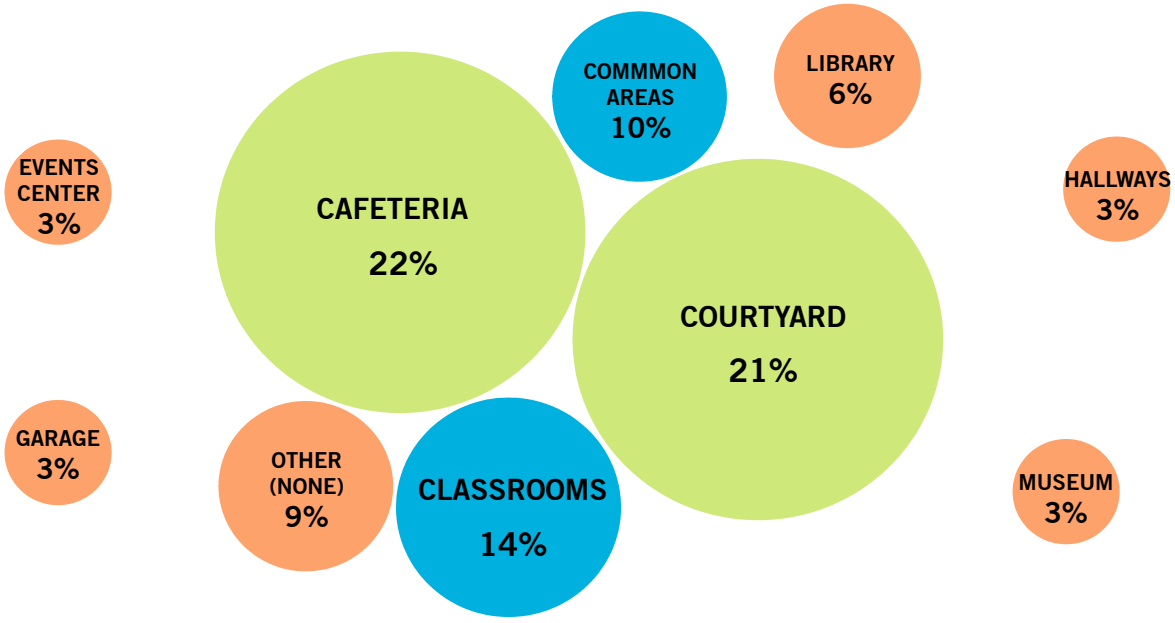
COMMITTEE SURVEY

The Housatonic Community College campus community, including Students, Faculty, and Staff, were surveyed on three questions to better understand their impressions and thoughts on the College Facilities. 218 Students, Faculty and Staff responded. The results are summarized below.

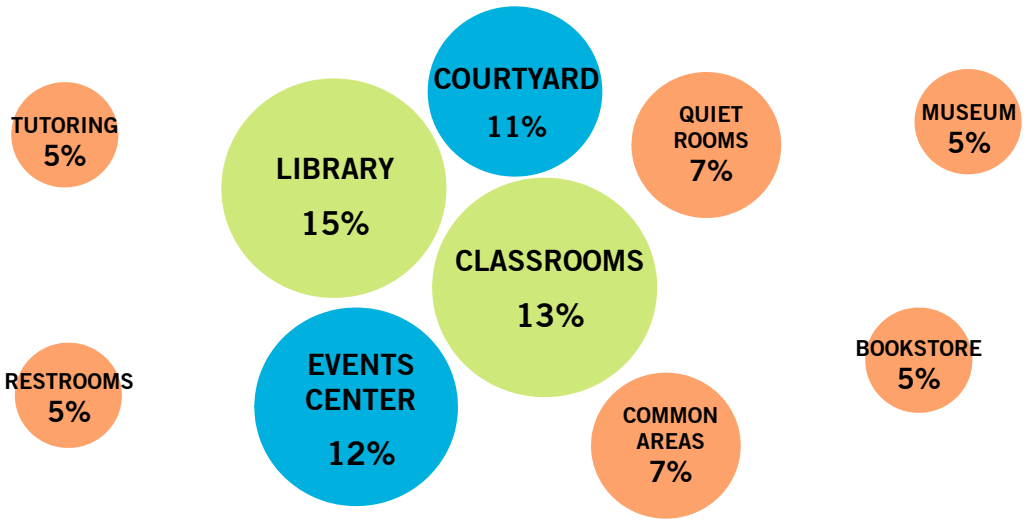
Responses concluded that the Courtyard and the two Cafeterias (both of which face the courtyard) are the "heart" of the campus. This notion is supported by the physical organization of the campus and the experiential significance of the courtyard. The survey further names the courtyard as one of the best aspects of the college facilities, along with the Events Center, Library and Classrooms.

When asked what facilities had the greatest need for improvement, the Garage was rated highest. In particular, the congestion at peak times was cited as a major problem by many at the College.

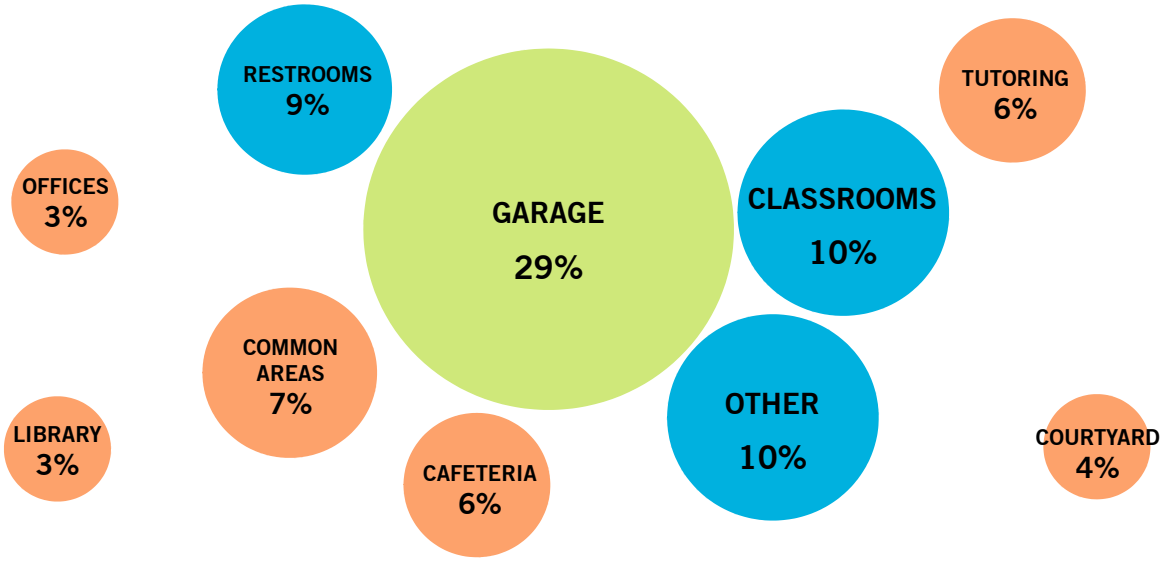
What is the "heart" of the campus?



What area/aspect of the college facilities do you think works best and why?



What area/aspect of the college facilities do you think most needs improvement and why?



EXISTING FLOOR PLANS



FIGURE 02.19 Existing Floor Plan: Ground Floor


Adv. Manufacturing Office Area
Advanced Manufacturing
Advanced Manufacturing
Receiving
Storage
Workroom
Computer Lab
Kitchen
Facilities Bulk Storage & Mechanical
Serve.
Lounge
Dining
Lounge
Parking Garage
Book Store
Classroom
Classroom
Classroom
Classroom
Classroom
Classroom
Receiving
Servery
Boiler Room
Storage
Facilities Bulk Storage
Classroom
Copy & Mail Room
Dining
Classroom
Classroom
Maint. Shop
Classroom
Evening Division
Security Office
Evening Division
Mechanical
Lobby
Lounge
Museum Storage
Computer Lab
Computer Lab
Staff Lounge
Wellness Center
Wellness Center

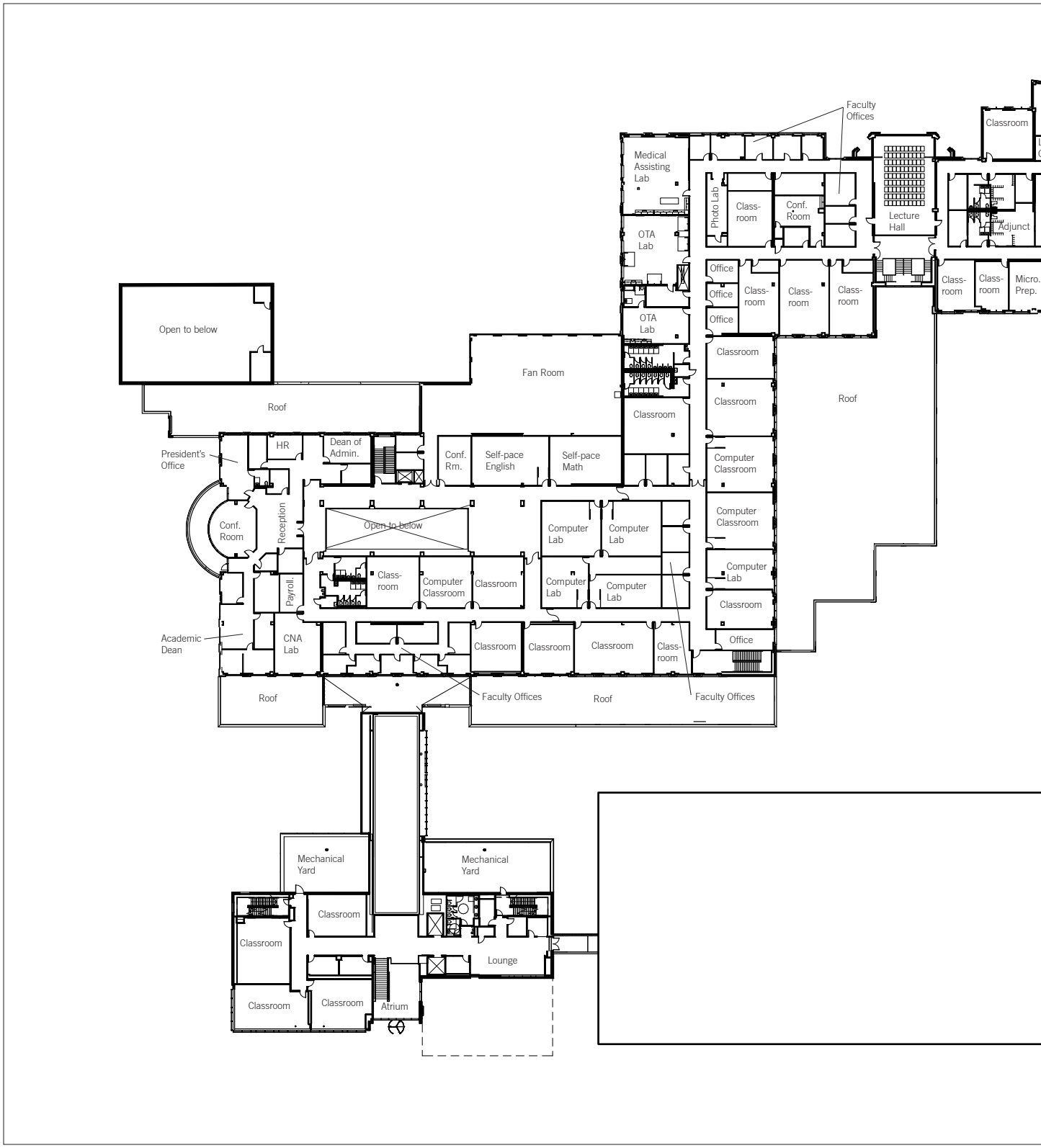
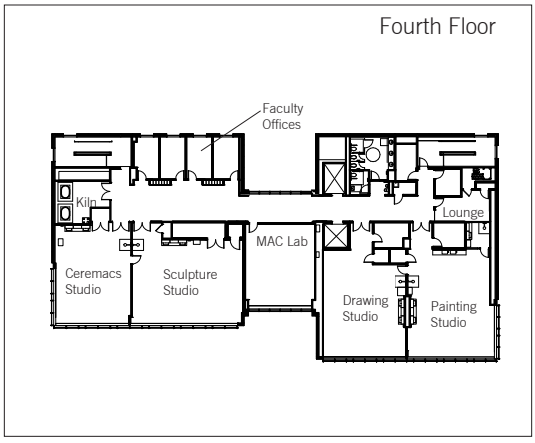


FIGURE 02.20 Existing Floor Plan: Second Floor


Class-room
Classroom
Prep & Stor.
Chemistry Lab
Instrument Lab
Biology Lab
Lab. Coord.
Biology Lab
Biology Lab
Chemistry Break-out
Fan Room
Microbiology Lab
A&P Lab
Prep & Stor.
Prep & Stor.
Chemistry Lab
Roof
Parking Garage
Foreign Lang. Comp. Lab
ESL Comp. Classroom
Observ.
Stor.
Classroom
Student Newspaper
Faculty Office Area
Classroom
Classroom
Classroom
Student Lounge
Adjunct Open Office
Classroom
Facilities Bulk Storage
Distance Learning Classroom
ECE Classroom
Classroom
Dean
Classroom
Classroom
Seminar
Computer Classroom
Fan Room
Cooling Tower
Outreach Office Area
Classroom
Faculty Office Area
Conference Room
Events Center



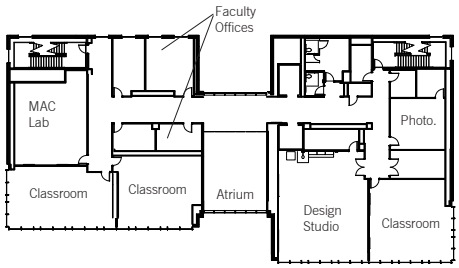


FIGURE 02.21 Existing Floor PLan: Third and Fourth Floor


Classroom
Classroom
Computer Classroom
Semin.
Men's Club
Class-room
Computer Classroom
Computer Classroom
Faculty Office Area
Quiet Lounge
Adjunct Open Office
IT
Computer Classroom
Student Lounge
Classroom
Classroom
Computer Classroom
Computer Classroom
Roof
Computer Repair C.R.
Computer Classroom
Classroom
Classroom
Computer Classroom
Classroom
Women's Cntr.
Recreation Room
Roof Terrace
Student Activities
Parking Garage

OPPORTUNITY AREAS

The 50,000 SF addition in progress during the Master Plan represents a significant opportunity for Housatonic Community College. The charge given to the Master Plan team was to optimize this expansion and the existing buildings to meet HCC's needs for the next 10-year period.

The search for opportunity areas instead focused on optimizing interior space. The analysis of existing space revealed certain areas that were not fully utilized, especially classrooms as noted earlier. Other designated areas were found to be larger than their function required. These spaces could be right-sized to free up space for more urgent, unmet needs. These spaces are described in the following chapter, in Opportunity and Need Areas.

Since expansion was not needed, the Master Plan did not explore areas where additional floor area could be added, either on the limited remaining open space by adding a floor through vertical expansion, or by replacement of low scale structures with higher density development.






