MANCHESTER COMMUNITY COLLEGE

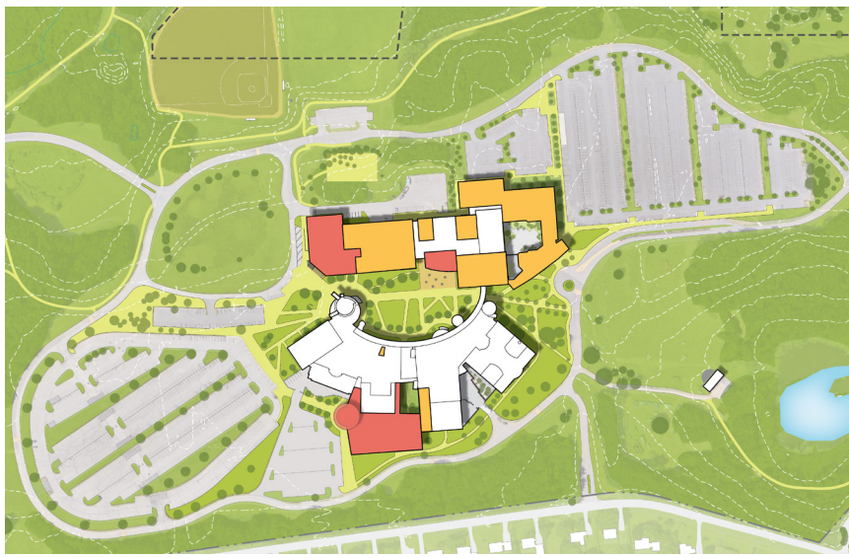
CONNECTICUT STATE COLLEGES & UNIVERSITIES

MANCHESTER COMMUNITY COLLEGE
MASTER PLAN UPDATE

JULY 2017







PERKINS+WILL

MANCHESTER COMMUNITY COLLEGE

CONNECTICUT STATE COLLEGES & UNIVERSITIES

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ACKNOWLEDGEMENTS

CONNECTICUT STATE COLLEGES AND UNIVERSITIES

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Jane Gates	Provost / Senior VP for Academic & Student Affairs
Erika Steiner	Chief Financial Officer
Keith Epstein	Vice President for Facilities, Real Estate and Infrastructure Planning
Armen Beermann	Facilities Management Associate

MANCHESTER COMMUNITY COLLEGE

Gena Glickman, Ph.D	President

COLLEGE MASTER PLAN ADVISORY COMMITTEE

Gena Glickman, Ph.D	President
Sara Vincent	Special Advisor to the President; Director, Community Outreach
James McDowell	Dean of Administration
Darlene Mancini-Brown	Director, Facilities Management and Planning
Susan Alston	Executive Director, MCC Foundation
Stephania Davis	Associate Professor, Liberal Arts
Holly Foetsch	Director, Labor Relations
Debora Fitzgerald	Adjunct Professor, STEM
Maria Generis	Acquisitions Manager, Finance and Administrative Services
Sharale Golding	Interim Division Director, STEM
Samantha Gonzalez	Division Director of Liberal Arts
Barry Grant	Director, Information Technology
Melanie Haber	Dean, Continuing Education
G. Duncan Harris	Dean, Student Affairs
Peter Harris	Director of Enrollment Management
Marcia Jehnings	Interim Academic Dean, Academic Affairs
Mike Jordan-Reilly	Director, Public Relations
Patricia Lindo	Director, Human Resources
Pamela Mitchell	Associate Dean, Academic Affairs
David Nielsen	Director of Planning, Research and Assessment
Carl Stafford	Professor, Social Science and Professional Careers
Charlene Tappan	Director, Marketing and Public Relations
Nylsa Ubarri-Young	Counselor, Advising and Counseling

STEERING COMMITTEE

Gena Glickman, Ph.D	President
Sara Vincent	Special Advisor to the President; Director, Community Outreach
James McDowell	Dean, Administration
Darlene Mancini-Brown	Director, Facilities Management and Planning
Keith Epstein	Vice President for Facilities, Real Estate and Infrastructure, CSCU
Armen Beermann	Facilities Management Associate

MASTER PLANNING TEAM

Perkins+Will	Master Planner / Architects
Scott Blackwell Page	Academic Space Programming
AKF Group	MEP / FP Consultant
VJ Associates	Cost Estimating

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MANCHESTER
COMMUNITY
COLLEGE



EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The Master Plan for Manchester Community College reflects a collaborative, interdisciplinary effort that engaged leadership and stakeholders from across the College and CSCU for seven months. A core goal for the Plan is to optimize the use of existing facilities. The plan identifies the most important projects needed for renewed and expanded buildings. Promoting sustainability in land use, buildings, operations, energy and resource use was also fundamental.

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

Manchester campus at 159 acres is the largest of the 12 CSCU community colleges. MCC's enrollment is second largest in the system. The College's buildings are generally in good condition, with most being relatively new. The key constraint is space for instruction, for expanding programs with enrollment demand and for Student Services to aid in recruitment and retention.



EXISTING CONDITIONS

Key Facts

- Campus: 159 Acres
- Fall 2016 Enrollment: 3,871 (FTE, degree credit)
- Projected 2026 Enrollment: 3,928 / 4,379 (FTE, degree credit)
- College: 10 Buildings; 413,766 GSF
- Great Path Academy: 1 Building; 73,228 GSF
- Parking: 1,969 Spaces
- Transit: Regional bus access to Manchester and Hartford

Key Findings: Existing Conditions

- MCC's space per student at 59 ASF/FTE is third lowest in CSCU.
- The campus has a clear layout and is walkable.
- Student Service areas are scattered and not easy to find.
- Manchester has a Middle College High School, Great Path Academy.
- GPA's spaces are available to MCC only off-peak during evening hours.
- There are ample remaining opportunity sites.
- No additional parking is needed.

ENROLLMENT

In preparation for the Master Plan, the College projected its Enrollment over the next 10-year period. Manchester provided two enrollment projections. The first represents essentially no growth. This is based on not constructing a new building. The second assumes that if MCC constructed a new building, this would increase enrollment, as shown below. The figures represent degree credit courses. Courses for Continuing Education were also considered in the Master Plan process.

	EXISTING FALL 2016	PROJECTED FALL 2026 NO GROWTH PLAN	PROJECTED FALL 2026 GROWTH PLAN
Headcount	6,780	6,799	7,354
Full Time Equivalent (FTE)	3,871	3,928 (+1%)	4,376 (+11%)



FIGURE 01.1 The Campus Today

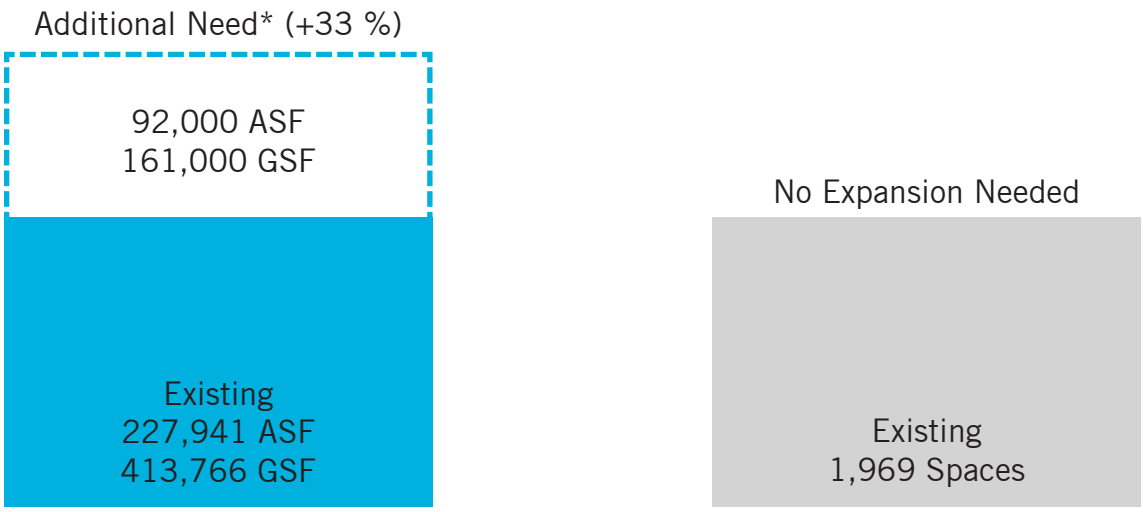
SPACE NEEDS

The Master Plan team undertook a detailed analysis of 10-year needs. The work was led by an experienced academic programming consultant who factored projected enrollment by program, benchmarked the space needs of the various departments, and recommended space based on current best practices. The team assessed both the quantity and quality of space, conducting comprehensive quantitative analysis and resulting assignable space needs, and also leading program interviews with select departments to understand goals for pedagogy, adjacencies, and other factors.

At 59 ASF/FTE today, the team found that Manchester has a space deficit relative to its current enrollment. The greatest space need is for departments that have higher space-use intensity – including Allied Health and Life Sciences in STEM division as well as Culinary Arts / Hospitality department. Additional and more flexible classroom space is also needed since the current inventory is over-utilized. More and better space is also needed for Student Services to support recruitment and retention, and for Campus Services. Together, the projected space need for the No Enrollment Growth Scenario is an additional 92,000 ASF / 161,000 GSF, as illustrated below. This would bring Manchester to 81 ASF/FTE, more towards the norm for a CSCU college of this scale.

PARKING

Manchester has ample existing parking to meet its current enrollment with 1,969 spaces in multiple surface lots.



**No Enrollment Growth Plan Scenario*

FIGURE 01.2 Space Needs Summary

MASTER PLAN RECOMMENDATIONS

The recommended projects aim to make the best use of Manchester's existing facilities and address the College's strategic goals for recruitment, retention and revenue by strengthening current successful programs and in some cases meeting unmet enrollment demand by eliminating instructional capacity bottlenecks. The expansion is done in way to complement and integrate with the existing building complex.

Given the funding outlook, the team recognized that it was essential to phase the work for renovated and expanded buildings in feasible increments to align priorities and sequence of implementation.

Phase 1

This project provides expansion for MCC's STEM division particularly for Allied Health and Life Sciences programs and adds shared classrooms to allow MCC to admit applicants that currently are turned away from lack of instructional space capacity. The 62,000 GSF, 2-story addition extends from the AST C-wing and links to the LRC B-wing to integrate these functions in the south part of the complex. A new STEM Building entrance faces west to provide identity and access for this important new facility. Music functions currently in one Village Building are relocated and expanded in the addition, allowing some opening and greening of the now congested courtyard. Phase 1 also renovates parts of the first floor Student Service Center (SSC) to consolidate Student Services in a more efficient and welcoming One Stop center along a new "main street" corridor linking to the Atrium.

Phase 2

This project supports student and community engagement and provides needed expansion and modernization for MCC's signature Culinary Arts program. Phase 2 consists of a 54,000 GSF, 3-level addition to SSC, along with select renovations of SSC in areas not improved in Phase 1. The addition is located to fit within the existing campus drives and avoid relocation costs for utilities and roads. The expansion to the north will balance with the tower and AST E-Wing to the south around the courtyard to form a pleasing composition visible when entering the campus. It will also create a new main entrance. The building accommodates a multipurpose assembly space and relocated bookstore on the entry level, with expanded and improved culinary facilities on the floor above, directly accessible by visitors to the program. A relocated Child Development Center and needed expansion for campus support functions occupy the lower level of the addition. The SSC renovations will provide internal expansion for the Academic Success Center and other important support functions.

Phase 3

Great Path Academy was bonded by the Connecticut Legislature to become a middle-college high school on the campus of Manchester Community College. It is currently operated by Hartford Public Schools. Its building today is not available for use by the college, except for evenings and weekends. The Master Plan recommends repurposing GPA for use by the College in the event the school vacates the building at the end of its current agreement. The space strategy would be to use GPA for classrooms and offices and to convert existing classrooms on the second floor of AST for labs and specialized instructional space which need proximity to their respective departments. This internal expansion eliminates the need for new construction and allows the functions in the obsolete remaining Village buildings to be replaced elsewhere.

Open Space

The Master Plan builds on and enhances Manchester's clearly organized system of campus open spaces. The signature project is a long-term greening of the central courtyard, as functions in the Village can be replaced elsewhere and these obsolete buildings can be cleared from the courtyard to make a green heart of the campus. The Phase 1 new entry for the STEM Building will improve wayfinding and the experience of walking the campus. Likewise, the Phase 2 entry plaza will clarify the "front door" of the College and provide a welcoming environment for prospective students and visitors.

Parking

Additional parking is not required in the Master Plan. The Master Plan recommendations include minimal reduction and reconfiguration of one faculty parking lot.



FIGURE 01.3 Master Plan Recommendations Bird's-eye View

Infrastructure

The Plan includes recommendations for MEP/FP upgrades and expansion to support each project phase where buildings are renovated and expanded. While MCC is a relatively young campus, some equipment is nearing the end of its useful service life. For this reason, the team also including recommendations for HVAC equipment replacement, with input from MCC facilities and operations staff. The planning also coordinated with the parallel system-wide Energy Master Plan.

Implementation

The team carefully considered implementation and feasibility in framing each phase of the Master Plan recommendations. The College Master Plan Advisory Committee provided input on phasing and swing space strategies. For supporting the capital budgeting process, the consultant team, with a professional cost estimator, prepared order-of-magnitude construction and project cost estimates for the recommendations. A separate Technical Appendix supplements this volume. It includes the Energy Master Plan component, a more detailed MEP equipment schedules, and other background data for reference by facilities staff.

The Master Plan Update for Manchester aims to blend vision and pragmatism, flexibility and guidance. The strategy, planning principles, and projects together will serve as a roadmap for capital investment of the next 10-year period and beyond, to meet the College's highest priority needs and thereby support its strategic goals and mission.

KEY

PHASE 1

- **A** STEM Addition
- **B** AST-LRC Renovation
- **C** Student Service Center Renovation and Potential Atrium Expansion
- **D** Reconfigured Faculty Parking Lot

PHASE 2

- **E** SSC Addition
- **F** Student Service Center Renovation

PHASE 3

- **G** GPA Adaptive Reuse
- **H** Campus Core Courtyard
- **I** New Maintenance Building

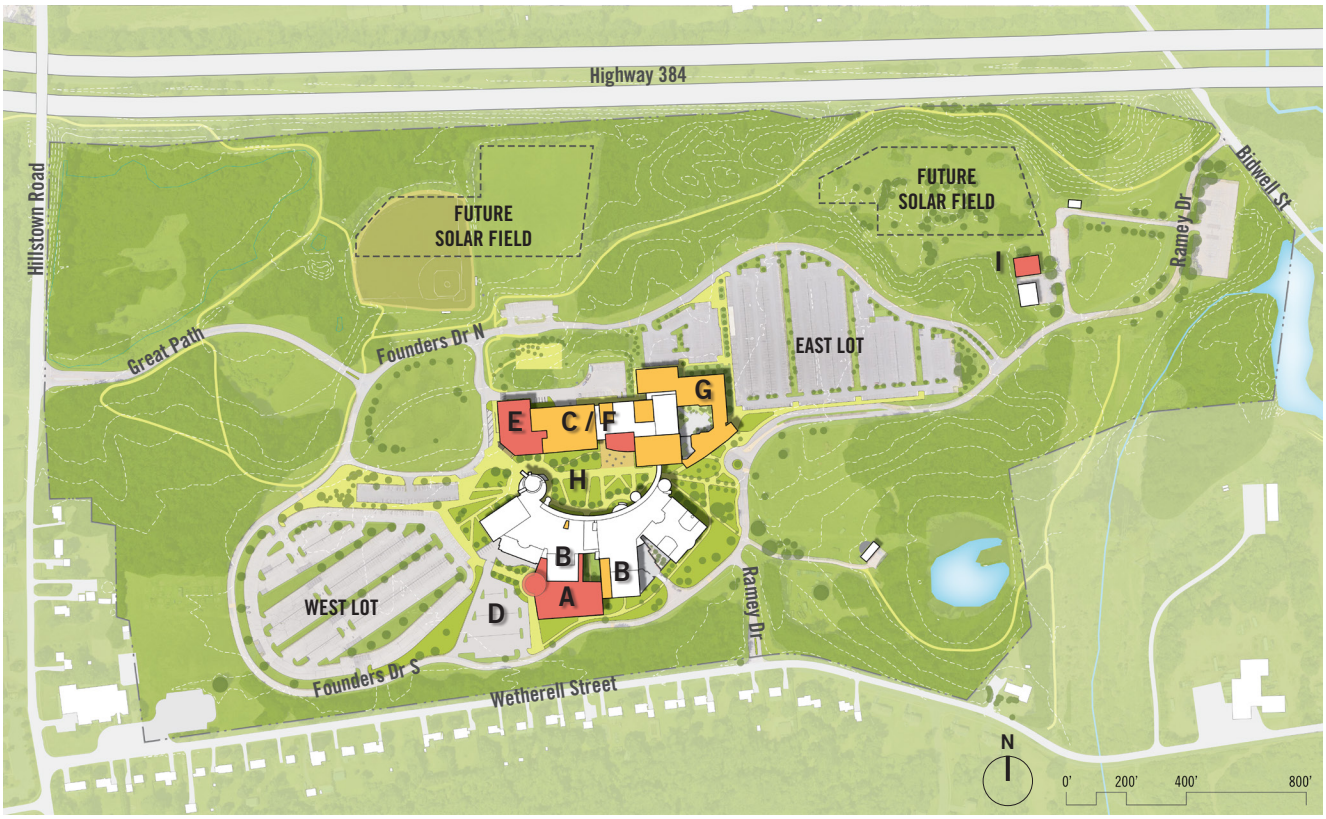


FIGURE 01.4 Master Plan



FIGURE 01.6 Illustrative Rendering of Campus Entry from the West Lot



Campus Entry from the West Lot Today



Campus Core Today



FIGURE 01.5 Illustrative Rendering of Campus Core Courtyard


MANCHESTER
COMMUNITY
COLLEGE



1 INTRODUCTION

CSCU SYSTEM CONTEXT

The Master Plan for Manchester Community College responds to the vision and mission of the Connecticut State Colleges & Universities (CSCU), as well as MCC's Mission Statement. As one of the twelve community colleges, Manchester is the fourth to prepare its plan.

CSCU VISION

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

CSCU'S MISSION STATEMENT

The Connecticut State Colleges & Universities 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.



FIGURE 01.7 CSCU Locations

MANCHESTER'S MISSION STATEMENT

Manchester Community College advances academic, economic, civic, personal and cultural growth by providing comprehensive, innovative and affordable learning opportunities to diverse populations. We are a learning-centered community committed to access, excellence and relevance.

Shared Values

MCC believes in:

- Shared Understanding
- Shared Responsibility
- Shared Leadership

Overview

Academic excellence, technology-rich classrooms and learning spaces, flexible schedules, small class sizes and low tuition provide a quality education that's accessible to all who wish to learn. Programs are designed to fit the varying needs of students. Classes are held days, evenings, weekends and online – in both traditional and accelerated formats – and they prepare students for entry into a growing career field or transfer to a baccalaureate institution for further study. Formal agreements with the state's universities provide ease of transfer and maximize credits awarded. Financial aid is also available, including comprehensive packages of grants, loans, scholarships and work-study opportunities.

Partnerships with local business, and faculty members with both academic and professional credentials, provide an experience that extends beyond the classroom and connects students with practitioners in their field. In particular, the Institute for Community Engagement and service learning initiatives strive to sustain existing community relationships and foster new partnerships that are mutually beneficial to the college and community and are supportive of the college mission. Through numerous campus activities, student volunteerism, and a staffing commitment to community engagement, Manchester Community College partners actively with businesses and community organizations in order to:

- Develop a clear understanding of the needs of shared constituents
- Evolve program offerings to maintain relevancy
- Link more effectively to the communities and people served

More than 200 faculty and staff hold leadership roles in their communities – in business associations, civic groups, faith communities and a host of volunteer organizations. Community groups interested in learning more about MCC or any of the disciplines or programs it offers can arrange for a faculty or staff speaker from the college's active Speakers Bureau.









MANCHESTER'S STRATEGIC PLAN 2016-2017

Mission

Manchester Community College advances academic, economic, civic, personal and cultural growth by providing comprehensive, innovative and affordable learning opportunities to diverse populations. We are a learning-centered community committed to access, excellence and relevance.

Academic Excellence

MCC demonstrates academic excellence and rigor in its programs and courses, and continually improves the quality of learning, teaching and student support.

1 Develop and enhance curriculum to meet student and workforce needs.

2 Create and implement a comprehensive assessment plan.

3 Increase student access to advising and support services

Student Success and Enrollment Management

MCC is a college where all students develop a clearly identified pathway to meet their educational goals.

1 Increase credit and non-credit enrollment

2 Improve our students' first year experience and outcomes

3 Develop an academic advising program/plan that will result in more students meeting their educational goals

4 Invest in holistic student support and retention services

Partnerships

MCC meets the needs of our students and stakeholders by leveraging the collective creativity, experience, and commitment of the college community and our regional partners.

1 Expand and develop connections with local and national governmental, cultural, business and educational institutions

2 Promote the work of MCC faculty, staff, students and alumni in the community

3 Develop a culture of philanthropy with internal and external partners

4 Cross-division collaboration on grants

College Culture

MCC is a world-class organization where we intentionally build our capacity for shared leadership, shared understanding, and shared responsibility. The college fosters a culture of innovation, diversity and inclusion.

1 Develop an effective communication plan to support student success, faculty, staff and external stakeholders

2 Allocate resources in ways that encourage creativity and innovation in meeting the College's goals

3 Invest in programs that celebrate our diversity

4 Promote an environment of civility and collegiality among members of the college community

5 Promote an environment where each of the college's Divisions contribute to all five strategic goal areas

Stewardship

MCC actively protects its assets and continually seeks to develop new resources. The college's reputation, human resources, physical spaces, capital assets, technology infrastructure, alternative funding sources, and accreditation are all critical components of student success. The college explores and adopts sustainable practices.

1 Under a balanced budget, provide infrastructure that support learning

2 Complete NEASC 5th Year report – process kicked off in Fall 2015, report due in Jan 2017

GOALS AND OBJECTIVES

INTENT

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

GOALS

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

OBJECTIVES

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

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

PLANNING PROCESS

PROJECT TIMELINE

The Master Plan Update was organized in three main tasks.

Task 1. Initiation	December 2016 to January 2017
Task 2. Assessment	January to March 2017
Task 3. Recommendations	March to July 2017

PROJECT OBJECTIVES

Task 1. Initiation

- 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 university.
- Analyze buildings and grounds to understand space use, physical conditions, constraints and opportunities for campus development.
- Undertake a needs analysis and project 10-year space needs based on CSCU approved enrollment projections, benchmarking, and academic goals.

Task 3. 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 Glickman, other senior administrators, faculty and staff. 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 James McDowell, Dean of Administration, Darlene Mancini-Brown, Director, Facilities Management and Planning and Sara Vincent, Director of Community Outreach and Keith Epstein and Armen Beerman of CSCU 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 16 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.

STUDENT ENGAGEMENT

The team held an interactive work session with Student Government Association members on the Master Plan on February 14, 2017. The information gathered provided important insights on where students meet, study, eat and collaborate. The input was also valuable in helping the planning team identify areas that could be improved to enhance student experience and the campus environment. The planning team also hosted a presentation on the Master Plan open to the entire student community on April 11, 2017.

FACULTY / STAFF MEETING

The consultant team presented draft recommendations for the Master Plan update at an open meeting for College faculty and staff on May 15, 2017.





MCC Student Work Sessions


MANCHESTER
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2 EXISTING CONDITIONS

THE INSTITUTION

- ACADEMIC STRUCTURE
- HISTORY OF THE PHYSICAL CAMPUS

THE CAMPUS

- CAMPUS MAP TODAY
- CONTEXT
- CAMPUS STRUCTURE AND SCALE
- LANDSCAPE CHARACTER AND NATURAL CONNECTIONS
- OPEN SPACE TYPOLOGIES
- UTILITIES
- WETLANDS AND STORMWATER
- CIRCULATION AND ACCESS
- PARKING AND PUBLIC TRANSPORTATION
- WALKABILITY AND PEDESTRIAN PATHS

BUILDINGS

- ARCHITECTURAL CHARACTER
- BUILDING CONDITIONS
- CODE CONSIDERATIONS
- ARRIVAL AND INTERIOR CIRCULATION
- CLASSROOM UTILIZATION

ENERGY AND INFRASTRUCTURE

- HVAC SYSTEMS
- PLUMBING SYSTEMS
- ELECTRICAL SYSTEMS
- KEY CONSIDERATIONS

STUDENT FEEDBACK

OPPORTUNITY SITES



THE INSTITUTION

MCC ACADEMIC STRUCTURE

The College has 3 academic divisions, plus Continuing Education, as illustrated below. MCC offers 42 credit programs, not including those programs offered through the College's Continuing Education Department.

Liberal & Creative Arts

Science, Technology, Engineering & Mathematics

Social Science, Business & Professional Studies

Continuing Education

HISTORY OF THE PHYSICAL CAMPUS

Manchester Community College dates its history back to 1962, with the approval by a local committee to establish the institution in the Town of Manchester. Shortly thereafter in 1963, the college opens its doors to 120 full and part-time students to the campus

As enrollment grows, facilities are constructed on the east side of the 159-acre campus property. The Manchester Bicentennial Band Shell is constructed to commemorate the Nation's 200th birthday, and begins hosting concerts in 1977, and continues to offer free concerts for the community to this day.

In a major shift in the campus form, the Student Services Center opens in 1984 in the central part of the campus. Continued campus growth is then focused within the central core around the Center, including the Learning Resource Center in 2000, the Arts, Sciences and Technologies Center in 2003, which includes the iconic tower. It is during this period of growth that MCC establishes an honors program (1992), and is also recognized as a *Honors Institution* by the Harry S. Truman Foundation. MCC is the only community college to earn this distinction, which includes institutions such as Columbia University, Yale University, and Boston College.

Between 2008 and 2009, the east campus is razed, while the Great Path Academy is constructed, further focusing growth within the campus core. MCC's growth also includes space in downtown Manchester, with the gifting of the Manchester Community College Arts and Education Center, or MCC on Main in 2012. This space includes the Dehn Gallery, Viscogliosi Entrepreneurship Center, and seminar/conference spaces.

1960's

A committee approves the establishment of an institution to serve the surrounding community in 1962. Manchester Community College opens its doors to students the following year, enrolling 120 students.



1970's

New facilities established on the east end of the 160-acre campus property. The Manchester Bicentennial Band Shell welcomes its first concerts, serving to celebrate the nation's 200th birthday.

1980's

The Frederick Lowe Student Services Center is dedicated in 1984 within the central part of the campus property.

1990's

The honors program is established, serving students who prefer a more rigorous curriculum. The institution is recognized as an Honors Institution by the Harry S. Truman Foundation—the only community college to earn the distinction.



2000's

The Learning Resource Center and Arts, Sciences and Technologies Center opens. The east campus razed, resulting in a consolidated central campus core, and the Great Path Academy middle-college high school opens.

2010+

Manchester Community College Arts and Education Center, or MCC on Main, is established.

FIGURE 02.1 Historic Timeline

THE CAMPUS

CAMPUS MAP TODAY

KEY

- **A** Learning Resources Center A-Wing
- **B** Learning Resources Center B-Wing
- **C** Arts, Sciences and Technology Center C-Wing
- **D** Arts, Sciences and Technology Center D-Wing
- **E** Arts, Sciences and Technology Center E-Wing
- **F** Tower
- **G** Student Services Center
- **H** Great Path Academy
- **I** Village Buildings
- **J** Bicentennial Band Shell
- **K** Facilities and Maintenance
- **L** West Lot
- **M** East Lot
- **N** Faculty / Staff Parking South Lot
- **O** Faculty / Staff Parking North Lot
- **P** Faculty / Staff Parking Lot D
- **Q** Faculty / Staff Parking Lot E
- **R** Playground
- **S** Service Yard
- **T** Electrical Easement



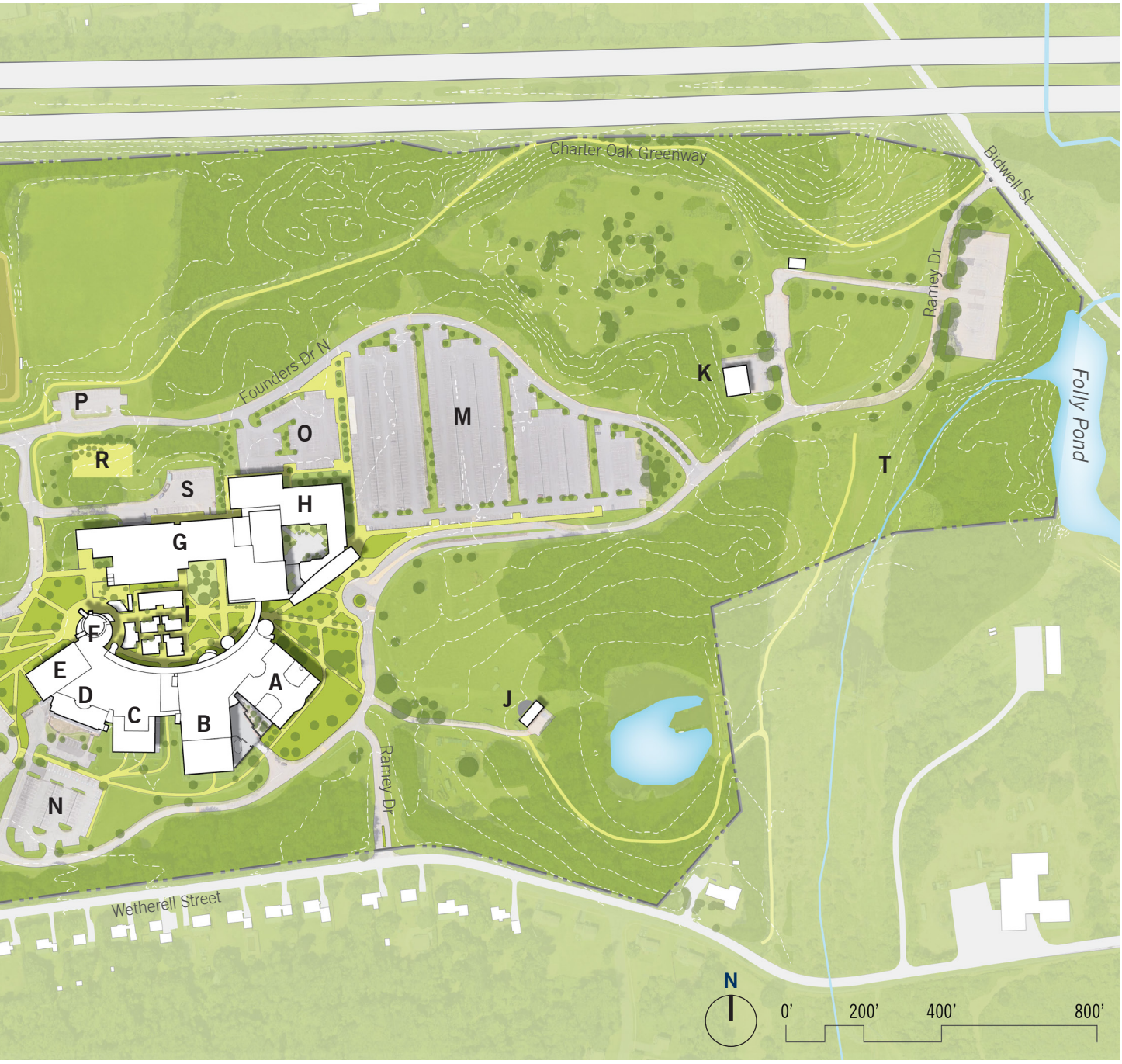


FIGURE 02.2 The Campus Today

THE CAMPUS

CONTEXT

Regional Context

The campus is located on approximately 159 acres in the southwest corner of the town of Manchester.

The college covers an extensive service area, most notably including Hartford, less than a 15-minute drive from the campus. The college serves students from all over Connecticut, with a focus on the 15-town primary service area surrounding Manchester.

The college's specialized programs, such as Culinary Arts and Criminal Justice, draw students from across the state and well outside their primary service area. This extended service area is well supported by strong regional highway connections via Route 9, Interstate 84 and 384.

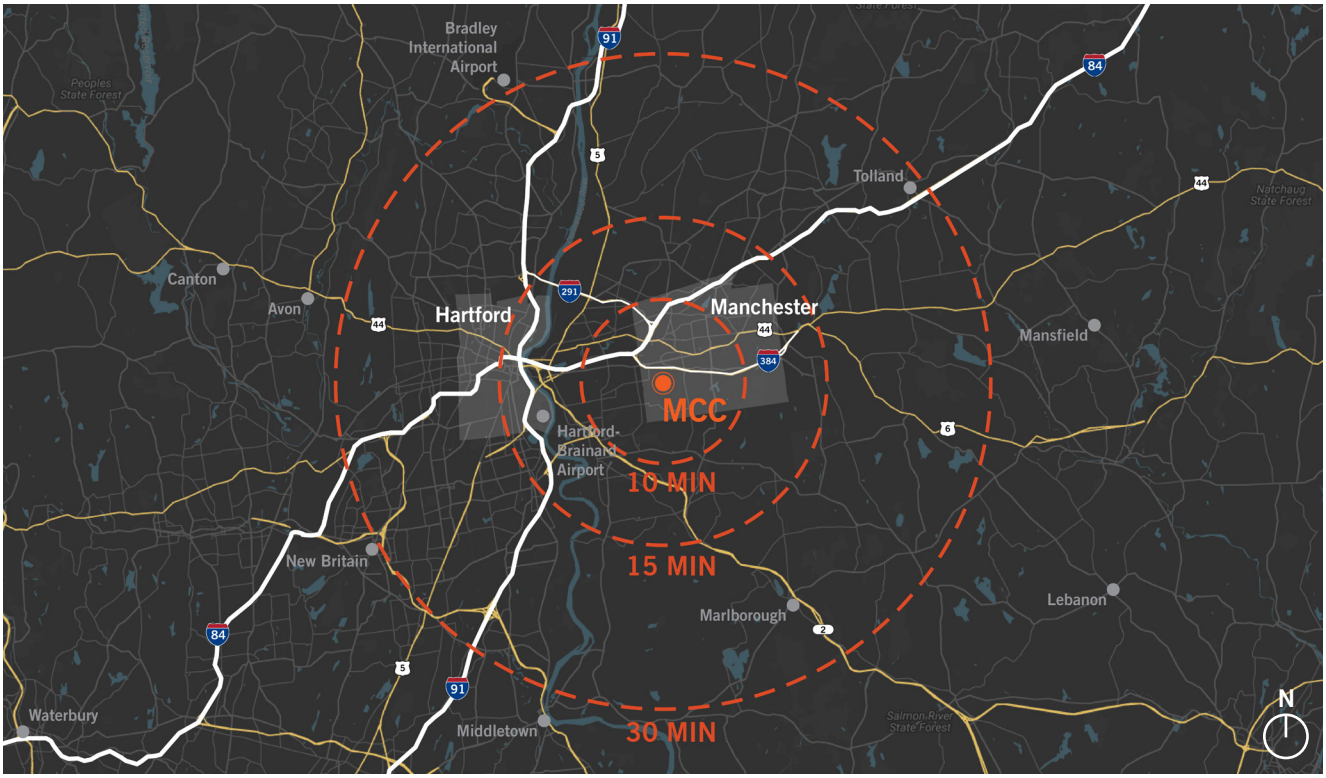


FIGURE 02.3 Regional Context

Area Context

The campus is located on the western edge of the town of Manchester, closest to East Hartford and with direct access from I-384 to the north.

