



HENRY FORD COLLEGE

# CAMPUS MASTER PLAN

JUNE 2015

(DRAFT ISSUED JANUARY, 2015)

# ACKNOWLEDGEMENTS

## CAMPUS MASTER PLAN

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Significant contributions to this report have been made by members of the College's administration, faculty, staff and student body. The brief list on this page mentions some of the contributors who have played an exceptional role in this process to date.

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### FROM THE PRESIDENT

Dear Colleagues,

I am very pleased to share with you the culmination of a year-long effort of data collection, stakeholder discussions, and "dreaming big" about the future of Henry Ford College. As you may know, it was not long ago that the College faced significant financial challenges. Thanks to the sacrifice and commitment of everyone at Henry Ford College and the belief of our community in the College, we are over coming this challenge and stand on better financial ground today. We are positioning the college to sustain this stability and seek new growth for the near and long-term future. This campus master plan is a reflection of our optimism for the future of HFC.

In early 2014, Stantec, Inc., who has served as the College's architect on multiple campus projects, was contracted to facilitate the master planning process. Their expertise working with colleges and universities across the country has served HFC well; the result is a comprehensive picture of our main campus that provides not only a vision but a tool to use in continuous planning. It will take continued commitment and resources to ensure that we meet the needs of our students and community well into the future. This plan provides a plan "A" road map.

The Master Facilities Planning Committee is a cross-functional team and served as a major player in the plan development. Each committee member, representing a stakeholder group (administrators, full-time faculty, adjunct faculty, staff, and/or students) defined the objectives and criteria that drove the successful master plan. Their input and oversight, along with academic and administrative divisions, community and business leader input, has resulted in an excellent tool to use in planning. My sincerest thanks to all who served on the Master Facilities Planning Committee for their diligence and commitment to the future of the College.

The Master Plan is a 20 year vision for the future; it is a tool from which we can continue to plan and make effective decisions regarding how best to meet the needs of our students and community now and in the future. I encourage you to provide feedback and participate in public forums when they are scheduled and announced as the plan progresses.

Great Things Ahead,

Dr. Stan Jensen  
President

# CAMPUS PLAN

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E X E C U T I V E  
S U M M A R Y