1967
HOUSATONIC
COMMUNITY COLLEGE



3 SPACE NEEDS

INTRODUCTION

INTRODUCTION

ENROLLMENT PROJECTIONS

EXISTING SPACE ANALYSIS

SPACE NEEDS SUMMARY

PARKING NEEDS SUMMARY

The Space Needs Assessment (SNA) for the Housatonic Community College Master Plan seeks to determine both the current and projected need of the College, based on enrollment projections for both credit and non-credit enrollment. The assessment is broken into Instructional Space and Support Space. The Instructional Space includes classrooms, class labs or teaching labs and faculty offices. The support space includes elements necessary to run a functioning campus such as student services, technology and campus services, and elements such as student activities and library, which create the overall ambiance of a campus.

Currently Housatonic Community College occupies approximately 255,000 Assignable Square Feet (ASF), representing approximately 400,000 Gross Square Feet (GSF) across three buildings: Beacon Hall, Lafayette Hall and the Lafayette Addition. In addition to those three buildings, the College has a large multi-storied parking structure. Assessing the need for future parking is analyzed at the end of this section. The College's enrollment projections, provided by the College and approved by the Connecticut State Colleges & Universities Board of Regents (BOR), project roughly a 38% percent growth on headcount basis, with credit student FTEs increasing from roughly 2,900 to 3,900 by 2025.

With HCC students taking an average credit load (how many credits a semester) of slightly over 8 credits, student headcount will grow from approximately 5,400 currently to just short 7,300 students by 2025. There is a possibility that credit load might increase, either through evolving demographics, or possibly through greater access to the College's course and section offering, resulting in the achievement of the FTE enrollment at a lower student headcount.

The Unique Nature of the Housatonic Community College Space Needs Assessment

The SNA for Housatonic is unique in that the analysis is based on net zero new space. All the current need and projected need has to be accomplished within the confines of Beacon Hall, Lafayette Hall and the New Lafayette Addition (under construction). The goal is to establish/determine where opportunities exist for greater efficiency allowing the College to relieve current congestions or bottlenecks, or afford space for future initiatives. A recap of the space need assessment's objectives is:

- Increase Credit Student FTEs by 36%.
- Increase Space Efficiency from 88 ASF per FTE to 65 ASF per Student FTE or 18% more efficient.
- Find elements of the College that can be right-sized to afford the increased enrollment.
- Locate and relieve bottlenecks that impede student retention and student enrollment.

ENROLLMENT PROJECTIONS

CREDIT ENROLLMENT PROJECTIONS

The enrollment projections include both a credit and non-credit component. The credit projections assume the College will expand enrollment from 2,902 Student Fulltime Equivalents or FTEs to approximately 3,900 FTEs by 2025, an increase of 34% The College's enrollment projections were received and approved by the Connecticut State Colleges & Universities Board of Regents (BOR), and form the critical underlying dataset for the SNA. With this expansion in credit students, the College is also planning an expansion of its non-credit offering, both on-campus and off-campus through partnerships and contract training. The next chart represents the credit enrollment projections for the Master Plan.

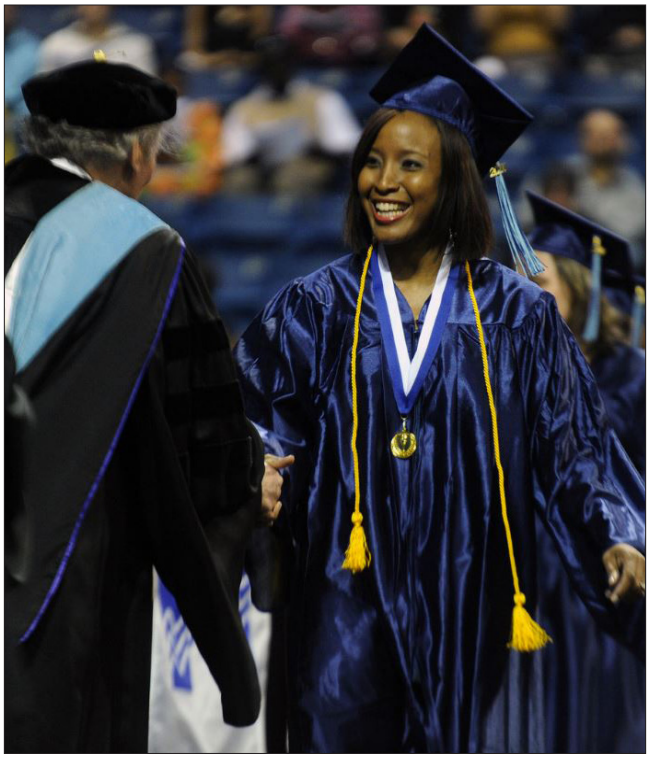
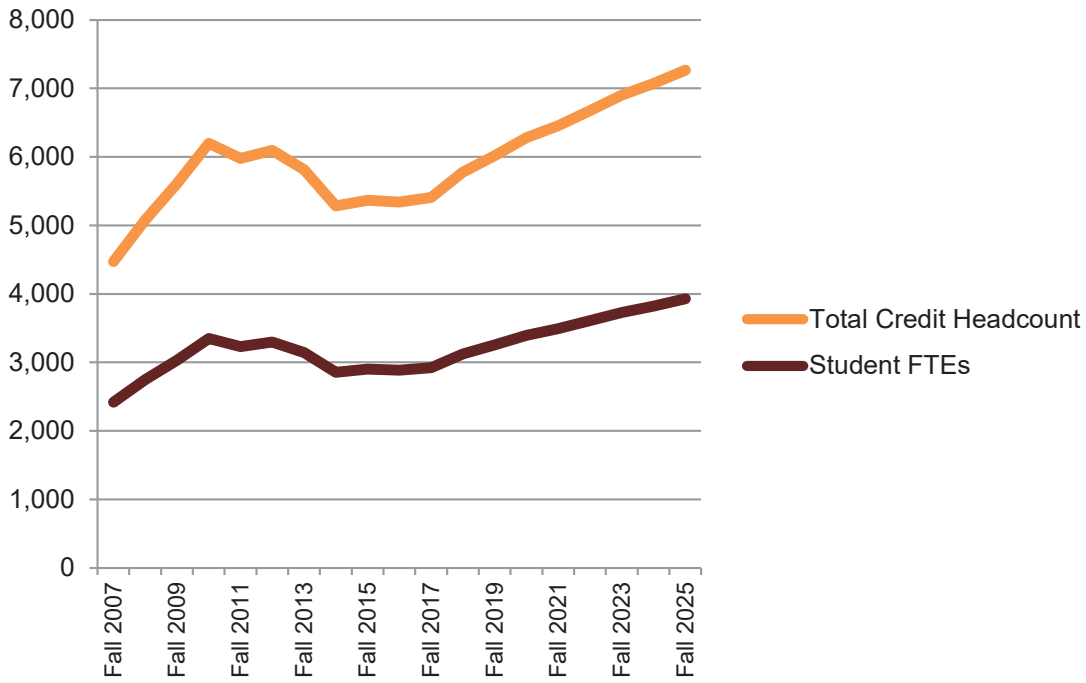


FIGURE 03.1 CREDIT ENROLLMENT PROJECTIONS

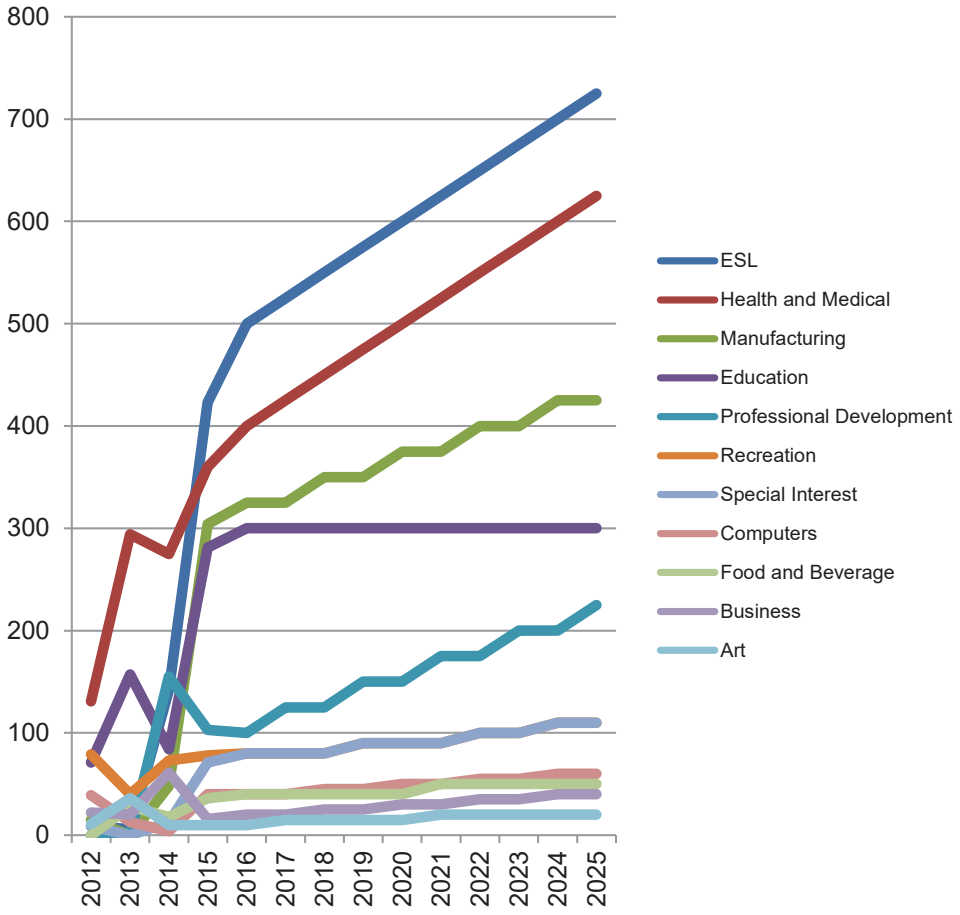


NON-CREDIT PROJECTIONS

Concurrent with the expansion of credit enrollment the College is seeking to invest in its non-credit offering from a headcount enrollment of 1,722 to 3,980 by 2025. This growth, which is in headcount and not fulltime equivalents, will occur both on-campus and off-campus. The chart below represents the growth projected by content area. The areas with the largest anticipated growth are English as a Second Language, Health & Medical and Manufacturing. These three area represent two thirds of all continuing education enrollment, only slightly higher percentage that the three constitute today.



FIGURE 03.2 NON-CREDIT STUDENT HEADCOUNT PROJECTIONS



EXISTING SPACE ANALYSIS

The first chart below represents the distribution of assignable square feet at the College. Totaling 255,031 ASF, including the New Lafayette Addition, or roughly 88 ASF per Student FTE. 50% of all space is devoted to Instructional Space, including classrooms, computer labs, teaching labs and faculty offices. The other 50% is devoted to Support Components including Continuing Education, Grant Funded Programs, Academic Support Services, Library, Technology, Assembly & Exhibition, Student Activities, Child Care, Student Services, Administrative Services and Campus Services. The two largest, Student Activities and Campus Services occupies almost 50% of the Support Category, and approximately a quarter of all space on campus

FIGURE 03.3 TOTAL ASSIGNABLE SQUARE FEET

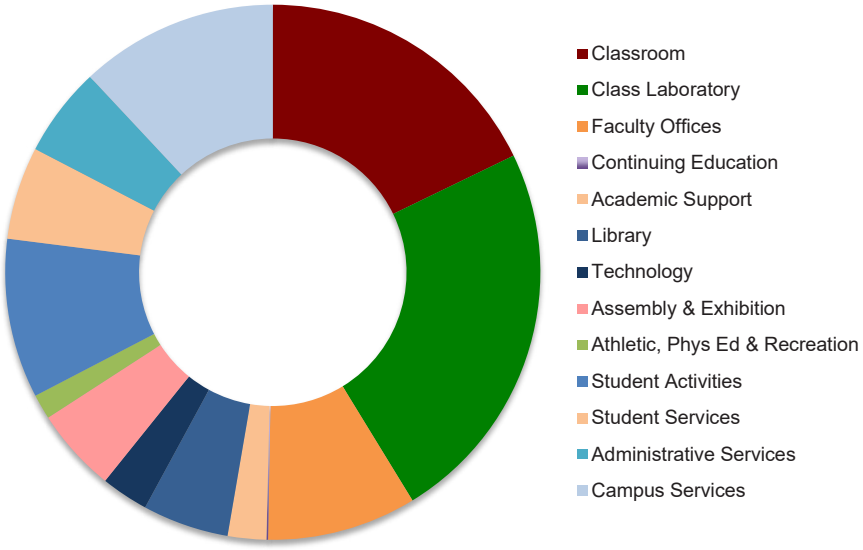
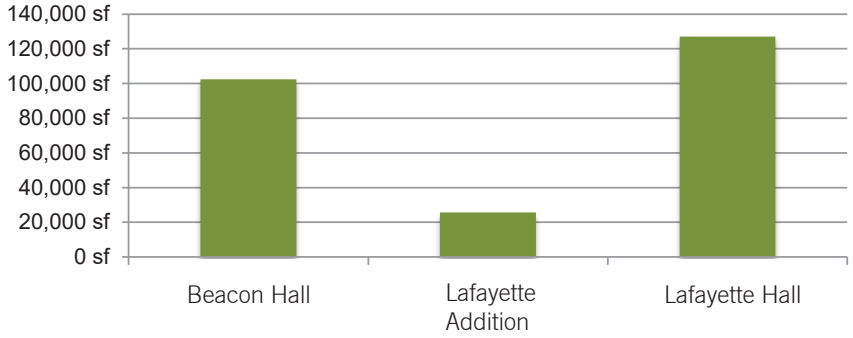


FIGURE 03.4 ASF BY BUILDING



ACADEMIC SPACE

The academic space is divided into six components: the classroom space, the computer labs and five academic departments. The five departments are Behavioral and Social Sciences, Business Administration, Developmental Studies, Humanities and Mathematics & Sciences. The overall credit projections, which were provided as student majors was translated into an FTE projection by content area or discipline, which in turn were aggregated into the five academic departments. The chart below represents the credit student FTEs by Department/Content Area.

From these student FTEs detailed departmental analysis was developed based on the need for faculty office and teaching labs, along with each department need for classroom and computer labs. These last two categories were aggregated as separate but shared resources for all five departments. The chart below represents the current and 2025 projected academic space need.

SUPPORT SPACE

The Support Space is broken into eight sub-categories: Continuing Education, Grant Funded Programs, Academic Support Services, Library, Technology, Assembly & Exhibition, Student Activities, Child Care, Student Services, Administrative Services, and Campus Services. The chart to the right represents the current and long term space requirements by each sub-category.