State Road 502, Spencer Street to the north is major corridor for regional retail and connecting to East Hartford and downtown Manchester.

Tree-lined single family residential neighborhoods surround the other three edges of campus. These edges are bounded by Hillstown Road to the west, Wetherell St to the south and Bidwell St to the east.

Zoning

The campus parcel is zoned as Rural Residence by the Town of Manchester zoning law. As a public institution, the College is exempt from local zoning law.

LEGEND

- Residential
- Business
- Industrial



FIGURE 02.4 Area Context and Zoning

CAMPUS STRUCTURE AND SCALE

Scale

The overall campus is 159 acres and measures roughly 4,000 feet wide and 2,000 feet long. The academic core of the campus is only 4.5% of the overall property and occupies a compact 7 acres at the center of campus.

Organization and Land Use

The campus organization is composed of a continuous loop road that circles two large parking lots. While this makes navigating the campus clear and relatively easy, it presents unique challenges when expanding or adding onto existing buildings, as realigning roads and their underground utility corridors comes with considerable cost.

Outside of the loop road, low lying areas exist to either side of the academic core. A large landscaped drainage basin sits on axis with the western entry road and the iconic MCC tower building. A small pond sits at the bottom of a sloped area, to the east of the bandshell. Sidewalks and off-street trails provide students and the community access to the outer reaches of campus.

A small cluster of facilities and maintenance structures occupy the area off of Bidwell Road and are separated from main campus by high-voltage transmission lines.

The College had previously used the open field areas north of Founders Drive, between the academic core and I-384 for an athletics program which ended. A PV array is proposed for this unused open space. The College still uses the Bandshell and open field to the east of the academic core for large community events and graduation ceremonies.

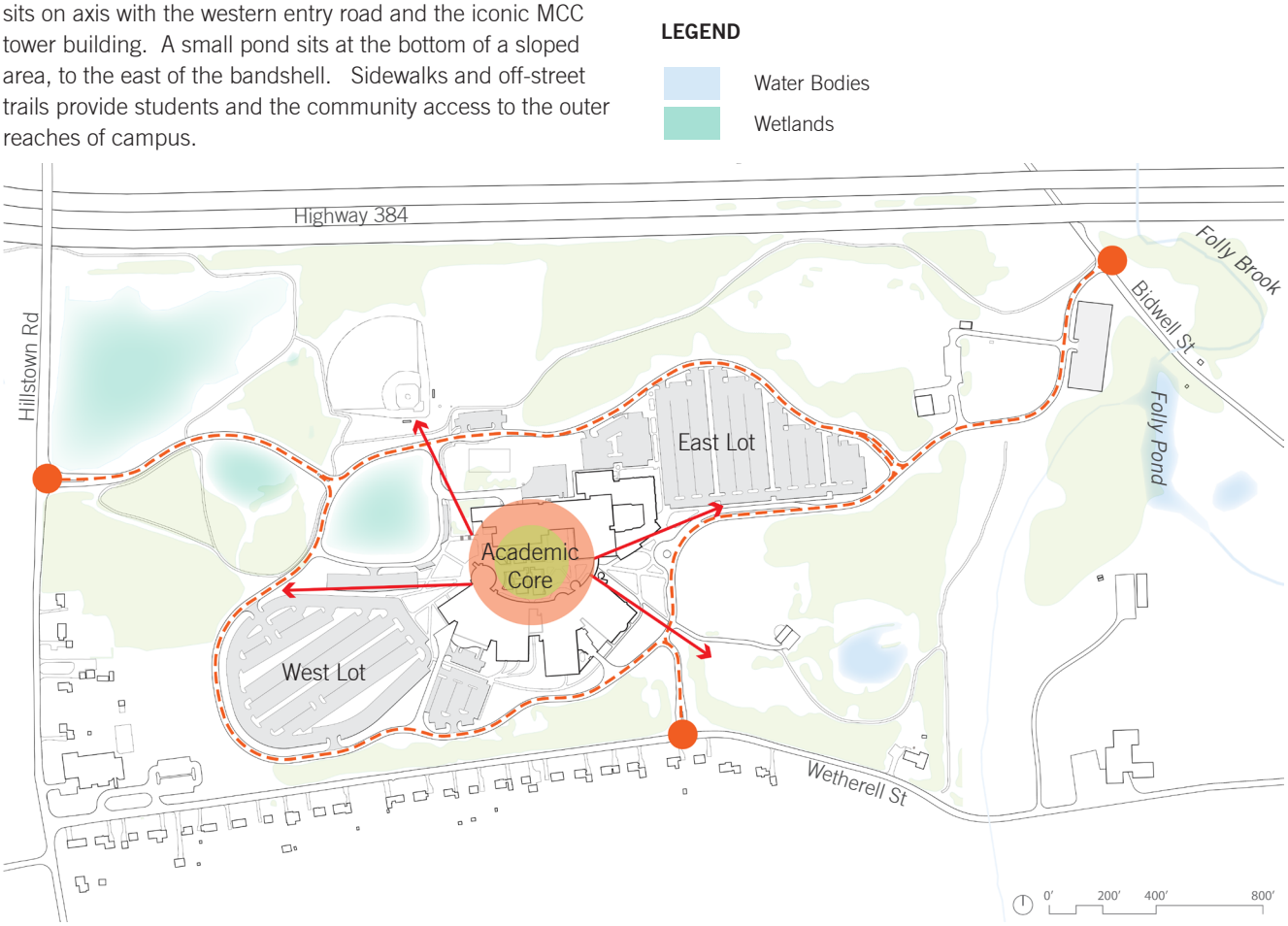


FIGURE 02.5 Campus Structure

Academic Core

The main academic core is built on the center of campus, and is at the highest point of the site. It is composed of 11 buildings of similar style and vintage, including the Great Path Academy. Great Path Academy occupies 73,228 SF at the northeast corner of the core, and shares the Dining Area and Fitness spaces in the SSC building and the auditorium space in AST building with the College.

The Core buildings surround an inner, pedestrian-only courtyard. The courtyard is roughly half green space, and half occupied by the "Village" buildings. The Village buildings are 1-story and primarily single-room structures. Their style and configuration were meant to evoke the College's historic east campus, removed during construction of the current campus. Despite their intentions, the buildings lack connection to the other core buildings and offer relatively inefficient space use. A phased replacement would best meet the College's academic and student life needs. The courtyard could be restored to a singular open space, and those disconnected academic functions could reside closer to their allied program and support services within the main buildings.



FIGURE 02.6 Bicentennial Bandshell



FIGURE 02.7 Academic core open space

LANDSCAPE CHARACTER & NATURAL CONNECTIONS

MCC's campus is critically connected to regional natural corridors and habitat zones. The east side of campus has habitat zones directly drawn from the Hockanum River corridor, a regional recreational boating destination. Protection of this significant natural resource, including on-site water retention and infiltration should be considered during future development.

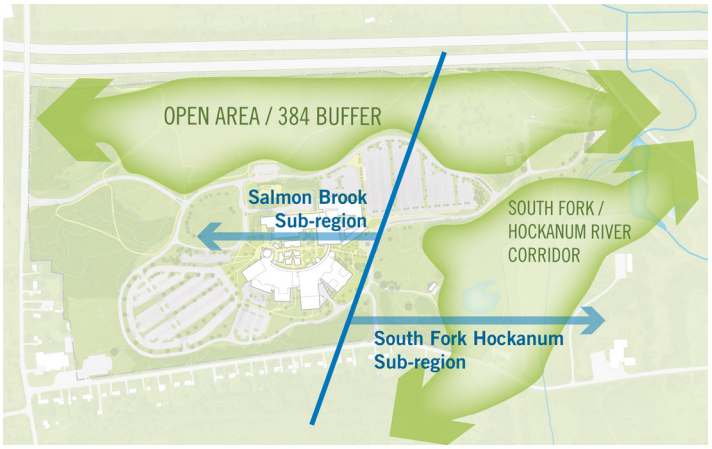


FIGURE 02.9 Natural Connections

OPEN SPACE TYPOLOGIES

The campus has several distinct open space types. The inner courtyard is defined both by its openness and the unique assortment of Village buildings. The eastern half of the courtyard is most collegiate open space on campus. It is pedestrian nature, open, flat, and has clear sightlines that provide vital communal space for the College community.

The western half is divided into small under-furnished and under-landscaped areas in between the one-story Village buildings. Strategic removal of these buildings and improvement of the resulting open space would be of great benefit to the College, as it will restore much needed communal open space in the most visible and accessible part of the campus.

The stormwater basin at the west entry provides a lush landscape foreground upon arrival. Likewise, the Bandshell lawn provides an open green vista for visitors arriving from the east. These spaces are connected by a 2-mile trail systems that provide the College community and others in the area with opportunities to enjoy natural and wooded landscapes.



FIGURE 02.8 Open Space Framework

UTILITIES

Two significant easements exist on campus. An easement for underground utilities runs north of SSC and over to the Bidwell entrance where it is met by another utility easement that runs north from Wetherell Street past the LRC building and GPA. A second easement for the overhead power lines crosses the far eastern end of campus.

WETLANDS AND STORMWATER

The campus has two large stormwater treatment areas on either end of campus. A large wetland area exists in the northwest corner of the campus. This area is regulated and should be protected as necessary. Significant stormwater facilities also exist to the northwest along Founders Drive and serve as a foreground to the entry view of the Tower Building.

The wet pond to the southeast of the Bandshell collects stormwater from the campus hilltop and plays a vital role in the Hockanum River watershed. This area should also be protected from development and maintained as appropriate.

LEGEND

- Water Bodies
- Wetlands
- Regulatory Floodway
- 1% Annual Chance Flood Hazard Zones
- Property Line



FIGURE 02.10 Wetlands and Water Bodies

CIRCULATION AND ACCESS

The campus access, circulation and parking systems are well-organized and scaled for the commuter-oriented nature of the College.

The campus can be accessed by one of three entries, Hillstown Road to the west of campus, Bidwell Street to the east, and Wetherell Street to the south. Given its direct access to I-384 and Spencer Street, Hillstown Street entrance has the highest average entries, at nearly 67%. Bidwell Street has relatively direct access to regional highways and provides about 25% of the entries, while Wetherell Street is local residential frontage and provides no more than 8% of the total entries.

The Hillstown Road entrance is organized as the primary entrance, as it was designed to be on-axis with the main drop-off and iconic Tower Building. The Bidwell entrance is constrained by the intersecting high-voltage transmission lines and the presence of College facility buildings. Over time, strategic landscape screening and planting along the east entry could improve that arrival experience.

Circulation on campus is clearly organized around a continuous two-way loop road: Founders Drive North and South. The road connects all major parking lots and provides an easy and direct way for visitors to find main entries. The College's limited service traffic shares that same loop road, with no apparent modal conflicts.

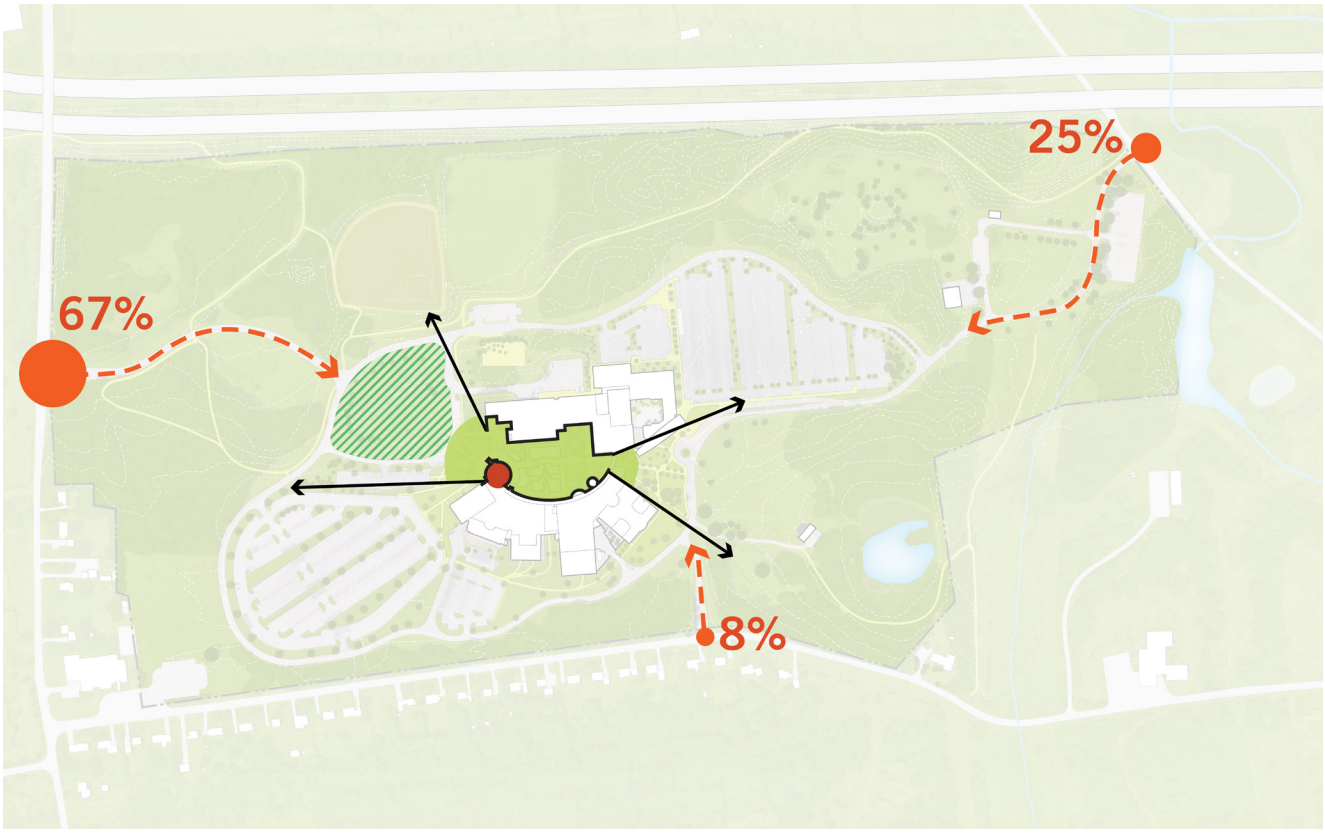


FIGURE 02.11 Arrival Sequence

PARKING AND PUBLIC TRANSPORTATION

Parking

Parking is largely managed by two collector lots, one of either side of the campus core. Four faculty and staff lots provide priority access closer to the main building entries. All lots are connected to the campus loop road, providing immediate access in and out of the campus at any of its three entries.

The campus currently has a parking capacity of 1,969 spaces. Overall parking supply was reported as sufficient to meet current enrollment. The large collector lots are roughly equivalent in capacity, and anecdotally seem to be used in equal measure.

Priority parking for the Early Child Development Center was identified as a need, and should be considered as improvements are made to the SSC building.

Public Transportation

The '83', '85' and CTfastrak ('121') buses from Hartford and Depot Square in Manchester serve the college. There is one stop on campus on Founders Drive South, in front of the Arts, Sciences and Technology Center



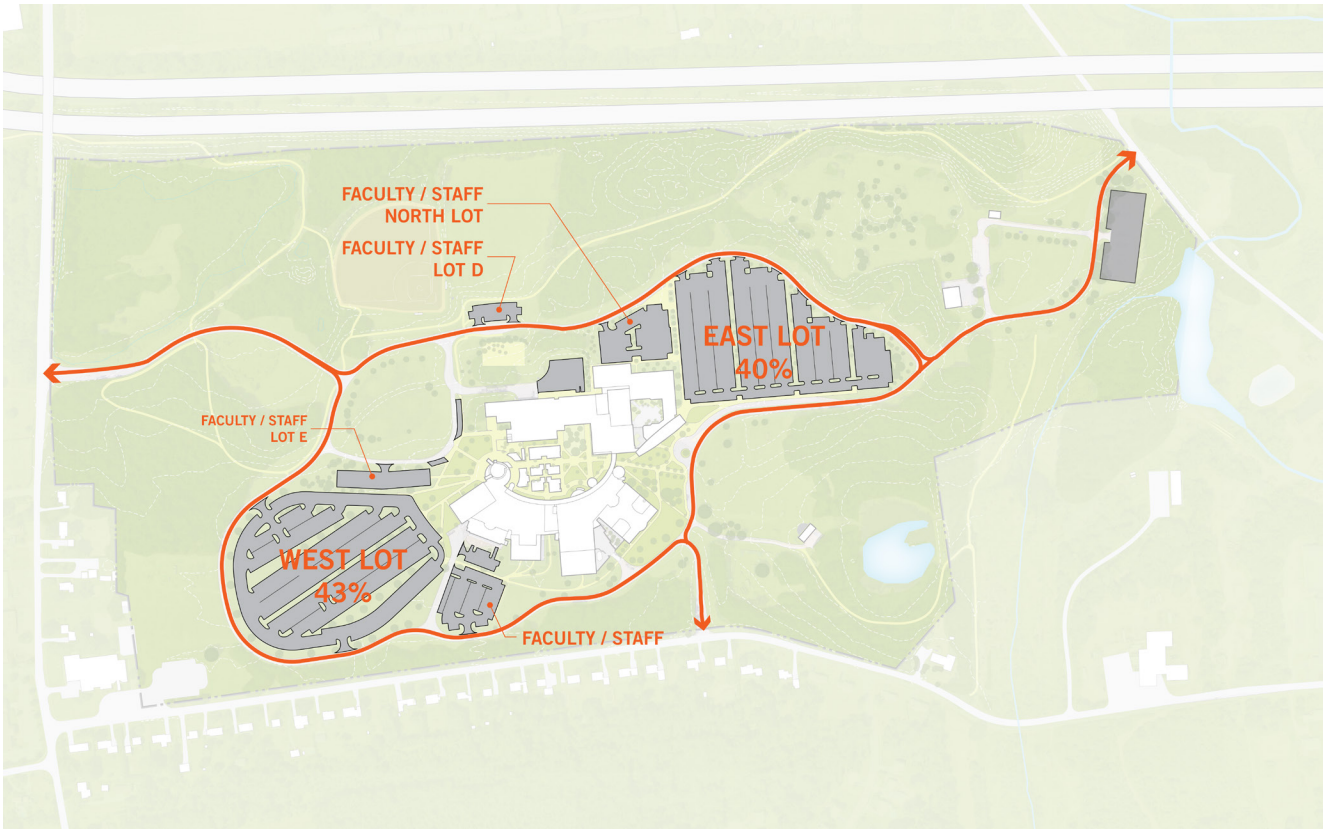


FIGURE 02.12 Circulation And Parking

WALKABILITY AND PEDESTRIAN PATHS

While the College is commuter-oriented, its compact layout is pedestrian-friendly. The farthest parking areas are within a typical benchmark of a 5-minute walking distance.

The academic core of the campus is all accessible within in 2.5-minute walk, while the large collector lots provide access to the center of campus within just a 5-minute walk. A fine grain of sidewalks connect visitors from the parking lots to building entries, generally clustered around AST and GPA.

The campus also has over 2 miles of trails that provide access to wooded and field areas, primarily in the northern half of campus. Despite this robust network of walking paths, the campus does have some areas that can be improved in order to provide a more consistent sidewalk experience from campus to building entry.

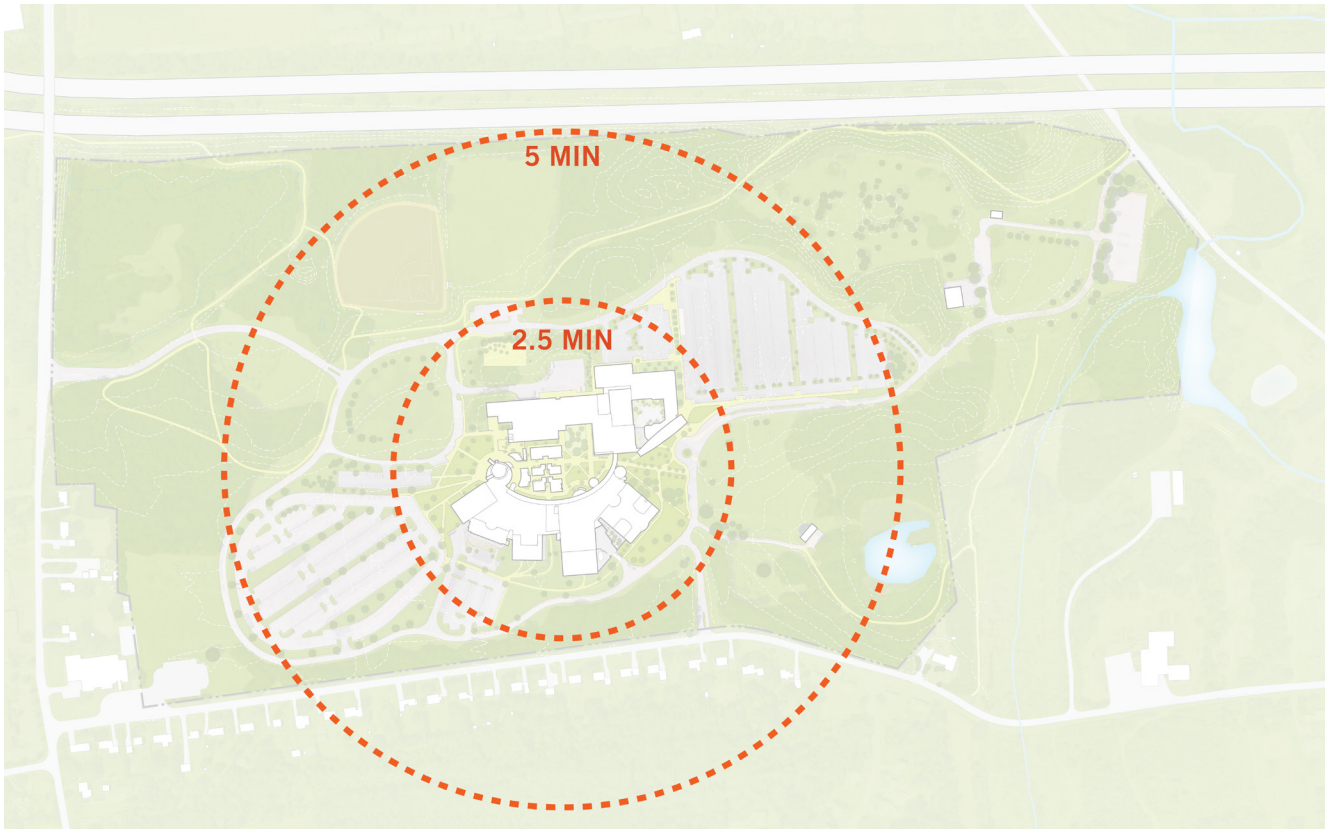


FIGURE 02.13 Walkability



LEGEND

- Existing Pedestrian Route
- Existing Trail
- Recommended Areas for Pedestrian Connection



FIGURE 02.14 Pedestrian Network

THE BUILDINGS

The academic core of campus is clearly organized around five major building components - Student Services Center (SSC) , Great Path Academy (GPA), Learning Resources Center (LRC), Arts Sciences and Technology Center (AST) and the Village.

All but the SSC were constructed within the last 17 years, providing the majority of campus with a modern, well-designed and contemporary learning environment. The College has approximately 409,000 square feet of space in the academic core, with SSC providing the most of any single building with just over 152,000 square feet.

Great Path Academy, a middle college with a resident high school program encompasses over 73,000 GSF. GPA is integral to the campus, but not available to the College during hours of use by the high school. MCC does have privileged use of some facilities after normal GPA hours, and for special events, but for practical planning purposes the GPA space is not considered MCC academic space. Long-term considerations for full-time occupancy of the GPA space for the College will require more in-depth space analysis in terms of size, configuration, and location in order to accommodate transition to college-level academics and student space.

The academic teaching and laboratory space use is also generally organized around the five building clusters. The Village buildings are the one notable exception, as they have a collection of disparate departments and uses.

Buildings	GSF	YEAR BUILT
Student Services Center	152,113	1984
Learning Resource Center	113,974	2000
Center for Arts, Sciences & Technology	130,627	2003
Villages	12,252	2003
Maintenance Building	4,800	2009
TOTAL MCC	**413,766**	
Great Path Academy	73,228	2009
TOTAL	**486,994**	

TABLE 02.1 Existing Building Inventory

LEGEND

- AST & Tower
- SSC
- LRC
- Great Path Academy
- Village
- College Space Shared with GPA
- GPA Space Shared with the College

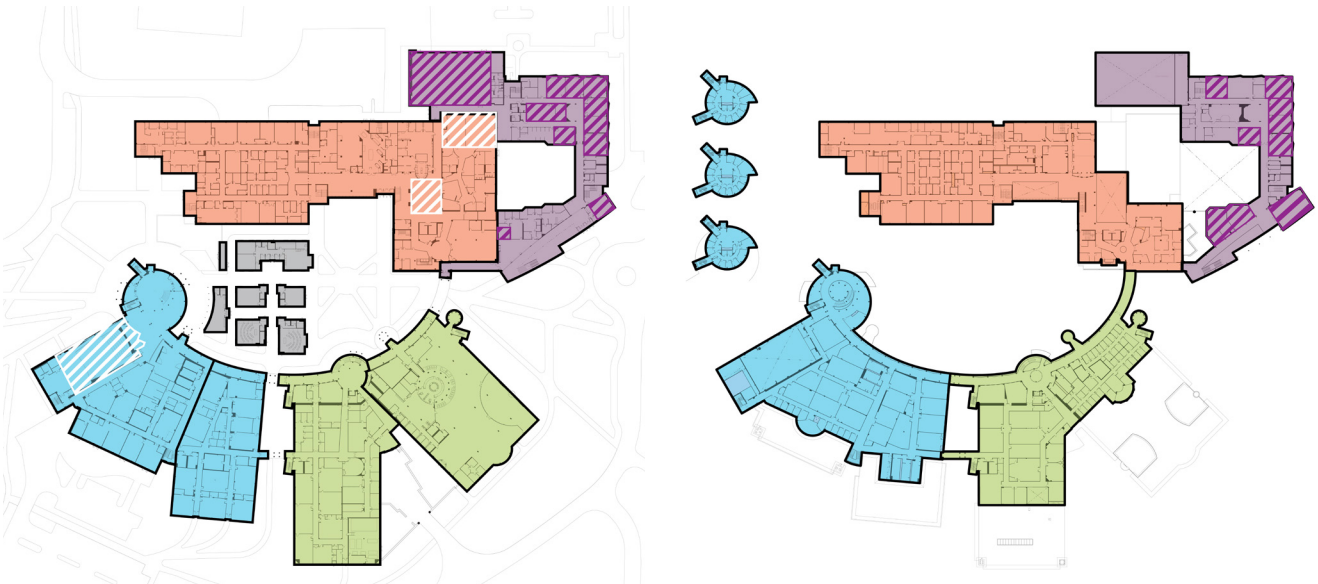


FIGURE 02.15 Existing Building Space shared with GPA

TOWER
3rd, 4th, 5th floors

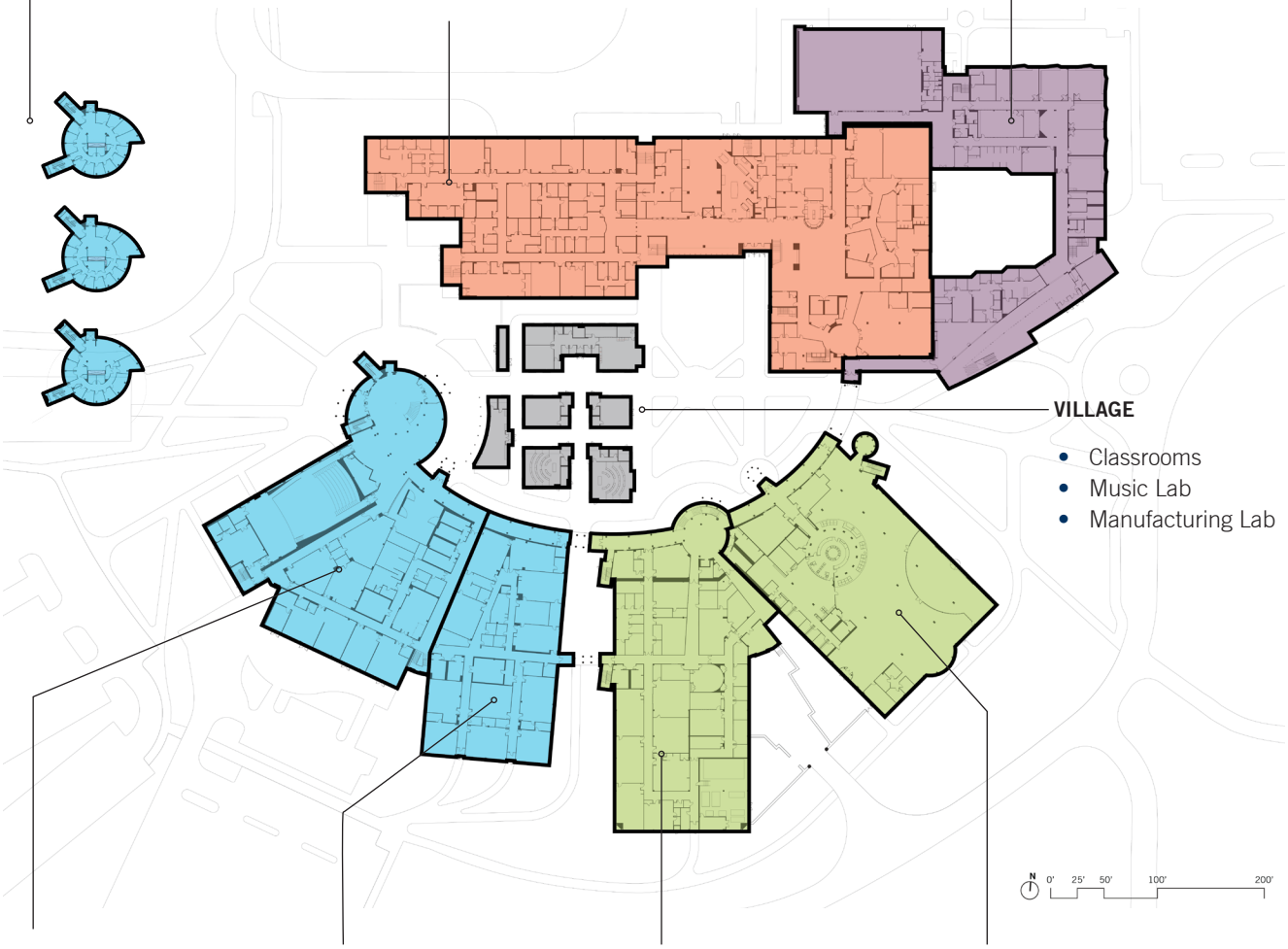
- Offices

STUDENT SERVICES CENTER (SSC)

- Registrar
- Admissions
- Bursar / Financial Services
- Cafe
- Campus Services
- Bookstore
- Classrooms

GREAT PATH ACADEMY (GPA)

- GPA Classrooms
- Gymnasium
- Offices



ARTS, SCIENCES AND TECHNOLOGY CENTER (AST)
D-Wing / E-Wing

- Auditorium
- Art Gallery
- Art Studios

ARTS, SCIENCES AND TECHNOLOGY CENTER (AST)
C-Wing

- Science & Technology Labs

LEARNING RESOURCES CENTER (LRC)
B-Wing

- Biology & Allied Health Labs
- Offices

LEARNING RESOURCES CENTER (LRC)
A-Wing

- Library

FIGURE 02.16 Existing Building Uses

ARCHITECTURAL CHARACTER

The College's architecture is a largely defined by the building campaign of the early-mid 2000's. The AST, LRC, GPA and Village buildings were all built during this period with a similar design palette of glass, white structure, and brick. These buildings define the main entries to campus and envelop the inner courtyard, giving the campus a great sense of coherence and modern-appeal.

The SSC building stands as the lone counterpoint to these contemporary structures. Defined by its heavy concrete brutalist exterior and sloping tinted glass atrium, the SSC clearly stands apart as a building from another era. While SSC appears dated and unwelcoming today, strategic renovations and additions to its main entries and courtyard facade could begin to bring it into concert with the College's other buildings around the courtyard.

Interior commons spaces, including corridors and break-out spaces are generally spacious and well lit. The abundant use of glass and large windows also provide great opportunities for day-lit teaching spaces.