# FRAMEWORK

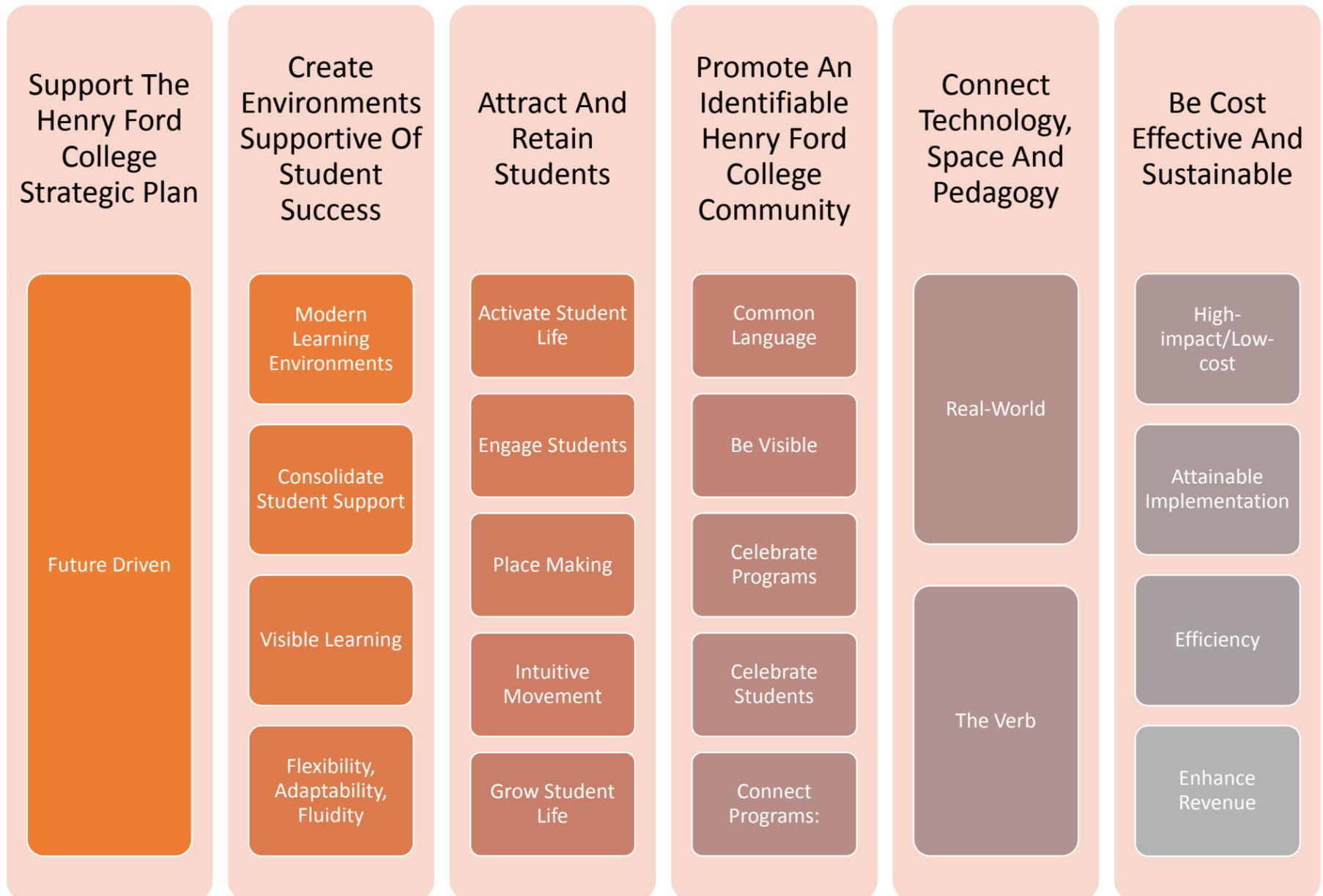
## DEFINING THE PROCESS

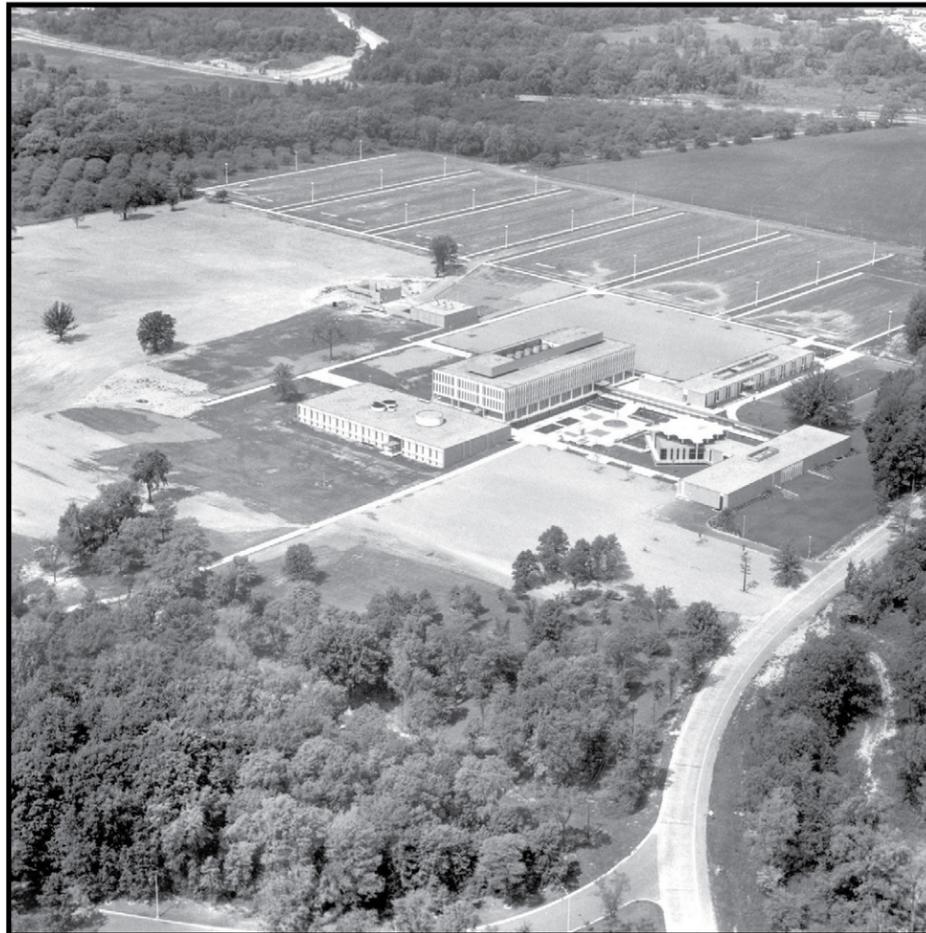
### FAST FACTS - ESTABLISHING GOALS AND PRINCIPLES

As Henry Ford College establishes its new identity as a four-year institution and looks to bring its campus up to 21<sup>st</sup> Century learning standards, the need for a guiding document to help direct future growth became apparent. This master plan will enable the institution to identify its priorities for the future development of its campus, bookmark potential development sites on campus and form a cohesive identity through its physical environment.