FIGURE 03.5 STUDENT FTE PROJECTIONS

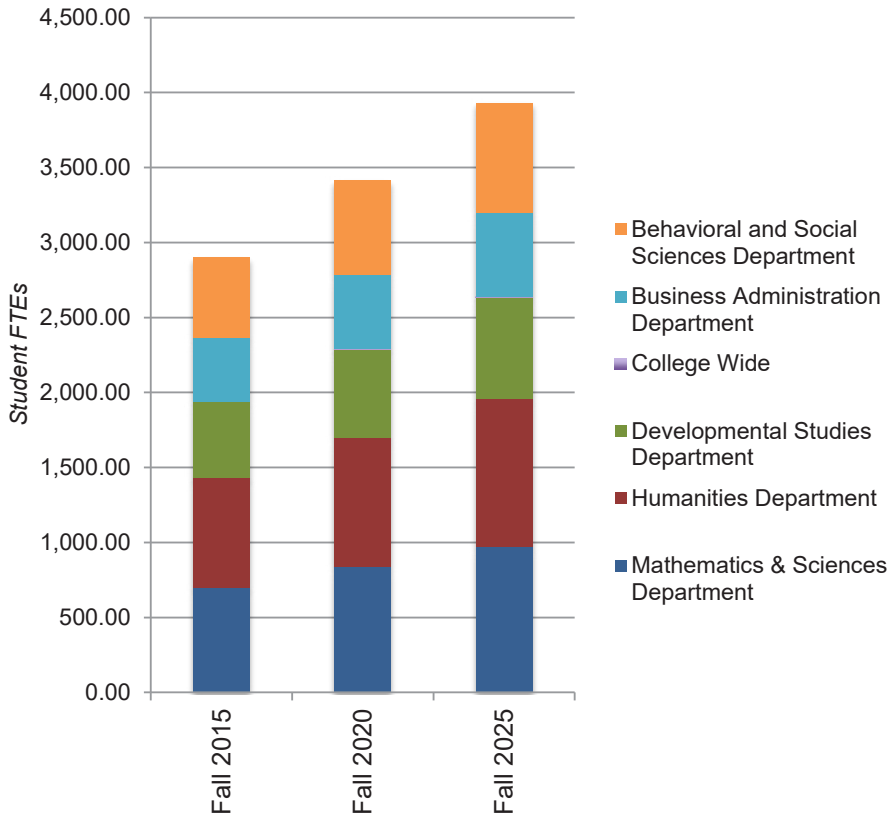


FIGURE 03.6 ACADEMIC SPACE ASSESSMENT

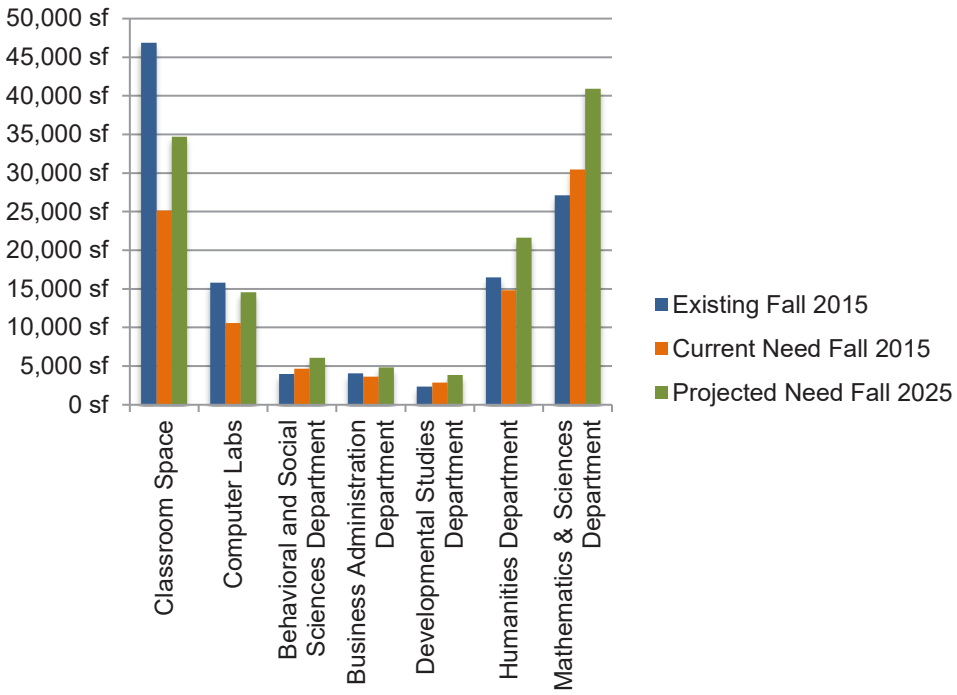
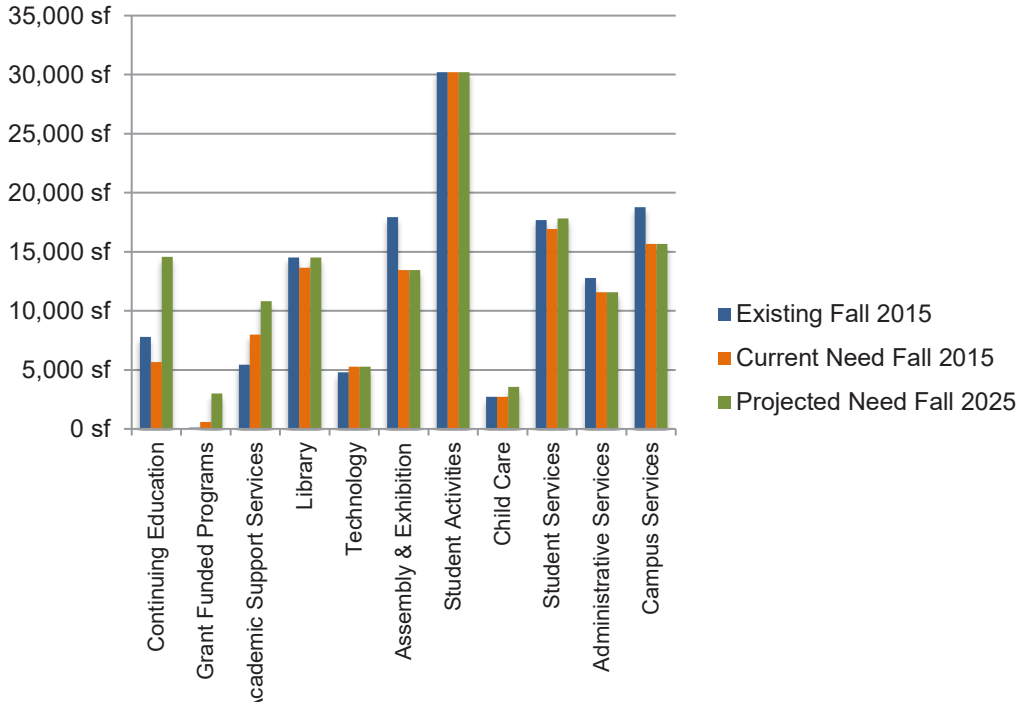


FIGURE 03.7 SUPPORT SPACE ASSESSMENT



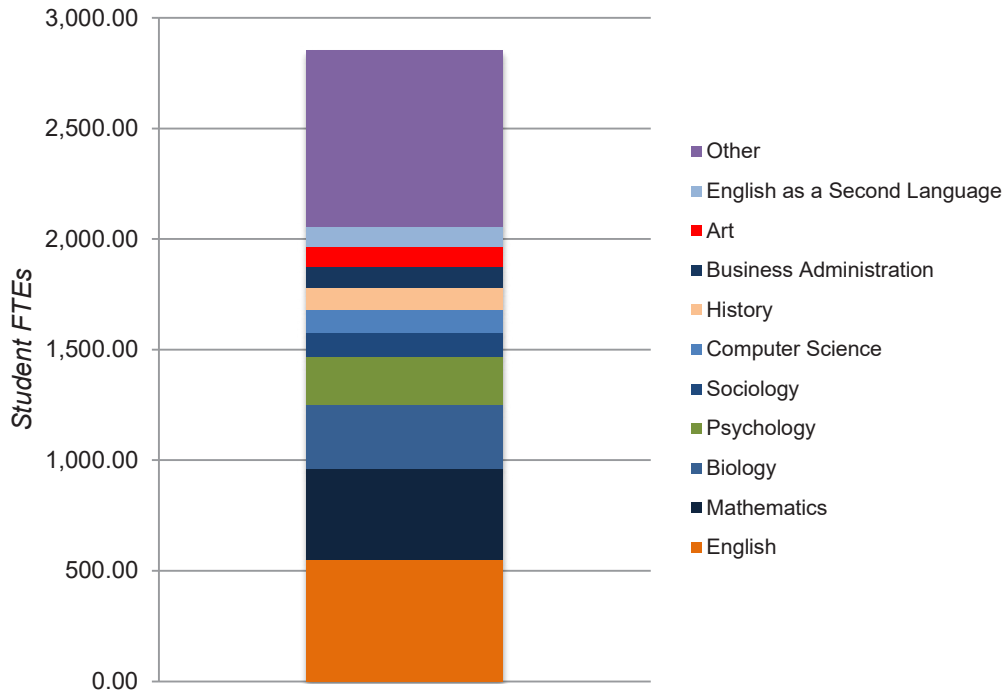
SETTING PRIORITIES

One critical element based on a achieving a Net Zero Expansion (NZE) plan is setting priorities. Towards that purpose the chart below represents the credit student FTEs for Fall 2015 stacked with the largest discipline based on number of FTEs at the bottom, with each successive disciple by size placed on top. The largest ten are identified by their own color while the remaining 30 are collapsed into a single block of purple and labeled "other". This chart represents a version of the Pareto Principle. From the start of the previous century, the principle states that 20% of the events represent 80% of the effect. Translated to Housatonic Community College, 20% of the disciplines represent 80% of the student FTEs.

The First Four Disciplines

In fact, the first four disciplines, or ten percent of all college enrollment (or half a Pareto 20) represent 50% of student credit enrollment. These disciplines are English, Mathematics, Biology, and Psychology. All students enrolled at Housatonic enroll in the courses and sections these disciplines represent. This principle, the Pareto Principle, suggested that the College focus the majority its efforts on facilities for these critical curriculum components. While English, Mathematics and Psychology is highly reliant on classroom space, its adequacy and related technology, both English and Mathematics also suggest a focus on out-of-class academic support. Biology is the largest discipline requiring teaching laboratory space.

FIGURE 03.8 CURRENT DISTRUBTION OF FALL 2015 CREDIT STUDENT FTES



OPPORTUNITIES AND NEEDS

Areas That Represent Opportunities

Based on the assessment, eight areas of potential opportunity for efficiency. Those spaces are as follows:

- Art Space
- Classroom Space
- Events Space
- Long Term Facility Storage
- OTA Teaching Laboratory (program phased out)
- Public Safety Offices
- Student Lounge
- Vacant Space



Areas That Represent College Needs

A second list was established to identify those needs which are critical for the College to meet both its credit and non-credit goals. Those needs are as follows:

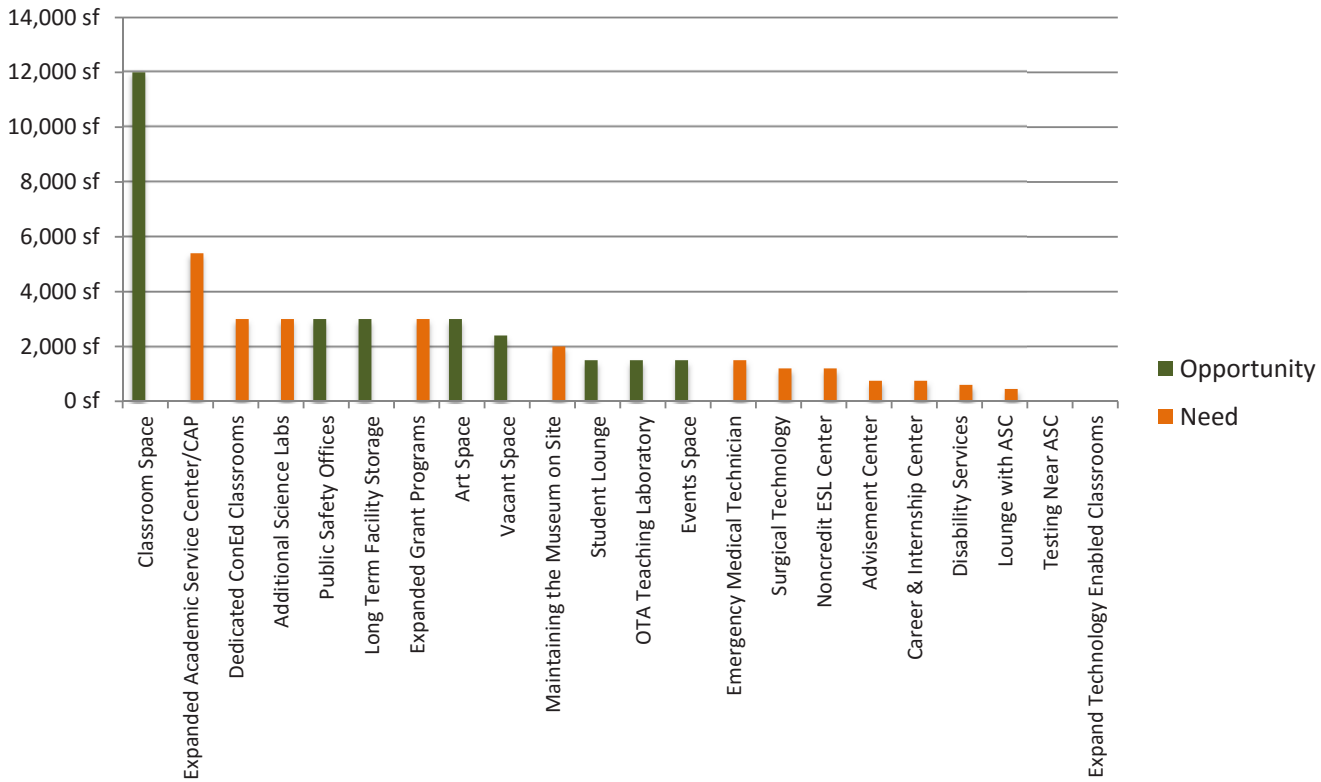
- Additional Science Labs
- Advisement Center
- Career & Internship Center
- Dedicated ConEd Classrooms)
- Disability Services
- Emergency Medical Technician
- ESL Center
- Expand Technology Enabled Classrooms
- Expanded Academic Service Center/CAP
- Expanded Grant Programs
- Lounge with ASC
- Maintaining the Museum on Site
- Surgical Technology
- Testing Near ASC

COMPOSITE OF OPPORTUNITIES AND NEEDS

The next chart represents a composite of the opportunities and needs of the College. The two categories are rough balance, with 27,000 ASF in potential opportunities and 24,000 ASF of total need.

The floor plans to the right illustrate the location of the Opportunity Areas listed in the chart. A significant portion of these are classrooms. A portion (not all) of these areas can be repurposed for other uses to meet the college's needs.