The Learning Resource Center



Tower and the Village Buildings



Western Entry To Student Service Center



Great Path Academy, Middle College

BUILDING CONDITIONS

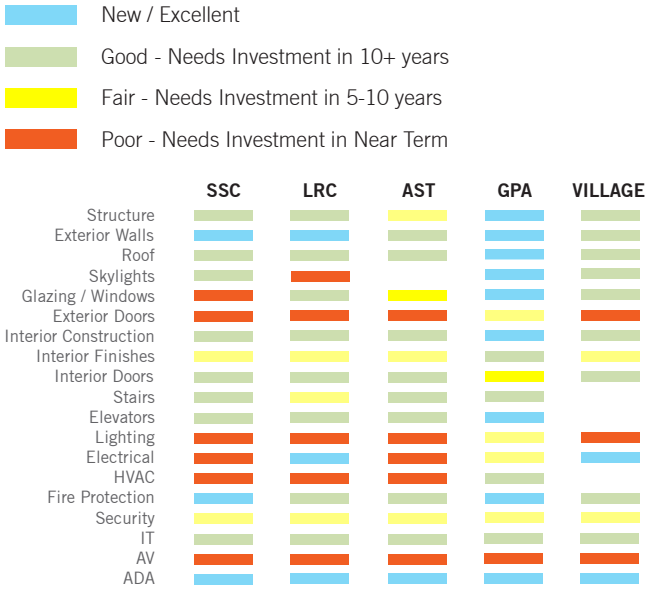
Given the relatively recent building stock of the College's academic buildings, they scored high in a self-assessment by Campus Facility and Planning staff.

GPA received the highest ranking of "new / excellent" with the only building system in need of attention for audio / visual (A/V) systems. State of A/V equipment was regarded across the college as being in need of updating. This is less a sign of disrepair at the College, and more of the accelerated pace of technology in modern teaching environments.

The remaining buildings were reported as in "good" condition, and needed reinvestment in the next 10+ years. Common areas of reinvestment were in HVAC, electrical, lighting and exterior doors, all somewhat common maintenance items for buildings of this vintage.

CODE CONSIDERATIONS

While a detailed building code analysis was not included in the Master Plan scope, it was important to understand code implications in order to frame viable planning proposals. The SSC / Great Path Academy complex is currently considered two separate buildings by code, however, full fire separation reportedly was not feasible in some areas. As a result, any further addition to this complex should be designed as an independent structure with the necessary fire separation.



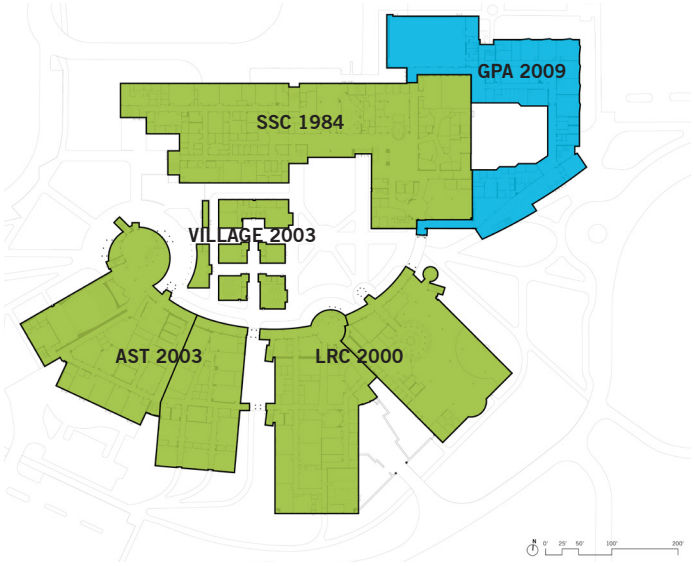


FIGURE 02.17 Building Conditions

ARRIVAL AND INTERIOR CIRCULATION

Main points of entry at the College are clearly expressed in the architecture and entrance design of AST, LRC and GPA buildings. Unfortunately, only a limited number of visitor and first-time and prospective student programs are located at these entries, namely the Tower Building information desk and the Bookstore. Considerations for how to relocate and cluster these programs near main entries should be a priority. A more public and gracious arrival experience for visitors from SSC's western entrance is also needed, especially given this is the primarily entry for visitors coming to events at the Culinary Arts Institution on the second floor of the SSC building.

Internal flow within the campus exists in two types of corridors, as illustrated below in Figure 02.18. At AST and LRC, primary internal circulation runs along facing the inner courtyard. Circulation in these areas is along exterior glass walls, with abundant daylight and views of the exterior. These views become a form of self-guided wayfinding. These corridors in AST and LRC are also wide enough to accommodate informal social spaces and study zones, making them active throughout the day. Many of the College's public and community-oriented

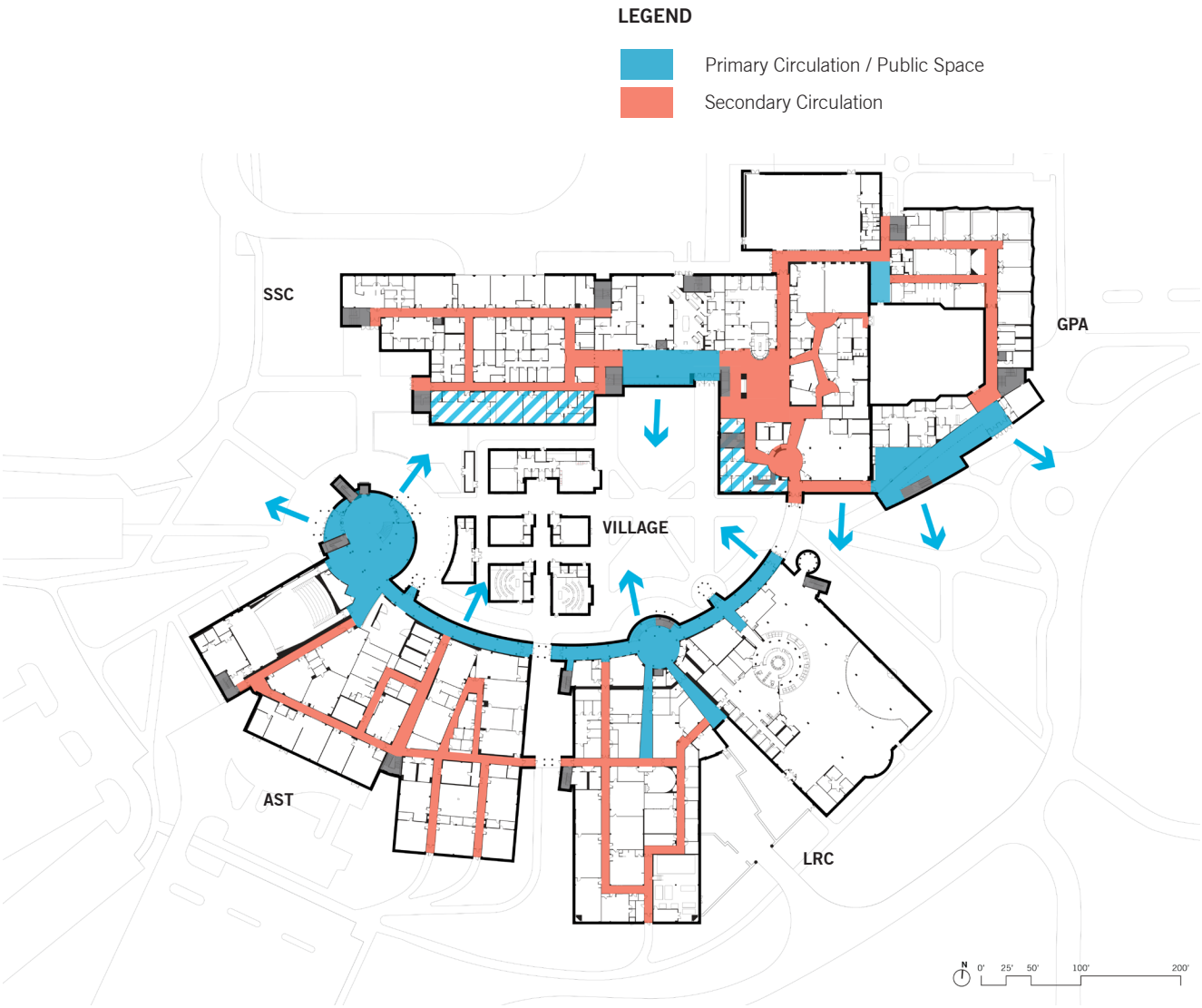


FIGURE 02.18 Circulation & Wayfinding

space, such as the Art Gallery or Library, are located directly off these primary routes. This adds to the sense of it as a “main street”, in the overall building complex. The diagram below maps these public spaces through the first floor of the College.

Secondary circulation occurs inboard of those primary routes in the red colored corridors. These corridors often lack views of the exterior, at times closed loops, and as a result can be confusing and difficult to navigate. As a general approach, future improvements to the facilities should attempt to daylight, connect and activate these corridors.

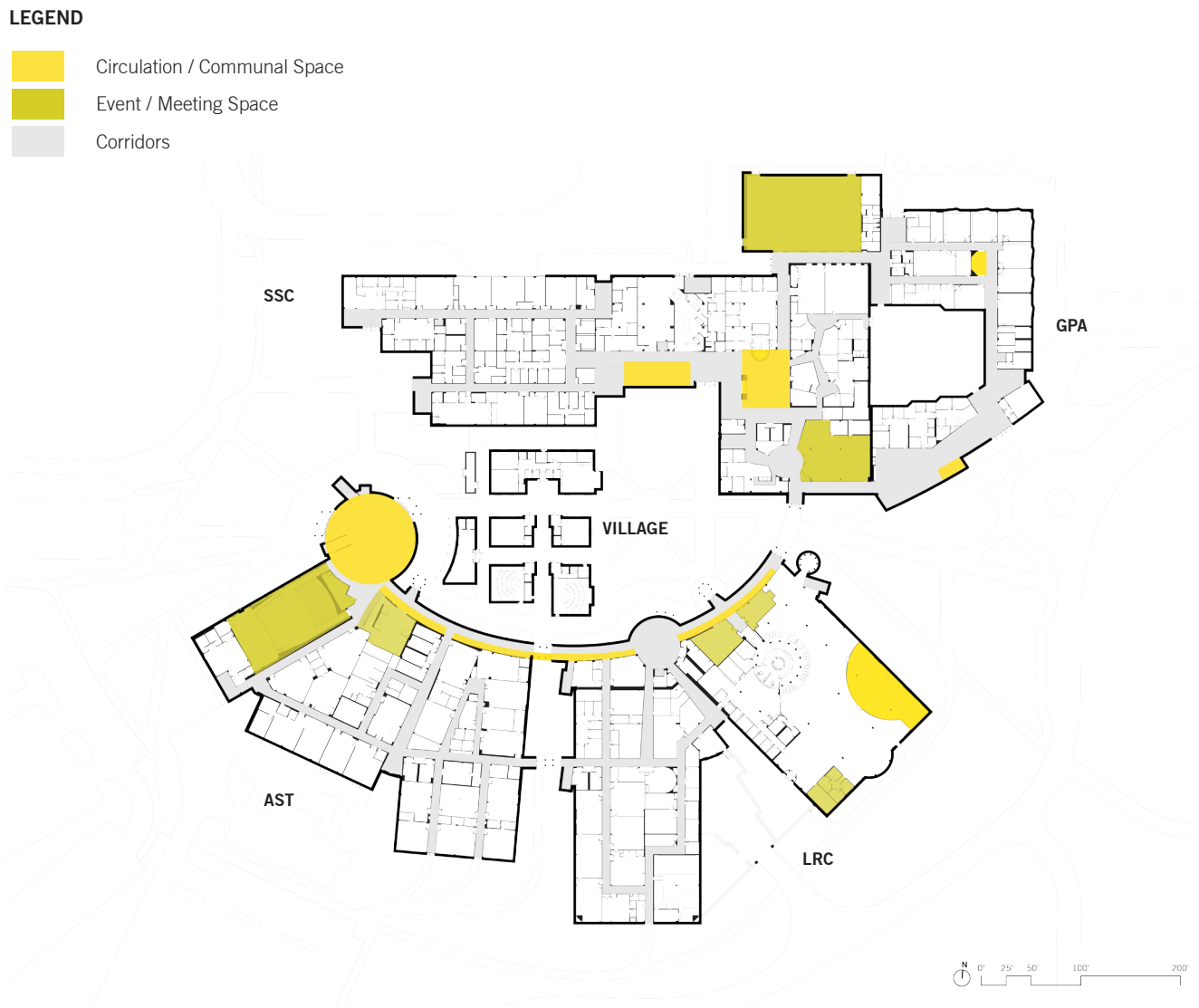


FIGURE 02.19 Existing Public Space

CLASSROOM UTILIZATION

The planning team analyzed the utilization of Manchester's classroom inventory using the Fall 2016 course schedule. The findings are summarized in the charts on the following pages.

MCC has 31 total general purpose classrooms, distributed between the SSC first and second floors and the LRC/AST, primarily on the second floor. The average size is 32 seats.

MCC's utilization rates are higher than benchmark targets, meaning that an increase in classroom inventory is needed to meet current demand.

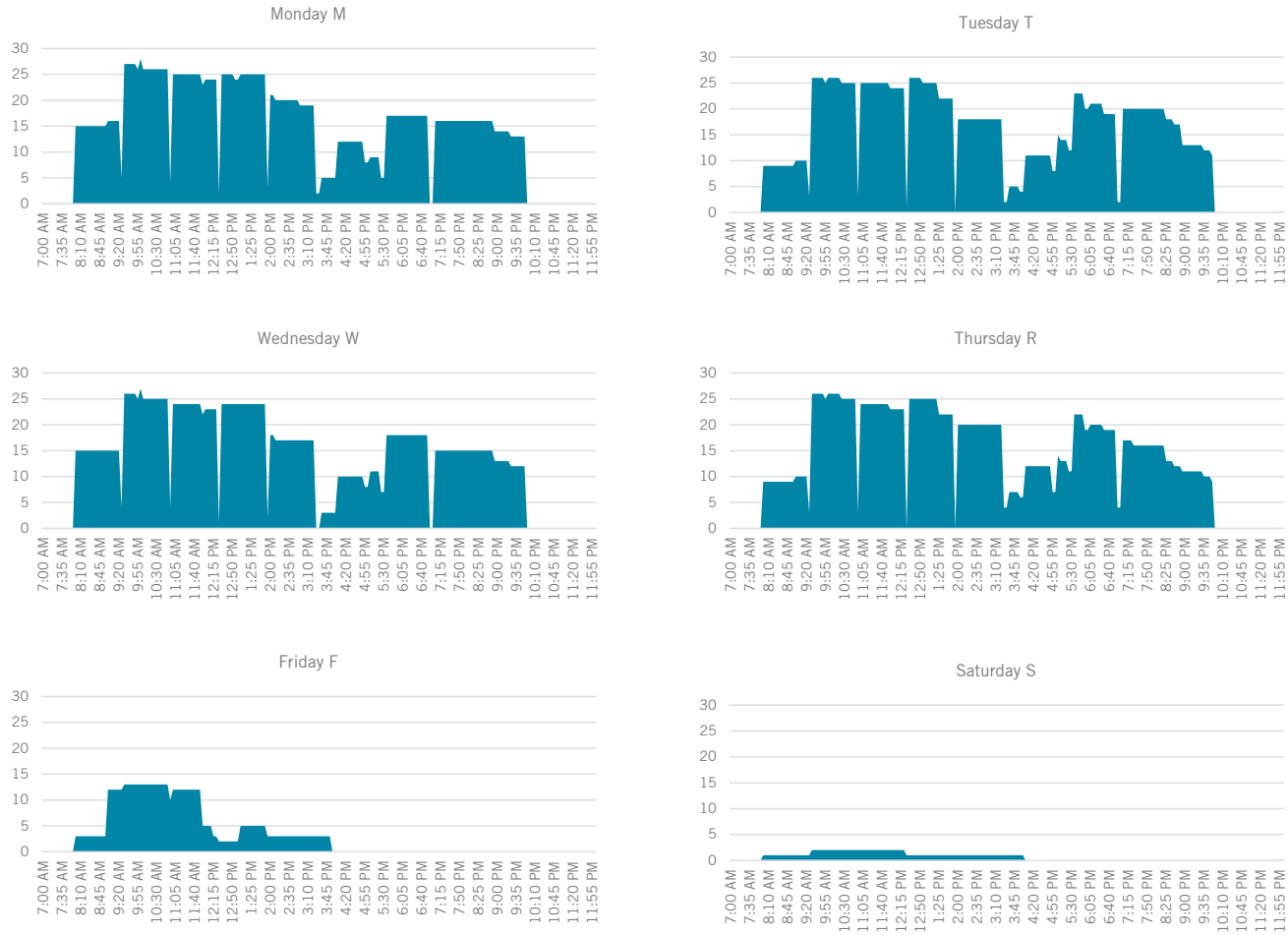


FIGURE 02.20 Classroom Utilization Summary: Rooms In Use By Day And Time

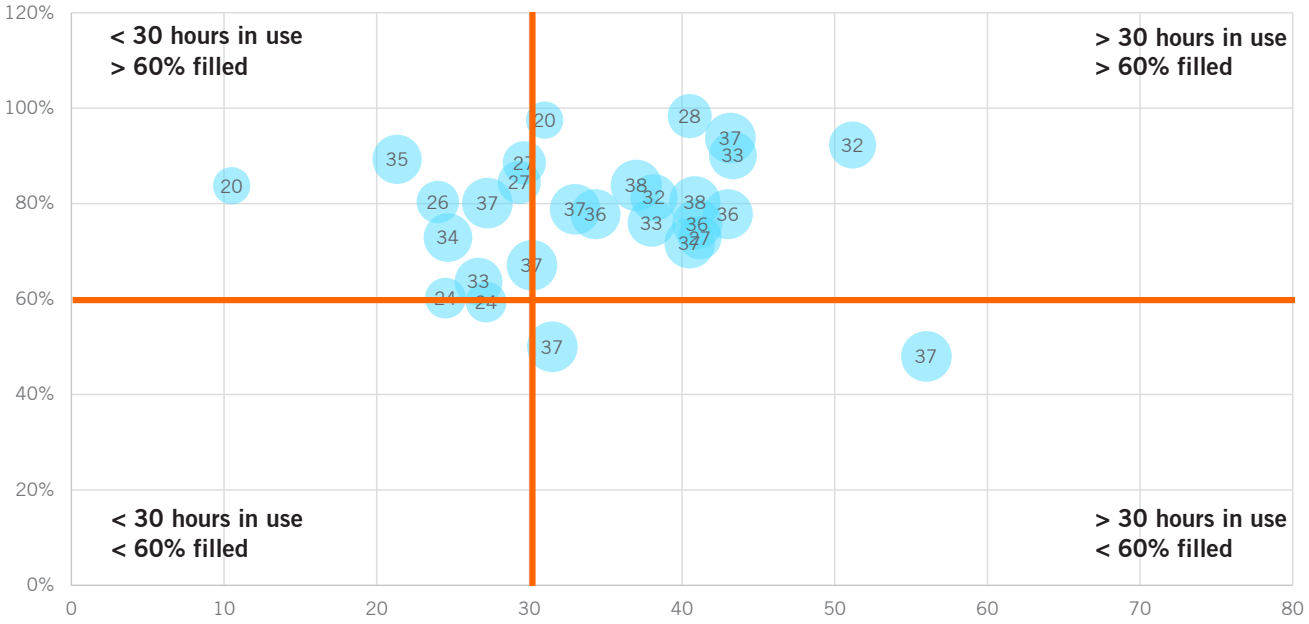


FIGURE 02.21 Utilization Hours In Use Versus Rate By Room

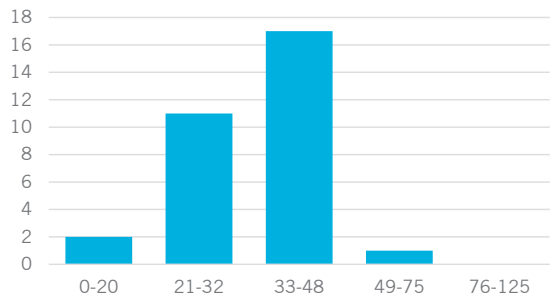
TOTAL COURSE DELIVERY PER COURSE SCHEDULE

Space Type	Number of Rooms	Total Weekly Hours	Total Weekly Student Contact Hours
Classroom	31	974	24,930
Lab	60	1,132	20,376
Other	16	208	3,314
Classroom - GPA	12	79	1,485
Grand Total	**119**	**2,393**	**50,105**

CLASSROOM DATA SUMMARY

Total # of Classrooms:	31
Total Classroom Seats:	996
Total Classroom ASF:	27,328
Average Classroom Room Seat Capacity:	32
Average Classroom ASF / Station:	28

NUMBER OF CLASSROOM BY SIZE



NUMBER OF CLASSROOM BY BUILDING

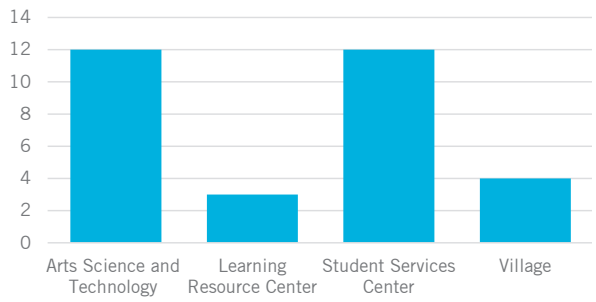


FIGURE 02.22 Classroom by Numbers

CLASSROOM UTILIZATION

CLASSROOM UTILIZATION 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
Arts Science and Technology	12	10,485	400	27	33	462	38	83%	12,809
Learning Resource Center	3	2,104	70	30	23	59	20	73%	850
Student Services Center	12	10,364	383	29	32	320	27	78%	8,334
Village	4	4,375	143	31	36	134	33	65%	2,937
Grand Total	**31**	**27,328**	**996**	**28**	**32**	**974**	**31**	**78%**	**24,930**

CLASSROOM UTILIZATION 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	2	1,573	40	39	20	42	21	91%	779
21-32	11	8,956	290	31	26	313	28	78%	7,128
33-48	17	15,656	611	26	36	612	36	75%	16,592
49-75	1	1,143	55	21	55	8	8	98%	432
76-125									
Total	**31**	**27,328**	**996**	**28**	**32**	**974**	**31**	**78%**	**24,930**

Note: Seat capacity numbers for each classroom are estimated based on the course schedule. At the time of this draft, seat counts were not available for each classroom and the floor plans provided do not show furniture. This study will be updated after classroom seat counts are verified.





ENERGY AND INFRASTRUCTURE

HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

- MCC is served by two Plants
- North Plant provides heating and cooling for the SSC & GPA
- South Plant provides heating and cooling for AST, LRC, and the Village

Heating Systems

- Hot water for heating of the SSC & GPA produced at a Central Plant in SSC (North Plant). AST, LRC, and the Village are fed from a plant in LRC (South Plant).
- North Plant has 3 dual fuel Burnham boilers and a primary/secondary pumping arrangement. There are a set of hot water booster pumps in GPA to provide additional pressure for circulation.
- South Plant has 2 natural gas boilers and 1 dual fuel Cleaver Brooks boilers with a primary/secondary pumping arrangement.

Chilled Water

- Similar to the hot water distribution, chilled water is circulated through the campus via two plants, North plant which serves SSC & GPA, and South plant, which serves AST, LRC, and the Village.
- Both North & South plants have 2 water cooled Trane chillers and a primary/secondary pumping arrangement.
- The North plant chiller reject heat to a Trane cooling tower outside the building. The South plant rejects heat to 2 Marley cooling towers.
- The chillers do not currently operate during the winter.

Air Conditioning Systems

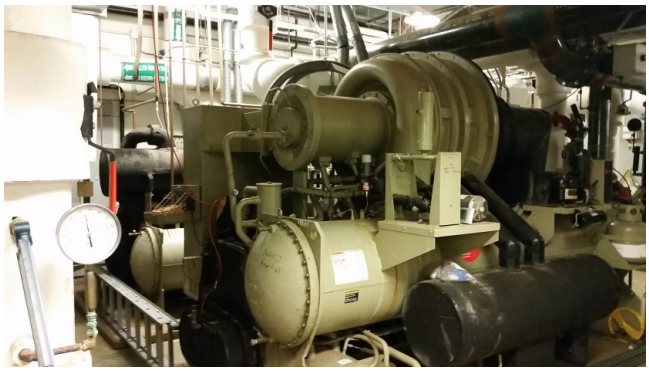
- All air handling units on campus are chilled water/hot water units, some with freeze protection pumps.
- The AST (except the tower) & LRC are conditioned by multiple indoor air handling units. The tower is conditioned by a single rooftop unit.
- GPA and SSC are conditioned by a combination of indoor and roof mounted air handling units.
- Not all IT rooms on campus are on dedicated split systems, some rooms are conditioned by air handling units mentioned above.



Campus Central Plants



North Plant Boilers



South Plant Chillers

PLUMBING SYSTEMS

Overview

- The campus is provided with high pressure natural gas service from the local utility company.
- Domestic hot water for each building is generated locally. The SSC building is provided with hot water heaters. The hot water is supplied from the boilers. The GPA building is provided with gas condenser heaters and electric heaters. The LRC and Village buildings are provided with electric hot water heaters.
- The buildings domestic water, sanitary sewer, and storm drain are served by the local municipality system.

Fire Projection Systems

- The incoming fire protection water services for each buildings are equipped with a backflow preventers.
- All buildings are equipped with fire sprinkler systems.
- The Art, Science & Technology Center building is also equipped with a fire standpipe systems feeding 2-1/2" hose outlets distributed throughout the building.

ELECTRICAL SYSTEMS

Electrical Service

- SSC and GPA buildings are fed from the main electrical room in the basement which has a 277/480V, 3 Phase, 2500 Amp service.
- AST Center is being fed by PP21 (400A, 208/120V, 3 Phase, 4Wires) and PP22 (400A, 208/120V, 3 Phase, 4Wires)
- There are three Generators on site (SSC - 300 KW, AST - 80 KW, LRC - 150 KW).
- Most of Campus lighting are Fluorescent/Incandescent, although many fixtures underwent recent upgrade to LED. A more comprehensive Upgrade Plan to LED lighting is recommended.
- Building Electrical System need to undergo an NFPA 70E (Short Circuit and Arc Flash) study.

KEY CONSIDERATIONS

Both plants currently have water cooled chillers, but do not have waterside economizers. Adding a plate and frame heat exchanger for water side economizer to each plant would allow for reduction in chiller usage through out the year.

AHU-1 & 2 serving the SSC have their coils installed backwards (cooling coil before the heating coil), causing the campus to add gycol to those coils during the winter months to prevent freezing.

Multiple IT rooms are conditioned by building air handling units or have non-functioning split systems, causing the system to need cooling during the winter. All of these rooms should be provided with dedicated split systems.



Existing Natural Gas Service at the SSC Building



2500 AMP Switchboard

STUDENT FEEDBACK

The College Student Government Association (SGA) was actively involved in the campus analysis phase of this planning. Early in the process, the planning team hosted a workshop with members of the SGA to better understand campus opportunities and constraints from students' perspective.

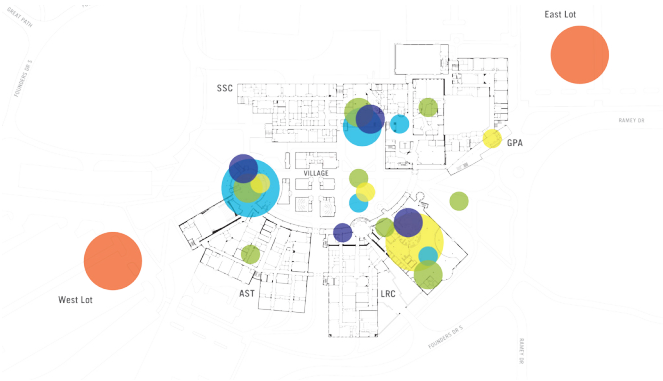
After a general orientation towards the Master Plan goals and objectives, the planning team engaged the students in a series of mapping exercises. Students were asked to place dots in response to a series of questions about how they use and perceive the campus and its facilities.

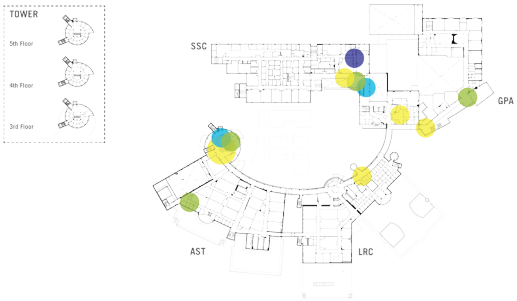
The results confirmed much of what the planning team had uncovered though earlier analysis and conversations with the Master Plan Steering Committee. The results are summarized below and on the following page.

WORKSHOP EXERCISE #1

KEY

- Where I study
- Where I eat
- Where I socialize
- Where I park
- Campus "heart"





WORKSHOP EXERCISE #1 TAKEAWAYS

Tower Ground and 2nd Level:
Campus heart / Iconic place where students eat, study and socialize

Café & Lounge Area in SSC:
Also a favorite location where students eat, study and socialize

Library:
30% study at the Library but the rest uses circulation and communal spaces throughout the campus

SSC Mezzanine Lounge Area:
Light-filled social and study space on main circulation spine

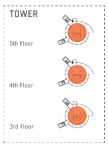


WORKSHOP EXERCISE #2

KEY

- Favorite indoor places
- Favorite outdoor places
- Iconic places
- Areas that are difficult to navigate
- Spaces that need improvement







WORKSHOP EXERCISE #2 TAKEAWAYS

Iconic Places & Favorite Indoor Places:

- Tower Lobby Area
- Café & Lounge area in SSC
- Library

GPA Entry Atrium area

- Favorite Outdoor Places:
- Central open area
- Open area near GPA main entrance
- Village garden

Areas that are difficult to navigate & Spaces that need improvement

- Village
- Sunken landscape area outside of SSC and Library Garden needs improvement.
- Student Services are difficult to find and far from main entrance.
- Areas with classroom and faculty clusters throughout building.
- Parking & Navigation: Use of East lot and West lot relatively equal but students also find navigation from parking area to buildings difficult.
- East entrance to campus from Bidwell Street

OPPORTUNITY SITES

Manchester is very fortunate to be “land rich” compared to many higher education institutions. Its 159-acre site has ample capacity for long-term additional development. MCC’s clear campus organization and its central cluster of buildings provide a strong, flexible framework from which to evolve and expand. The key to smart growth is finding opportunity sites that optimize connectivity and adjacencies and minimize sprawl and unnecessary development costs. Expansion sites close to the existing buildings fit this bill.

One such area is the space west of the Student Service Center (SSC). There is sufficient space between SSC and the loop road for a significant expansion. Another opportunity site is the area south of the AST. The area south of the AST C wing has sufficient space to accommodate a large addition without relocating the campus loop road and its associated utilities.

The Great Path Academy building itself represents a major opportunity for MCC. Great Path Academy was bonded by the Connecticut Legislature to become a middle-college high school on the campus of Manchester Community College. It is currently operated by Hartford Public Schools. When the current GPA agreement ends, and in the event the high school relocates, this existing, relatively new building could be adapted for College use at less cost than new construction.

At the east end of campus, away from the academic core, there is ample area near the Maintenance Building for an additional structure if needed.

Finally, a prime opportunity site exists for improving open space and the campus public realm. This is the central courtyard, now partially occupied by the one-story, inefficient Village structures. In the long term, relocating these functions elsewhere would allow MCC to realize the vision of a unified, green heart of the campus encompassing the full courtyard, as one would expect.

LEGEND

- Expansion Opportunity Site
- GPA Adaptive Reuse
- Courtyard Enhancement
- Maintenance Area

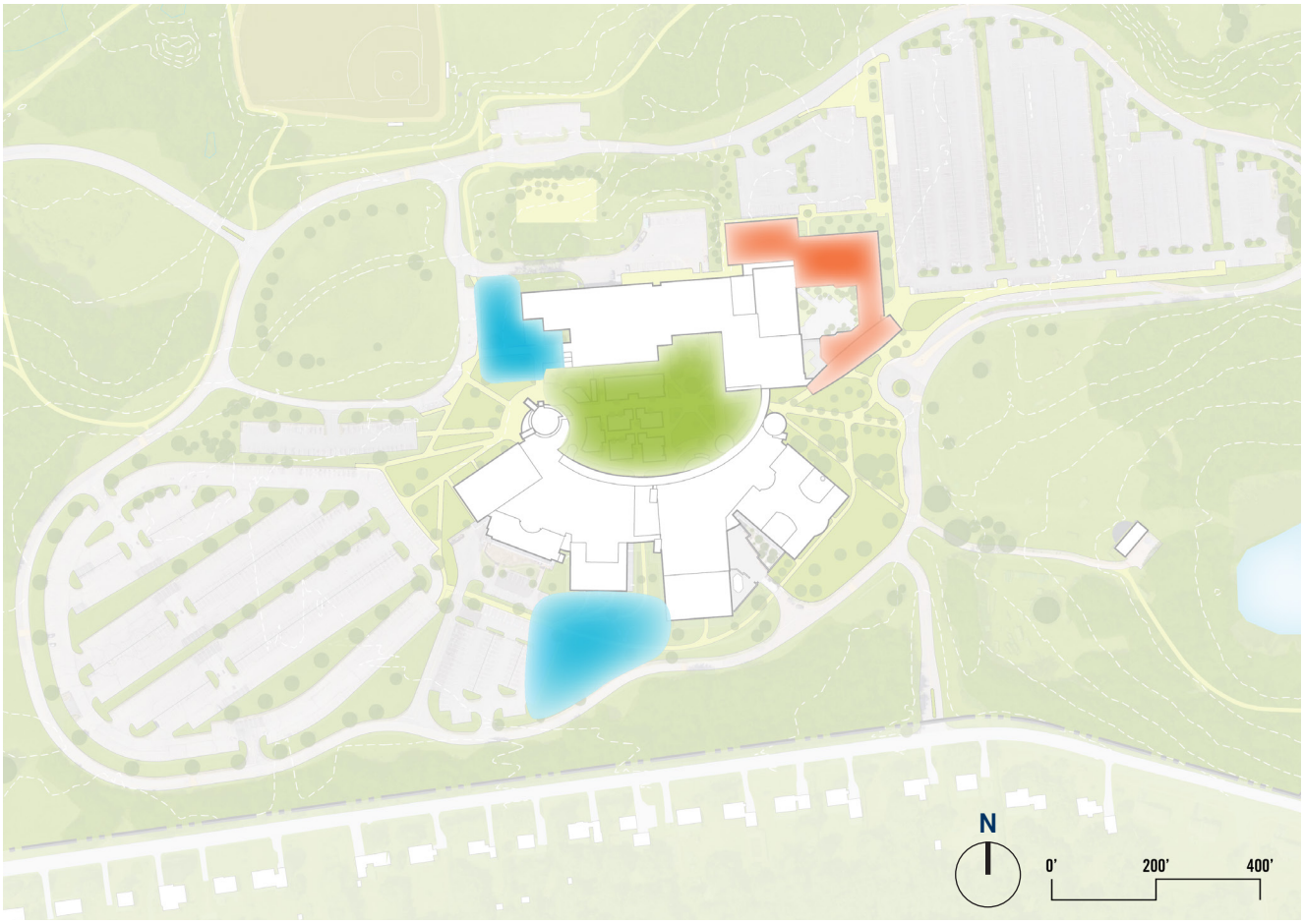


FIGURE 02.23 Opportunity Sites

MANCHESTER COMMUNITY COLLEGE





3 SPACE NEEDS

INTRODUCTION

ASSESSMENT METHODOLOGY

STANDARDS

CLASSROOM ANALYSIS

ENROLLMENT PROJECTIONS

COLLEGE ENROLLMENT PROJECTIONS

CONVERSION TO STUDENT FTE PROJECTIONS

INDIVIDUAL DIVISION PROJECTIONS

SPACE NEEDS

OVERALL ASSESSMENT

ACADEMIC SPACE ASSESSMENT

SUPPORT SPACE ASSESSMENT

CONCLUSIONS

PARKING NEEDS

SUMMARY

INTRODUCTION

This section describes the space need assessment (SNA) for the Manchester Community College Master Plan Update. The assessment 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. The SNA is in assignable square feet, unless otherwise noted.