The Henry Ford College Master Plan is driven by a three-level structure of Guiding Principles, Planning Goals and Initiatives for implementation, developed through input from the Master Facility Planning Committee, interviews with stakeholders and strategic direction from the administration.

- **Guiding Principles** articulate the larger objectives by which the success of the master plan will be measured. These complete the statement "For this master plan to be successful, it must..."
- **Planning Goals** are built from these Guiding Principles, linking the Master Plan to the Strategic and other plans, providing a framework for supporting individual initiatives and projects.
- **Initiatives** are the detailed project proposals the college will undertake as the plan progresses. These can include everything from minor projects to site work to renovations, reconfigurations and new construction.





# DISCOVERY

## EXISTING CONDITIONS

### FAST FACTS - EXISTING INVENTORY

#### 2013-2014 Enrollment:

- Unduplicated headcount: 20,931
- FTE: 10,116
- 176 full time faculty
- 632 adjunct faculty

#### Main Campus Assets

- Established 1962
- 19 buildings totaling 909,907 GSF (includes School of Nursing, SME)
- 75 acres

#### Parking

- General Spaces: 2,950
- Handicapped Spaces: 69

During the Discovery Phase of the master planning process, Stantec works both independently and with the institution to create a comprehensive understanding of who the client is and what their values are. This process includes assessing the institution's current assets and strengths, identifying opportunities for growth and improvement, and what potential barriers or critical issues need to be addressed.

Members of the Stantec project team spent time on campus to become immersed in Henry Ford's current culture. During this time, the team performed several specific tasks to engage a broad range of stakeholders.

- Data Collection - The team collected various plans, reports and documents that are relative to the planning process.
- Interviews - Several one-on-one interviews were conducted with key individuals from the campus.
- Presentations - Throughout the planning process, Stantec made routine presentations to the MFPC, President's Cabinet and Board of Trustees.

During this phase of the project, the planning team studied six unique elements that together, make up the campus at large. Each element was evaluated on current conditions as well as the ability to accommodate the near-, mid- and long-term needs of the University.



#### ACADEMIC

Academic uses on the HFC Campus are largely organized around the center of campus. The Technology Building, Fine Arts Building, Health Careers Education Center (HCEC), Science Building, Liberal Arts Building, Library, Learning Resource Center (LRC) and the Student Center form a strong academic core at the heart of the campus.



#### ADMINISTRATION & OPERATIONS

Although administrative spaces can be found in nearly all academic buildings, most administrative functions are housed in three main locations on campus: the Administrative Services and Conference Center, the Book Store and the Learning Technology Center. Additionally, administrative spaces exist at the SME complex. Operations facilities are similarly scattered about campus, but focused in the Facilities Building, and the Learning Technology Center.



#### STUDENT LIFE & HOUSING

Student Life spaces are limited on the HFC campus, concentrated mainly in the Student Center. Many of the academic buildings on campus have some small spaces that could be used as lounge space - Liberal Arts, HCEC and Technology buildings. However these spaces are generally lacking in appropriate furniture, lighting and amenities to make them true lounge spaces.

Additionally, in Stantec's interviews with HFC faculty and staff, it was noted that the corridors in most buildings are used exclusively as circulation spaces and lack a certain energy or vitality with no places for students to sit, and a lack of transparency into active spaces.



#### ATHLETICS & RECREATION

Athletics and recreation on the HFC campus are limited entirely to the Athletic Memorial Building, located in the south side of campus. This building houses a gymnasium, locker rooms, fitness center and some assorted classrooms

# DISCOVERY

## EXISTING CONDITIONS

and offices. The building is located in what can be considered the “back of house” section of campus, giving the facility low visibility.



### SITE & OPEN SPACE

On its 75 acre campus, HFC has several prominent campus spaces. The most iconic of these spaces is the sunken plaza that sits between the Student Center and the Liberal Arts building. The large open green space at the heart of the academic core is reminiscent of a classic university quadrangle. The open grassy area to the west side of campus is perhaps the largest space on campus, with sidewalks winding through and benches scattered about in manner reminiscent of a park.