FIGURE 03.9 OVERVIEW OF OPPORTUNITIES AND NEEDS



OPPORTUNITY AREAS: FIRST FLOOR



LEGEND

- Classroom Space
- Public Safety Offices
- Long-term Facility Storage
- Art Discipline
- Vacant Space
- Student Lounge
- OTA Teaching Lab
- Event Space

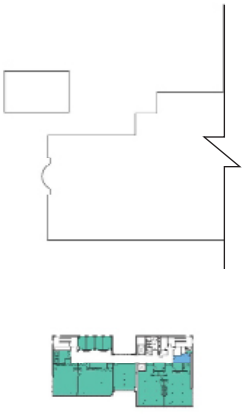
OPPORTUNITY AREAS: SECOND FLOOR



OPPORTUNITY AREAS: THIRD FLOOR



FOURTH FLOOR



CLASSROOM SPACE

Classroom space represents one of the largest opportunities at the College. With 46,877 assignable square Feet (ASF) devoted to classrooms, the College currently has a surplus of classrooms. The next chart represents the current inventory in both Beacon Hall and Lafayette Hall. Each classroom is represented by a bar. Each bar represented in green is the percentage that that classroom is scheduled 30 hours per week. If the total 30 hours is not entirely used the remaining hours, the residual hours are represented by maroon. If the classroom is utilized in excess of the 30 hours, the green extends beyond 30 hours, representing the hours scheduled above the 30 hour goal.

The "Residual Hours" represent the unutilized capacity in the Beacon Hall and Lafayette Hall classrooms. With capacity for 1,920 weekly hours of courses and sections, the College still retains 554 hours. This residual capacity is without the 210 hours provided by the Lafayette Addition. In total the unutilized or soon to be added capacity is 54% of the current classroom hours scheduled.

PRIMETIME STARTS

Part of the analysis of classrooms is time utilization, how many hours are scheduled against a reasonable and established goal, as represented in the previous chart. But further analysis is required to look at actual content or course placement. This next chart compares the primetime starts for the four previously identified key disciplines –English, Mathematics, Biology, and Psychology—along with the remaining disciplines of the College.

The top chart on the right illustrates each of the four disciplines, which represent 50% of all instruction at Housatonic, along with the other disciplines. The other disciplines schedule a higher percentage of their section outside of primetime. Primetime is defined as the following key start times at the College:

- 9:00 AM
- 9:30 AM
- 11:00 AM
- 12:30 PM
- 5:00 PM
- 6:30 PM

The next chart illustrates the problem with greater clarity. English, Mathematics and Psychology do more than 80% of their section starts in Primetime, versus less than 70% for Biology and all other disciplines. English, Mathematics and Psychology have the highest number of sections per course. By locating such a high percentage of sections in primetime, the three disciplines limited access to their section while occluding the possibility of students taking other sections.

FIGURE 03.10 HOURS PER WEEK PER CLASSROOM, FALL 2015

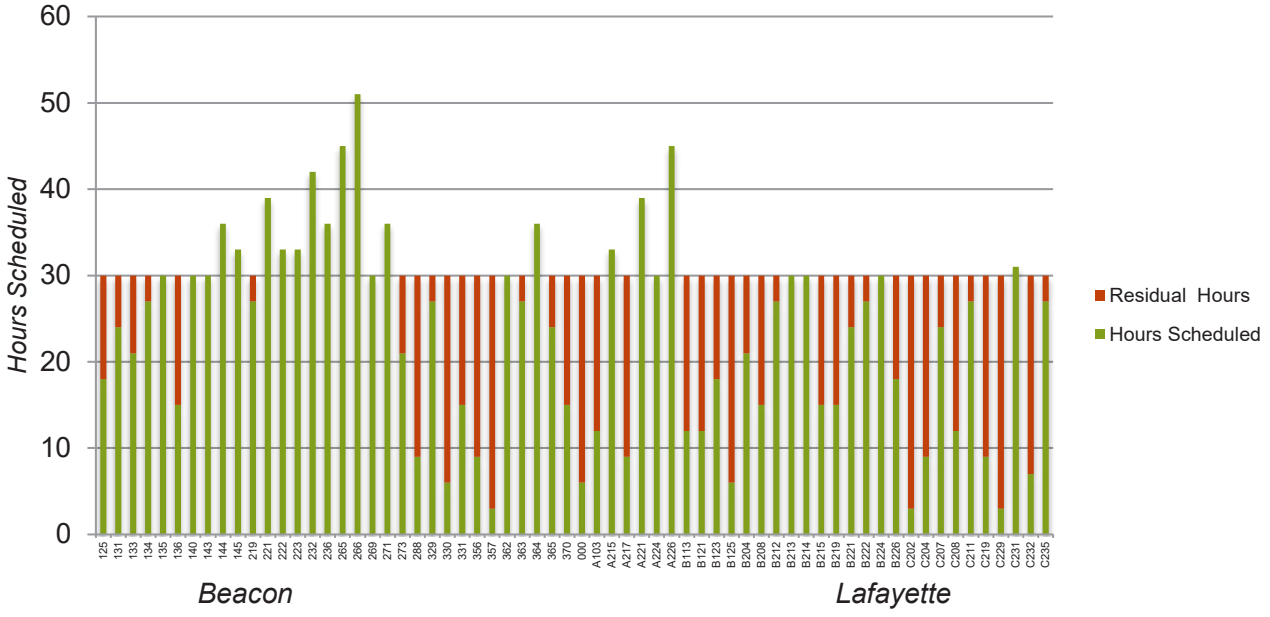


FIGURE 03.11 LECTURE SECTION STARTS AY 2015 AND 2016

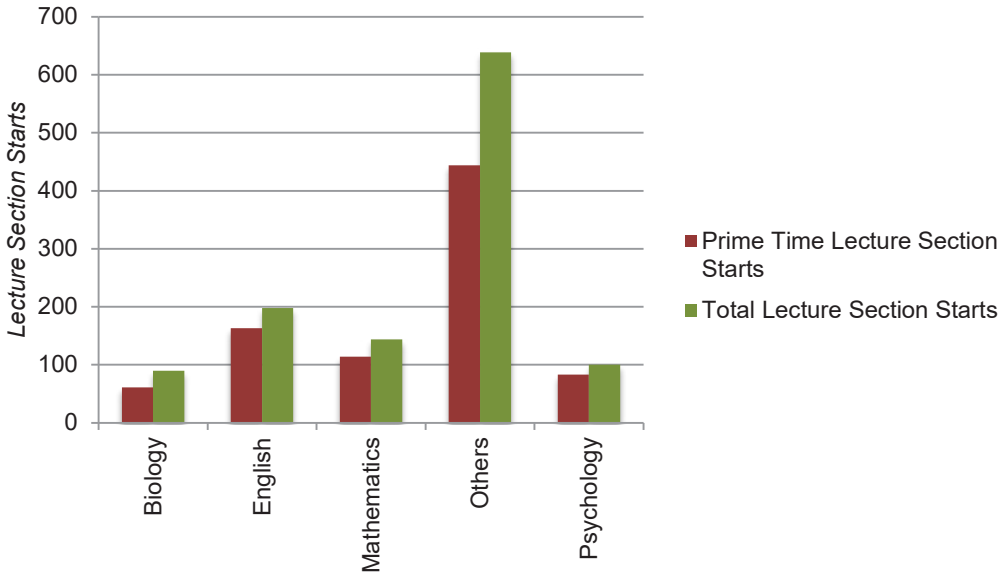
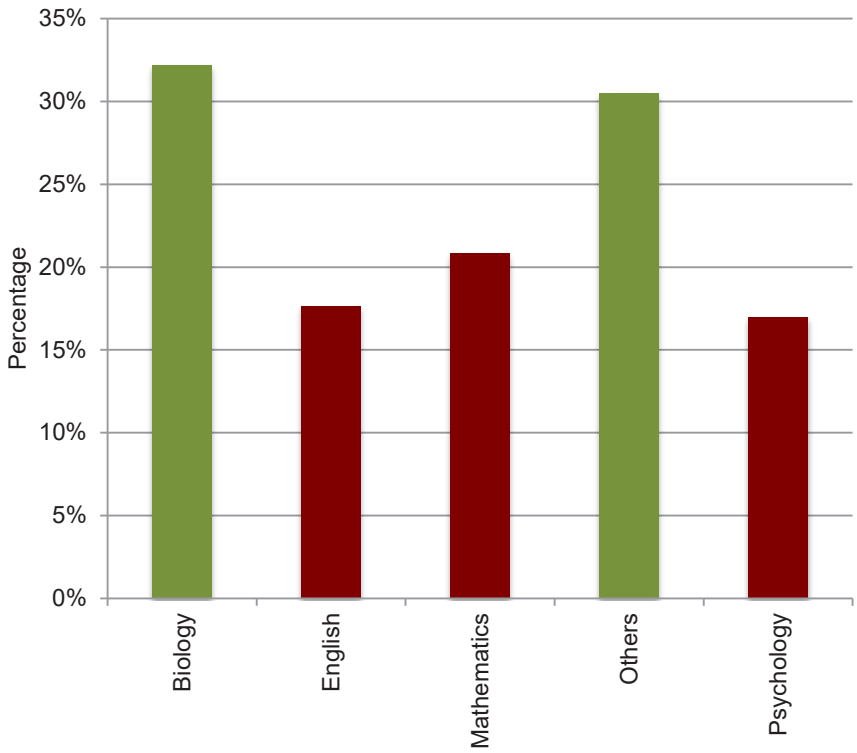


FIGURE 03.12 PERCENTAGE OF LECTURE STARTS OUTSIDE PRIMETIME - AY 2015 AND 2016



SPACE NEEDS SUMMARY

The table below summarizes the existing spaces at HCC once the addition and pending Lafayette renovations are completed. The second column notes the space need for the current enrollment, and the column at right the 10-year space need in each area.

Summary	Existing Fall 2015	Current Need Fall 2015	Projected Need Fall 2020	Projected Need Fall 2025
Academic Space				
Classroom Space	46,877 sf	25,159 sf	30,037 sf	34,692 sf
Computer Labs	15,817 sf	9,193 sf	10,975 sf	12,677 sf
Behavioral and Social Sciences Department	3,979 sf	4,678 sf	5,077 sf	6,067 sf
Business Administration Department	4,058 sf	3,653 sf	4,253 sf	4,853 sf
Developmental Studies Department	2,348 sf	2,844 sf	3,347 sf	3,854 sf
Humanities Department	16,509 sf	14,804 sf	18,790 sf	20,742 sf
Mathematics & Sciences Department	27,132 sf	30,477 sf	35,700 sf	40,922 sf
Subtotal	**116,720 sf**	**90,809 sf**	**108,179 sf**	**123,808 sf**
ASF per Student FTE	*40 sf*	*31 sf*	*32 sf*	*31 sf*
Support Space				
Continuing Education	7,795 sf	5,674 sf	8,796 sf	12,567 sf
Grant Funded Programs	126 sf	600 sf	1,500 sf	2,500 sf
Academic Support Services	5,434 sf	7,982 sf	9,392 sf	10,618 sf
Library	14,502 sf	13,641 sf	14,502 sf	14,502 sf
Technology	4,782 sf	5,060 sf	5,060 sf	5,060 sf
Assembly & Exhibition	17,946 sf	13,456 sf	13,456 sf	13,456 sf
Student Activities	30,221 sf	29,221 sf	29,221 sf	29,221 sf
Child Care	2,715 sf	2,715 sf	3,567 sf	3,567 sf
Student Services	17,691 sf	16,912 sf	17,835 sf	17,835 sf
Administrative Services	13,870 sf	11,367 sf	11,367 sf	11,367 sf
Campus Services	20,788 sf	14,567 sf	14,567 sf	14,567 sf
Subtotal	**135,870 sf**	**121,195 sf**	**129,262 sf**	**135,260 sf**
ASF per Student FTE	*47 sf*	*42 sf*	*38 sf*	*34 sf*
Vacant				
Vacant	2,413 sf	0 sf	0 sf	0 sf
Total Assignable Square Feet	255,003 sf	212,004 sf	237,441 sf	259,068 sf
ASF per Student FTE	*88 sf*	*73 sf*	*70 sf*	*66 sf*
Enrollment Projections				
Student FTE Projections	*2,902.40*	*2,902.40*	*3,415.13*	*3,932.65*
Growth Rate			*18%*	*35%*

PARKING NEEDS SUMMARY

HCC's 1,418-car garage has sufficient capacity for the College's current population. Even at peak times, it is rarely near full, with some available spaces on the upper levels. The biggest problem with the garage today is traffic congestion at peak times, around 9:00 AM and 11:00 AM Mondays through Thursdays. Recommendations for more evenly distributing the course schedule should alleviate this problem. In future for a projected 36% enrollment increase, additional parking could be needed. Given the constraints of the site and inability to expand the garage horizontally or vertically, the following measures could be employed:

- Utilize ground level spaces now kept vacant to provide more clear space for circulation
- Consider short-term leasing of a parking lot on the opposite side of Lafayette Boulevard that is reportedly underutilized.



Parking Garage entry on Lafayette Blvd.



Parking Garage from Courtyard


1967
HOUSATONIC
COMMUNITY COLLEGE



4 RECOMMENDATIONS

INTRODUCTION

Introduction

Design Principles

Land Use

Access

Circulation and Wayfinding

Lafayette Hall Renovations

Beacon Hall Renovations

Sustainability

Implementation and Cost

Project Priorities

Conclusion

INTRODUCTION

The Master Plan for Housatonic aligns the College's space use with its 10-year goals, to support its most important strategic needs and anticipated enrollment growth through transformative renovations. The Plan is based on No Net New Expansion. Instead, the recommendations leverage existing facilities, including the Lafayette Addition currently in construction, to optimize the investment in current buildings and grounds. The Plan also transforms the entrance from the garage to Lafayette, to make this experience more welcoming and pleasant. The projects respond to Design Principles noted below.

This chapter outlines the recommended conceptual projects for access, exterior and interior renovations. It summarizes how these projects address sustainability goals, describes an approach to phasing the work, anticipated project costs, and notes the College's project priorities. Together, these recommendations will provide a roadmap for HCC for the next 10 years for optimizing capital investment to support the College's mission.

DESIGN PRINCIPLES

- Optimize the use of underutilized spaces to meet the College's most strategic future needs.
- Improve access and circulation outside and inside to provide a more welcoming experience and improved connectivity
- Consolidate departments that are fragmented to the greatest extent possible to improve efficiency and identity
- Increase the visibility and accessibility of student support and student services areas to strengthen recruitment and retention.
- Continue to enhance the quality and extent of outdoor areas for learning, socializing and reflection.
- Embed sustainability and energy conservation throughout the master plan recommendations.

THE CAMPUS

MASTER PLAN PROJECT SUMMARY

KEY

1 Garage Access Reconfiguration

2 Exterior Entrance Reconfiguration

3 Lafayette Hall Renovation and Roof Terrace

4 Beacon Hall Renovation

LAND USE

The zoning of land use on HCC's compact campus remains largely unchanged in the Master Plan, with academic and parking uses surrounding the central open space. This landscaped courtyard remains a defining feature and is further activated by the reconfiguration of entries at Lafayette Hall and the garage. An unused rooftop at Lafayette is activated for use as a new open space.