Currently Manchester Community College occupies approximately 230,000 Assignable Square Feet (ASF), representing approximately 413,000 Gross Square Feet (GSF), not including GPA, across primarily three buildings: The Art, Science & Technology Building (AST), the Learning Resource Center (LRC) and the Student Service Center (SSC). In addition to the three primary buildings, the College has several smaller buildings, many of which form the Village, a cluster of buildings within the quad defined by AST, LRC and SSC. A fourth building for maintenance is also located on the campus.

The Great Path Academy was constructed by the State of Connecticut on the Manchester Campus, abutting the College SSC building, to house a middle college—a college embedded high school. Totaling 42,546 ASF, the building will be occupied by Great Path Academy into the latter half of the next decade. The space presently occupied by GPA is not included in any of the base analysis.



ASSESSMENT METHODOLOGY

While most space assessments function as a square footage “cost estimate”, the intent of the assessment for Manchester Community College is to provide a greater level of analysis closer to a quantitative takeoff estimate that a cost estimator might provide for either the design development or construction documentation phases of a building project. Square footage estimates or approximations are useful in the early stages for setting gross area, but are inadequate for the detail management of scope in the later stages of a project’s development. The goal of this assessment is to establish sufficient specificity to enable the assemblage and execution of projects going forward.

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

To that purpose, the assessment utilizes extensively weekly student contact hours (WSCH). The consultant utilized 24 WSCH per station for all lecture hall and classroom and 19.2 WSCH per station for all teaching lab and studio analysis. Space factors play a much more diminished role in providing corroborating evidence rather than being the primary driver of space. While much of the detailed analysis in the assessment will not be utilized, the Master Plan Team does not know which elements will be pivotal in their development of options.

STANDARDS

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



CLASSROOM ANALYSIS

The consultant team utilized a goal of 30 hours of use per week and 60% fill rate in seating capacity in assessing classroom utilization. As noted previously (pages 48-50) Manchester's 31 total general classrooms are utilized higher than the benchmark target, indicating a need for more classrooms.

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

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

The Master Plan Team sees a daytime and evening WSCH target per seat and it is up to the institution to utilize that resource effectively. Noted for its small sections, MCC has few sections that exceed 40 students. The assessment assumes that the classroom inventory should be designed both for a daytime traditional student population and an evening part time enrollment. To that purpose, the average classroom station size has been set at 22 ASF.



ENROLLMENT PROJECTIONS

COLLEGE ENROLLMENT PROJECTIONS

The College provided the System two sets of credit enrollment projections. The projections were provided by clusters of related programs, rather than individual or departmental majors. The first projections, titled the No Growth Plan, while having substantive internal changes, is based on an overall stable enrollment. The second set of projections, titled the Growth Plan, assumes a new facility is built and this increases enrollment as a result. These second projections anticipate approximately 8% enrollment growth, emphasizing increases in Allied Health programs, Criminal Justice, Hospitality and Graphic Design. The following charts illustrate the two sets of projections.

CONVERSION TO STUDENT FTE PROJECTIONS

The College's projections - based on headcount by major - required conversion to student FTEs by discipline. The conversion is necessary to establish the demand by individual department and division. The chart below (Table 03.1) illustrates the current and projected FTE enrollment by the three divisions of the College: Liberal & Creative Arts, Science, Technology, Engineering & Math (STEM), and Social Science, Business & Professional Careers. While growth is modest for all three divisions in the Growth Plan, within the No Growth Plan, a modest growth is projected for STEM, while a modest decline is anticipated in Social Science, Business & Professional Careers.

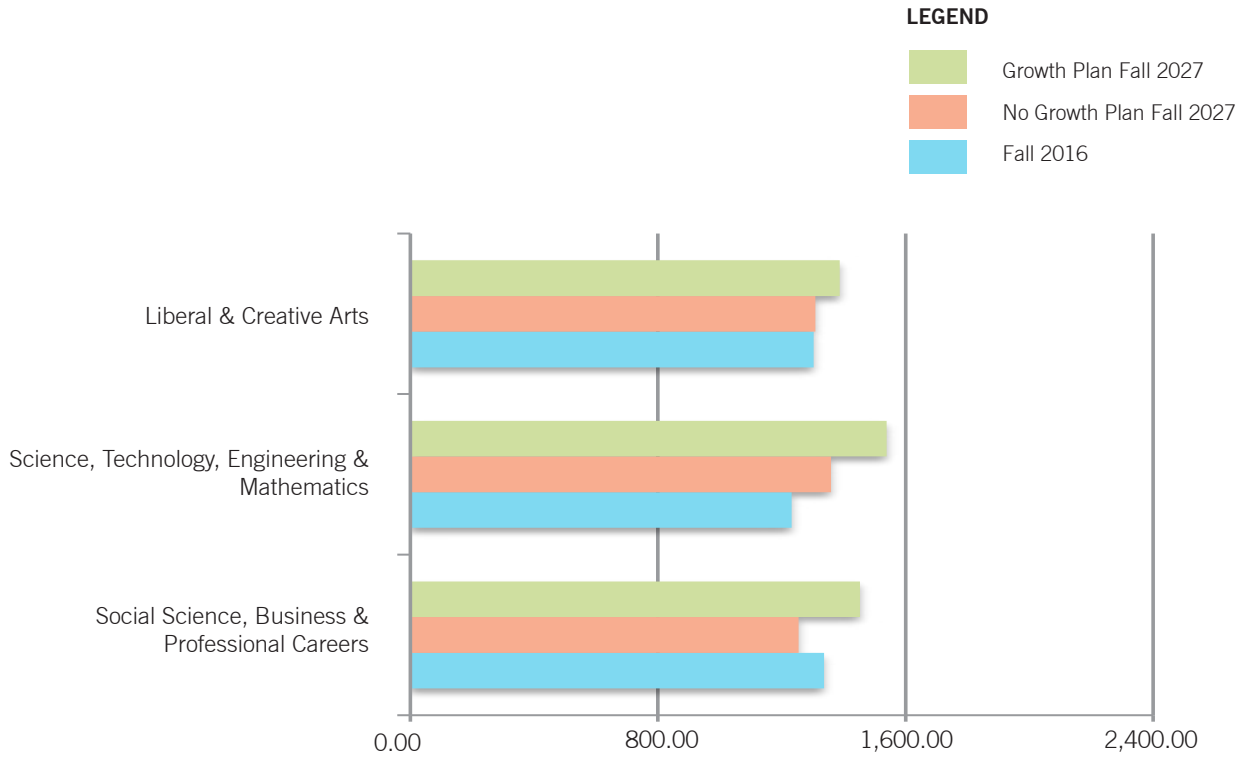


TABLE 03.1 Student FTE Projections by Division

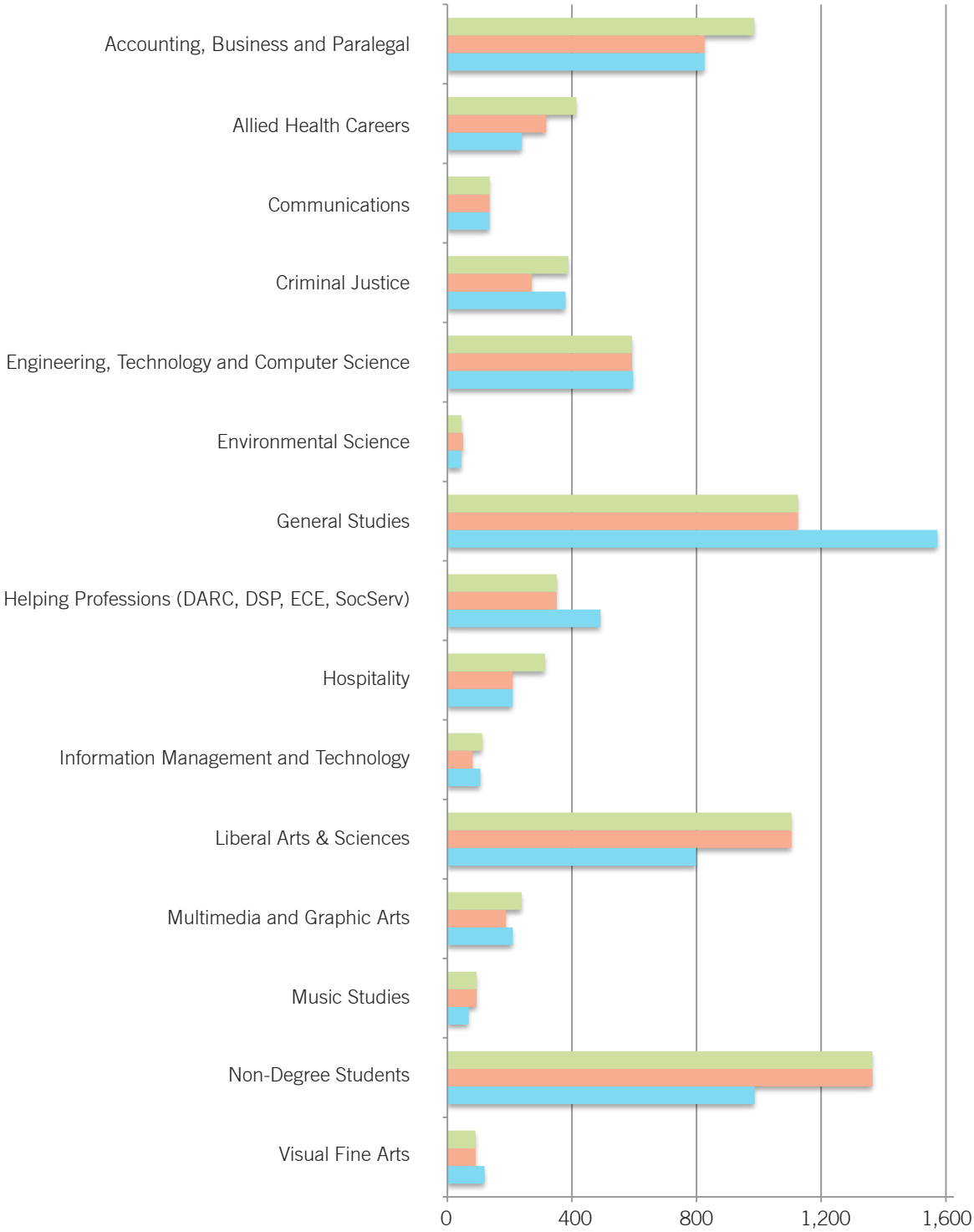


TABLE 03.2 College Projections by Programmatic Clusters

INDIVIDUAL DIVISION PROJECTIONS

These student FTE projections were developed department by department within each of the three divisions. The example provided is the Liberal & Creative Arts Division. Comprised of eight departments, these include:

- Communication
- Computer Game Design & Computer Graphics
- English
- Fine Arts
- Humanities
- Independent Studies
- Languages
- Music Studies & Theatre

English, a requirement for all college majors, is the largest department within the division based on student FTEs, totaling almost as many student FTEs as the other divisional departments combined. Departments with projected growth include the Computer Game Design & Computer Graphics Department, English, and Independent Studies. Music Studies & Theatre is anticipated to grow in either plan, while Fine Arts is expected to decline in both. The next chart illustrates the student FTE projections for the Liberal & Creative Arts by department.

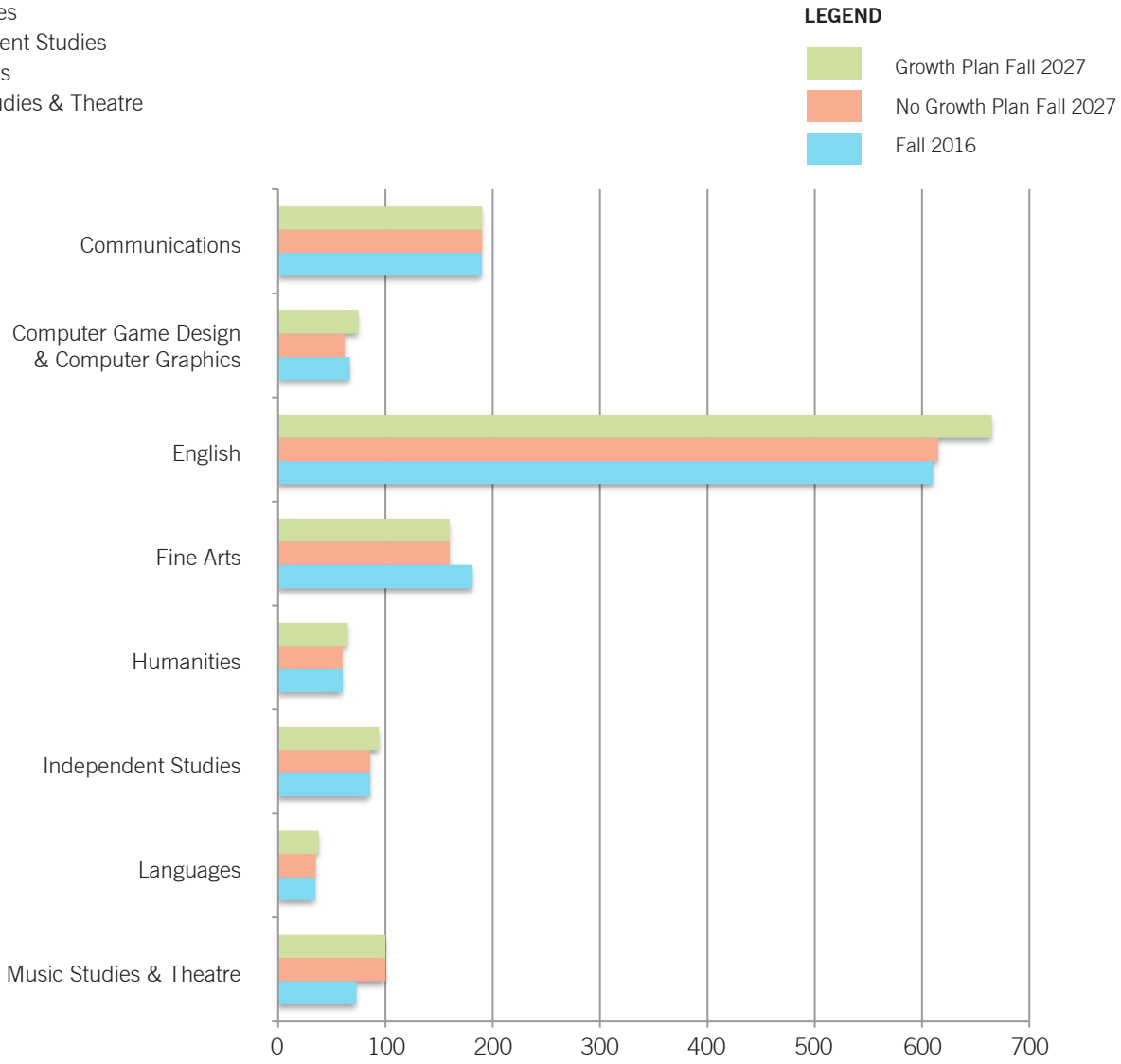


TABLE 03.3 Departmental Student FTE Projections: Liberal & Creative Arts Division

SPACE NEEDS

OVERALL ASSESSMENT

Currently the College has 59 assignable square feet (ASF) per student FTE. 28 ASF per student FTE is devoted to Academic Space—classrooms, computer labs, teaching labs and faculty offices. The remainder—31 ASF—is devoted to the Support Space on campus, including library services, assembly space and student activities. The 59 ASF currently places MCC in the same resource range as Gateway Community College, Norwalk Community College, and Middlesex Community College. The other large community colleges within the system have a median ASF per student FTE of 80. Table 03.4 illustrates the assignable square feet per student FTE across the community college system.

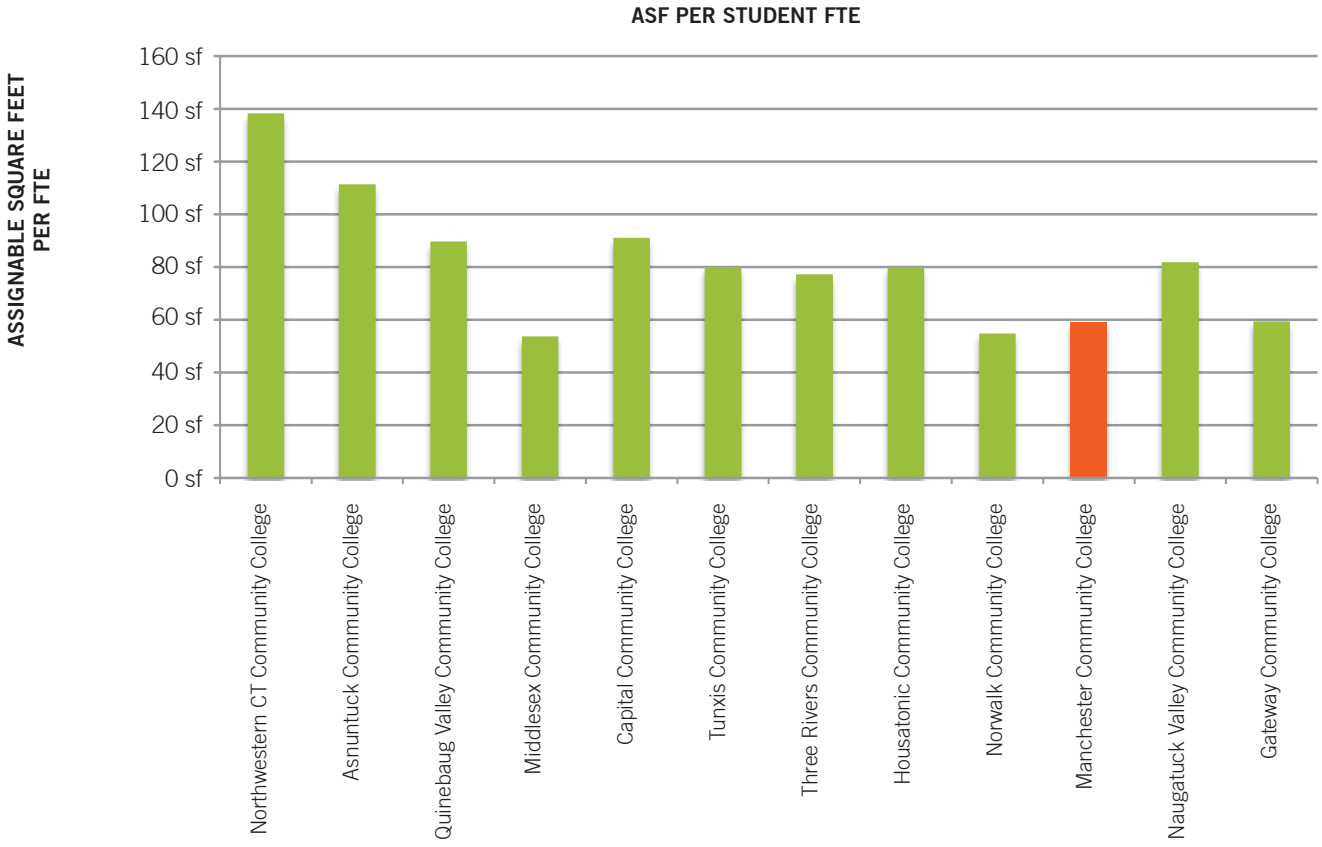


TABLE 03.4 Benchmarking with Other Connecticut Community Colleges

The assessed need, based on a no enrollment growth strategy, is for 81 ASF per student FTE. The result is that the College needs, based on an enrollment of 3,928 student FTEs, an additional 92,000 ASF, resulting in a need for 161,000 GSF. This represents a 33% expansion to the existing campus. This expansion is justified based on current student FTEs, and not dependent on any additional enrollment growth. The College though did provide the System two enrollment projections. The more aggressive of the two projections would require an additional 48,000 GSF. One critical point is that the vast majority of the College's need—regardless of the enrollment plan chosen—is the current deficit. The next chart represents the current need and the projected need based on the two enrollment plans.

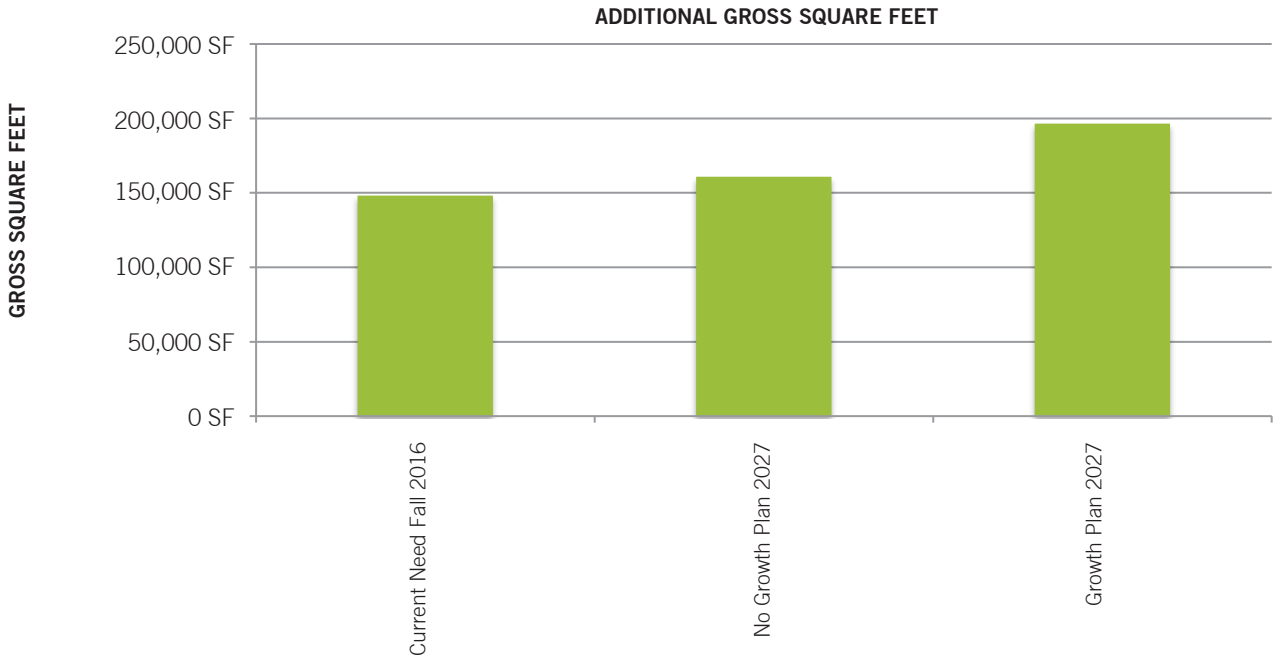


TABLE 03.5 Space Needs Summary

ACADEMIC SPACE ASSESSMENT

These divisional student FTES projections were then utilized to develop the space assessment for each division. From these Student FTEs, detailed departmental assessments were developed based on the need for faculty office and teaching labs, along with each department's need for classroom and computer labs. These last two categories were aggregated as separate categories—shared resources for all three academic divisions. The following chart represents the current and 2027 projected academic space need by divisions and shared resources.

Major expansion, under either projection, is required within the STEM Division, most providing adequate "infrastructure" to support prerequisites and co-requisites of many of the desirable STEM programs. At currently 27 ASF per student FTE, the SNA assesses the current need at 44 ASF, roughly a 65% expansion over the current allocation. While there is a need for expanded classrooms and computer labs, much of the additional need is driven by righting sizing and expanding teaching labs, not just within the STEM Division, but also in areas such as the Arts and the Hospitality programs.

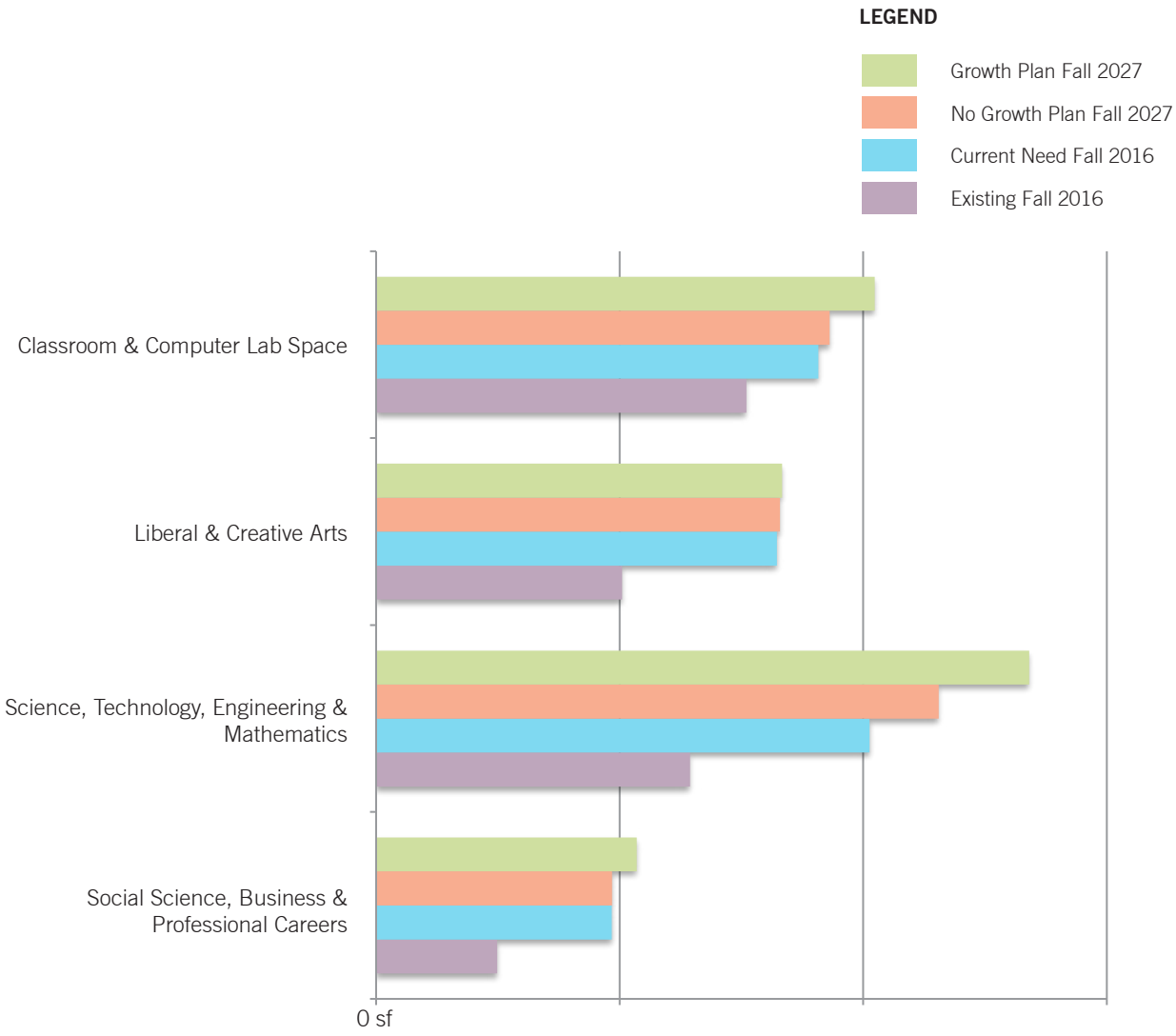


TABLE 03.6 Academic Space by Shared Resource and Division

Liberal & Creative Arts Division Space Assessment

The next chart illustrates the space assessment for the Liberal & Creative Arts by department. While English remains the largest department based on student FTEs, based on space, the Visual Art Department is the largest, more than twice the size of English. The largest space needs are in Communication, Computer Game Design & Computer Graphics and Music Studies & Theatre. The Music program, housed within the Village buildings, needs to be expanded substantively, fivefold from the current resources.

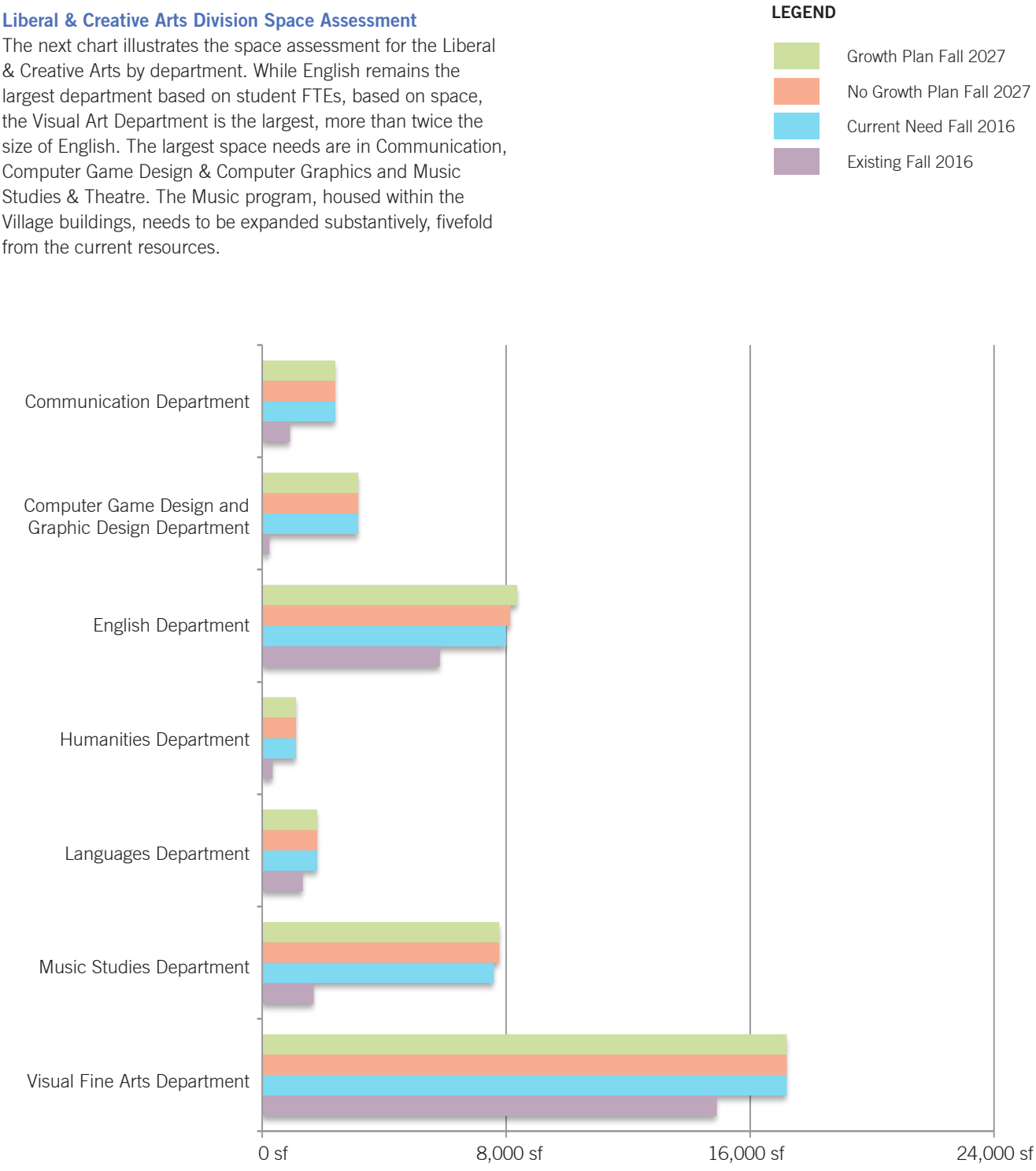


TABLE 03.7 Departmental Assessment within the L&CA Division

Science, Technology, Engineering and Mathematics

The STEM Division has the greatest square footage need among the three divisions. Occupying 30,120 ASF, in the AST and LRC, even in the no growth scenario, STEM will require 60,091 ASF, roughly doubling the size of the division. Most of the Allied Health Department's need, based on the No Growth Plan, is resolving current deficits within existing programs. Any new program development is entirely within the Growth Plan.

The key deficit within the Division is in the Sciences. Specifically, the Life Science Department (Biology) is inadequate to support perquisites within the No Growth Plan. Currently the department has three teaching labs. The current need is for five. The No Growth Plan, with the internal redistribution of enrollment, results in a need for seven teaching labs. The Growth Plan would require ten labs. The result is that the Biology Department needs to double its size today, and triple in the No Growth scenario.