### INFRASTRUCTURE & CIRCULATION

#### PEDESTRIAN CIRCULATION

The Campus has numerous pedestrian pathways, but without much logic - certain high-volume routes lack a formal sidewalks, wayfinding and amenities, while in other areas of campus the number of sidewalks is excessive, providing more options than is needed, and making maintenance burdensome.

The suburban campus has limited access onto the campus itself, with vehicular access available only at four locations on Evergreen Road. The multiple curb cuts at Evergreen create a confusing entry sequence and does not emphasize a single, obvious entry point. A two-way ring road surrounds the Campus, providing access to all of the parking lots associated with Campus center, as well as to the Welcome Center.

#### PARKING

As a result of campus redevelopment a few years ago, the HFC campus has ample parking, with over 2,900 spaces distributed across fifteen lots on the main campus. Additionally, there are 400 general and 18 handicapped spaces in the SME parking lot. Dedicated faculty parking is located at the lot furthest to the northeast, and staff parking is located in the lot furthest to the southeast. There is rarely a time when finding a parking spot on campus is difficult. The parking lots are in excellent condition.

#### UTILITIES

HFC has a central chiller and central boilers. The chillers are located in the lower level of the Liberal Arts Building, and the boilers are located under the Facilities Building. Despite maintenance and replacements of the chillers, many parts of these systems are inefficient and approaching the end of their useful lives.

#### WAYFINDING

The Institution's new wayfinding master plan, which has already begun to be implemented, will address the haphazard signage currently on campus. This plan will create a system that identifies buildings by letters, making them easier to sign. Signage intended for both pedestrians and drivers will make navigating around the campus more intuitive.

#### BUILDINGS

While building condition is discussed throughout this report, it is helpful to discuss facilities in the context of infrastructure. While the buildings are autonomous, because they are part of a campus, they are also function as a network, and thinking of them as such - particularly when addressing topics such as addressing deferred maintenance and construction phasing - can be helpful in planning for these events.

# EXPLORATION

## EVALUATING OPPORTUNITIES

The Exploration Phase of the master plan builds on the Discovery Phase by taking the information gathered in the first phase and using it to inform the development of a list of projects to address the near-, mid- and long-term needs of the institution. Working with the client, these projects are then prioritized based on criteria defined by the institution. The end result of this phase is the development of several scenarios which will be tested with regard to how well each considers factors such as cost, funding, schedule and the ability to support the institution's goals.

Working with Stantec, HFC identified a series of goals to help advance the guiding principles identified at the start of the planning process as they relate to academic needs on campus. These goals for each facility further helped to define master plan projects for the near-, mid- and long-term ranges.

### NEAR-TERM

#### 1 TECHNOLOGY BUILDING



- Support new integrated programs
- Celebrate Centers of Excellence
- Create multipurpose labs to improve utilization
- Put learning on display
- Promote student collaboration
- Strengthen program connections (STEM + Liberal Arts + Fine Arts)
- Resolve deferred maintenance

#### 2 LIBRARY, LRC & STUDENT SUCCESS SERVICES



- Create a hub for outside-the-classroom learning
- Reimagine library as knowledge center
- Provide prime location for student success and support services
- Improve access to multiple student services
- Bring support to students
- Increase traffic to bookstore
- Prepare building for potential Early College program expansion

### MID-TERM

#### 3 LIBERAL ARTS BUILDING



- Provide modern learning environments in heavily utilized facility
- Embed student activities where students are
- Bring faculty together
- Promote collaboration
- Celebrate Centers of Excellence
- Put learning on display
- Strengthen program connections (STEM + Liberal Arts + Fine Arts)
- Improve efficiency of campus operations

#### 4 FINE ARTS BUILDING



- Upgrade and re-energize public spaces
- Upgrade classrooms and labs
- Celebrate Centers of Excellence
- Showcase student work in high traffic area
- Strengthen program connections through Interior Design + Architectural Technology + Construction (STEM + Liberal Arts + Fine Arts)
- Resolve deferred maintenance

#### 5 CULINARY ARTS AND CAFÉ



- Create space for state-of-the-art Culinary Arts program
- Improve usability of dining room
- Improve visibility from Evergreen
- Improve food choices for students
- Create entrepreneurial opportunities
- Consolidate Hospitality Program
- Strengthen program connections (Nutrition + Culinary)
- Resolve deferred maintenance

# EXPLORATION

EVALUATING OPPORTUNITIES

## 6 SCIENCE/HEALTH CAREERS



- Support Super Lab concept for science education
- Bring original Science Building up to condition of new building
- Upgrade classrooms and labs
- Celebrate Centers of Excellence
- Put learning on display
- Strengthen program connections (Science + Health, Science + Manufacturing, Nutrition + Culinary)
- Resolve deferred maintenance