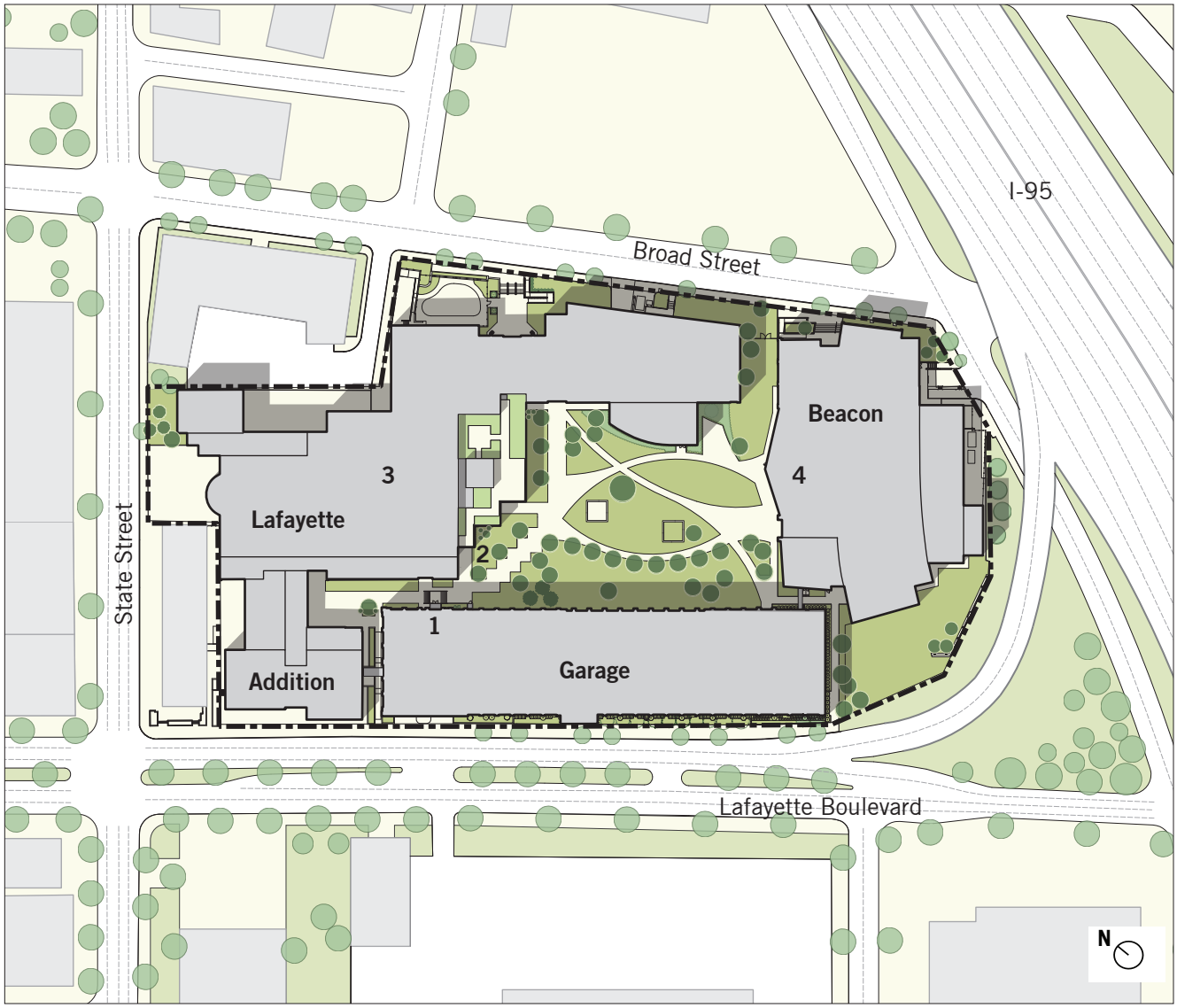


FIGURE 04.1 Master Plan Projects

CIRCULATION AND WAYFINDING

ACCESS

The Lafayette Addition will provide a significant new entrance to the College fronting Lafayette Avenue. Designed by Amenta Emma, this project was in construction during the development of this Master Plan. Other entrances into Lafayette and Beacon will remain, though the College may consider restricting access to some entries at certain times to enhance security and balance accessibility and safety.

The garage remains the primary access point for vehicles. Since many students and most faculty, staff and visitors arrive by car, the experience of entering the College from the garage is effectively the primary route. Now this entails entering a back door of Lafayette, into a tight hallway with no reception area. The Master Plan recommends a reconfigured garage entry / exit at the northeast end. This will allow people descending the stair to exit the garage onto an enclosed landing leading to a path to a new Lafayette entrance facing the courtyard. The landing also connects to a path in the other direction, to the new Lafayette Addition and student services. A ramp will also be provided in the garage to provide wheelchair access to the courtyard from the elevator lobby, to supplement the current ramp at the northwest end of the garage. The former “back door” entrance to Lafayette will be reconfigured for fire egress only.

The reconfigured garage entrance will require the removal of a non-structural precast concrete spandrel panel in the opening at the base of the existing stair well.

CIRCULATION AND WAYFINDING

The Master Plan integrates improvements in exterior and interior circulation. Renovations to improve circulation are described here, with other renovations for space needs in the next section.

The Lafayette Addition will provide a new clear circulation artery to connect the atrium and Lafayette Boulevard entrance. Circulation elsewhere in Lafayette, however, is typically restricted, cut off from natural light, and circuitous. As a result, it can be hard to navigate for newcomers once they move away from the atrium area at the State Street entrance. Curiously, the main spine leading from State Street, into the Atrium past the Gallery never connects to the courtyard. Access to this internal oasis is round about and indirect.

The Master Plan proposes select changes to internal circulation in Lafayette on both levels to better connect the interior to the courtyard, to create “internal landmarks” that can orient users and to bring light and views into the interior of the deep building footprint. A key change is a new entrance and student lounge facing the courtyard. A new open stair and elevator in this area will provide direct access from the new entrance to the second floor of Lafayette and a consolidated Student Service Area above. This renovation project requires relocation of some library functions (illustrated in the next section) to open a clear pathway from the courtyard to the atrium.

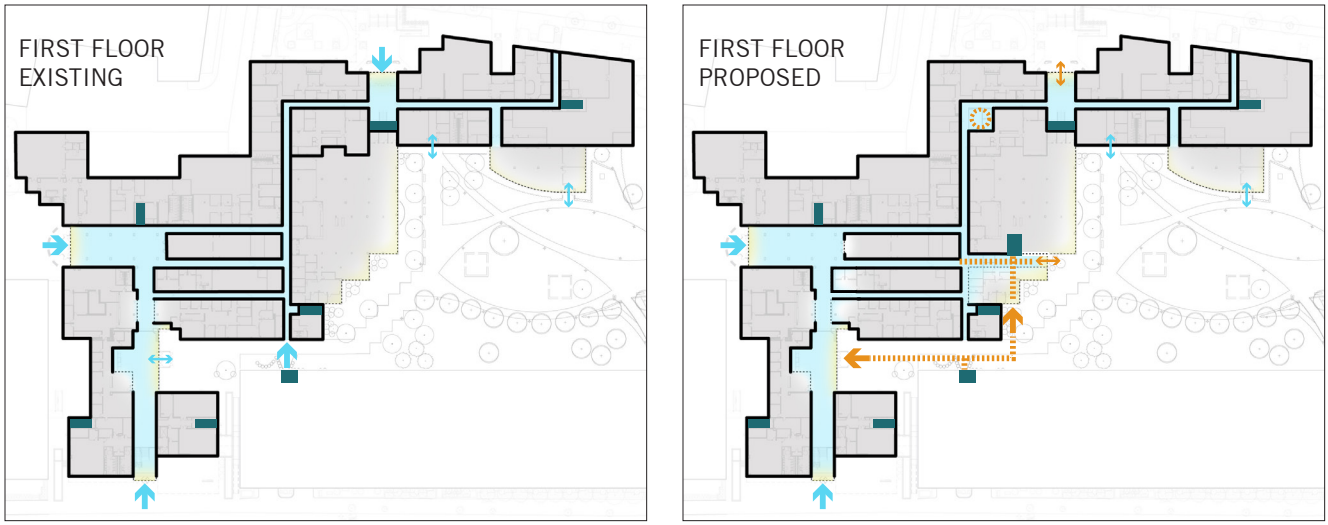


FIGURE 04.2 Access and interior circulation

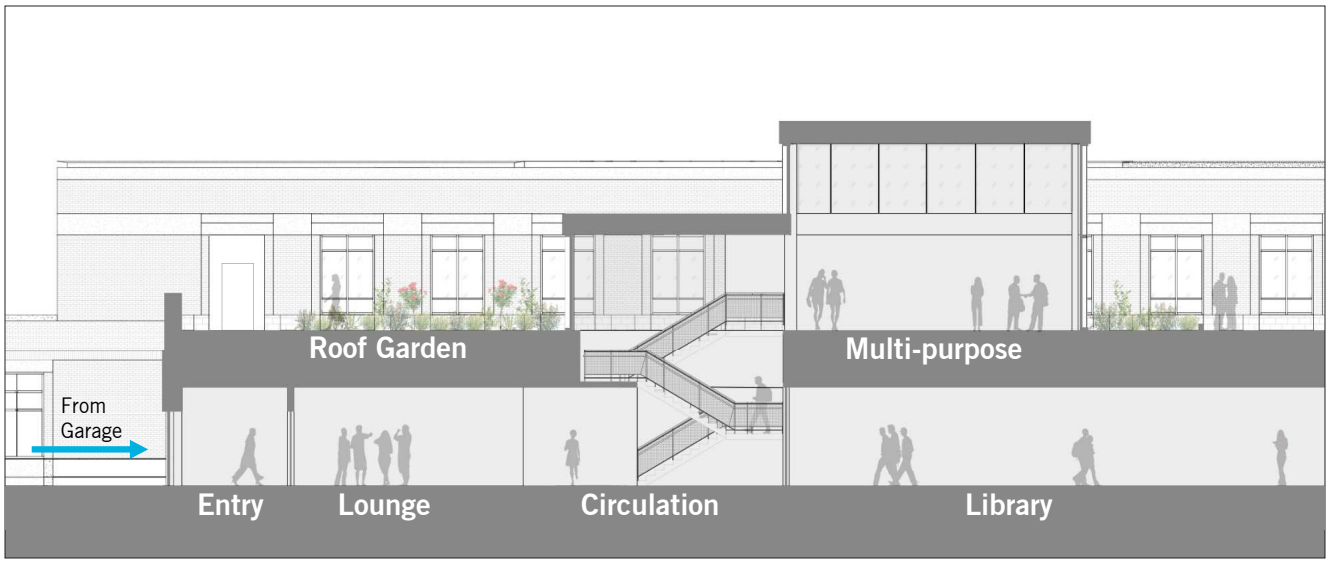


FIGURE 04.3 Section at new Lafayette Hall Courtyard entrance

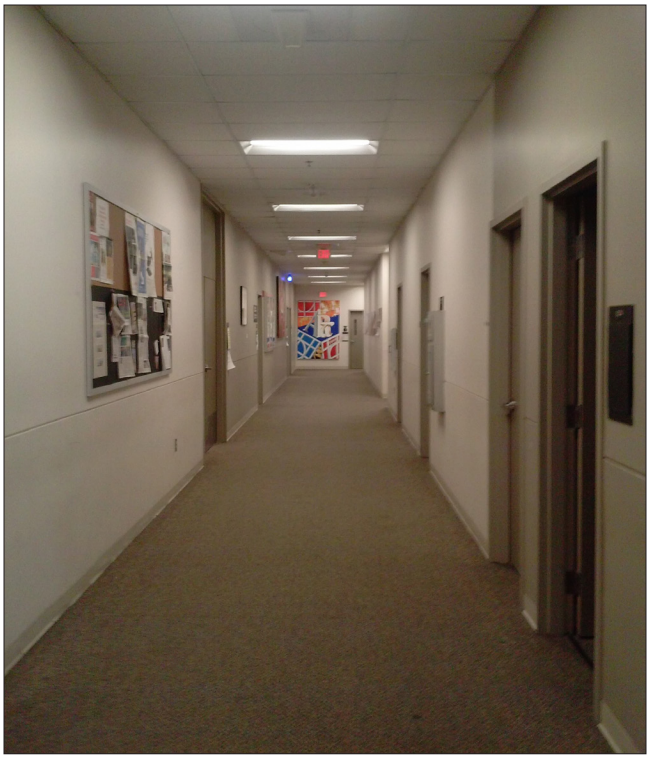


FIGURE 04.4 Site Plan detail: New garage access and Lafayette Hall entry

Another circulation recommendation is creating an open area and small atrium at the point where the east wing connects to the main body of Lafayette Hall. Now just an abrupt change of direction in the tight hallway, the new layout would create a more generous transition area, with light, seating and a front door for the departments in this area. On the second floor, this area will have an opening to below, a small atrium, to punctuate this transition in the building and bring natural light into the interior from a proposed skylight above.

A transformative project on the second floor of Lafayette is activating the unoccupied roof above the library to serve as a multipurpose outdoor space. The Plan recommends extending the hall from the main atrium to connect to this new outdoor space and the new stair and elevator to the new building entrance below as illustrated on the concept plan.

Circulation in Beacon Hall is generally well organized and easy to navigate. Limited internal changes are proposed to better utilize large interior stair halls, as described later in this chapter.



Existing Lafayette Hall, Level 2 B-wing corridor

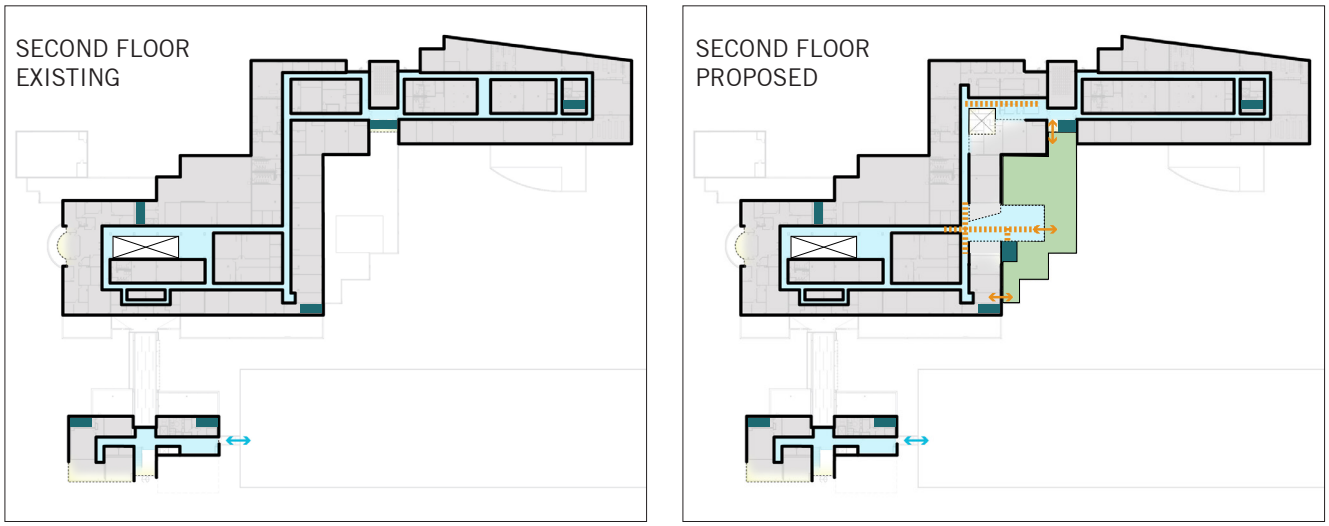


FIGURE 04.5 Interior circulation

LAFAYETTE PROJECT

LAFAYETTE HALL RENOVATIONS

Repurposing and upgrading select spaces in Lafayette Hall will align the building with HCC's strategic goals for student success, recruitment and retention. While most of the work is on the second floor, the first floor has important transformation as well.