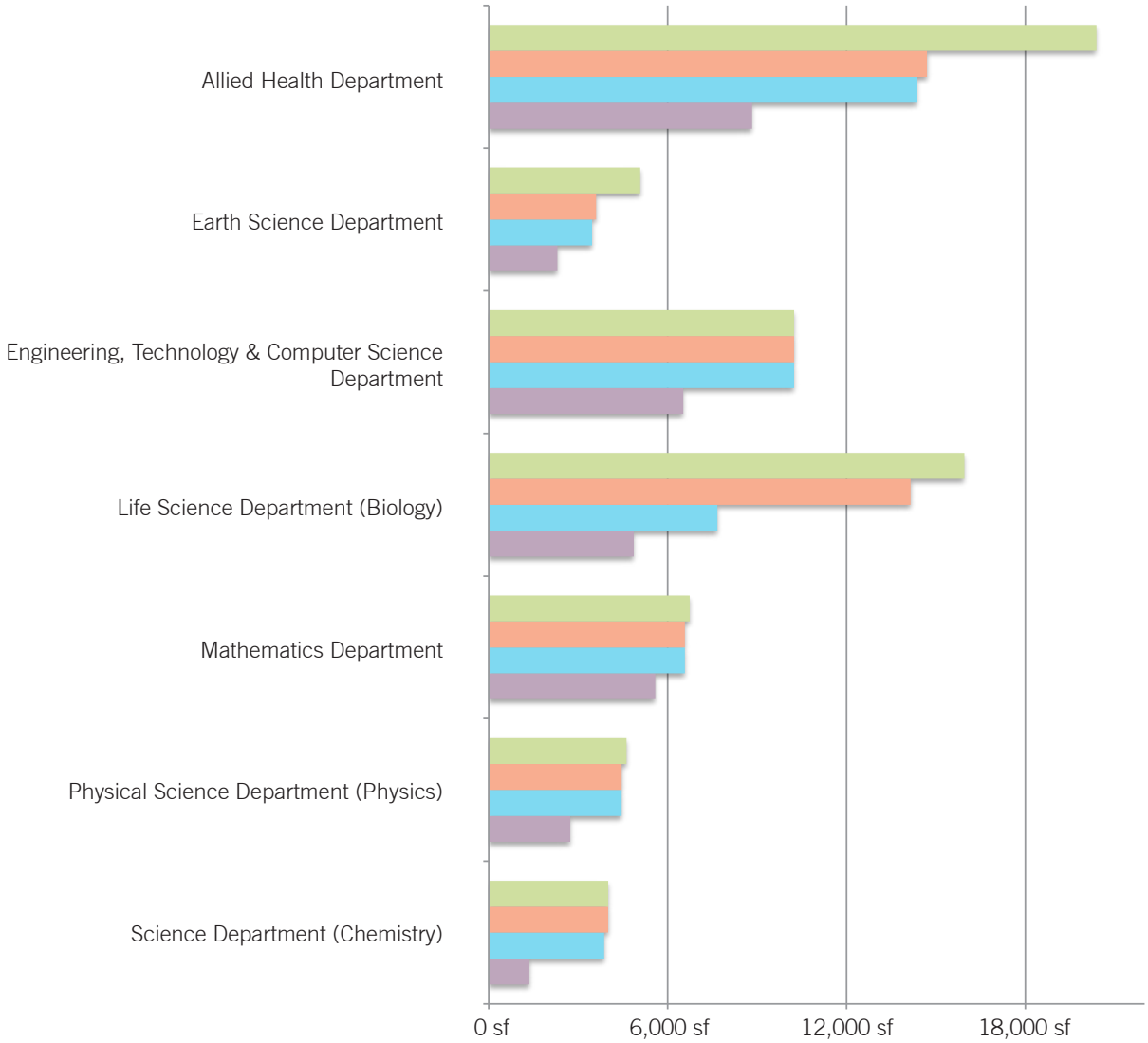


TABLE 03.8 Departmental Assessment within the STEM Division

Social Sciences, Business and Professional Studies

The third division, Social Sciences, Business and Professional Studies, requires the largest expansion based on percentage. Currently occupying 11,285 ASF, SSB&PS needs to more than double to 24,096 ASF. This need is the same for the No Growth Plan, and requires only a modest increase to afford the enrollment of the Growth Plan.

The largest department within the division based on square footage is the Hospitality Department, which includes the Culinary Program. Currently comprised of a freshman kitchen and a senior kitchen, along with both kitchens being undersized, the Department needs a third kitchen focused on baking. This third teaching lab is required currently, and within both the No Growth and Growth plans. The additional need in the Growth Plan is an office for the potential addition of another full time faculty.

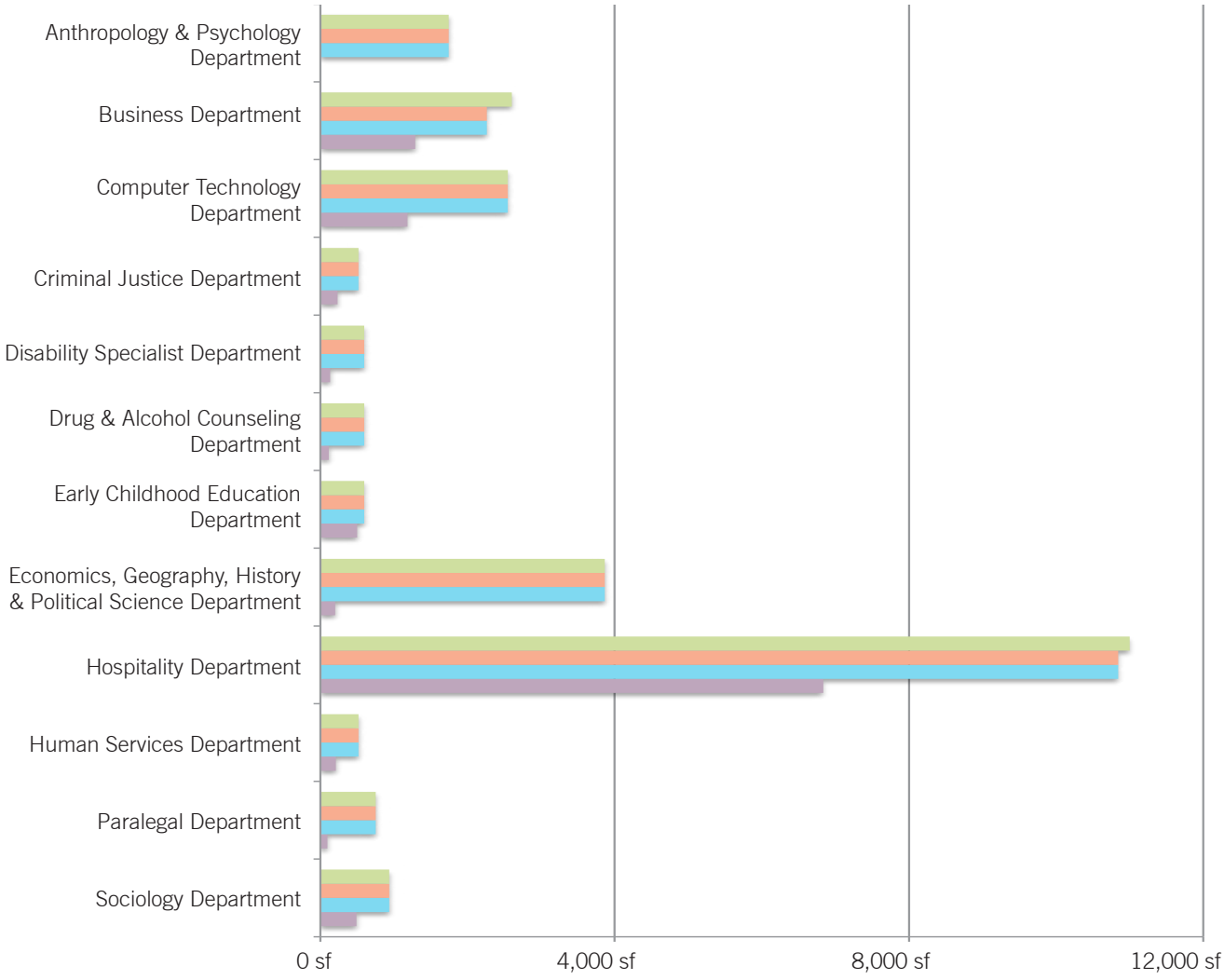


TABLE 03.9 Departmental Assessment within the SSB&PS Division

SUPPORT SPACE

The Support Space is broken into eleven 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. Currently occupying 31 of the total 59 ASF per FTE at the College, Support Space based on the SNA needs to be expanded by about 20% to meet current enrollment. To accommodate the No Growth Plan, Support Space needs to be expanded from 119,972 ASF to 147,137 ASF. The next chart represents the current and long term space requirements by each sub-category.

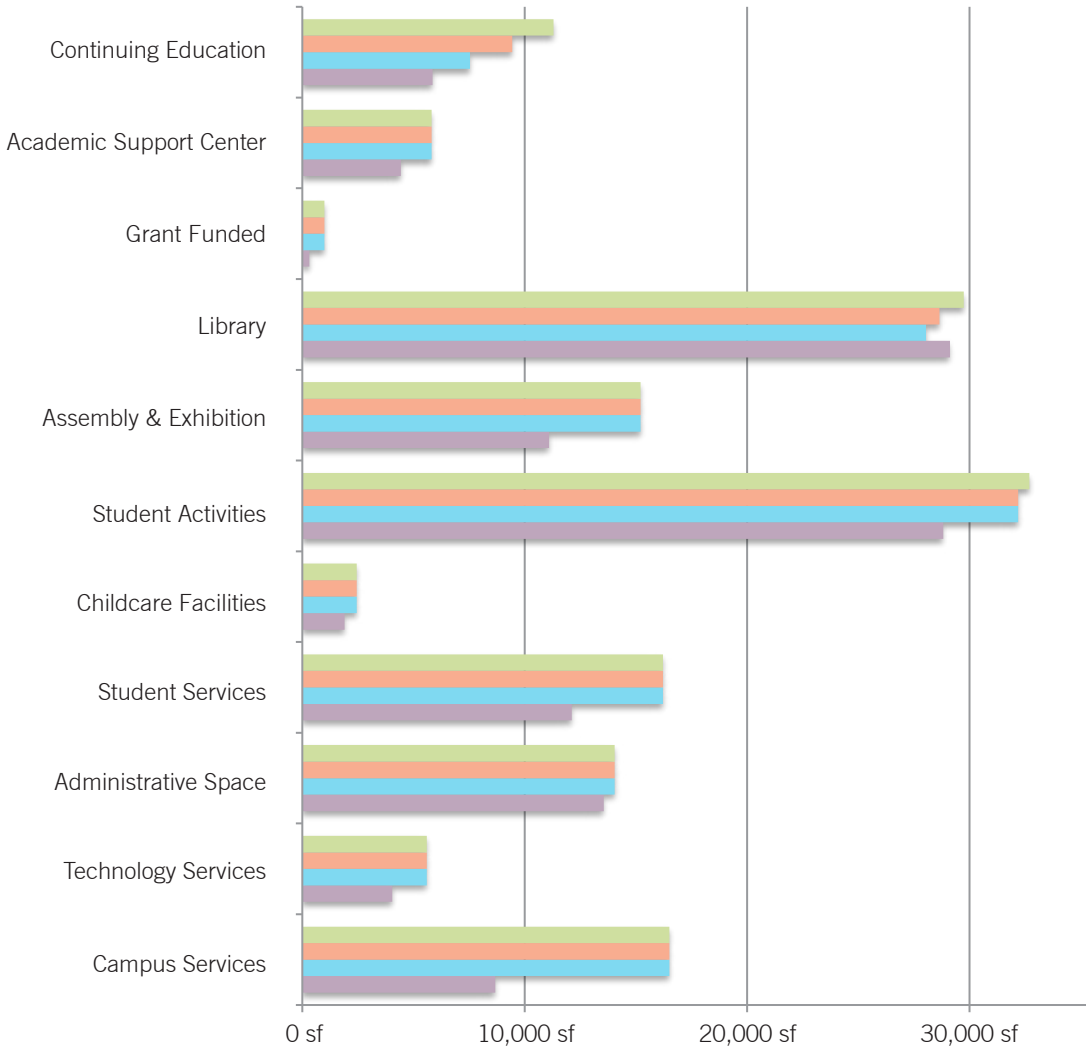


TABLE 03.10 Support Space by Sub-Category

Continuing Education

Continuing Education predominantly utilizes spaces after hours, both within the College and the facilities of Great Path Academy. The Department does have dedicated space, which needs to be expanded, adding dedicated classrooms and computer labs. The SNA projects incremental expansion of Continuing Education currently, along with expansion in both the No Growth and Growth Plans.

Assembly & Exhibition

The Assembly & Exhibition Space includes the Auditorium in AST, the Art Gallery, also located in AST, and a modest amount of conference space distributed across the campus. The largest element is the Auditorium, including support space totals almost 8,000 ASF. The projected need is for a new intermediate sized assembly facility, flat floor, sized for 200 for a dining event, with a capacity for 250 for a speaker. The assumption is that the facility would be located approximate to the Culinary Arts Program to take advantage of its potential for larger dinner events.

Student Activities

Student Activities occupies the largest amount of space with the Support Space with 28,830 ASF. The majority of the space is located in the SSC, with approximately another third in the D Wing of AST. Devoted to student programming space as well as student lounges and food facilities, the space needs to be expanded by 3,500 ASF. A portion of this space should be devoted to creating student lounges in any potential new construction.

Student Services

The Student Services, those departments that have direct daily student interaction, is composed of eleven separate departments. Several of these departments house services not denoted in their name such as Transfer Services is within the Department of Advising & Counseling. The Sub-category needs to be expanded from 12,121 ASF to 16,222 ASF, for roughly a 33% expansion. Student Services is less sensitive to incremental changes in student enrollment, so the expansion by roughly a third would resolve the current need, as well as the requirements for two enrollment plans.

Campus Services

The last sub-category is the Campus Services. This category includes the Facilities Management and Planning Department (FM&P) as well as MCC Police Department. The category also includes some Records Storage and Reproduction Services spaces. Both the FM&P and the Police Department need significant expansion, and the plan recommends the expansion to occur both within the existing SSC building as well as at a site near the existing vehicular facility on the east side of the campus.

LEGEND

- Growth Plan Fall 2027
- No Growth Plan Fall 2027
- Current Need Fall 2016
- Existing Fall 2016

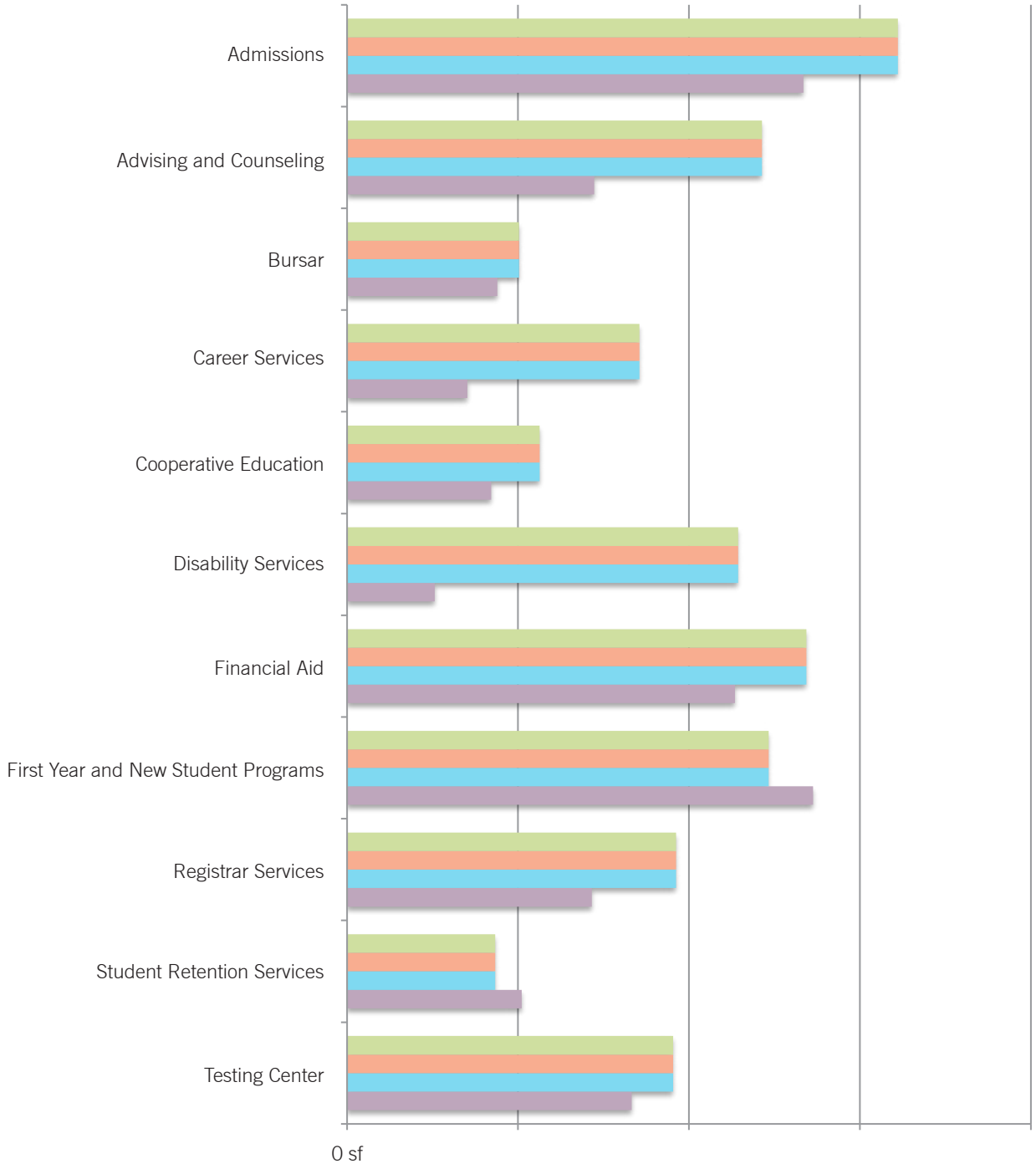


TABLE 03.11 Student Services Space by Sub-Category

CONCLUSIONS

In order to bring MCC's ASF per student FTE to an equivalent range with many of the larger Connecticut community colleges, a new plan will require a substantive increase of space at the College. Even with the No Growth Plan for enrollment, the College needs to expand by 160,836 GSF. The impact of such expansion is depicted in blue as shown in Table 03.12.

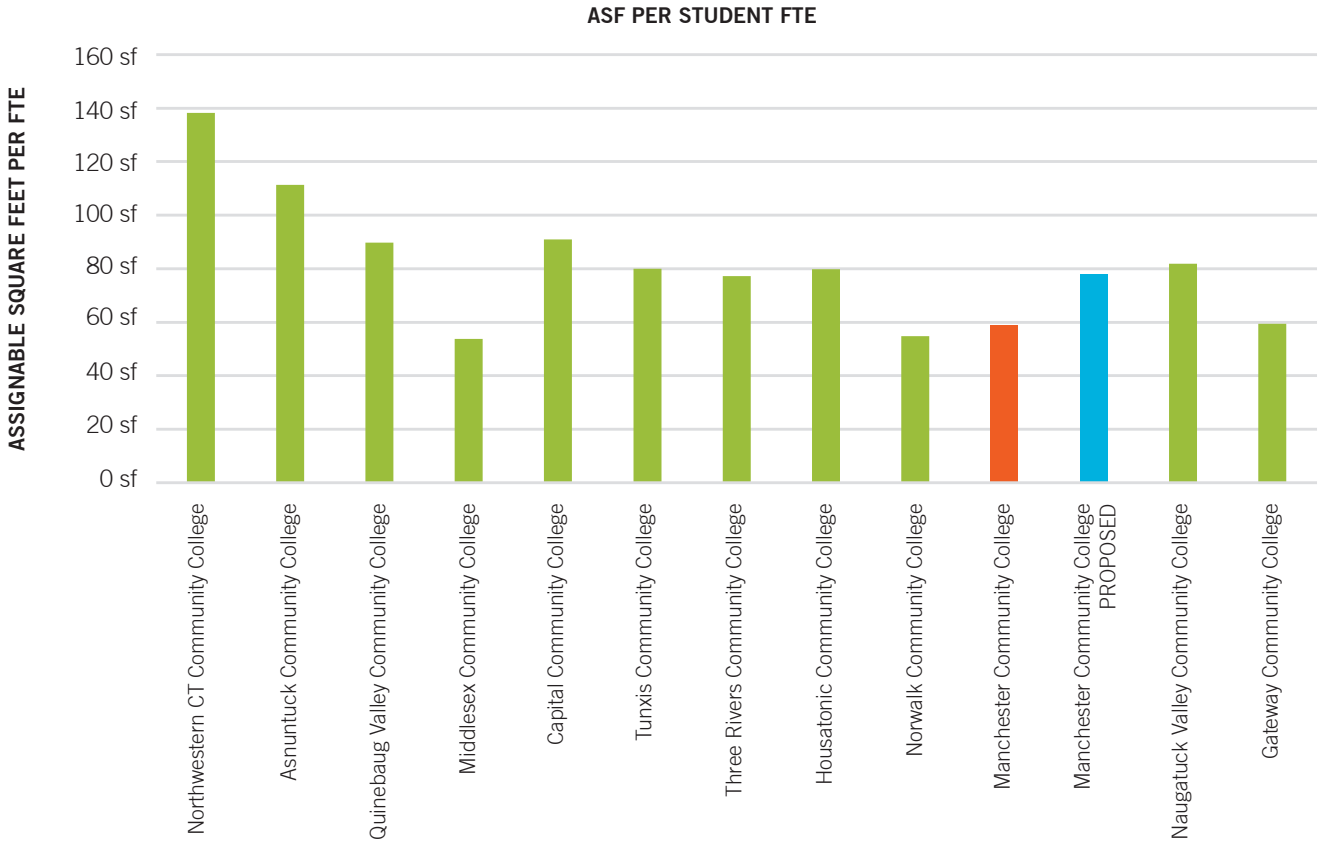


TABLE 03.12 Benchmarking with Other Connecticut Community Colleges

Summary					
Departmental Profile		Existing Fall 2016	Current Need Fall 2016	No Growth Plan 2027	Growth Plan 2027
Academic Space					
Classroom & Computer Lab Space		37,306 sf	45,438 sf	45,442 sf	50,577 sf
Liberal & Creative Arts Division		29,258 sf	42,618 sf	42,852 sf	43,008 sf
Science, Technology, Engineering & Mathematics Division		30,120 sf	55,653 sf	60,091 sf	71,150 sf
Social Science, Business & Professional Careers Division		11,285 sf	24,096 sf	24,096 sf	24,590 sf
	Total Assigned Academic Space	**107,969 sf**	**167,804 sf**	**172,481 sf**	**189,324 sf**
	ASF per Student FTE	*28 sf*	*43 sf*	*44 sf*	*43 sf*
Support Space					
Continuing Education		5,854 sf	7,536 sf	9,444 sf	11,298 sf
Academic Support Center		4,434 sf	5,813 sf	5,813 sf	5,813 sf
Grant Funded		321 sf	1,000 sf	1,000 sf	1,000 sf
Library		29,124 sf	28,050 sf	28,650 sf	29,750 sf
Assembly & Exhibition		11,096 sf	15,212 sf	15,212 sf	15,212 sf
Student Activities		28,830 sf	32,200 sf	32,200 sf	32,700 sf
Childcare Facilities		1,904 sf	2,440 sf	2,440 sf	2,440 sf
Student Services		12,121 sf	16,222 sf	16,222 sf	16,222 sf
Administrative Space		13,560 sf	14,052 sf	14,052 sf	14,052 sf
Technology Services		4,046 sf	5,600 sf	5,600 sf	5,600 sf
Campus Services		8,682 sf	16,505 sf	16,505 sf	16,505 sf
	Total Assigned Support Space	**119,972 sf**	**144,629 sf**	**147,137 sf**	**150,591 sf**
	ASF per Student FTE	*31 sf*	*37 sf*	*37 sf*	*34 sf*
	Total Assignable Square Feet*	**227,941 sf**	**312,433 sf**	**319,618 sf**	**339,915 sf**
	ASF per Student FTE	*59 sf*	*81 sf*	*81 sf*	*78 sf*
	Anticipated Gross Square Feet		*148,232 sf*	*160,836 sf*	*196,446 sf*
	ASF Deficit		*84,492 sf*	*7,184 sf*	*20,298 sf*
	Enrollment Projections				
	Student FTE Projections	*3,870.94*	*3,870.94*	*3,928.00*	*4,376.00*
	Percentage Increase			*1%*	*11%*

** Existing ASF Total excludes Great Path Middle College (Magnet High School)*

TABLE 03.13 Tabulation of Needs

PARKING NEEDS

The College has sufficient parking for the current enrollment. The east and west lots are rarely near full capacity. There are some minor issues with walking distance from the far ends of the lots, but no complaints of a parking deficit, following a recent reconfiguration of the lots to add capacity. Students, faculty, staff and visitors are always able to find a parking space.

In the Enrollment Growth scenario, if MCC's FTE enrollment increased approximately 11%, the Master Plan recommends monitoring parking to see if additional spaces are needed. If so, several strategies can be explored to address a need for more parking if it arises.

Transportation Demand Management

Encouraging TDM measures to increase access to campus by means other than single occupancy vehicles (SOV) would reduce the number of cars arriving on campus and parking demand. Many campuses employ a range of TDM measures as a more cost effective and sustainable way to address parking.

Parking Expansion

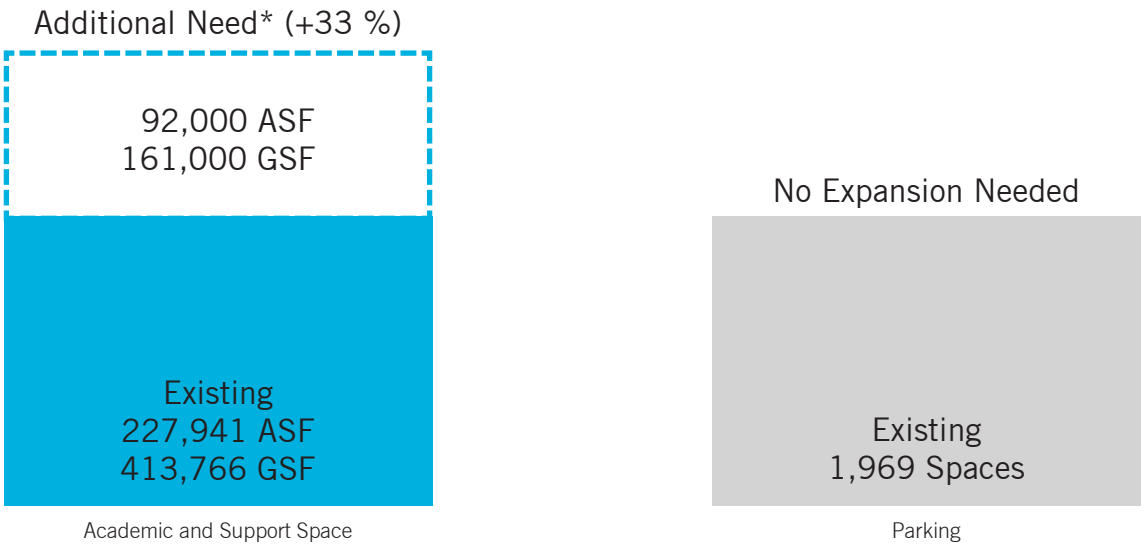
For some campuses, given their location, transit alternatives and needs of their students, TDM alone may not provide a solution. In this case, expanded parking may be needed. The good news is that MCC has ample land. One solution to address peak demand could be occasional use of fields for overflow parking. Alternatively, additional parking could be made to the north of the campus, if stormwater management measures were employed. The paved area at the far east end of campus, used for motorcycle training, could have shared use for parking at peak times, but given the long distance from the campus core, the convenience and effectiveness of this would be limited.



View of West Lot

SPACE NEEDS SUMMARY

The 2027 Program Needs for buildings and parking can be summarized as follows:



**No Enrollment Growth Plan Scenario*

FIGURE 03.2 Space Needs Summary


MANCHESTER
COMMUNITY
COLLEGE



4 RECOMMENDATIONS

INTRODUCTION

INTRODUCTION / ACCESS / LAND USE

PLANNING OBJECTIVES / DESIGN PRINCIPLES / PROJECT DRIVERS

MASTER PLAN SUMMARY

BUILDING PROJECTS

STRATEGY
PHASE 1
- STEM Addition
- SSC Renovations

PHASE 2
- SSC Addition
- SSC Renovations
- Maintenance Building

PHASE 3
- Great Path Academy Adaptive Reuse

OPEN SPACE AND LANDSCAPE PROJECTS

PHASE 1
PHASE 2
PHASE 3
SOLAR FIELDS
PARKING

ENERGY AND INFRASTRUCTURE PROJECTS

ENERGY MASTER PLAN
MEP RECOMMENDATIONS FOR MASTER PLAN PROJECTS
MEP RECOMMENDATIONS FOR EQUIPMENT UPGRADES

GUIDELINES

ARCHITECTURAL CHARACTER
SUSTAINABILITY

IMPLEMENTATION AND COST

PHASING AND PRIORITIES
COST ESTIMATE

CONCLUSION

MASTER PLAN TEAM

INTRODUCTION

The Master Plan Recommendations encompass projects for building renovations and expansions, open space, access and infrastructure. The scope addresses the space needs for the current enrollment as well as the 10-year projection.

The projects are framed in three phases. The phases are defined to address the highest priority needs of the institution first, and to have a logical sequence for construction and swing space. The College Master Plan Advisory Committee (CMPAC) provided key input in this regard. Together, the recommendations for the three phases, as well as separate MEP infrastructure upgrades, represent a comprehensive vision for the College's capital needs for the next 10-year period.



ACCESS

Manchester Community College has a clearly organized layout with good access. The Master Plan recommends maintaining the key vehicular access points, transit service and network of pedestrian circulation. The main loop road will remain. Expansion projects are located in such a way to avoid costly displacement of this drive and its associated utilities.

An addition to the Student Service Center (SSC) in phase 2 will be an attractive new building element facing the main entry of Great Path. This addition will include a new entry leading directly to a new One-Stop area for Admissions and related functions, improving access for prospective students.

The Master Plan recommends improving access to the central courtyard by eventually removing the Village buildings which partially block this area and creating a more vibrant, signature central open space. The Village functions are replaced in facilities more related to their functions.

LAND USE

Manchester Community College has ample land to meet its needs for the next 10 years and for decades to come. The Master Plan is able to accommodate MCC's 10-year needs without changing the existing overall land use pattern, which provides a clear, flexible framework. This pattern is characterized by expansive, green open space at the perimeter, and a developed campus core surrounded by a loop road and parking.

The Plan does recommend select incremental refinements in some areas to improve and clarify land use. The central courtyard is restored to a green open space with the removal of the multiple, free-standing Village buildings, as noted above. As a recommendation from the concurrent CSCU Energy Master Plan, the former playing fields at the north side of campus and another un-used open space on the east side of campus near I-384, will be converted into Solar Fields, with photovoltaic arrays provided as part of a pending Power Purchase Agreement (PPA) that will reduce the College's energy costs significantly and provide a visible demonstration of MCC's commitment to sustainability.



OBJECTIVES, PRINCIPLES & DRIVERS

The Master Plan Team synthesized the following Planning Objectives and Design Principles from the assessment of the College and with input from the CMPAC and other stakeholders. Together, these frame the nature and approach of the Master Plan recommended projects.

PLANNING OBJECTIVES

- Address current and **10-year Space Needs with 3-phase** plan
- Expand **STEM / Allied Health** space and enrollment
- Create a **One-Stop** for admissions, testing, registrar, financial aid and Bursar's to improve student and visitor experience.
- Improve **Culinary Arts Facilities** to be a destination program for the College by providing easier access and visibility or by relocation
- Improve navigation & wayfinding as well as **College Front Door**

DESIGN PRINCIPLES

- **Green** the core of campus
- Improve **visibility and access** to key community-oriented spaces, including Culinary Arts and Child Development Center
- Enhance the College's **"Front Door"** with a new one-stop student service hub
- Locate **social spaces and student support space** along primary circulation corridors
- Better connect **interior circulation to the exterior views**



PROJECT DRIVERS

There are several transformative opportunities for new construction and for renovating existing buildings that help the College meet specific immediate academic needs, improve the experience of visiting and navigating the campus and better the overall student experience and success rate. The opportunities are outlined in the planning drivers below.

A. One Stop for First-Time Student Services

Existing services for first-time students are scattered through the first floor of SSC as shown in Figure 04.2. First-time and prospective students often visit the info desk, admissions, registrar, testing, the bookstore, financial aid and the library. Only financial aid and bookstore has a location near a building entry, and all services are distant from entries and the info desk at the Tower lobby. Consolidating many of these services in one location at a main building entry would help first-time and prospective students navigate the admissions and orientation process in a more comfortable and efficient way.

B. STEM / Allied Health Growth

As discussed in Chapter 3 of this book, there is currently a need for STEM / Allied Heath spaces to expand. Careful planning is necessary to find the most effective way to increase the footprint of the AST wing. New and existing spaces should be linked with corridor and public space while affording the opportunity for any expansion to have a new front door and identity.

C. Replacement of the Village

A phased replacement of the Village buildings would allow the College to provide a more open social space at the heart of campus, while relocating satellite teaching spaces closer to their partner programs within the main buildings.

D. Improved Culinary Arts Facilities

As discussed in Chapter 3 of this report, Culinary Arts is projected to grow in the coming years. As the program develops, updated and enlarged facilities would help raise its profile and visibility within the College. This is of particular importance, as the Culinary Institute is one of the more public-facing programs in the College, and as such should have a better visibility from SSC's main entries and public space. The program will benefit from having its facilities as a destination experience within the College.