## 7 ATHLETICS/RECREATION



- Engage students and encourage physical fitness
- Dedicate facility to only recreation and athletics
- Resolve deferred maintenance



# EXPLORATION

## EVALUATING OPPORTUNITIES

### LONG TERM

#### STUDENT HOUSING AND SPORTS FIELDS



- 8 • Plan space for future housing options for students looking for full college experience, athletes and foreign students
- 100+ beds
- Phased projects
- Coordinate with Student Life programs to provide sense of community not available off-campus
- Activate campus and maximize facility use
- Provide housing for summer programs

#### 9 REPURPOSE ADMINISTRATION BUILDING



- Plan to repurpose Admin Building as needed to support new programs, growing programs or community outreach
- Relocate Administration and IT department to SME site
- Near Welcome Center, University Center and Facilities
- 18,500 GSF needed, 66,000 GSF available
- Retain Campus Safety in Administration Building

#### 10 FUTURE DEVELOPMENT SITES



- Housing
- Support facility
- Sports fields

#### 11 CLARIFY CAMPUS EDGES AND ENTRIES



- Create strong entry and identity from the north
- Strengthen visual connection between Liberal Arts, Technology and Library
- Improve entry sequence from the south and southwest and bus stop
- Create zones to showcase student work

#### 12 CREATE CAMPUS QUAD



- Create large event space at center of quad
- Reduce quantity of walkways
- Strengthen identity of buildings surrounding quad
- Improve campus navigation

#### 13 CREATE SMALLER GATHERING SPACES ADJACENT TO CAFÉ



- Provide seating for student gathering
- Provide variety of open and shaded spaces
- Reduce quantity of sidewalks