FIRST FLOOR

New Entry Lobby, Stair and Student Lounge

To provide needed lounge space and a proper reception area, the Plan recommends relocating some Library areas to make space for the new entry and adjacent student lounge space facing the courtyard. This will provide a suitable sense of arrival entering from the garage. It is located at a "crossroads" of the main halls that organize the first floor. The student lounge will provide space for socializing and group study, at a hub connecting the first and second floor.

Library Reconfiguration

The Library will be reconfigured, keeping the same floor area as today. The space lost to create the new entry lobby and lounge will be replaced by occupying space to be vacated by the Academic Advising Center, which is consolidated on the second floor. The actual library layout and subdivision of space will required further study for detailed programming and actual room-by-room before implementation. The Master Plan concept shows a single space to represent multiple functions – circulation, quiet and group study areas, stacks, periodicals, and administrative areas.

Columns will need to be added to the library to support a new multipurpose space on the roof above. Additional columns may be needed for converting the roof above from unoccupied space to a roof terrace / green roof connected to the Student Success Center. The roof of the library originally was reported to be a floor of the original mall. It may have sufficient capacity to support proposed loads. A structural feasibility study is recommended after the Master Plan to confirm if additional columns are needed beyond those required for the new Multipurpose Space addition.

Other Improvements

Two small classrooms will be converted to the Distance Learning Center, to relocate this from Beacon to be close to related functions. A lounge is created nearby to serve as a student gathering area and improve flow.

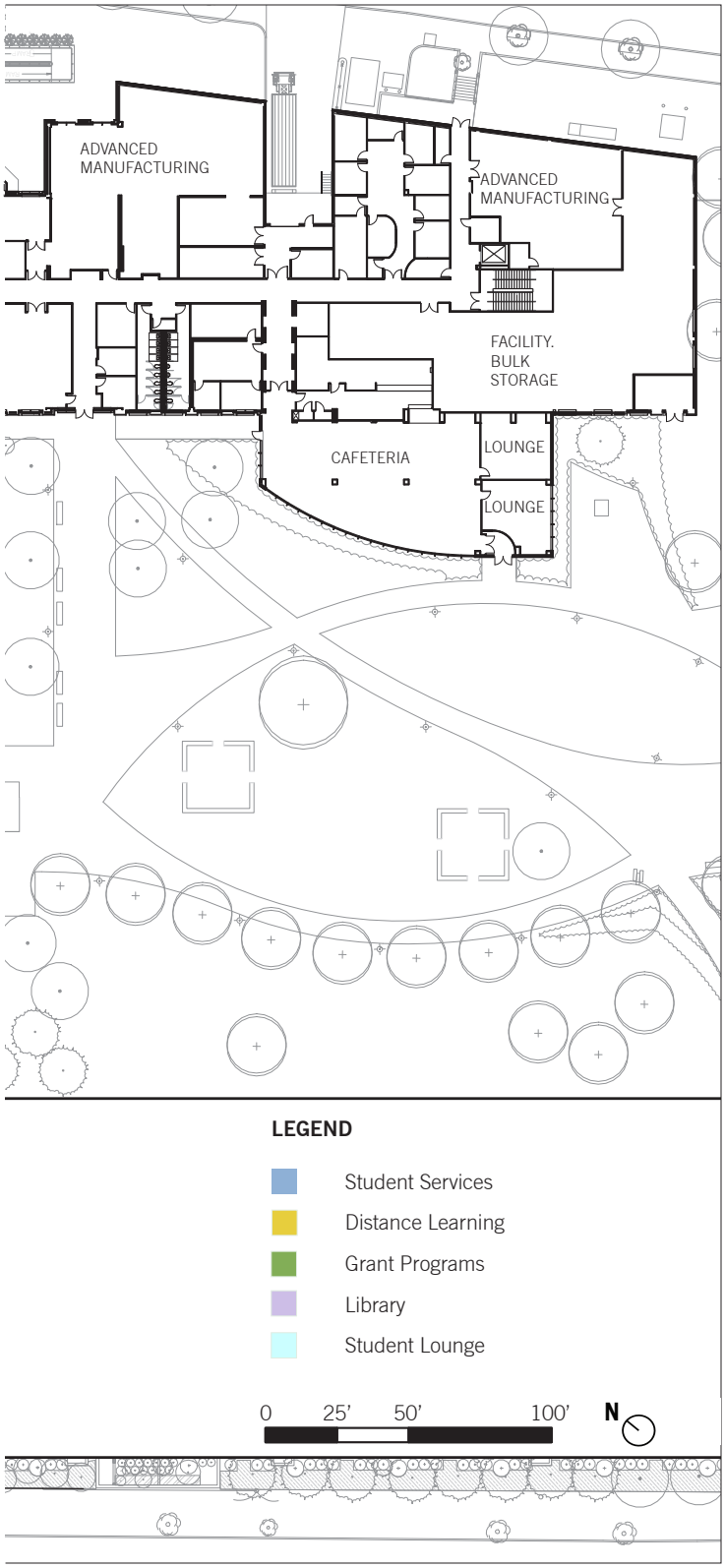
An office area near the State Street atrium is converted for use as the Career and Internship Center, providing a visible and easily accessible location for this important strategic function. Likewise, one of two new multipurpose spaces in the Lafayette Addition will be repurposed as an Advising Center to leverage the key location of this space near the Admissions.



Existing Lafayette Hall atrium



FIGURE 04.6 Lafayette Hall Renovations: First Floor



SECOND FLOOR

Student Success Center (CAP / Academic Service Center)

The existing CAP and Academic Service Center are undersized and split between the first and second floors of Lafayette. The Master Plan addresses HCC's strategic goal of improving student retention and success by consolidating and expanding these functions on the second floor of Lafayette into a Student Success Center, in a place that becomes a new hub. The space comes from utilizing several surplus classrooms. Two computer labs are also used and replaced elsewhere. The Plan locates the Student Success Center in a place that students will pass regularly on a daily basis. The Center will have a prominent entrance, right off a new Lounge/Multipurpose Space, stair and roof terrace. This crossroads location should make the Center highly visible and appealing, improving its use and effectiveness.

Lounge / Multipurpose Space

This 1,200 SF rooftop addition will provide a well-used space for various functions including orientation, programs, events, receptions, and study. The space has views and access out to a new roof terrace which wraps around the space on three sides. High performance glazing with sun screen frit will keep the space well-conditioned and energy efficient while providing ample daylight. The space is located directly at the top of the new stairs leading from the new entry lobby below. Elevator access is also nearby. Effective use of the Lounge / Multipurpose Space will require nearby storage for furniture to support multiple layout configurations. A Storage Room is indicated down the hall for this purpose.

Roof Terrace / Garden

The Master Plan recommends transforming the currently unused gravel-covered roof over the library to be signature outdoor space for the College. It should also act as a magnet for use of the Student Success Center nearby. The roof would be a mix of terrace areas for gathering, seating and plantings. The terrace would be a raised paving system with drainage and insulation below. Raised planting beds with perimeter seating will support the landscaping. The green roof is an opportunity to curate this landscape as part of the curriculum, potentially related to Allied Health. It can also serve as a living laboratory for sustainability.

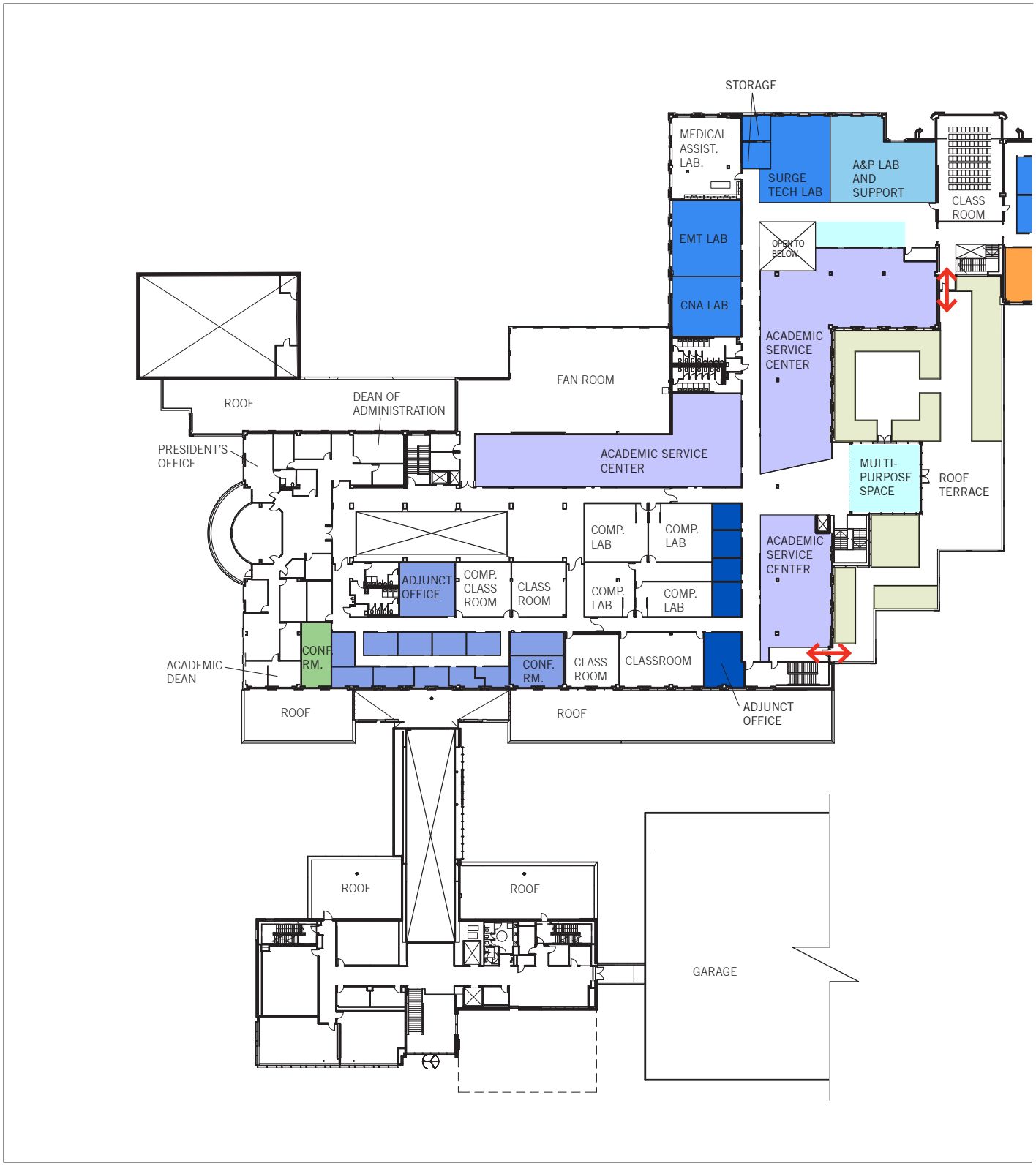


FIGURE 04.7 Lafayette Hall Renovations: Second Floor





Existing Lafayette Hall atrium

To address code and safety, new railings would enclose the perimeter. Two exit doors would provide fire egress at each end, one to an existing enclosed fire stair and the second to a reconfigured open stair in the entry hall facing Broad Street.

Developmental Studies Office Area

To meet the projected needs for this department, an office area will be renovated to provide the needed number and type of offices, conference and other workspaces.

Allied Health Areas

The Master Plan consolidates Allied Health labs on the second floor of Lafayette in the northeast corner. The labs include CNA, EMT, Surgical Tech, Medical Assisting and storage and support spaces. Offices and Adjunct areas are nearby, down the hall. An atrium opening to below and lounge provide a new "front door" and identity for the Allied Health programs. One of two A&P Labs is relocated to be adjacent to the Allied Health Labs.

Science Areas

The second floor south wing of Lafayette is renovated to provide updated Science facilities to align with the projected academic goals and 10-year enrollment. The recommendations are for select renovations of some areas, with other areas to remain. Most importantly, the Master Plan provides additional science labs by repurposing other spaces. One existing A&P Lab is moved to the north; another lab is provided that could have dual use as A&P and Biology. The specific use of each lab remains to be determined following HCC's academic planning for the Sciences. Before the Master Plan concept recommendations are implemented, detailed space programming will be required to confirm space-by-space needs and the resulting final layout. Two small, under-utilized classrooms are converted into a larger classroom with updated technology in the Science wing to be used in tandem with the labs. Faculty offices and adjunct areas shown are based on preliminary assumptions for future personnel. These areas will also require detailed programming to confirm specifics before implementation.



FIGURE 04.8 Concept Rendering: Lafayette Hall Renovations



ASSOCIATED M.E.P. RENOVATIONS

This section provides an overview of associated building mechanical, electrical, and plumbing system scope required to support the Master Plan (other than structural factors). It also provides recommendations on energy conservation measures and renewable energy.

Generally for all renovation projects where layouts are being reconfigured, engineering electrical outlets, fire alarm, data drops, and sprinkler heads should be relocated as required to accommodate the new architectural layout.

Heating

The existing heating plant is adequate for the renovation and multipurpose space addition. It is recommended to be maintained to extend the expected lifetime of the equipment.

Cooling

At the time of this report, the chiller plant is in the process of being upgraded, with two (2) new 400 ton magnetic bearing centrifugal chillers to provide chilled water for the building.

In order to confirm the capacity assumptions above, AKF recommends to meter the new chillers and record their operation of temperatures, flow rates, and compressor loading to analyze the loading of the chillers upon completion of the new addition currently that is being constructed at the time of this report. If the chillers are only loaded up to 75% or below, the existing plant capacity should be sufficient for the expected increase in FTE.

When the enrollment expands by 1,500 students, the Plan recommends assessing if the current chiller capacity is adequate. If not, a new 200 ton chiller may be needed to support the increased load.

An alternative to a new chiller would be to install a thermal storage system utilizing the new magnetic bearing chillers on off demand hours. The storage tank should be located exterior to the building next to the existing cooling tower. It is important to confirm that operations personnel have sufficient training and capacity to run a thermal storage system, prior to the decision to implement.

Energy Conservation Project: Ducted Returns

The existing building utilizes a plenum return system to return air back to individual air handling units. Due to the height of the plenums, 5' to 8' in certain areas of the building, this this adds to the conditioned air space exposed to building envelop losses, and therefore increases energy use by the building. An energy savings measure would include converting the building to a fully ducted return if there is substantial air leakage in the plenum spaces. Negative pressure in the plenum would exacerbate infiltration through the exterior shell of the building as well as cause short circuiting in the air flow from ducted supplies. If the plenum system is not properly sealed to both the exterior and occupied spaces, or if there are indoor air quality (IAQ) problems between zones, it is recommended for each of the projects noted below, which total about 69,000 square feet for Lafayette, the building be converted to a fully ducted return, with the fans being rebalanced as additional ductwork is added. Visual inspection for gaps in the building exterior and air pressure testing would help determine if the plenum system is sufficiently sealed. Before pursuing a ducted return, energy modeling using simulation tools comparing a plenum and ducted return is recommended to best estimate savings.