E. Improved Navigation and Wayfinding

Improvements could be made to secondary corridors and entrances of the College buildings. Many hallways lack views of the exterior while some create closed loops that make navigation especially difficult. Over time, efforts should be made to open up and connect these corridors to views of the outside and to one another. Additionally, secondary entrance and arrival experiences such as the SSC's western entry should be improved to be more gracious, direct and lined by public and social spaces. Routes to Culinary Arts and other community-facing spaces that resides away from main entries should have particular focus paid to their entry corridors.

F. Additional Drivers

In addition to these aforementioned planning drivers, several other issues need specific attention. Consolidation of programs for an Academic support center is believed to greatly support student success and retention. The overall academic space deficit is a more pervasive issue and needs immediate attention. Analysis presented in the previous chapter outlines the nearly 40% deficit in space. The deficit in classroom space is a primary concern and should play a central role in shaping future development plans and project phasing.

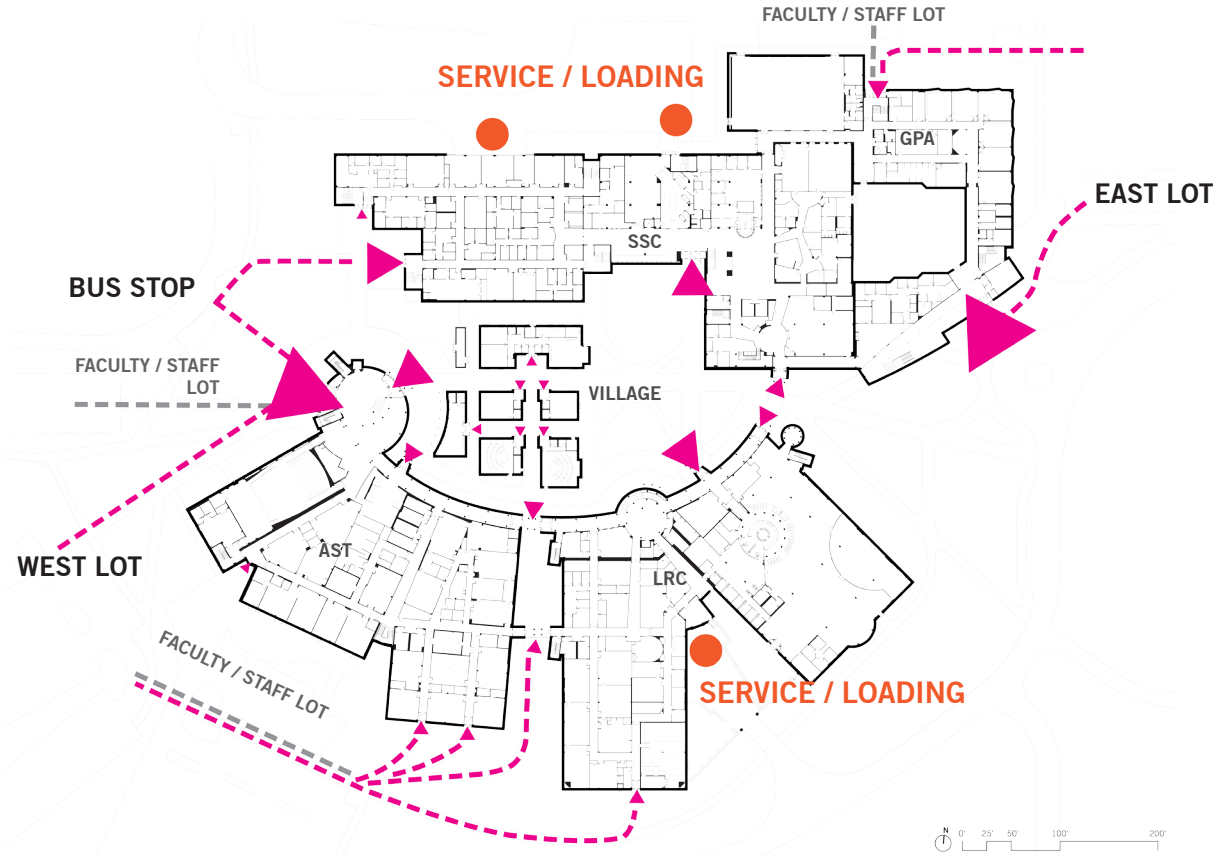


FIGURE 04.1 Existing Arrival and Building Entries Diagram

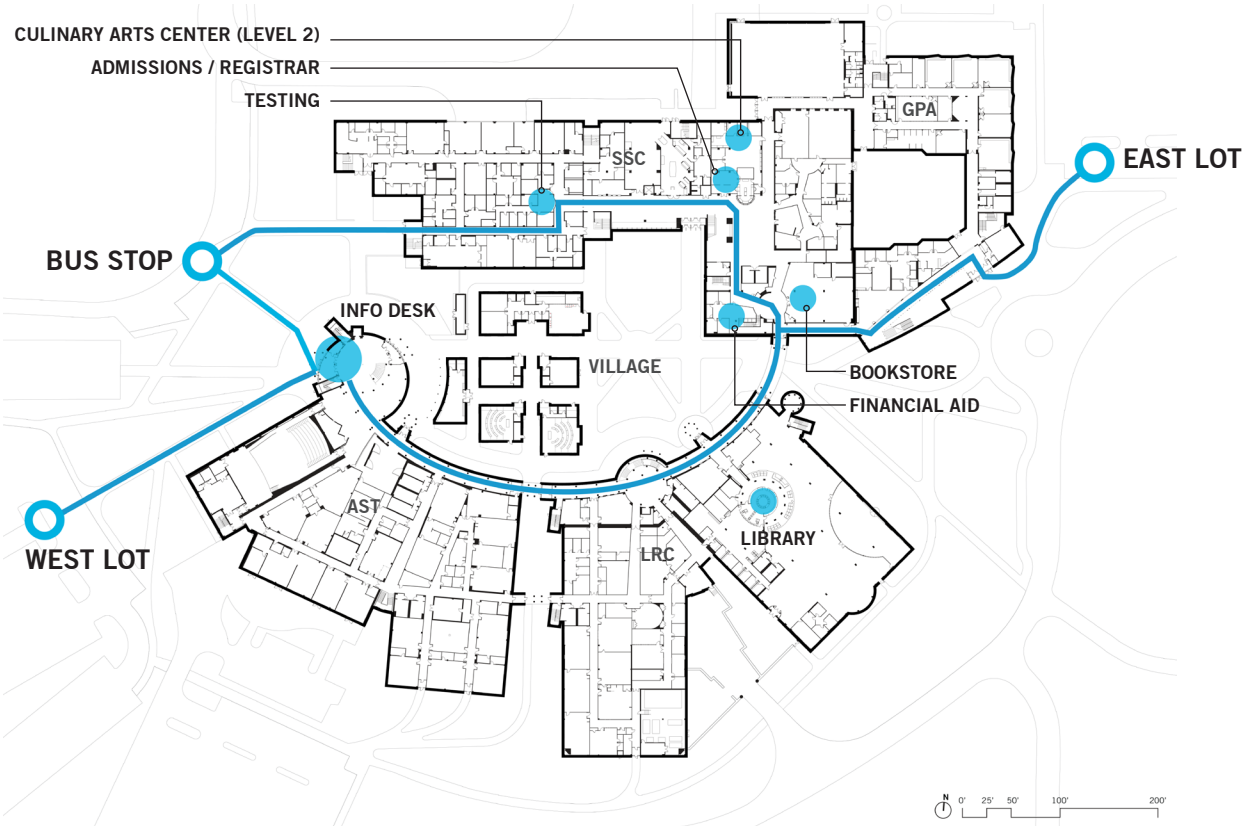


FIGURE 04.2 Existing Visitor Navigation / Experience Diagram

MASTER PLAN SUMMARY

MASTER PLAN RECOMMENDATIONS

The site plan at right illustrates all proposed Master Plan projects, with building projects color coded to show existing, renovated and new construction. The scope of each of these projects is detailed in the following sections for Building projects, for Open Space and Landscape improvements and for Infrastructure upgrades.

LEGEND

- Existing Buildings
- New Construction
- Renovation
- Adaptive Reuse
- Property Line
- Future Solar Field Location

KEY

EXISTING

1 Student Service Center
2 Learning Resource Center A-Wing
3 Learning Resource Center B-wing
4 Arts, Science & Technology Center C-Wing
5 Arts, Science & Technology Center D-Wing
6 Arts, Science & Technology Center E-Wing
7 Tower
8 Bicentennial Band Shell
9 Faculty Parking Lots
10 Playground
11 Maintenance Building

NEW

A Phase 1 STEM Addition
B Phase 1 Potential SSC Atrium Expansion
C Phase 2 SSC Addition
D Phase 3 GPA Adaptive Reuse
E Campus Core Courtyard
F New Maintenance Building
G Reconfigured Faculty Parking Lot

(Projects not listed in order of priority or intended sequence)



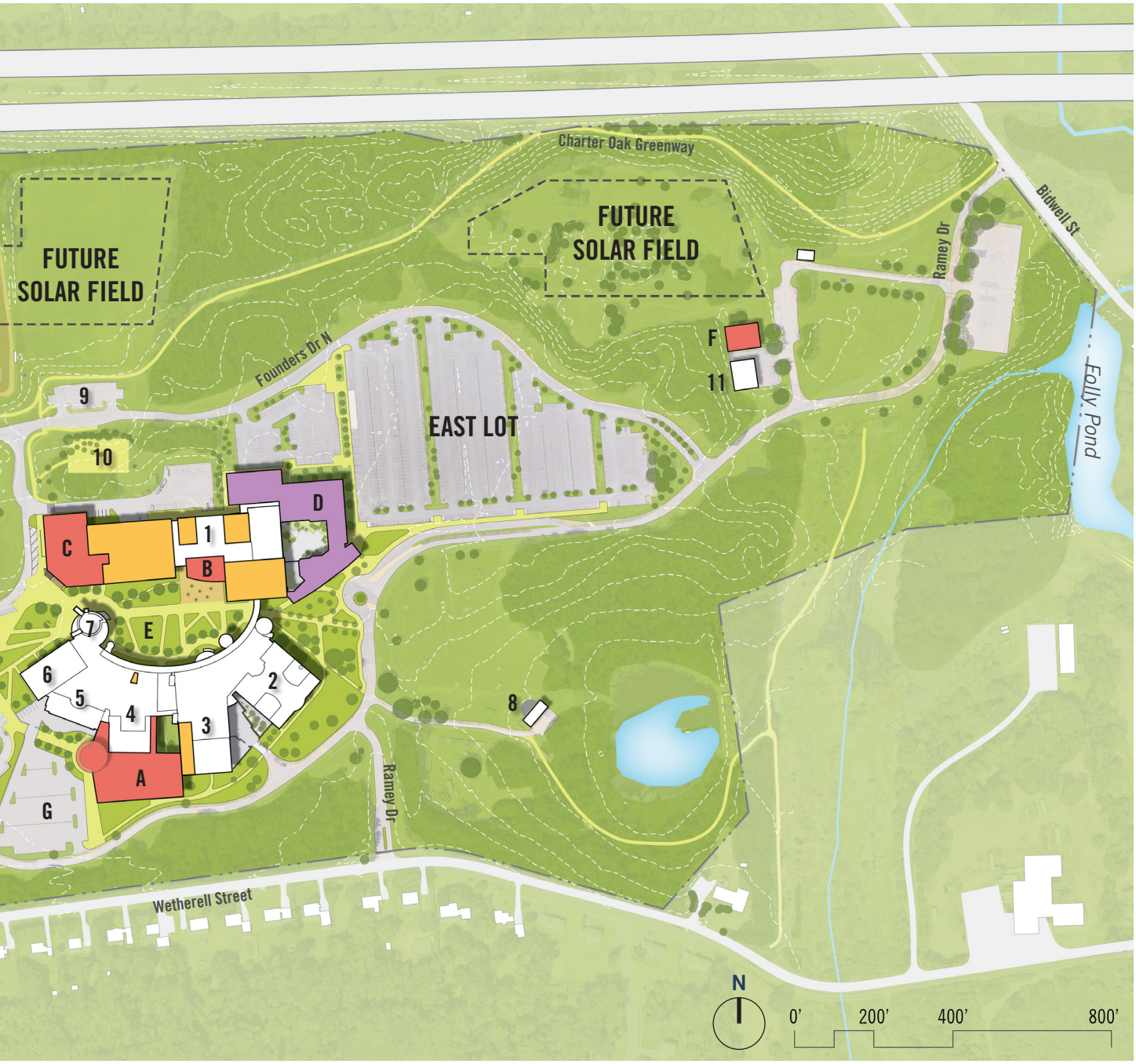


FIGURE 04.3 Master Plan Projects

BUILDING PROJECTS

STRATEGY

Given current and anticipated financial constraints, the strategy was to use a phased approach to address highest priority needs in sequence. Since a single round of expansion and renovation would not be financially feasible, the building projects are conceived in three phases. Phases 1 and 2 include both new construction and renovation. Phase 1 addresses MCC's highest priority goals and space needs that can increase student recruitment and revenue. Phase 2 supports student success and retention, as well as expanding signature programs. Phase 3 leverages existing construction for College use, by adapting the Great Path Academy facility in the event that the high school vacates its current space. (Refer to Implementation on page 127 for summary phasing graphics.)

The size of new construction per phase are scaled to be within projected available funding limits. The primary driver for expansion need, to recap, is the space deficit for the current enrollment and the space-intensive nature of many of MCC's programs, including Culinary Arts, STEM, Allied Health, Music and Art.

The project locations are carefully considered with input from the Master Plan Advisory Committee to optimize adjacencies, increase efficiency and provide a clear, welcoming experience for prospective students and visitors.

PHASE 1 SUMMARY

This first phase constructs a 2-story, 62,000 GSF addition to the AST C Wing, renovates a significant portion of the SSC first floor and begins to open up the central courtyard with the replacement of one Village building (See Figure 04.5 on page 93).

STEM ADDITION

The expansion will have a new entrance, facing west as well as clear, direct corridors linking to the C Wing and the main circulation gallery facing the central courtyard. The intent of the addition is to blend and connect well with the existing building, and also have its own presence and visibility, to elevate the profile of STEM programs at Manchester and to attract donor support. The footprint of the expansion allows it to fit inside the existing campus loop road without the need for costly relocation of this drive and its utilities. This is possible by using a 2-story addition rather than a sprawling, single story approach. In order to save costly renovations to reinforce columns and footings and restore finishes, the Master Plan does not add a floor on the existing one-story portion of the roof, except for a hallway to complete the circulation loop at the second floor. A light courtyard, which could have a shallow-bed green roof, will bring light and views into the center of the second floor and serve as a focus point for wayfinding

In order to create a welcoming arrival area and visible front door, a portion of the faculty staff parking lot is reconfigured to provide a sidewalk and allee of trees, as illustrated in the concept rendering on Figure 04.8 on page 96. (refer to the following sections for additional information on open space and parking aspects of this project).

The radial hallway between the AST C and D wings is extended to become the west gallery of the STEM Building, terminating in a rotunda-like space that acts at the entrance. This is achieved by removing the stair now between the C and D wings and replacing it with a stair to the side, to open up a direct path and clear sightlines. Likewise, a clear path is provided from the entry rotunda to the lounge abutting the entrance into the AST B Wing. The STEM Addition connects to the B Wing to integrate the expansion with the larger complex, providing direct access to Allied Health and other spaces in B. The Master Plan also recommends a renovation in the C Wing to improve circulation and eliminate a dead-end internal loop that is disorienting and confusing even to those who work at MCC.

As shown on Figure 04.5 on page 93 (See area “I”), this hall will provide a direct path from the gallery walk along the courtyard into the interior of the C Wing.

For purposes of the building code, the Master Plan assumes that the addition will be treated as a new, non-combustible building. Walls at the abutment to the C and B wings will have a 2-hour rating. Doors will meet fire rating requirements and would be kept on automatic hold-open devices to keep flow and views open, and to close when needed in a fire condition.

First Floor Program

The new entry (A on Figure 04.5) will serve as a gateway into the expansion and an internal landmark for wayfinding in the enlarged AST complex. Six new STEM labs, each about 1,500 ASF, and associated support spaces will be provided in the center of the addition (B). Three Allied Health labs are also provided (C), as well as some office space (F) and restrooms. Former STEM labs in the AST B wing are repurposed to serve as Allied Health labs (H), near where others are today. A new lounge (G) is created facing the courtyard between the LRC B wing and AST C wing. Around this lounge are relocated and expanded Music Department rehearsal rooms, with sound-insulated walls (D). Individual music practice rooms (E) are located between the stairs and restrooms to buffer sound. Including expanded replacement facilities for Music in the project enables the removal of the Music Building from the courtyard. The benefits of this are described in the Open Space and Landscape section following.



FIGURE 04.4 Existing AST-LRC Wings First Floor Plan

LEGEND

- Existing Buildings
- New Construction
- Renovation
- Demolition

KEY

A Entry Lobby
B Life Sciences
C Allied Health
D Music
E Music Practice Rooms
F Office
G Lounge
H Renovation & Existing to Remain in LRC B-wing: Allied Health
I Extend Corridor / Eliminate Dead End
J Remove Music Building to Open Courtyard



FIGURE 04.5 STEM Addition First Floor Plan

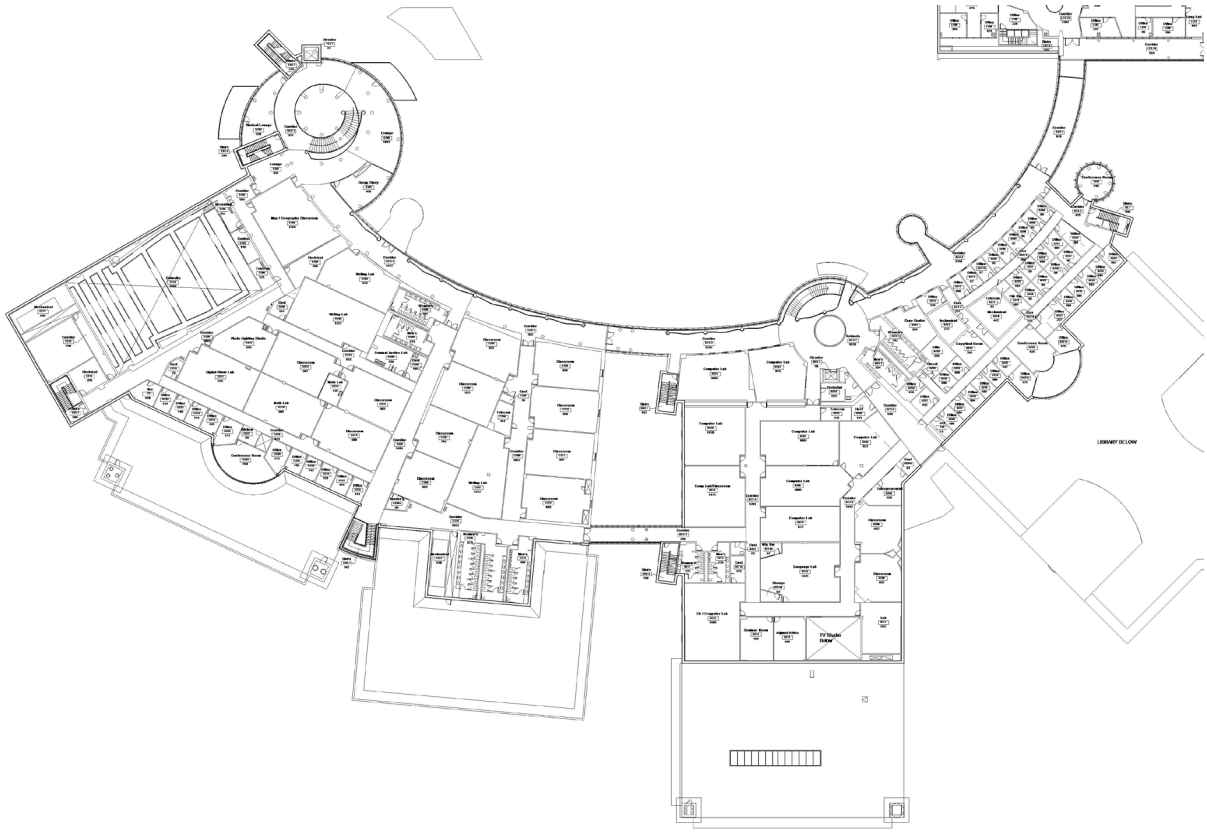
Second Floor Program

The program and layout is similar to the first floor, with a cluster of six STEM labs and support spaces in the center (B), and three Allied Health labs (C) along the south wall. Several new classrooms (D) address the need for more instructional capacity. Pending confirmation of structural feasibility, the Master Plan recommends installing a green roof on the existing C Wing low roof. A shallow planting bed, possibly with sedum or other plant species that thrive in this condition, would create a way point with natural light and greenery to make the second floor pleasant and easy to navigate as the footprint expands.

Program Summary / STEM Addition

Table 02.1 to the right provides an overview of how the spaces provided in the Master Plan concept design meet the program needs defined in Chapter 3 and how these areas compare to current conditions.

To provide flexibility to meet a possible surge in enrollment in Allied Health if new facilities attract more students, an option could be to defer replacement of the Music Building in the Village and instead use the space at the east end of the ground floor in the addition for additional STEM, Allied Health and/or classroom space.



0' 10' 30' 50'

FIGURE 04.6 Existing AST-LRC Wings Second Floor Plan

PROGRAM SUMMARY

KEY COMPONENTS	EXISTING (ASF)	PROGRAM (ASF)	PROVIDED (ASF)
Allied Health Careers	8,832	15,400	16,000
Life Sciences	4,868	15,000	15,000
Classrooms & Offices	2,100	7,200	7,500
Music & Theatre	(Village) 2,900	7,600	4,100
TOTAL		45,200	42,600

TABLE 02.1 Phase 1 STEM Addition Program Summary (All Floors)

LEGEND

- Existing Buildings
- New Construction
- Renovation



KEY

- **A** Open to lobby below
- **B** Life Sciences
- **C** Allied Health
- **D** Classrooms
- **E** Green Roof
- **F** Office

FIGURE 04.7 STEM Addition Second Floor Plan



FIGURE 04.8 Concept For New STEM Addition and Entry Plaza


MCC STEM CENTER

PHASE 1 SSC RENOVATION

Providing a more welcoming, consolidated One Stop facility to improve student recruitment is a high priority for Manchester. Ideally, this should be in Phase 1. Since Student Services are located in the SSC and cannot be addressed in the STEM addition to AST C Wing, some renovation component is needed in Phase 1. The goals for this renovation are several:

- Provide a consolidated One Stop center, for Admissions, Financial Aid, Registrar and Bursar
- Create a new “main street” to improve wayfinding and create a more welcoming experience
- Expand student activity and meeting space
- Expand dining / gathering space at the Atrium (if feasible)

The majority of the renovations are on the first floor. Key to the reconfiguration is replacing a maze-like layout of halls with a unifying circulation spine, direct from a new west entry to the Atrium space. Today one enters the west end of SSC through a fire stair. The experience is not welcoming and there no line of sight to the area with Admissions deeper in the building. The recommended plan creates a new west entrance with a canopy, leading to a new entrance lobby, with consolidated services for prospective students nearby. This One Stop area includes Admissions, Registrar and Bursar in a suite, with Financial Aid directly opposite. Testing is nearby, as are First Year Experience and Transfer.

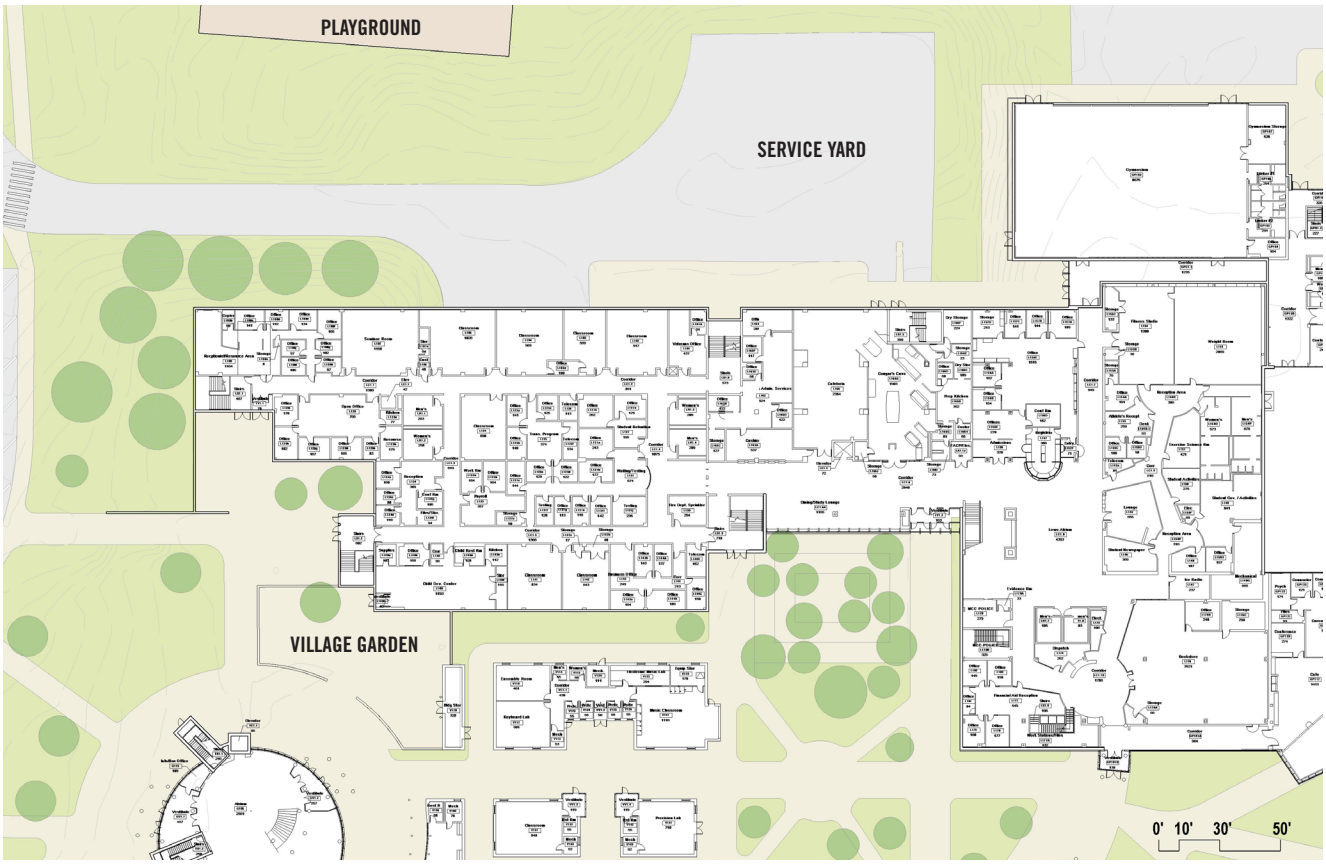


FIGURE 04.9 Existing SSC First Floor Plan

These renovations would ideally follow soon after the AST addition, to benefit from additional classrooms in that project, so some SSC classrooms could be repurposed as enabling projects for space moves. The SSC space moves could be as follows:

- Move Business, Human Resources and Labor Relations offices to second floor of SSC to converted classrooms
- Move Testing and Student Retention to converted classroom space on first floor SSC
- Reconfigure first floor of SSC to make a new west entrance and "Main Street" connecting to the Atrium
- Relocate Admissions, Bursar, Registrar and Financial Aid to vacated space near the new entry lobby
- Backfill vacated Admissions space with Student Activities and gathering space
- Use vacated Financial Aid space for Campus Police expansion and other needs

LEGEND

- Existing Buildings
- New Construction
- Renovation

KEY

A Admissions / Registrar / Bursar
B Financial Aid
C Testing
D Student Retention
E Cooperative Education
F Student Activities Expansion
G Advising & Counselling
H New Entry and Lobby
I Business Office; Add a new door from corridor
J Potential Atrium Expansion
K New Dining Plaza
L Human Resource and Labor Relations (Figure 04.12)

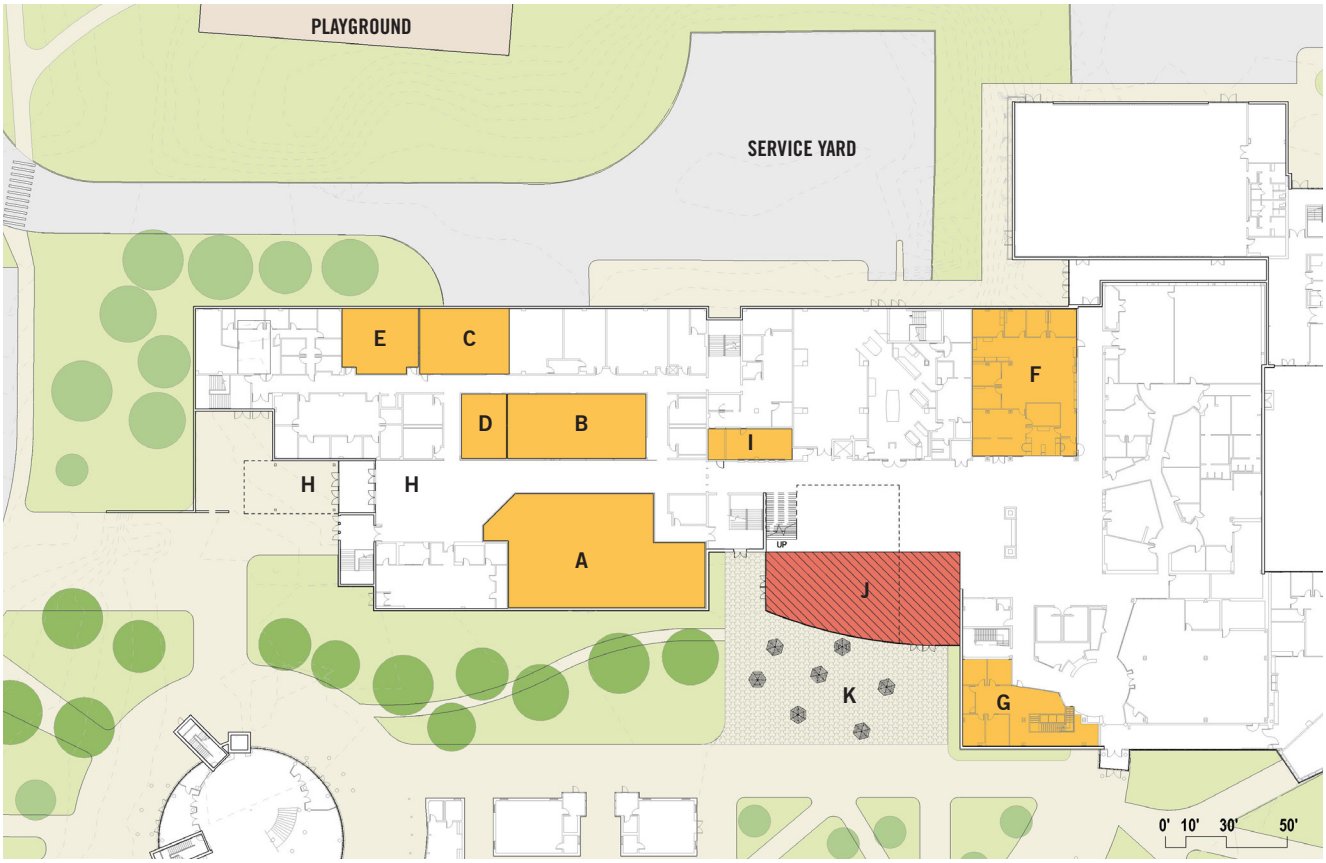


FIGURE 04.10 Proposed SSC First Floor Plan

The SSC Atrium is a very highly utilized space. At 4,000 SF, it is very modest for a campus of MCC's size. It not only functions as part of the cafeteria dining space, but also as a lounge, group study and meeting space at a crossroads in the north campus. Expanding the Atrium is much needed. It is in a prime spot next to outdoor gathering space and plentiful south light. Doubling the size of the Atrium would provide great benefits, given the central open space next to Admissions is used by GPA high school students and not available for MCC students. There is a technical issue with this expansion however, that requires further study to determine feasibility following the Master Plan. The current SSC building, following the opening of the GPA addition, is reportedly at the limit of the building code maximum allowable floor area. If measures could be taken to address building code floor area limitation – such as sprinklers, smoke purge, increased fire separation in other areas, increased exit capacity or other measures – then the Atrium addition shown in the plan could be implemented. It is included, therefore as a Master Plan option.

Program Summary / SSC Renovation

The table below provides an overview of how the spaces provided in the Master Plan concept design meet the program needs and compare to current conditions.