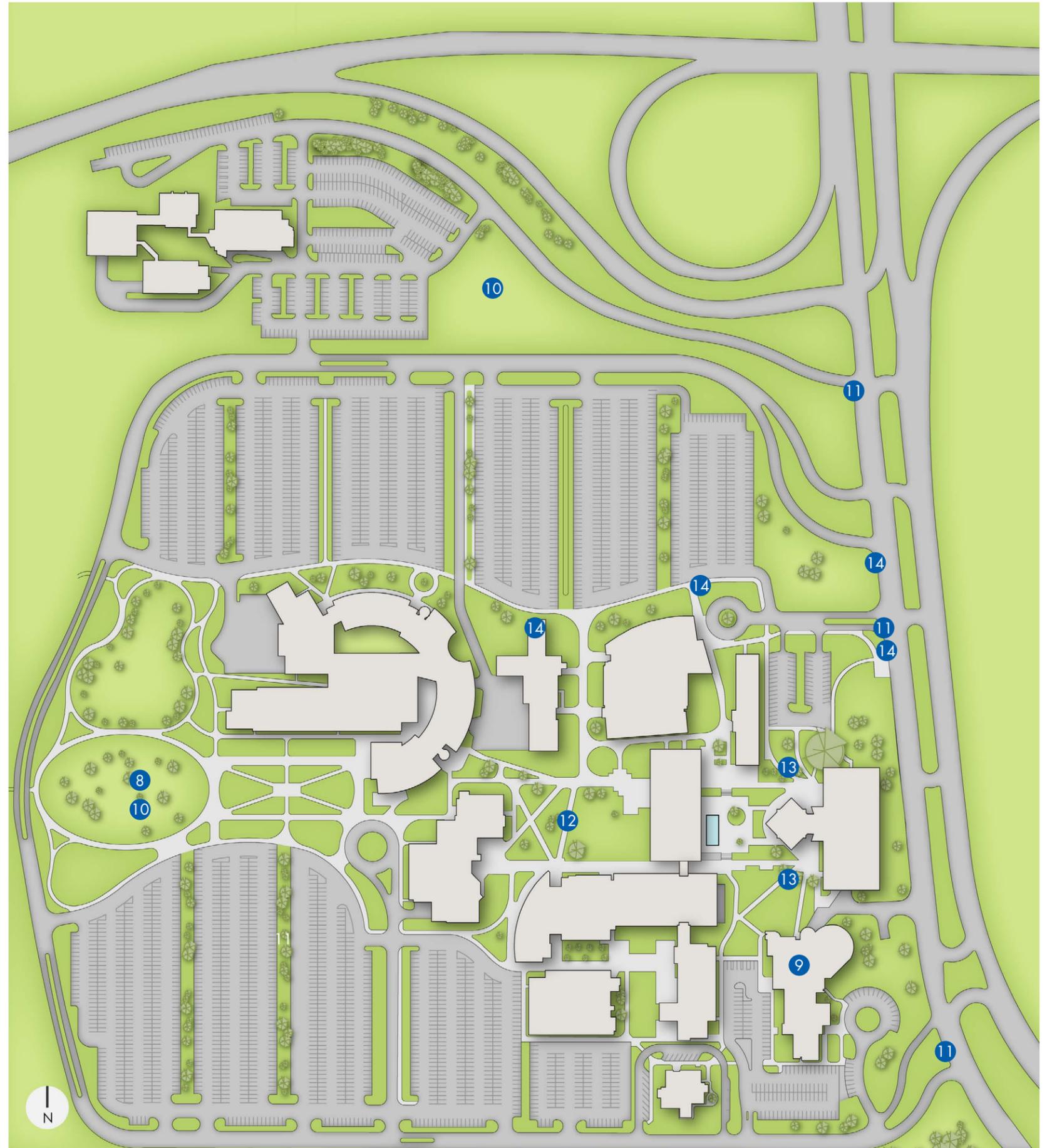
#### 14 CAMPUS IDENTITY



- Standardize lighting and site furnishings
- Simplify walkway system
- Incorporate native plant species to reduce maintenance
- Reduce number of emergency call boxes
- Improve connection to bus stop
- Strengthen visibility from Evergreen

# EXPLORATION

EVALUATING OPPORTUNITIES



# RECOMMENDATIONS

## GUIDING FUTURE DEVELOPMENT

### OVERVIEW

- Renovate academic buildings and relocate learning environments to promote interdisciplinary opportunities.
- Create flexible learning environments.
- Provide flexible, technology-equipped classrooms.
- Create open-entry/open-exit lab spaces that support integrated curriculum, collaboration and blended, self-paced learning.
- Create spaces, indoors and out, to showcase programs, projects, and student work.
- Provide collaborative spaces throughout the campus and buildings.
- Create a single location that brings knowledge creation and academic support to students in a welcoming environment.
- Refer to the Facility Condition Assessment when making decisions to address deferred maintenance and programmatic improvements simultaneously.
- Analyze the cost and benefits of continued investment in the existing major campus infrastructure.
- Create a framework that addresses potential future campus growth.

The Recommendations Phase follows up on the Exploration Phase by taking the solutions created in the Exploration Phase and identifying the optimal choices for the institution. These preferred solutions are then given a timeline and prioritized based on the institutions vision, goals and guiding principals.



### ACADEMIC SYNERGIES

**Renovate academic buildings and relocate learning environments in ways that promote interdisciplinary opportunities within and between programs.** While addressing deferred maintenance and facility condition issues in the Liberal Arts Building, Technology Building, Fine Arts Building and the original Science Building, rethink building configurations and program locations, looking for opportunities to create stronger connections between STEM programs and the Arts and Humanities. These improvements run the gamut from renovations in the Technology Building to locating classrooms to maximize use with SuperLab programs to potentially relocating the Liberal Arts Building, creating an interdisciplinary Academic Core on campus that physically brings the largest academic divisions closer together.

Programs such as fine arts and welding could collaborate in maker spaces, displaying projects in a common gallery. Ceramics, Technology and Science could collaborate on the use of ceramics in manufacturing. A tightly integrated Learning Commons could provide the outside-the-classroom support and skills students will need to be successful.

### LEARNING ENVIRONMENTS

**Create flexible learning environments that are appropriately sized and equipped to adjust to multiple learning modes.** To be used efficiently and to meet the needs of technology-supported, team-based teaching methods, classrooms and labs need to be sufficiently sized to be flexible and equipped to adapt to multiple uses, across disciplines when possible. Additionally, learning environments should be usable for business and industry training and community enrichment programs, such as the Ford ASSET (Automotive Student Service Educational Training) program.

**Provide flexible, technology-equipped classrooms to support multiple teaching modes and improve space utilization.** The utilization study indicated that while the College average classroom size is fair at 26 square feet per student station, the Liberal Arts Building, with nearly half of the classrooms on campus, has a per student station average of only 21 square feet. While adequate for formal lectures with students in tablet arms chairs, it is insufficient for new methods of teaching and for the flexibility to reconfigure classrooms. Classrooms should be able to switch from lecture to small group to large group seamlessly, with some capable of combining with adjacent spaces for larger groups. Where possible, classrooms and supporting spaces should be general enough in nature to allow use by any program with a specific seat requirement.

The physical master plan must also coordinate with the current 2013-2018 Technology Plan to provide a framework for easy implementation of new equipment.