The plan recommends any areas that are not already noted be renovated, also be converted to a fully ducted system to reduce building energy usage. The diagram on the opposite page illustrates the concept. Also as part of the conversion to a ducted return system, all of the existing fan powered boxes with reheat, about 135, will need to be replaced with variable air volume boxes with hot water reheat. As part of the addition occurring at the time of this project, 15 of the existing fan powered boxes are being replaced.

Also as part of the conversion to a ducted return system, all of the existing fan powered boxes with reheat, about 135, will need to be replaced with variable air volume boxes with hot water reheat. As part of the addition occurring at the time of this project, 15 of the existing fan powered boxes are being replaced.

MEP Scope: New Multipurpose Space at Roof Terrace

The new Atrium is a 2,033 square foot space on the second floor which will require an additional 5 tons of cooling. The space can be conditioned by providing a new variable air volume air handling unit with reheat located in the Second Floor Mechanical room.

MEP Scope: Library Reconfiguration

The library is currently served by two separate air handling systems with multiple variable air volume boxes serving individual zones. As part of the library renovation, many of the individual zones on both air systems are being removed and incorporated into the library volume, and the systems can be rezoned to accommodate the new architectural layout.

MEP Scope: Health Consolidation & Expansion in Lafayette

This lab relocation will need to rezone the existing air handling system to accommodate the new layout.

MEP Scope: Relocation of Anatomy & Physiology Lab in Lafayette

This lab relocation will need to rezone the existing air handling system to accommodate the new layout.

MEP Scope: Additional Science Lab & Science Faculty Offices in Lafayette

A new bio lab will be added on the second floor of the building. For the new lab, a new exhaust system from the lab hoods, make-up air supply system with a glycol run-around loop for heat recovery will be required.

Additional rezoning of the space will be required. A new gas service shall be run to the science lab.

Rooftop Solar Array

The large flat roof of Lafayette Hall and at Beacon Hall would be very suitable for solar power / renewable energy installation. This is a recommendation of the Energy Master Plan, a parallel study being conducted at the same time as the HCC Master Plan. Project delivery, funding and economic considerations are included in the Energy Master Plan.

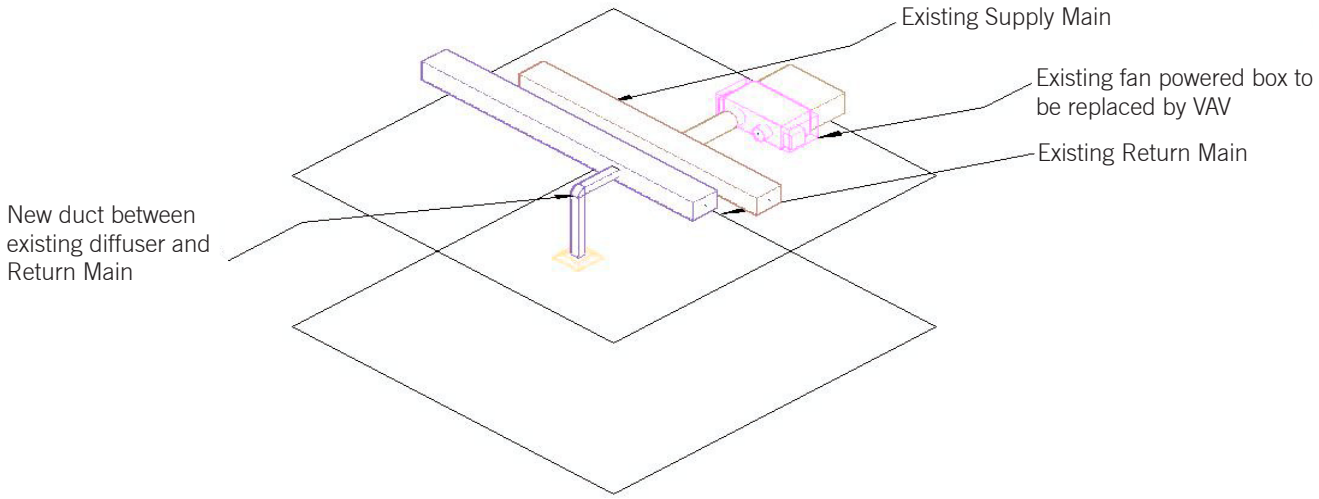


FIGURE 04.9 Ducted Return concept diagram: Lafayette Hall energy conservation measure

BEACON PROJECT

BEACON HALL RENOVATIONS

In order to meet the College's needs for Beacon Hall over the next 10 years, a relatively modest amount of area will be renovated and repurposed – approximately 11% of the total area. The improvements are described by floor, and include optimizing use of a stair hall that connects all three levels.

North Stair Hall Renovation

This space, 24-foot wide and 73 feet long currently has an open stair. Since this space is counted as one of the required fire exits, it must be maintained free of any furniture, artwork or other combustible materials. Some current floor openings will be infilled and railings removed to provide a rated condition at the side of the stair. As a result of this renovation, a significant amount of vacant, underutilized space is converted to active use.

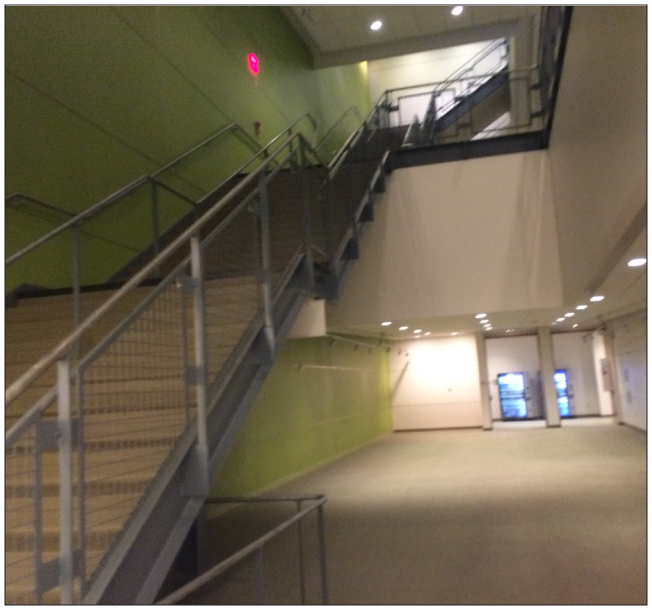
The Master Plan proposes a concept for introducing fire-rated partitions to subdivide the space, both horizontally and vertically, to maintain its required function as a fire exit, while also capturing found space for several functions. On the ground floor, a lounge and a new classroom will be provided. On the second floor, a lounge space will be added at the south end, to offset some existing lounge space to be converted to other uses. On the top floor, surplus space will be used to extend the Quiet Lounge to increase study space.

FIGURE 04.10 Beacon Hall Renovations: First Floor



LEGEND

- Administrative Services
- Veterans Oasis
- Alumni Relations
- Security Office
- Classroom
- Museum Storage
- Student Lounge



Existing Beacon Hall ground level stair hall

First Floor Renovations

The large Public Safety area near the north entrance will be right-sized to maintain a security station and also provide a new larger Veterans Oasis facing the courtyard. This will provide a suitable space for Veterans, who now occupy a small, windowless space in Lafayette. This renovation will also provide an office for Alumni Affairs, and renovate the Copy Room / Mail Room to update this space and accommodate a Marketing Print Shop.

To provide needed additional collection storage for the Museum, the Master Plan recommends creating two secure, climate-controlled spaces on the first floor. The first space, now a Faculty Lounge is located at the southwest corner of the building adjacent to an existing museum storage room. Once the lounge is relocated, this space would be repurposed for museum collection storage with an opening created into the current secured storage space to maintain a single point of access. Another storage space nearby is also proposed to provide enough total storage space. This room would be subdivided from an existing general-purpose storage room that is under-utilized. It would be accessed from this other storage room. The layout avoids the building water service so this remains accessible inside the general storage space, away from artworks.

Second Floor Renovations

The Master Plan proposes several changes on this level. A large, underutilized lounge at the south side is resized and adjacent spaces are reconfigured to provide computer labs, a classroom and a large area for Adjuncts for the English Department. The office area at the southwest corner of the building is reconfigured to accommodate the number and type of offices for the balance of the English Department. The large general storage space off the Student Lounge is maintained with slight reconfiguration, which provides necessary furniture storage to support the Events Center on this floor. A space is created for an ESL Center. A suite of offices is reconfigured to provide the right mix of work space and storage for faculty and adjuncts for History, Political Science, Psychology, Sociology, Human Services, Developmental Studies and Criminal Justice. The space vacated by the Distance Learning Lab is repurposed as the Faculty Lounge, with a view of the courtyard. Finally, three existing classrooms near the Continuing Education offices are proposed to be dedicated classrooms for ConEd use – an operational change with no renovation scope or cost.

FIGURE 04.11 Beacon Hall Renovations: Second Floor



LEGEND

- Psych./Soc./ Hum. Srv.
- Criminal Justice
- Early Childhood Edu.
- History/ Political Sci.
- Developmental Studies
- Continuing Education
- Student Lounge
- Foreign Language
- English
- Classroom
- Computer Classroom
- Facilities
- Grant Program
- Administartive Services

Third Floor Renovations

The scope of work on this level is relatively modest. The Large Adjunct office in Business Administration reconfigured to provide a right sized Ajunct office and a conference room for the department. Three vacant offices will be dedicated to a future Grant Program office area. The east end of the student lounge that runs long much of the south side of the floor is subdivided to provide a conference room and an office for the student newspaper. Lounges in other areas of Beacon are expanded to offset this reduction.

Associated Mechanical, Electrical and Plumbing Renovations

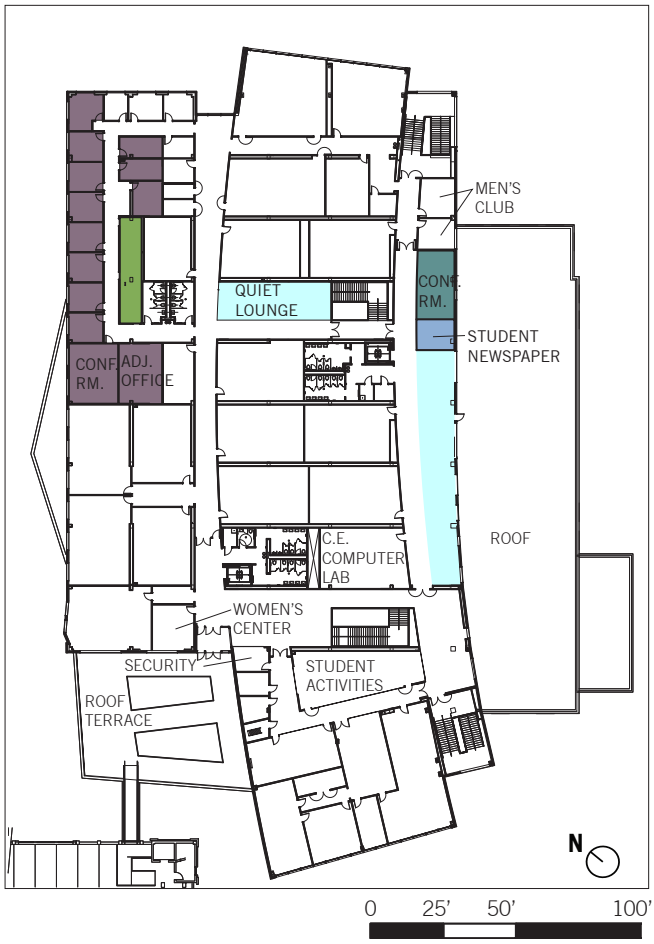
The existing chiller plant in Beacon Hall consists of two (2) 400 ton York rotary screw chillers with approximately 150 tons of available capacity. Based on the FTE increase, and with the intent for Beacon to be utilized less during the summer months, the existing cooling capacity is adequate and it is recommended to maintain these chillers to extend their expected lifetime.

Since there are no planned additions as part of the master plan, the heating plant is adequate and it recommended to be maintained to extend the expected lifetime of the equipment.

Additional museum collection storage totaling approximately 2,000 square feet will be created which will require a dedicated 7.5 ton system to maintain archival space conditions. The new air handling unit should be located on the roof above, and be provided with chilled water cooling, glycol preheat and reheat, humidification, and specialty filters The reconfigured office areas, computer classrooms and other spaces should be tied into the existing variable volume air handling system and the spaces should be rezoned as required. For electrical and fire protection, outlets, data drops, and sprinkler heads should be relocated as required to accommodate the new architectural layout.

The current security area is conditioned by a single fan coil unit serving the 8 rooms that makeup the Security Area on the first floor. This unit can be replaced with a new dedicated 1 ton fan coil for the security office. The new areas being split out from the current security space: Veterans Oasis and Alumni Office, can be conditioned by new variable air volume boxes with local occupant control as part of the existing air handling system. The Mailroom and Print shop should be rezoned and rebalanced using the existing variable air volume boxes. For electrical and fire protection, outlets, data drops, and sprinkler heads should be relocated as required to accommodate the new architectural layout.

FIGURE 04.12 Beacon Hall Renovations: First Floor



LEGEND

- Business Administration
- English
- Grant Program
- Student Activities
- Student Lounge

SUSTAINABILITY

The Master Plan for HCC embodies sustainability deeply into the plan in several ways. Most importantly, the Plan meets the College's needs without the need for new construction. Underutilized space is repurposed to support the HCC's specific goals for academic programs, student support, and a significant increase in enrollment. Giving extended life to existing structures is a hallmark of sustainability. The original conversion of the Mall to the College made good new use of existing infrastructure. This Master Plan continues this approach to optimizing the use of existing facilities.

The Plan also supports a sustainable approach in the following ways



Buildings:

- Renovate existing complex
- CT High Performance Building Standards



Land Use:

- No land expansion needed for expanded enrollment
- Maintain compact site



Stormwater:

- No increase in impervious coverage
- Increase planted areas



Landscape:

- Enhance courtyard access and experience
- Activate unused roof with plantings, terrace



Transportation:

- Continue to rely on transit and pedestrian city access
- Manage parking demand through scheduling



Energy:

- Rooftop Solar PV installation
- Energy Conservation Measures (ECMs)
- Parallel Energy Master Plan recommendations

IMPLEMENTATION AND COST

Successfully realizing the Master Plan depends on a realistic assessment of cost, phasing and logistics. The Master Plan Team considered how the renovation projects would be done in the most cost effective and least disruptive manner possible. Input from the College was central to establishing priorities. The Planning Team also prepared order-of-magnitude cost estimates for the recommended projects to guide the capital budgeting process. The Team also took into account current projects so the 10-year vision was in sync with near-term capital planning.

CURRENT PROJECT

The College was in planning, design or construction phase for the following projects during the development of the Master Plan. The Plan reflected and coordinated with these projects.

Lafayette Addition and Renovations

The 50,000 GSF Lafayette addition was being constructed during the preparation of the Master Plan. Accordingly, it was considered an existing condition. The Master Plan aims to leverage the full benefit of this the new floor area to meet the College's needs to 2026 without changes to the on-going construction scope. Similarly, the Master Plan team considered the pending renovations in Lafayette Hall (part of this awarded construction contract) as the existing condition.