KEY COMPONENTS	EXISTING (ASF)	PROGRAM (ASF)	PROVIDED (ASF)
Admissions / Registrar / Bursar	3,734	4,614	5,000
Financial Aid	1,701	2,015	2,200
Testing	1,248	1,430	1,430
Student Retention	766	650	700
Cooperative Education	632	845	1,174
Student Activities	19,447	25,000	23,185*
Advising & Counseling	1,084	1,820	1,980
Human Resources / Labor Relations	2,666	675	933
Finance and Administrative Services	2,688	2,613	2,410*
TOTAL	33,966	39,662	38,812

**More expansion in Phase 2 to meet the program need.*

TABLE 02.2 Phase 1 SSC Renovation Program Summary

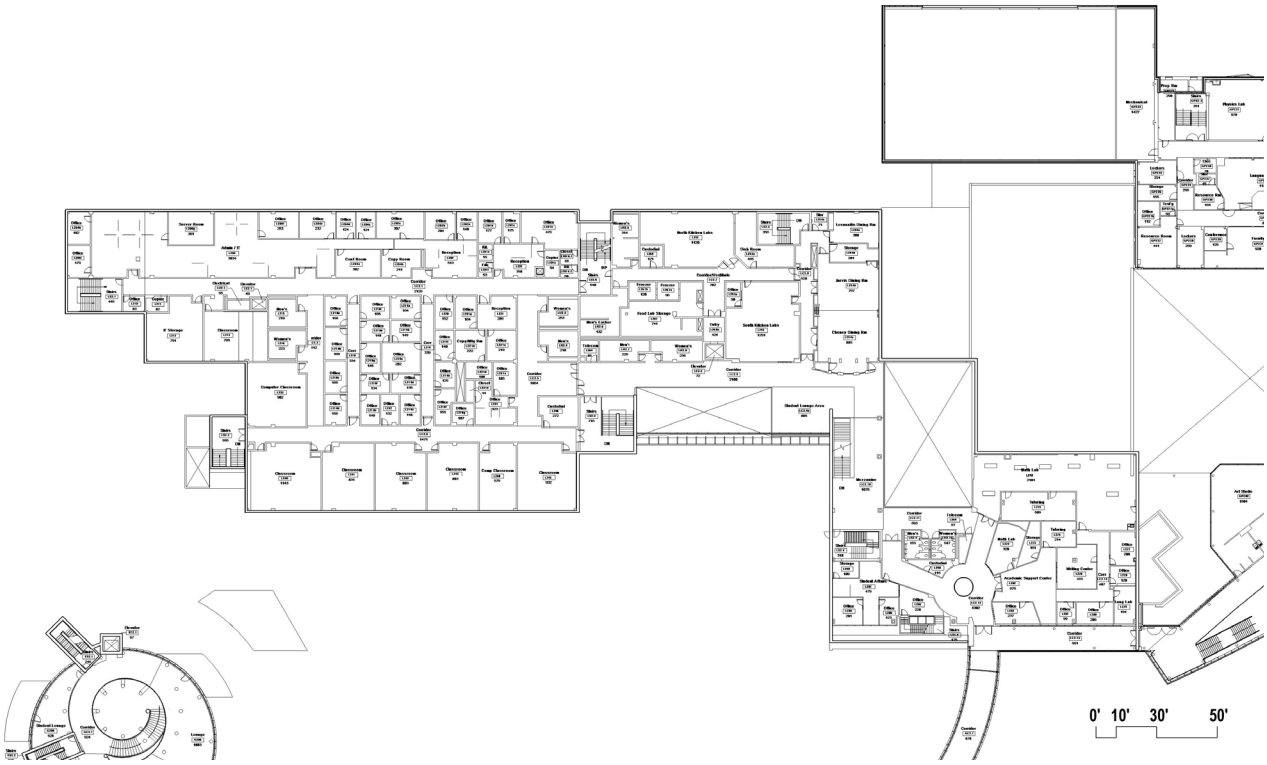


FIGURE 04.11 Existing SSC Second Floor Plan

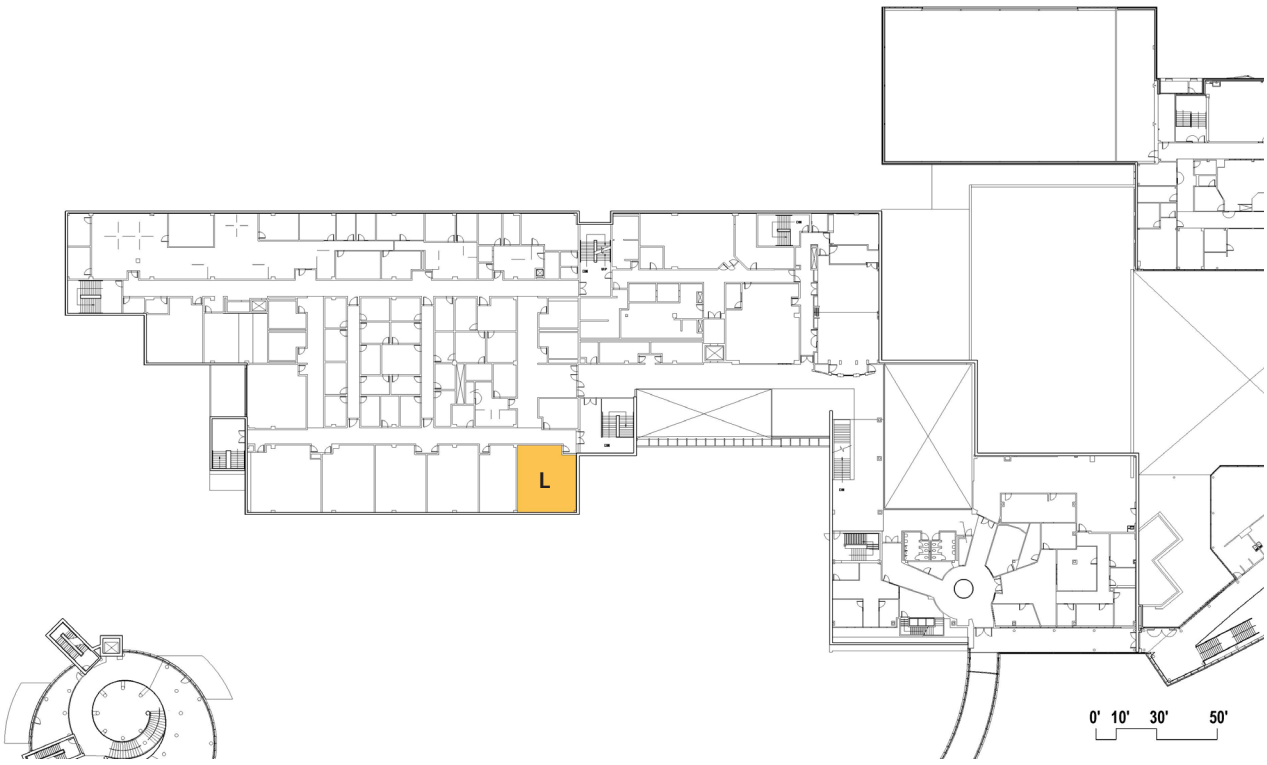


FIGURE 04.12 Proposed SSC Second Floor Plan

BUILDING PROJECTS

PHASE 2 SUMMARY

Work in this phase focuses on the north side of the campus. The expansion and renovation provide space for community engagement, for MCC's signature culinary arts program, and for important support services. The scope encompasses a 54,000 GSF addition to the west end of the SSC and further renovations to complete the revitalization of this the oldest building on campus. Phase 2 renovations compliment and build on those in Phase 1. An ancillary support building is also constructed in this phase to provide needed expansion for maintenance and operations.

SSC ADDITION

This expansion is needed to address the space deficit for the current and projected enrollment in key north campus areas. Given the sloping ground in this area, the addition can utilize three levels while fitting comfortably inside the existing loop drive and vehicle drop off. The floor levels align with those in the SSC. The main entry level is approached from a vehicle drop off either by stairs or a sloped walkway. The lower level has its own entrance to the north, facing the existing access drive. This entrance serves the relocated Child Development Center. The Plan provides several short-term drop off parking spaces nearby. The overhanging building provides a covered entrance to the CDC. The existing enclosed playground is nearby, accessed by a cross walk at the service drive.

In order to provide a suitable, efficient interface between the addition and the existing SSC building, the Plan recommends demolition of the end-most extension of the SSC, comprised of approximately 1,300 SF on each of two levels. In this way, the addition can better link to the main body of the existing complex. To meet code, the addition is planned to have independent structure and fire-rated walls and openings. To promote flow while complying with code, the Plan assumes fire-rated doors on hold-open devices linked to the fire alarm system. The new construction would be non-combustible and sprinklered.

The Phase 2 addition will harmonize with the existing buildings and provide a balanced framing of the courtyard, together with the Tower and AST D wing opposite. When entering the College on Great Path Drive, the new and the old will blend in a pleasing composition that serves as a welcoming threshold for the campus core. The brick, masonry base, glass and white metal trim will be similar or match the AST D Wing, to complete this composition. The size, scale and pattern of the window openings can vary to provide visual variety and enrich the architectural character.

The SSC Addition First Floor has an ample entrance lobby, with entry doors facing toward those coming from the bus stop and west parking lot. The lobby can also function for orientation events and will have seating to the side for study and socializing. This lobby anchors the west end of the "main street" created inside the SSC in Phase 1. A passenger elevator faces the lobby, with a second service elevator to the rear. A generous open stair will encourage walking to and from the second level, which overlooks the lobby. The relocated College Book Store (B on Figure 04.14) fronts the entrance lobby, providing both course books and supplies, and MCC merchandise. The bookstore has a stock room and office area to the rear in a separate rooms (C). The Plan also includes a 3,300 SF multipurpose space (D) for events, conferences, performances and student activities. (adjacent renovations on SSC First Floor are described in the Renovation section on page 106).

KEY

A Entry Vestibule & Open Lounge
B Bookstore
C Bookstore Stock Room
D Multipurpose / Assembly
E Info
F First Year Experience
G Disability Services
H Campus Services
I Student Affairs / Dean of Students
J Student Activities Expansion
K Math Lab

LEGEND

Existing Buildings
New Construction
Renovation

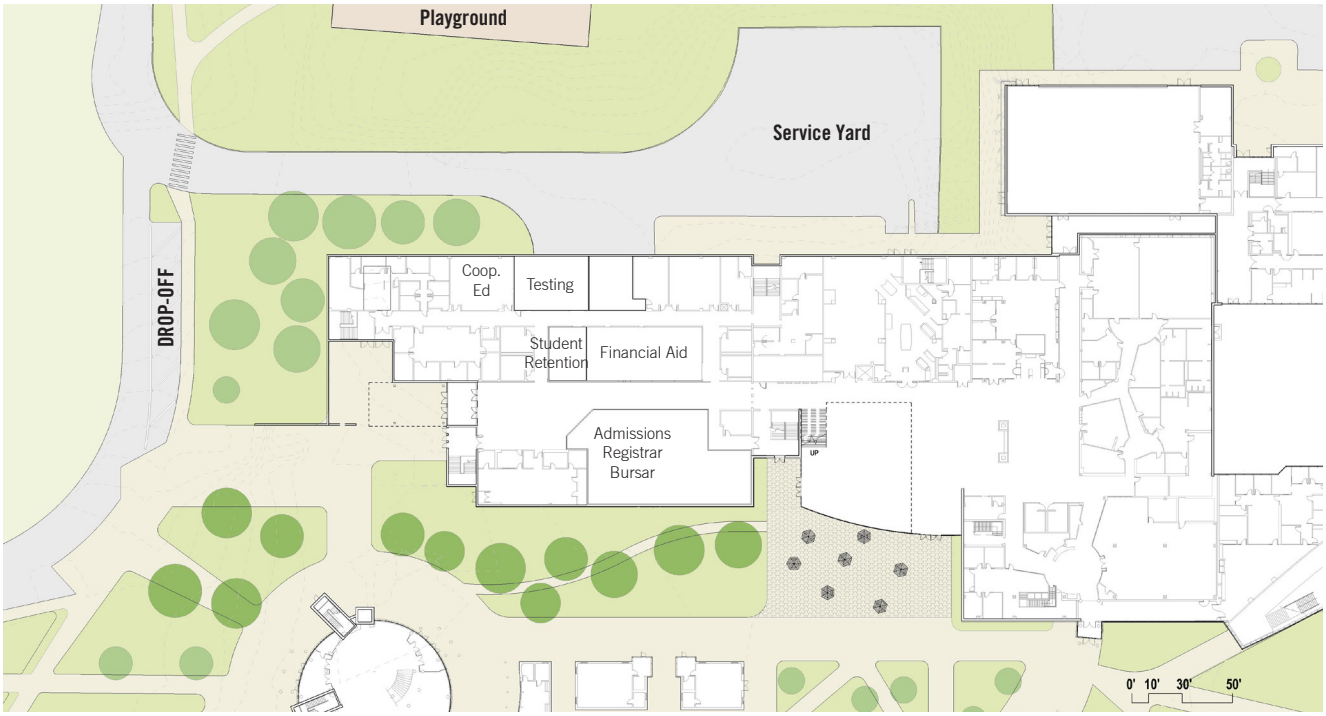


FIGURE 04.13 Existing SSC First Floor Plan

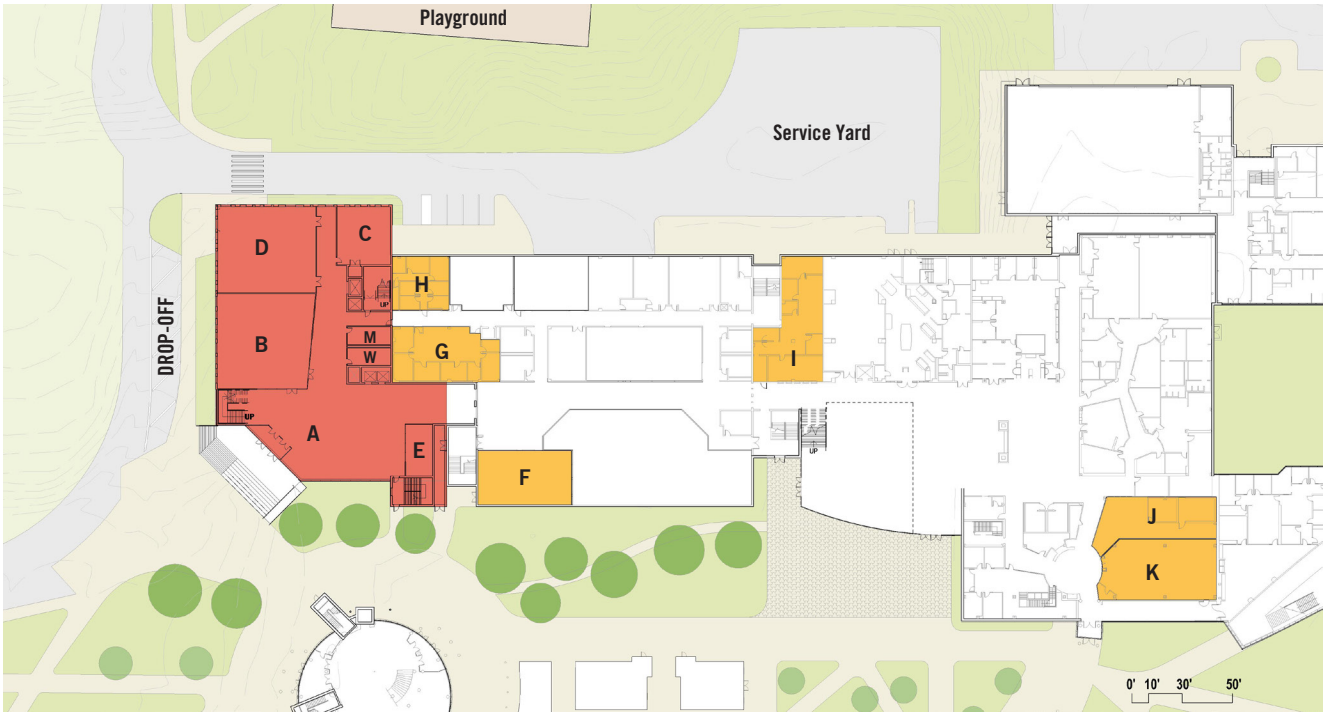


FIGURE 04.14 SSC Addition First Floor Plan

The SSC Addition Second Floor expands and relocates College's Culinary Arts program to address its space shortage and improve access. This location, directly above the entry lobby will be easy to find for the many visitors to the program. The proximity to the multipurpose space will allow programming synergies that are not currently possible. The Culinary program will have a new dining room (A on Figure 04.16), facing the second floor lobby, with restrooms nearby. This should be designed for visibility with a transparent wall. Directly adjacent to the dining room is the senior kitchen (B). Today, meals must be brought down a corridor between the two. Nearby are a Junior Kitchen (C) and a Baking Kitchen (D), a new space to address the unique needs of this part of the program. Ample storage, lockers and program offices are located nearby. The vacated current Culinary program spaces are repurposed, as described in the SSC Renovation section on page 106.



LEGEND

- Existing Buildings
- New Construction
- Renovation

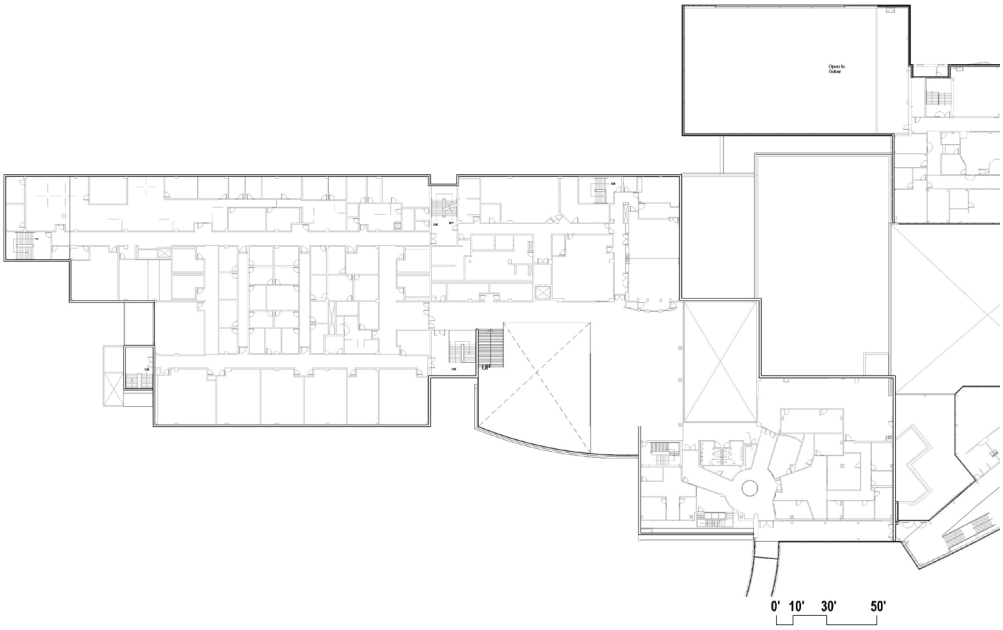


FIGURE 04.15 Existing SSC Second Floor Plan

KEY

A Dining Room: 1,800 SF
B Senior Kitchen: 1,900 SF
C Junior Kitchen: 1,400 SF
D Baking Kitchen: 1,400 SF
E Culinary Storage
F Culinary Storage
G Culinary Offices: 1,125 SF
H Lockers: 725 SF
I Culinary Storage: 490 SF
J Culinary Administration / Support: 1,900 SF
K Relocated IT Storage: 785 SF
L Relocated IT Offices: 1,462 SF
M Finance & Administrative Services: 3,590 SF
N Career Services: 1,235 SF
O Expanded Academic Support Center



FIGURE 04.16 SSC Addition Second Floor Plan

The SSC Addition Lower Level provides much-needed support space. The Child Development Center is relocated from the SSC First Floor to this location and expanded modestly, to locate it closer to its play area and away from the flow of college students, with its own drop off and pick up area. The Child Development Center (A on Figure 04.18) is comprised of an entry lobby with control point and several classrooms and support areas (partitions between these areas not shown). All classrooms have windows for access to light and air. The Plan recommends creating a landscaped areaway at the west side, with a retaining wall, to provide this space where the ground otherwise would slopes up against the exterior wall. To address a deficit in Campus Service areas, the Plan provides several storage spaces in this lower level (B). A dedicated mechanical equipment room (C) is provided to service the addition. A service door is provided for access from the Service Yard to the service elevator connecting to the Culinary program areas on the second floor, to provide this important operational link, and separate this flow from the Child Development Center.

Some excavation will be needed in order to realize the concept for a full lower level. While this entails more cost than an at-grade solution, the benefits outweigh the costs. If the lower level were not excavated, the project would require either another floor above or a bigger footprint to meet the space program target. Expanding the addition footprint would require moving the loop road, drop off and its utilities, as well as regrading the east side of the detention basin. This may offset the savings from reduced excavation. Solution to add another floor would create visual problems and imbalance. The top level would protrude above the consistent datum line of the buildings opposite, creating a lop-sided composition. A top level would also be cut off from connecting directly to the SSC since it is at the rooftop level. Programmatically, the Master Plan recommendation of a full lower level makes sense since the majority of proposed lower level functions do not require windows, including campus service storage areas, mechanical rooms, etc. The function that does require light – the Child Development Center – has ample windows given the lower grade level on the north side of the building.

SSC RENOVATIONS

In order to integrate the addition to the Student Service Center and to backfill the vacated spaces to meet the College's needs, the Plan includes recommendations for a second round of renovations to the existing building. This builds on the earlier renovations, and does not replace or redo them, to make efficient use of available funding and minimize disruption.

The main strategy for the SSC Renovation in this phase is to relocate remaining Administrative Services functions on the first floor to the second floor for consolidation and space expansion while backfilling the first floor with remaining Student Services to create a true 'One-Stop'.

On the first floor of SSC, the Plan recommends backfilling the vacated Child Development Center with the First Year Experience as shown in Figure 04.14. This program currently resides in the western most end of SSC to be removed and will benefit from proximity to other Student Services such as Admissions and Registrar.

The remaining Administrative Service functions on the first floor will be relocated to the second floor of SSC and will provide space for Disability Services (G) and Campus Services (H) as well as for Student Affairs and Dean of Students (I) on the first floor. The Plan also recommends Math Lab to be located on the first floor adjacent to Student Activities and Advising & Counseling, shown as (K) in Figure 04.14 on page 103.

On the SSC second floor, the Plan recommends repurposing the vacated Culinary program space as following. The existing dining area remains with its fine finishes as shared meeting space and conference room. The rest of vacated Culinary program space (L/M on Figure 04.16) is adjacent to existing Administrative Services offices and the President's office on the west side and will be backfilled with remaining Administrative Services functions as well as expanded space need for IT department.

On the east side of SSC second floor, Academic Support Center (O on Figure 04.16) will expand into vacated Math Lab space while Career Services (N) will occupy space vacated by Student Affairs.

The lower level of the SSC is a partial floor. It does not connect to the proposed SSC addition, so no link is feasible or proposed. To coordinate with expanded Campus Service space in the addition, some modernization and internal reallocation of existing Campus Service space on the SSC lower level is likely recommended. There are no program relocations.

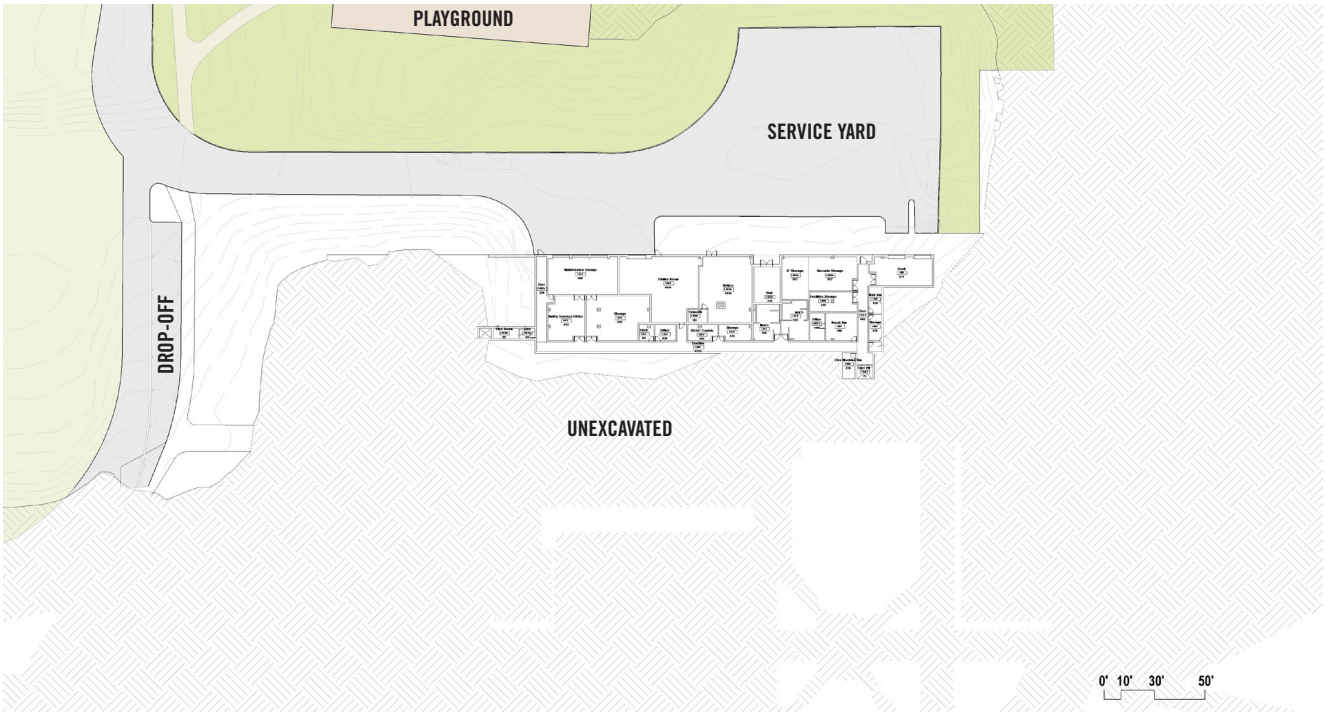


FIGURE 04.17 Existing SSC Lower Level Floor Plan

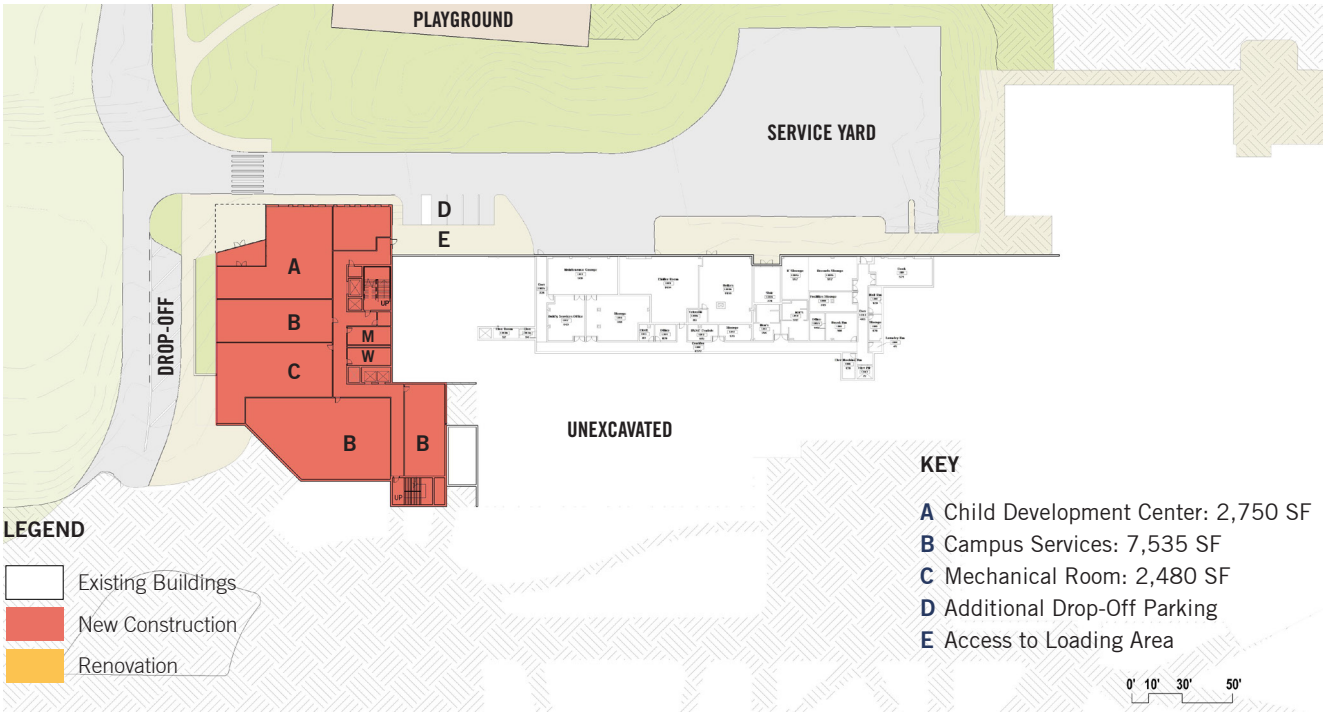


FIGURE 04.18 SSC Addition Lower Level Floor Plan

PHASE 2 MAINTENANCE BUILDING

The Plan recommends a new 4,500 GSF Maintenance Building to address a space deficit for grounds-keeping and operations. This structure could be prefabricated for economy, but the construction characteristics should also factor energy efficiency and durability for good long term life cycle cost. The building can be built near the existing one for operational efficiencies and to reduce the need for additional paving with associated costs and implications for stormwater management.

KEY

A New Maintenance Building
B Existing Maintenance Building
C Existing Building
D Existing Motorcycle Training Course



Existing Maintenance Building Today

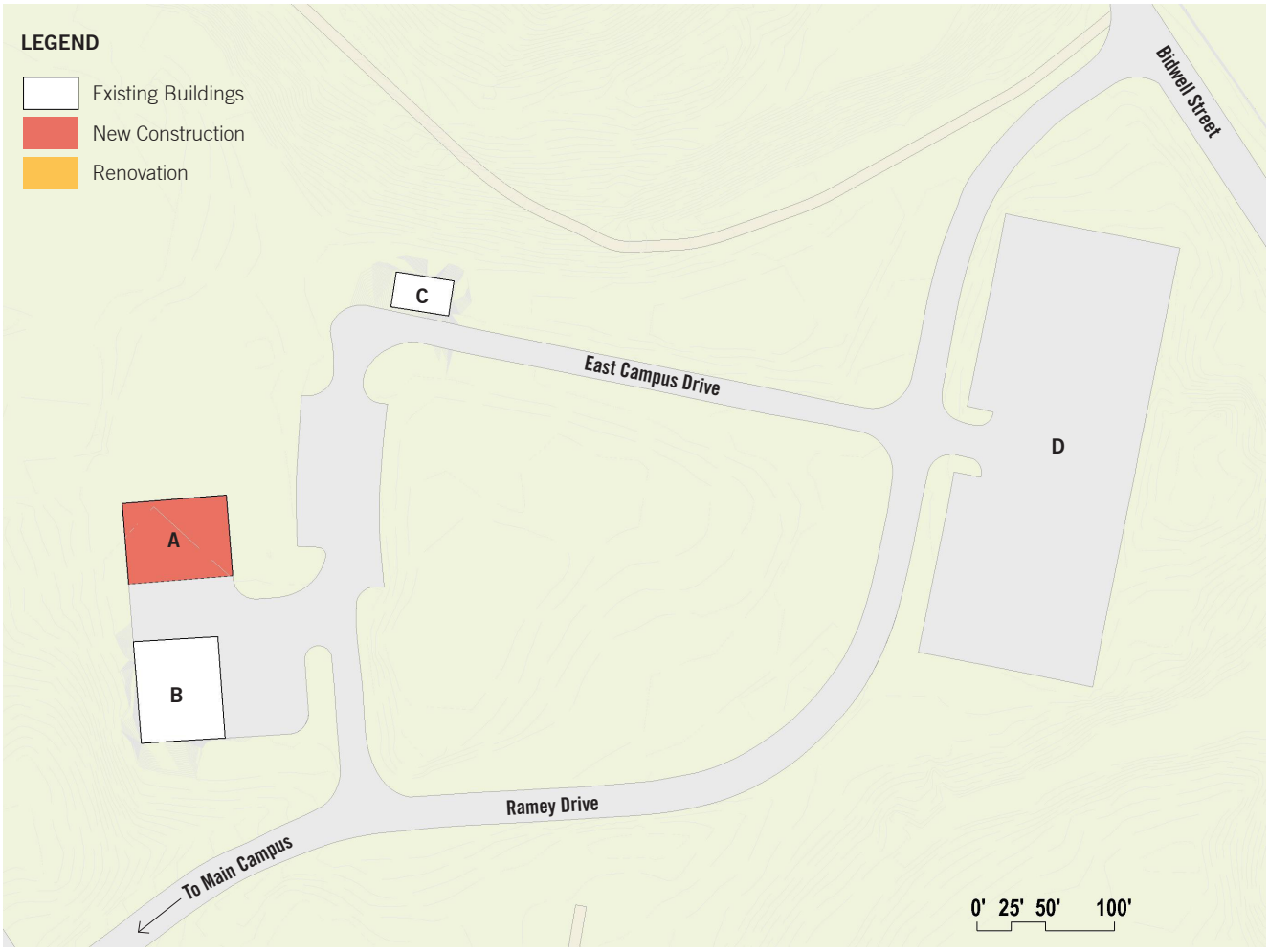


FIGURE 04.19 Proposed Site Plan

PHASE 2 PROGRAM SUMMARY

The table below provides an overview of how the spaces provided in the Master Plan concept design in Phase 2 for new construction and renovations meet the program needs defined in Chapter 3 and compare these areas to current conditions. As concept recommendations are refined during implementation, areas provided can be adjusted as needed to meet program target areas.

KEY COMPONENTS	EXISTING (ASF)	PROGRAM (ASF)	PROVIDED WITHIN EXISTING SSC	PROVIDED NEW ADDITION	TOTAL PROVIDED (ASF)
Culinary	6,837	10,844	(Level 2) 2,300	(Level 2) 9,900	12,200
Bookstore	4,117	3,200	0	(Level 1) 4,300	4,300
Multipurpose / Assembly	0	4,000	0	(Level 1) 3,500	3,500
Disability Services	384	1,716	(Level 1) 2,010	0	2,010
First-Year Experience & New Student Program	2,044	1,850	(Level 1) 1,800	0	1,800
Academic Support Center	4,434	5,800	(Level 2) 6,287	0	6,287
Career Services	528	1,283	(Level 2) 1,235	0	1,235
Math Lab	2,505		(Level 1) 2,430	0	2,430
IT	6,365		(Level 2) 6,538	0	6,538
Child Development Center	1,904	2,440	0	(Lower Level) 2,750	2,750
Student Activities	*23,185	25,000	(Level 1) 1,980	0	1,980
Finance & Administrative Services	2,688	2,613	(Level 2) 3,590	0	3,590
Student Affairs	2,322	1,985	(Level 1) 1,980	0	1,980
Mechanical Room				2,480	2,480
Campus Services	8,682	16,781	2,042 **4,000	7,535 ***4,500	†13,120 17,120
TOTAL (ASF)	65,995	77,512	31,235	34,465	65,700
GROSS (57% NET TO GROSS)				54,110	

**Existing ASF reflects figures after Phase 1 expansion.*
***Existing Maintenance Building on the east side of Campus (B on Figure 04.19). Not Included in Total ASF.*
****Proposed Maintenance Building as shown in Figure 04.19 (A on Figure 04.19). Not Included in Total ASF.*
†Not Included in Total ASF.