**Update older traditional labs to create open-entry/open-exit lab spaces that support integrated curriculum, collaboration and blended, self-paced learning.** Reconfigure existing labs, where appropriate, from single-purpose, separated spaces into a SuperLab concept of a comprehensive main lab tightly connected to specialized support labs, classrooms, faculty and collaborative spaces. In the Technology Building, the master plan recommends implementation of the Center for Innovative Manufacturing Education (CIMed) program as outlined by HFC. The goal is to combine the best of e-learning, flipped classroom, in-class instruction and open-lab environment in a self-paced environment built around "Centers of Technology". Beyond the CIMed program, other programs (Science, Math, Writing, Health) are recommended to incorporate the student-centered SuperLab concept of learning and lab stations designed for open-flexible use by students using varied course learning modules.

### LEARNING ON DISPLAY

Create spaces, indoors and out, to showcase state-of-the-art programs and discoveries, promote interdisciplinary projects, and celebrate student work. It is recommended to build on the program identification achieved by improved signage to include making the learning experience visible (e.g., the SuperLab concept above) and providing space to share student and faculty work with the campus and community.

### COLLABORATIVE SPACE

**Provide collaborative spaces of various sizes, functions and visibility throughout the campus and buildings, whether new or existing.** Learning occurs as much outside the classroom walls as inside. Community college campuses, many built from the 1950s to the 1970s, provided little space for student or faculty collaboration. The move to team projects, increased use of mobile technology, changes in schedules –even the growth of the coffee shop, have increased interest in providing space outside the classroom for working on projects and socializing.

Whether in new construction or part of a renovation, it is recommended that all buildings provide collaboration spaces of various sizes and boundaries, both schedulable and open, with access to comfortable seating, white boards, display, data and power. These spaces should encourage collaboration for multiple groups: student-student, student-faculty and faculty-faculty.

### FACULTY

**Provide collaborative spaces of various sizes, functions and visibility throughout the campus and buildings, whether new or existing.** To improve student access to faculty, promote collaboration between departments and ensure adjunct faculty have shared space within each department, it is recommended that future renovations and new construction have a goal of moving faculty together from across campus into easily accessed and visible suites with nearby collaborative space.

### LEARNING COMMONS AND STUDENT SUCCESS

**Create a single location that brings knowledge creation and academic support to students in a welcoming environment.** The role of the library has changed from a place where information is stored to a place where knowledge is created and support for student success is available.

It is recommended to leverage the potential in the Library and adjacent LRC for providing a range of spaces for collaboration, study, research and obtaining academic assistance in an environment that supports uses from active to quiet, solitary to group, and academic to social. This approach will be successful when the threshold to access of these services is wiped away, the Library is seen as an integral part of the learning experience and all are encouraged to take advantage of this campus asset.



### ADMINISTRATION

#### FACILITY CONDITION AND DEFERRED MAINTENANCE

**Refer to the Facility Condition Assessment when making decisions to reinvest in a particular building, and where practical, address deferred maintenance and programmatic improvements simultaneously.** To be efficient with College resources and reduce facility downtime, it is recommended that the facility condition assessment be coordinated with the space and programmatic improvements in the master plan. This has the potential of reducing the magnitude of renovation costs that can occur when reworking building systems after a space is reconfigured.

Continued investment in existing buildings should be carefully considered for the Liberal Arts Building, the Learning Technology Center (campus safety and faculty offices) and the Campus Bookstore, given the extent of age-related system issues. This should not preempt repairs necessary to maintain building operations. Major system repairs in the Technology Building should be evaluated in light of the proposed renovation of the entire building.

### CAMPUS INFRASTRUCTURE

**Analyze the cost and benefits of continued investment in the existing major campus infrastructure, including relocation or reconfiguration.** Campus systems, including central heating and cooling systems and piping, should be evaluated against switching to discreet heating and cooling for each building. Since the major components of both systems are past the end of their expected lifespan, this decision should be made as early in the project development phase as possible, as it will impact tunnel work, site work, building downtime and increased mechanical system space in each building. Another potential approach would be to relocate the heating and cooling plants to a single location in the basement of a new Liberal Arts Building.

### ADMINISTRATIVE BUILDING

**Create a framework that addresses potential future campus growth without having to construct new buildings.** While there is no immediate need to relocate Administrative Offices, the Master Plan includes long-range recommendations to ensure that space is available if the need arises and that a plan exists to support decisions of future administrations. If the current SME Building tenant consolidates or relocates out of the SME West or SME South buildings, there is up to 60,000 square feet available to house the Administrative and IT Offices, which require under 20,000 square feet. The benefit of this location is its proximity to other administrative and outreach functions, including the Welcome Center and University Center. This will allow for significant program space in the current Administrative Building on the second, third and fourth levels.