Since the construction documents were completed for the Lafayette renovation, the College has reconsidered the best functions for some of these areas, informed by the Master Plan process. The areas highlighted in brown in the following floor plans represent areas to be renovated where the construction scope conflicts with the Master Plan recommendations. The gray areas are represent areas to be renovated that do not conflict with the Master Plan recommendations. CSCU and HCC should determine if some aspects of the renovation contract could or should be amended to avoid unnecessary cost for renovations that once done would be undone.

Garage Renovations

To address condition deficiencies in this 50-plus year old structure, the College has prepared a two-phase renovation. Phase 1 will be implemented in by 2017, with Phase 2 to follow as soon as funding is available. Since these structural deficiencies have already been identified, the Master Plan did not duplicate this scope. The Master Plan confirms that garage condition upgrades are needed, in addition to pedestrian access improvements illustrated earlier.

Advanced Manufacturing Center Expansion

This renovation in the south wing of Lafayette, pending during the development of the Master Plan, was considered to be an existing condition for planning purposes.

Model Classroom Upgrade

The large classroom on the second floor of Lafayette, over the Broad Street entrance, is scheduled to be renovated as a state-of-the-art, model classroom in the near term. The Master Plan maintains this space.

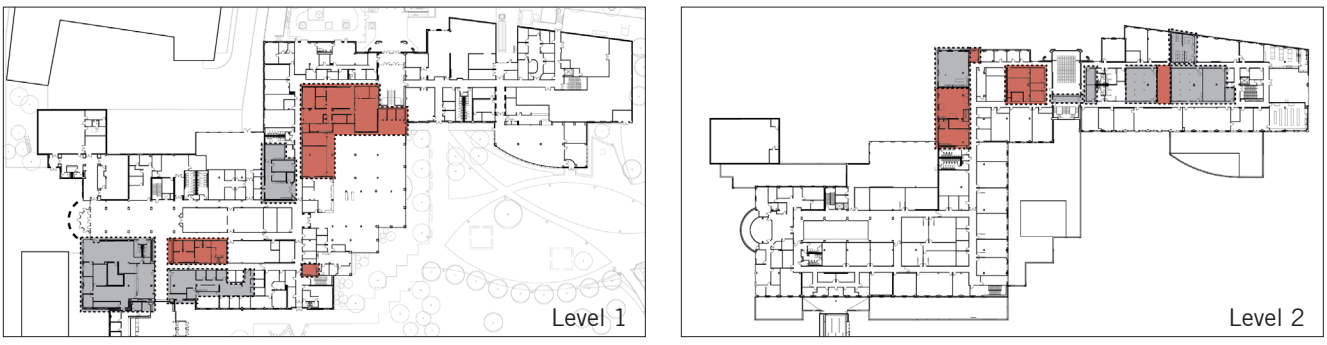


FIGURE 04.13 Current Lafayette Hall Renovation assessment

PHASING CONSIDERATIONS

Many elements of the renovations recommended in the Master Plan can be implemented directly once funding is secured without the need for a prior enabling project - swing space, demolition or relocations – before construction. These can be considered "Independent Projects" are listed as follows:

Independent Projects

Lafayette Hall

- Convert Multipurpose Room in Addition first floor to Academic Advising Area
- Repurpose offices near the Atrium to be Career and Internship Center
- Allied Health Wing Renovations
- Science Wing Renovations
- Solar Panels on rooftop

Beacon Hall

- Reconfigure Stair Hall to provide Classroom and lounge areas
- Dedicate second floor Classrooms for Continuing Education
- First floor renovation for Veterans Center, Marketing, and Public Safety
- Reconfigure general storage areas to create Museum Storage
- Second floor renovations (excluding relocated Faculty Lounge)
- Third floor renovations

Linked Projects

Other projects recommended in the Master Plan do require either swing space, relocation of other functions and / or demolition of existing partitions 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:

Lafayette Hall

Expansion / consolidation CAPS / Academic Advising Center

- Requires conversion of select classrooms to replace lost computer labs

Reconfigured garage exit and new Lafayette courtyard entrance, new lobby, lounge, stair and elevator

- Requires reconfiguration of the Library

Library reconfiguration

- Requires relocation of first floor CAP spaces to second floor, consolidation and expansion of CAP on floor 2

Multipurpose Space and accessible library roof

- Requires new stair and elevator, library reconfiguration for structure

Reconfigured stair at Broad Street entrance

- Required only if Library roof becomes an occupied exterior space, for egress

Beacon Hall

Faculty Staff Lounge relocation

- Requires relocation of Distance Learning Space to Lafayette first

Museum storage, south area

- Requires relocation of Faculty Staff Lounge first

The Lafayette Hall Energy Conservation Project to HVAC to provide fully-ducted HVAC returns is technically an Independent project, however one with significant impact across Lafayette Hall, since many spaces would need to have the ceiling removed and replaced to make this upgrade.

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 and conceptual site, building and renovation projects noted above. The basis of the estimate reflects the following approach / assumptions at right. 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.

Assumptions

- Project Cost 45%: New Construction and Renovations
- Labor costs included at local union rates
- Long lead items can be purchased to meet schedule requirements
- Figures in 2016 1 Qtr. dollars
- Once project bid date known, budget figures to be escalated to reflect inflation

Markups

General Conditions, General Rqmts., Insurance & Bond, Permits	15%
Construction Manager Fee	4%
Construction Contingency	Excluded
Escalation	Excluded
Project Cost markup on Construction Cost	45% (per CSCU Guidelines)
FFE, Technology and Equipment	5-15% (Included in Project Cost Markup)

COST ESTIMATE

Beacon Hall	GSF	Order-of-magnitude Const. Cost	Project Cost
Interior Renovations - Level 3	3,459	$899,340	$1,304,043
Interior Renovations - Level 2	10,247	$2,561,750	$3,714,538
Interior Renovations - Level 1	7,025	$1,657,900	$2,403,955
Subtotal	20,731	$5,118,990	$7,422,536
Lafayette Hall			
Interior Renovations - Level 4	1,540	$294,140	$426,503
Interior Renovations - Level 2	31,050	$9,004,500	$13,056,525
Roof Terrace / Green Roof - Level 2	8,750	$1,487,500	$1,933,750
Rooftop Addition, New Stair, Elevator - Level 2	2,033	$1,953,713	$2,832,884
Landscape, Hardscape Enhancements - Level 1	4,723	$1,289,379	$1,676,193
Interior Renovations - Level 1	25,830	$5,527,620	$8,015,049
HVAC Add Alternate 1: Convert to ducted return	120,700	$5,552,200	$8,050,690
HVAC Add Alternate 2: Thermal Storage (250 Ton system)	1	$1,299,480	$1,884,246
Subtotal *(excluding Alternatives)*	73,926	$19,556,852	$27,940,904
General Fund Totals *(excluding Alternatives)*	**94,657**	**$24,675,842**	**$35,363,439**

** Not in sequential or priority order. Including associated sitework, landscape and infrastructure projects. Excluding building demolition where applicable.*

PROJECT PRIORITIES AND PHASING

HCC Leadership confirmed that the recommended Lafayette Renovations are a higher priority than the Beacon Hall renovations.

If funding is not available to implement all of the recommended Lafayette Hall Renovations, and a two-phased approach is required, the College noted that the following program elements should be included in Phase 1, which are primarily on the second floor:

- Allied Health Wing renovations
- Science Wing renovations
- Consolidated and Expanded Academic Service Center / CAP
- Required replacement space for displaced functions

These are illustrated in the following floor plan. Other scope, including the reconfigured building entrance, new stair and elevator, reconfigured library, multipurpose space and roof terrace with landscaping, would be realized in Phase 2.

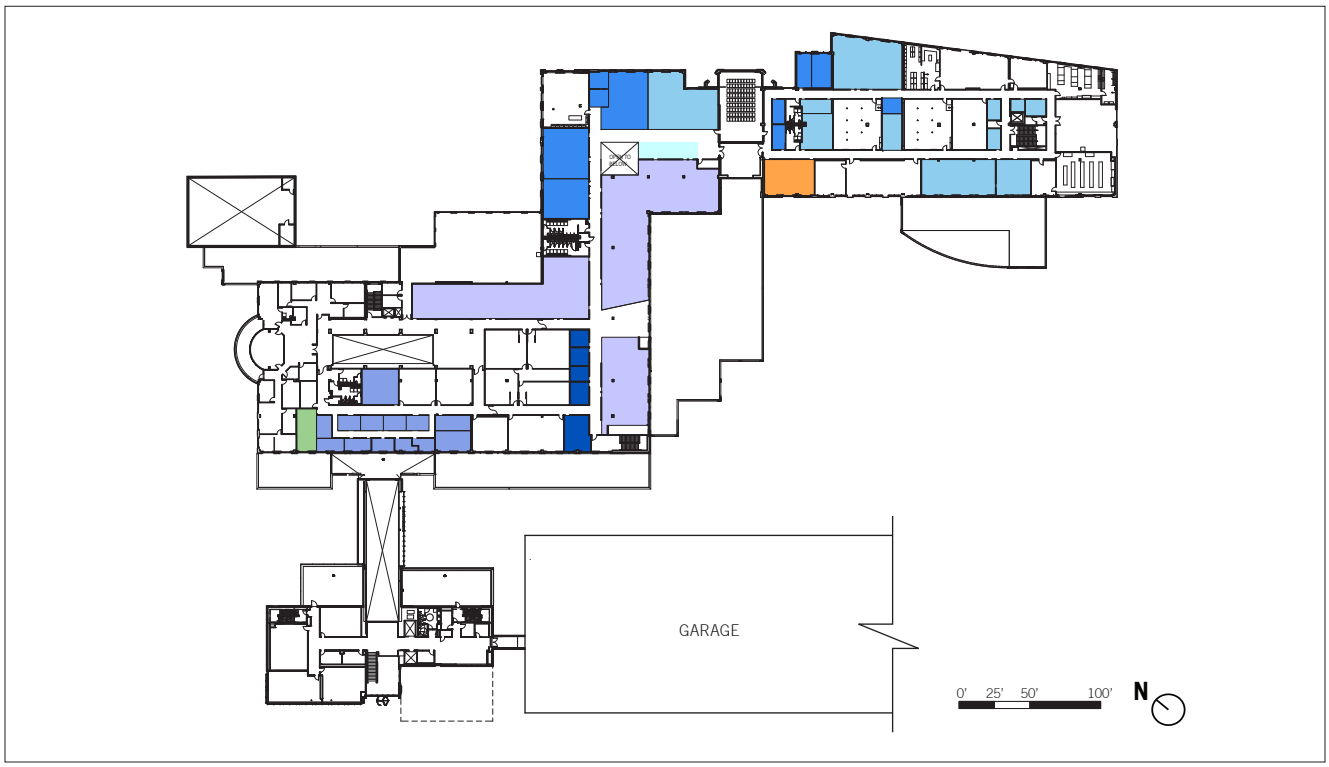
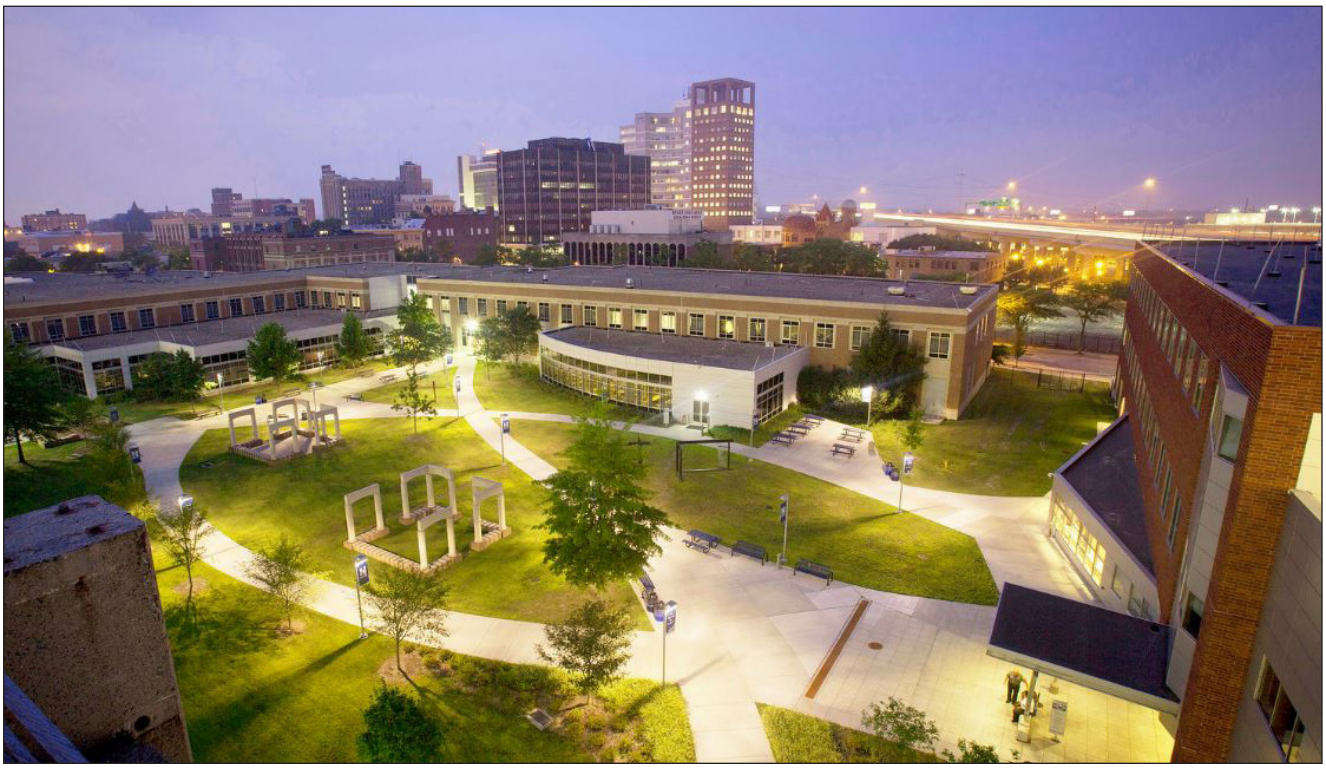


FIGURE 04.14 Lafayette Hall Renovations: Phase 1, Lafayette Hall Second Floor

CONCLUSION

The Master Plan optimizes available space to support a significant increase in enrollment over the next 10 years with “Net Zero Expansion”. It does so by aligning space in the 2016 addition and in the campus as a whole with the College’s most important needs – for learning, guidance, and effective operations. The plan improves access and circulation to provide a more welcoming and user-friendly experience for students. A fresh look at course scheduling and classrooms allows for better classroom utilization, improved student access, and decreased garage congestion without a “bricks and mortar” solution. The consolidated and expanded CAP / Student Advising Center, located at a new crossroads of the campus in an attractive setting overlooking the courtyard, will contribute to student success and retention. The renovated classrooms and labs for Allied Health and the Sciences will strengthen learning outcomes. In a time of significant needs and constrained funding for community colleges, we believe the Master Plan for Housatonic Community College, in its alignment of facilities to mission, can serve as a model for sustainable development and operations.



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