TABLE 02.3 Phase 2 SSC Program Summary



FIGURE 04.20 Concept Rendering: Vision for SSC Addition and Eastern Entry to Campus


MANCHESTER COM ITY COLLEGE

BUILDING PROJECTS: PHASE 3

GPA ADAPTIVE REUSE

To meet the College's program goals, a third expansion is needed after the Phase 1 and 2 Additions are completed. Rather than constructing another addition, the recommended strategy for Phase 3 expansion is to utilize the Great Path Academy building for MCC.

Great Path Academy was bonded by the Connecticut Legislature to become a middle-college high school on the campus of Manchester Community College. It is currently operated by Hartford Public Schools. The agreement is due to expire in 2027. The school's enrollment is currently below capacity. Synergies between GPA and MCC are minimal to modest. Using the GPA building to meet MCC's expansion needs would be far less costly than building a new addition. For these reasons, considering a change in facility occupancy is worth serious consideration.

If MCC can take occupancy of the GPA building (perhaps near year 10 of the Master Plan), the facility would provide ample space for that could be adapted for the College's various needs. The highlighted areas in the floor plans below illustrate how a total of almost 33,000 ASF is available to be converted. Other spaces can also be used. The large open space by MCC Admissions, used now by GPA students for a lunch room, could be upgraded in finish and dedicated for use by MCC's students. This internal expansion, so close to the College's cafeteria, would be very valuable. Specialized spaces in the GPA building, like the second floor Commons and Gymnasium, would remain to preserve these investments and be used for meetings, events, conferences, and recreation.

Together, this additional area for the College would allow the removal of the 5 remaining Village buildings. This provides several benefits. First, it provides an opportunity to replace fragmented, disconnected functions in a more integrated way, next to other like functions. Second, it allows these functions to expand, rather than being limited by the size of the individual Village structures. Finally, removing the Village allows the courtyard open space to be expanded and transformed to be a signature open space (see following section). The functions in the Village buildings include three classrooms (3,491 ASF total), a Design Lab (1,080 ASF) and a Precision Lab (710 ASF).

The strategy for utilizing GPA's space for MCC is straightforward. Functions would be placed to optimize adjacencies and to minimize costs. MCC would use vacated GPA space for classrooms and offices. In turn, some offices on the second level of AST could be converted to serve as labs or specialized spaces, near their respective departments to maintain cohesion and efficiency.

In the vacated GPA building, the College may be able to use some classrooms simply by changing out furniture and equipment for types more appropriate for higher ed. Repartitioning classrooms could be required in some areas to right-size for College section sizes and pedagogical goals. Offices areas may require little renovation.

KEY

A Repurpose existing space: 32,700 SF
B Improve existing dining area in SSC
C Remove remaining Village buildings (Not shown in plan)

LEGEND

Existing Buildings
New Construction
Renovation

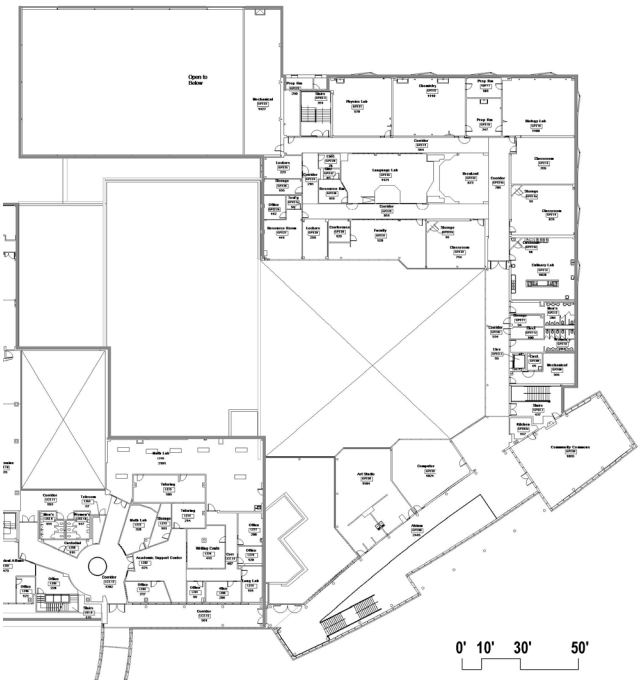


FIGURE 04.21 Existing GPA Second Floor Plan

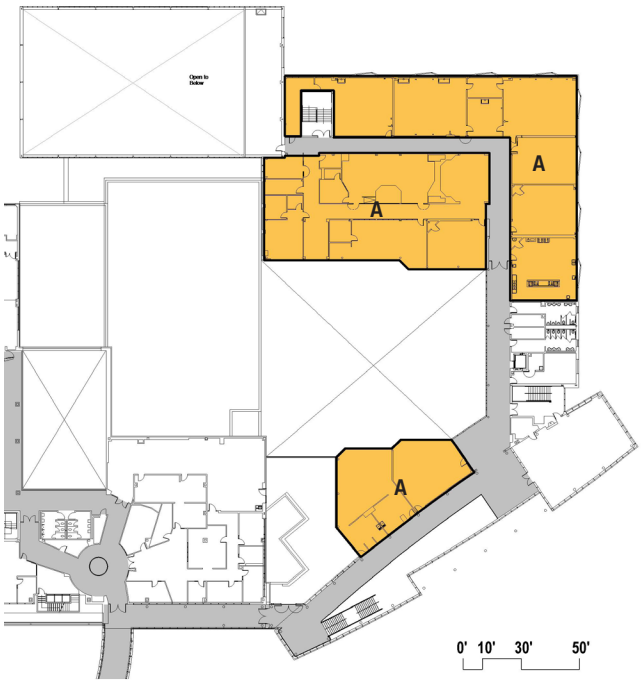


FIGURE 04.24 GPA Renovation Second Floor Plan



FIGURE 04.23 Existing GPA First Floor Plan

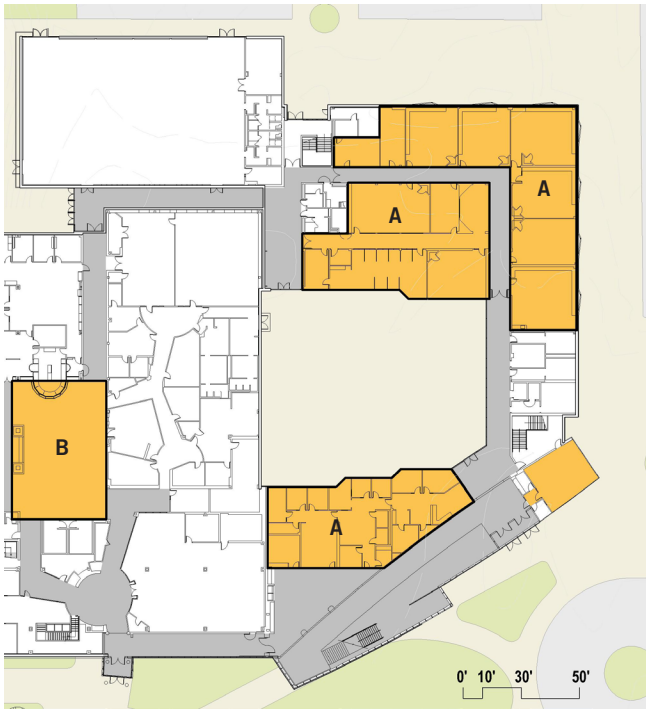


FIGURE 04.22 GPA Renovation First Floor Plan

OPEN SPACE AND LANDSCAPE

The Master Plan Update includes several recommendations to enhance the College setting, to create a more welcoming experience for visitors, to green the core of the campus and to coordinate with expanded and renovated buildings.

KEY

A New Entry Canopy to SSC
B New Garden
C Campus Main Walk / Music Spaces Relocated
D Existing Village buildings
E Dining Plaza
F SSC Atrium / Indoor Dining Area

Phase 1: STEM Entrance and Courtyard Improvements

The Addition to the AST C wing for expansion of STEM and Allied Health program is a strategically important project for MCC. Given the importance of the project, it merits having its own exterior entrance, as well as good connections to the C wing which it abuts. The Master Plan proposes to create a pedestrian path flanked by an allee of trees to the new entrance of the STEM building (as illustrated in Figure 04.8 on page 96). This open space project will have the important effect of making this back area into a front. The existing masonry wall will remain to screen the service yard of the AST D wing. A new vehicle gate is proposed in order to visually screen the D wing loading dock, while allowing service access as needed. Service vehicle access would not be frequent, so does not pose a significant conflict with pedestrians accessing the STEM building from the west parking lot. (The minor impact on parking capacity is described in the following section.)



FIGURE 04.25 PHASE 1 Proposed Courtyard & Landscape Layout

The central courtyard today is compromised by the Village which clutters its west end. As a first step toward enhancing access and open space, the Master Plan recommends replacing and expanding the music functions now in one Village Building into part of the new AST C Wing addition. In this way, a wider opening can be created to welcome people into the courtyard. The current garden would be relocated to be inside the courtyard in order to open up this more direct path. The new proposed entrance canopy at SSC will be a new visual marker for accessing the new “main street” inside the building. Removing the concrete low wall that now protruded inside this plaza area will make this area more open and welcoming.

The Master Plan recommends improving the underutilized outdoor space near the Atrium, whether or not it is feasible to expand here. Today, it is a lost opportunity for this south-facing exterior area to sit relatively unused so close to this hub of activity inside. Creating a plaza for dining and informal gathering and better indoor / outdoor flow will be a major quality of life improvement during good weather in the warm months.

Phase 2: Entry Plaza and Open Space improvements for SSC Addition

There is sufficient open space to fit this expansion between SSC and the existing drive and drop off, avoiding costly relocation of the road, associated utilities and reconfiguring the storm water basin. The Master Plan scope includes a welcoming entry plaza to go with the new front door to this side MCC. Stairs are required to accommodate the level change between the entry drive and the ground floor of the addition, which aligns with the existing SSC ground floor. There is ample space to include ADA-compliant routes to the building entrance around the side of the stairs.

The Master Plan includes several short-term parking spaces for drop off and pick up next to the entry to the new Childcare Development Center. The relocated Child Development Center in the lower level of the addition. This location will be closer to the outdoor playground for the Child Development Center, which will remain in place. A cross walk will be installed as a cautionary indication to service vehicles that occasionally will access this area, where young children will be crossing at times to access the playground. To provide ample light to the west side of the Child Development Areas which is partially below-grade, the Plan recommends a retaining wall next to the sidewalk to create a landscaped areaway.

Phase 3 Courtyard Restoration

Once MCC eventually takes over the Great Path Academy building, it can replace the functions now in the Village in GPA with better connected space. The 5 vacated Village buildings can then be demolished to clear the Courtyard and open this up to its full extent. The resulting outdoor space, with lawn, paths, furniture and landscaping will then fulfill its potential as the signature open space that is the College's "postcard view", and a heart of student life. The concept rendering at right illustrates the potential impact of this transformative project to open up MCC's iconic central space.

KEY

A Exterior Stair and Entry to new SSC addition
B New Lawn area
C Main campus walk

Solar Fields

Open space at the northeast part of campus near I-384 was the former location for the original college buildings. It is now unused, with a few trees. This area will be utilized for a Solar Field, a new array of photovoltaic panels to generate renewable energy.

The second area for a Solar Field is north of the college in open space formerly used for recreation and athletics. MCC has phased out its athletic programs. As a commuter campus, these areas are not used for recreation by a resident student population. As a result, the land is not utilized. The proposed Solar Field will not only benefit the College financially, but also be a teaching opportunity to showcase and interpret how this green initiative works and meets MCC's sustainability goals. Additional information on this initiative is included below in Energy and Infrastructure.



FIGURE 04.26 PHASE 3 Proposed Courtyard & Landscape Layout

PARKING

Since Manchester has ample parking capacity to meet its current and anticipated 10-year needs, parking lot expansion is not required.

The Master Plan recommends reconfiguring the faculty staff parking lot south of the AST D Wing in order to create an appropriate entrance setting and pedestrian approach to the Phase 1 STEM Addition to AST C wing, with a resulting loss of approximately 22 spaces (1.2% of the existing 1,969 spaces). Given that the MCC lots are never full to capacity, the CMPAC and consultant team believe this reduction is feasible without the need to construct replacement spaces.

The Master Plan recommends that MCC continue to encourage students, faculty and staff to use alternatives to single-occupancy vehicles to access the campus when feasible. The College should continue to promote use of the regional bus service for those who can benefit from transit. If a sufficient number of students live close enough to campus to come by bicycle, it would be beneficial to provide bike racks and promote this as a healthy alternative to driving.



FIGURE 04.27 Existing Faculty Lot



FIGURE 04.28 PHASE 1 Faculty Lot



FIGURE 04.29 Concept Rendering: Campus Core Courtyard with Expanded Garden and Outdoor Dining Plaza





FIGURE 04.30 Concept Rendering: Aerial View



ENERGY AND INFRASTRUCTURE

ENERGY MASTER PLAN

An Energy Master Plan for MCC was conducted by Perkins+Will and Woodard & Curran prior to Master Plan Update. The detailed findings and recommendations are referenced in the Technical Appendix. Together as these energy conservation measures and other projects are implemented, MCC's energy use should be reduced significantly. In parallel, CSCU has solicited a Power Purchase Agreement (PPA) for a major new solar power initiative at Manchester. The ground-mounted photovoltaic arrays are located on underutilized open space at the north side of campus along 384 and should provide up to 2 megawatts of electricity. This will provide greatly reduced electrical costs for the College to assist with the operating budget. This master plan also recommends exploring additional opportunities for roof-mounted PV systems on existing buildings.

The Master Plan Update includes recommendations for MEP infrastructure both to support proposed expansion and renovation projects and also to address needed upgrades of systems that are reaching the end of their useful life.

MEP RECOMMENDATIONS TO SUPPORT MASTER PLAN PROJECTS

Based on the draft plans for proposed expansions, AKF has the following recommendations for each phase based on our understanding of the space types included in each phase and existing capacities of the campus:

Phase 1 MEP Infrastructure Scope

1A / STEM Addition to AST

Mechanical

- New 185 ton chiller and 230 ton cooling tower, with new pumps (two chilled water at 300 GPM & 75' ea. and two condenser water at 455 GPM & 75' ea.)
- 2 new boilers at 1000 MBH each
- 2 new pumps at 100 GPM & 75' ea. These can either be located in the new addition or the existing boilers and pumps in LRC could be replaced to with larger models for the additional capacity.
- New air handling units (AHU) totaling 75,000 CFM.
- New lab exhaust systems will be provided.

Electrical

- A new 1200 amp service would be required for the increased square footage of AST.
- The existing generator serving AST and LRC would need to be relocated and increased in capacity to accommodate the additional square footage.
- Plumbing
- New water service would be required for the addition to AST
- New point of use water heaters for domestic hot water.
- Fire Protection
- New fire protection main from the existing distribution manifold in LRC.

1B / SSC Renovation and Potential Atrium Expansion

Mechanical

- Reconfigure distribution system and controls in areas with reconfigured layouts
- The Dining Area renovation would require minimal rework of the existing system, with only additional VAV zoning. This would not require an increase in system capacity.

Electrical

- Reconfigured outlets / tel data as needed in renovated areas
- If Atrium is expanded, would require minimal rework of the existing system, with only new circuiting and sub panels required.

Plumbing

- No work planned for restrooms or cafeteria
- Fire Protection
- Reconfigured sprinklers as needed in renovated areas
- If Atrium is expanded, would require new branch piping and heads.

Phase 2 MEP Infrastructure Scope

2A / Addition to SSC

Mechanical

- New 165 ton chiller
- New 205 ton cooling tower, with new pumps (two chilled water at 235 GPM & 75' each and
- 2 condenser water at 370 GPM & 75' ea.)
- 2 new boilers at 1000 MBH ea
- Two new pumps at 100 GPM & 75' ea. These can either be located in the new addition
- Alternatively the existing boilers and pumps in SSC could be replaced to with larger models for the additional capacity.
- New air handling units (AHU) totaling 66,000 CFM.
- New kitchen exhaust systems for relocated Culinary Arts kitchens

Electrical

- New 1200 amp service would be required for the Phase 2 addition.
- The existing generator would need to be increased in capacity.
- Plumbing
- New point of use water heaters for domestic hot water.
- New outdoor grease system will be required for the relocated Culinary Arts.
- Fire Protection
- New fire protection main from the existing distribution manifold in SSC.

2B / SSC Renovations

Mechanical

- Reconfigure distribution system and controls in areas with reconfigured layouts
- Remove kitchen exhaust systems from vacated / repurposed Culinary Arts kitchens

Electrical

- Reconfigured outlets / tel data as needed in renovated areas
- Many of the existing IT closets are conditioned by the base building systems. It is recommended to remove these closets from the existing base building system and provide new local split systems for each closet on emergency power.

Plumbing

- Remove plumbing in vacated / repurposed Culinary Arts kitchens

Fire Protection

- Reconfigured sprinklers as needed in renovated areas

Phase 3 MEP Infrastructure Scope

Great Path Academy Renovations

- New zoning for all trades would be required
- New systems or increases in service size would not be required.

Renovations in AST to expand Labs

- New zoning for all trades would be required
- New exhaust / fume hoods required in lab areas with ventilation requirements
- New plumbing required in classrooms converted to labs needing sinks, other plumbing

MEP RECOMMENDATIONS FOR EQUIPMENT UPGRADES

While Manchester's buildings are relatively new compared to those at many colleges, some mechanical equipment is approaching the end of its service life. The Master Plan team worked with MCC Facilities to identify a detailed list of equipment for boilers, air distribution, and water distribution equipment. This information is recorded in a Matrix included in the Technical Appendix (separate document for staff reference). The data includes for each piece of equipment the following information:

- Equipment Number
- Manufacturer / model
- Location
- Area served
- Date installed
- Condition
- Replacement Priority
- Comments

GUIDELINES

ARCHITECTURAL CHARACTER

Manchester's recent buildings have a cohesive and attractive architectural character. The AST and LRC Wings, as well as Great Path Academy, share a common language of matching brick, on a water table course and base of split face concrete masonry units. Elevations facing entries and the central courtyard have generous expanses of glazing that provide ample light and views. White metal knits through the buildings as a unifying element in cladding, mullions and canopies. In contrast, the more functional appearance of the SSC, with its concrete aggregate finish and reflective glazing on, is less attractive, speaking more to a functional solution for this oldest structure in the complex.

The Master Plan recommends that the architectural character of the two proposed additions be similar in expression to the AST. The Phase 1 STEM Addition extends from the AST C wing and abuts the B wing. Matching the materials of AST will harmonize the parts into a larger whole. The rendering of the concept design conveys this general intent (refer to Figure 04.8 on page 96).

The concept rendering for the SSC in Phase 2 west addition (shown in Figure 04.20 on page 110) illustrates the design strategy for covering the older, less attractive building with new construction that harmonizes with the Tower and AST D wing on the opposite side of the courtyard. Using a similar architectural character for this addition will "complete" the composition, set up by the D wing and Tower, framing the entry to the courtyard in the center as the green heart of the campus. Within this architectural language, much variation is possible in the final design of the massing, pattern of window openings and other architectural and site features.



Existing AST-LRC Wings



Existing Student Services Center



Existing Tower with Village Buildings

SUSTAINABILITY

The graphic below summarizes the integrated approach to sustainability in the Master Plan. By optimizing the use of existing facilities, including eventual adaptive reuse of Great Path Academy for the College, the Recommendations embody a sustainable approach to college development and operations

New construction is required to comply with the High Performance Building Standards of the State of Connecticut. This relates approximately to a U.S. Green Building Council LEED certified rating. The Planning Team encourages MCC to strive for the highest level of sustainability in building design and energy use feasible within the project budget. This approach will be especially important for minimizing increases in operating costs given that science buildings are energy-intensive in use.

The Plan recommends new construction and renovations utilize a durable, high performance building envelop, energy-efficient LED lighting, low-flow plumbing fixtures, recycled materials and high efficiency heating and cooling systems. The design should also consider such strategies as rainwater and gray water reuse for irrigation and PV arrays on roofs for generating renewable energy.

Manchester is the first CSCU Community College to be part of a pending Power Purchase Agreement (PPA) with a renewable energy development partner. This green initiative to install Solar Fields on underutilized campus open space, generating approximately 2 Megawatts of electricity, will make MCC a leader in renewable energy within CSCU and regionally.

A parallel system-wide Energy Master Plan also identifies multiple recommendations for further improving energy conservation at MCC (refer to the Master Plan Technical Appendix).



Building:
Required - CT High Performance Building Standards



Land:
Minimize Additional Development Footprint



Stormwater:
Retain / Treat / Infiltrate



Landscape:
Minimize added impervious area.
Green the courtyard, removing Village one-story structures



Transportation:
Improve pedestrian connections.
Maintain bus service



Energy:
Solar Fields / PPA
Implement Energy Master Plan recommendations

IMPLEMENTATION AND COST

The Master Plan team integrated phasing throughout the formulation of the recommendations. The reasons were several. First, all considered it especially important to address the highest priority needs in order of the phasing. Second, since single projects larger than a certain size might not be fundable, the planning team realized the importance of framing projects not to exceed a certain scale. Finally, all realized that framing a viable phasing strategy was critical to provide flexibility given the uncertain financial climate.

PHASING

Each phase itself included several parts. These implementation steps reflect the logic of construction sequencing and aim to address the need for swing space and goal to minimize moves and disruption. If funding were limited, each sub phase could potentially stand as its own phase, though this could result in some vacated space being unused until renovation funds were secured.

Phase 1

Encompasses both an addition to AST primarily for STEM and Allied Health programs, and classrooms, as well as a renovation of SSC to consolidate key student services in a One Stop area.

Potential construction sequence:

1a Construct AST Addition

1b Renovate SSC

- Move back office functions from first to converted classroom space on second floor
- Move Admissions, Financial Aid and Registrar to backfill this vacated space
- Backfill vacated Admissions area with Student Services
- Construct Atrium Expansion (if permitted by code)
- Demolish Music Building once replaced in AST addition

Phase 2

Encompasses both an addition to SSC primarily for Culinary Arts, Assembly, bookstore and relocated Child Development Center, the renovation of additional SSC areas, and a new maintenance building.

Potential construction sequence:

2a Construct SSC Addition

- Relocate from west end of SSC First Year Student Offices and part of IT
- Demolish west end of SSC to connect addition
- Construct SSC addition

2b Balance of SSC Renovations

- Backfill vacated book store, Culinary Arts space and Child Development Center
- Renovate balance of areas to meet programmatic needs

Phase 3

Adapt Great Path Academy for use by MCC.

3a GPA Renovations

- Renovate / refurbish select GPA spaces for MCC classrooms and for offices
- Renovate GPA dining atrium to serve as MCC student hub / social space

3b AST Internal Expansion

- Repurpose vacated classrooms in second floor AST to provide expanded labs and other spaces for programs with remaining expansion need

LEGEND

- Existing Buildings
- New Construction
- Renovation
- Adaptive Reuse

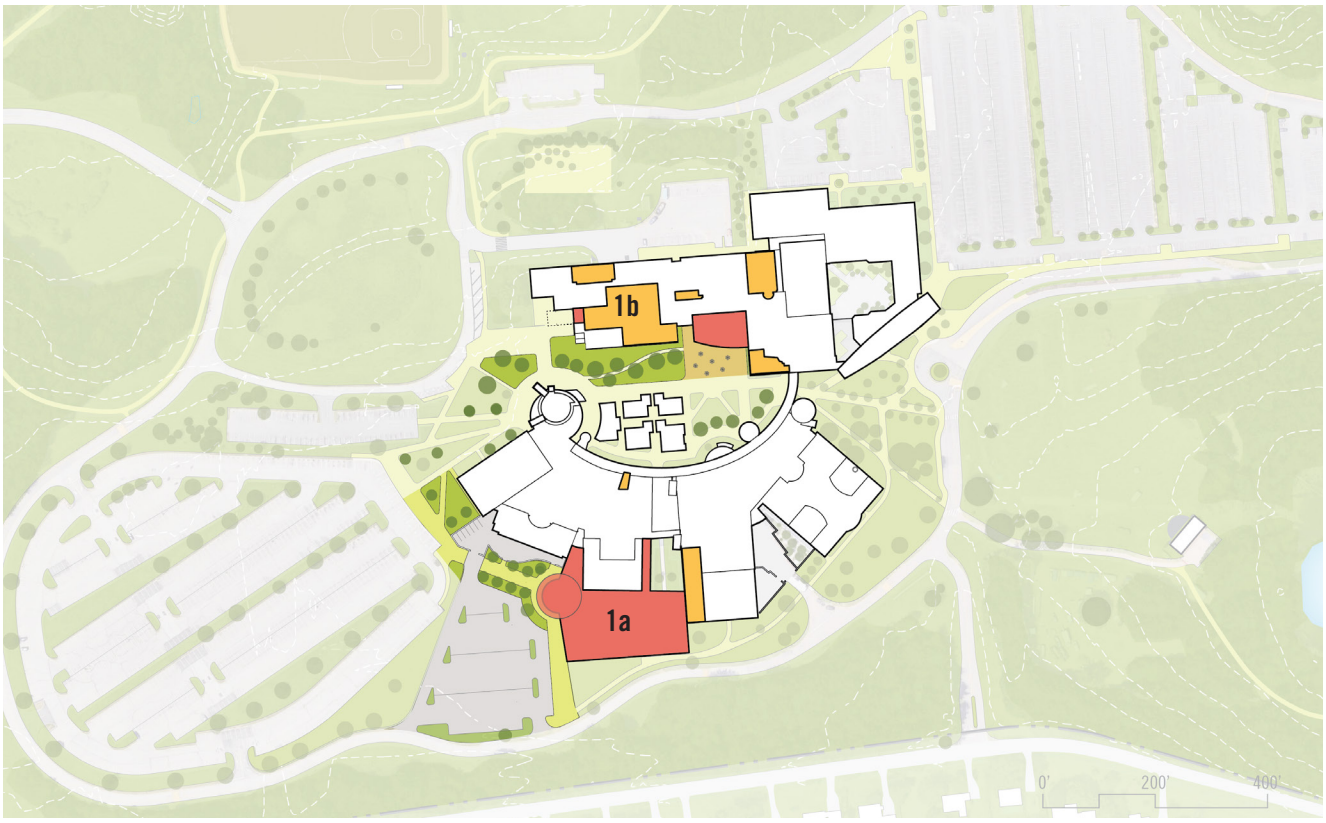


FIGURE 04.31 Phase 1 Site Plan

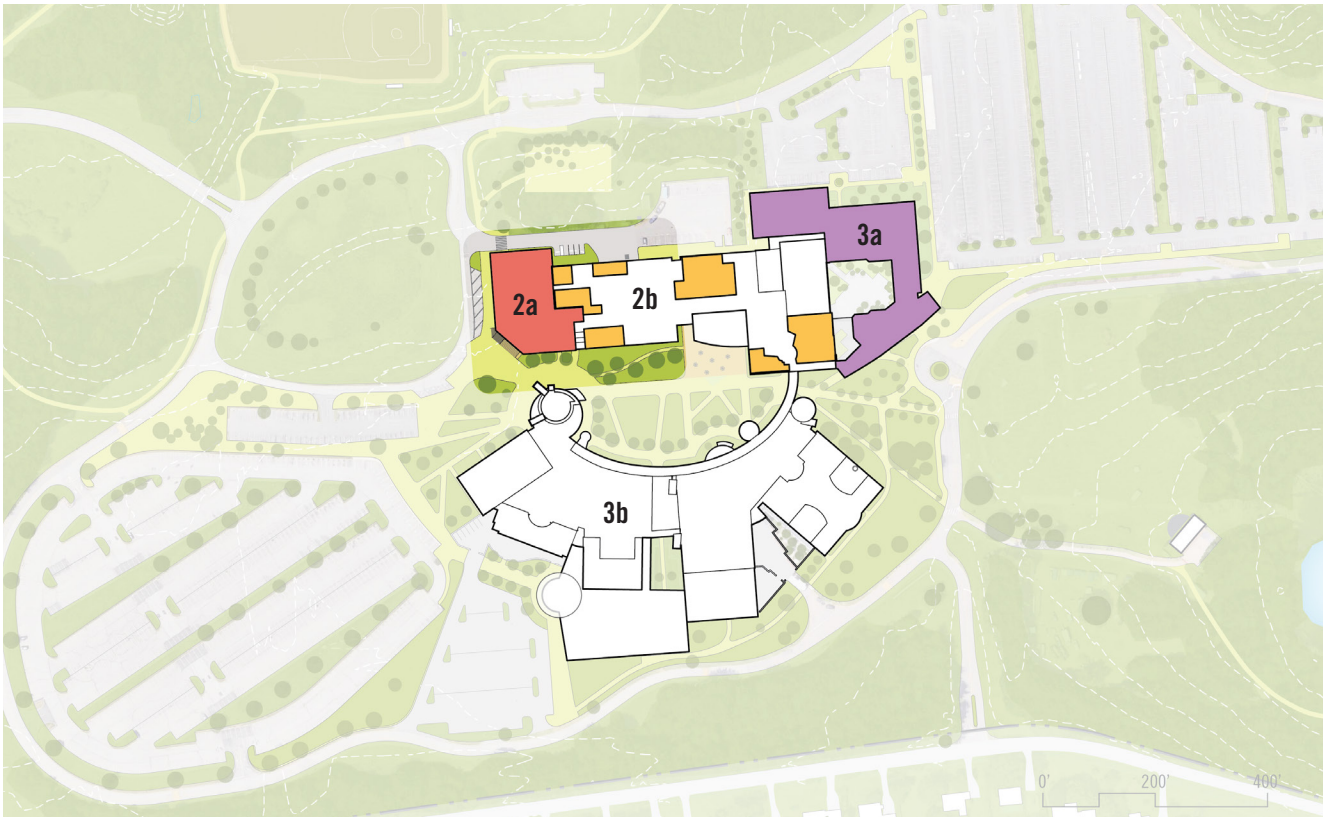


FIGURE 04.32 Phase 2 & 3 Site Plan

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
  - 35%: Parking Garages
  - 30%: Roads / Parking / Open Space
  - 30%: Infrastructure
- Labor costs included at local union rates
- Long lead items can be purchased to meet schedule requirements
- Figures in 2017 1 HZV. dollars
- Once project bid date known, budget figures to be escalated to reflect inflation

Markups

General Conditions, General Requirements, 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)

Phase 1	SF	Const. Cost	Project Cost
AST Addition (STEM, Allied Health, Classrooms, Music)	60,600	$45,512,400	$65,992,980
AST and LRC Renovations	12,000	$7,002,000	$10,152,900
Site and Landscape and Parking Reconfiguration for AST Addition	90,000	$720,000	$936,000
SSC Renovations / New Entry	14,500	$7,954,200	$11,533,590
Demolish Village Building	4,670	$168,120	$218,556
Courtyard Landscape, Plaza	37,000	$1,591,000	$2,068,300
Total: Phase 1		$62,947,720	$90,902,326
Add Alternate / SSC Atrium Expansion	4,850	$5,068,250	$7,348,963
Phase 2	SF	Const. Cost	Project Cost
SSC Addition and Sitework	53,500	$33,009,500	$47,863,775
SSC Renovations	41,520	$12,529,440	$18,167,688
Maintenance Building and Sitework	4,500	$1,584,000	$2,059,200
Total: Phase 2		$47,122,940	$68,090,663
Add Alternate / SSC Tower Entry Canopy	6,370	$1,853,670	$2,687,822
Phase 3	SF	Const. Cost	Project Cost
GPA Renovations for MCC Use	35,910	$10,100,070	$14,645,102
Other Renovations (SSC, AST, LRC)	16,000	$4,984,000	$7,226,800
Demolish Village / Courtyard Landscape and Restoration		$1,615,400	$2,100,020
Total: Phase 3		$16,699,470	$23,971,922
Site and Infrastructure Projects			
SSC: Replace Rooftop Air Handling Units units (8), other MEP Upgrades		$2,461,190	$2,830,368
AST: Replace Air Handling Units (7), Kitchen Exhaust Fan		$2,966,508	$3,411,484
LRC: Replace Air Handling Units (3), Cooling Tower Pumps, Other Upgrades		$1,253,715	$1,441,772
IT Room HVAC and Electrical Upgrades (12 Rms)		$283,680	$326,232
Replace Emergency Generators, Switches, Feeders (3)		$2,380,282	$2,737,324
Solar Field (separate funding by Power Purchase Agreement)		NA	NA
Total: Site and Infrastructure Projects		$9,345,373	$10,747,179
Total		**$136,115,503**	**$193,712,090**

TABLE 02.4 Cost Estimate

CONCLUSION

The Master Plan Update for Manchester defines the capital needs to address the College's highest priority strategic goals. These include growing enrollment in thriving programs where demand exceeds capacity, providing high quality academic and vocational programs and fostering student success. The Recommendations address the current space deficit to support MCC's significant enrollment today, in an array of programs, some of which are space-intensive, like Allied Health and Culinary Arts. The Plan optimizes the use of existing buildings, open space and infrastructure investments through carefully frame renovations. The eventual adaptive reuse of Great Path Academy for MCC's purposes will allow the College to expand significantly without new construction at that time. Together, the Recommendations will align the College's physical assets with its enrollment, programs and goals for the next 10 years and beyond, so Manchester continues to be a vital resource for its community and the region.



MASTER PLAN TEAM

PERKINS+WILL
Master Planner / Architect

Bill MacIntosh
Mike Aziz
Lois S. K. Suh
Brad Rodgers

SCOTT BLACKWELL PAGE
Academic Space Programming

Scott B. Page

AKF GROUP
MEP / Energy Infrastructure

John Rice
Thomas Ruggiero

VJ ASSOCIATES
Cost Estimating

Clive Tysoe
Kevin Putney
Stephen Moore