# RECOMMENDATIONS

## GUIDING FUTURE DEVELOPMENT

### OVERVIEW

- Open up the main north pedestrian entry to campus.
- Relocate the bookstore operations to create an opportunity for a visually appealing north pedestrian entry.
- Provide a central location for Campus Safety near the heart of campus and areas of high student traffic.
- Place Student Activity offices and student organizations where students are.
- Re-imagine student dining to be truly competitive and integral with culinary and community entrepreneurial programs.
- Create spaces for gathering and socialization to activate campus.
- Plan placeholders for potential housing development on campus.
- Provide up-to-date space for fitness and recreation.
- Plan placeholders for potential playing field development on campus.
- Re-imagine the main greenspace in the center of campus.
- Provide smaller-scaled spaces throughout campus to encourage gathering and showcasing of programs.
- Reintroduce native plants and wildflowers to the campus.
- Reconfigure pedestrian pathways to provide more direct access and reduce maintenance.
- Separate parking traffic from drop-off traffic to improve flow.

### NORTH CAMPUS "FRONT DOOR" APPROACH

Open up the main north pedestrian entry to campus by relocating the facilities department offices, workshops and service yard to the lower level of either the SME West or SME South Building and demolishing the existing building for future development. The current location of the Facilities Department, while adjacent to the central heating plant, is in the heart of the main pedestrian entry to campus from the north. The service yard blocks pedestrian traffic and presents an unappealing view. The proposed relocation can take advantage of a hidden service yard, ample indoor storage space and several loading docks already part of the SME complex.

Relocate the bookstore operations to a higher traffic area and create an opportunity for a visually appealing north pedestrian entry to campus by demolishing the existing building for future development. The current bookstore is old, faces considerable deferred maintenance issues and is located in the center of the main campus entry from the north, presenting a view of its windowless storage wing and loading dock. As the nature of college bookstores and textbooks have changed considerably in the last few years (and will continue to change), storage and display space required for textbooks will continue to decline. Relocating the bookstore to another building on campus has the potential to increase traffic for non-textbook purchases. There are potential synergies in co-locating the bookstore in the library or near student activities offices.

### CAMPUS SAFETY DEPARTMENT

Provide a central location for Campus Safety near the heart of campus and areas of high student traffic. The Learning Technology Center, where Campus Safety is housed, is not central to campus and is facing considerable deferred maintenance repairs and/or replacements. Campus Safety operations could be relocated to either an expanded Technology Building or a new Liberal Arts Building, both centrally located and in areas of high levels of student traffic. This will allow for faster response times and a more visible presence on campus.



### STUDENT LIFE

#### STUDENT ACTIVITIES AND ORGANIZATIONS

Place Student Activity offices and student organizations where students are. Relocating student life and student organizations to a high-traffic academic building flips the model of students having to seek the activities office to one where the activities are in the forefront for every student entering the building. This has the potential to significantly increase visibility of and student engagement with these programs.

#### DINING

Re-imagine student dining to be truly competitive with other options and integral with culinary and community entrepreneurial programs. Encouraging students to remain on campus to eat means updating the current dining approach as well as providing a welcoming area in which to eat. The existing Student Center has the potential to successfully undergo these changes.

Approaches to provide food service include leasing space to name brand outlets; connecting food service to Culinary Arts or providing incubator space for HFC and local culinary entrepreneurs to grow their businesses by being part of the student dining operations.

#### GATHERING

Create spaces for gathering and socialization both indoors and out to activate campus and encourage students to stay throughout the day. This recommendation is integral with several other recommendations, including creation of collaboration spaces in all academic buildings and development of appropriately scaled, welcoming and safe spaces for people to gather outdoors for socializing, eating or play. The master plan proposes multiple locations and space types to accomplish this goal.

## STUDENT HOUSING

Plan placeholders for potential future housing development on campus to support student engagement, activity and summer programs. Placeholders for housing development are proposed for the master plan in order to ensure the orderly, thoughtful development of campus assets. Student housing can be phased to ensure supply meets demand, placed to take advantage of the beautiful views of the Rouge River and support College student life initiatives.



## ATHLETICS & RECREATION

### GYM/FITNESS FACILITIES

Update existing facilities to encourage student activity and provide up-to-date space for fitness and recreation. The current Athletic Memorial Building is generally original and due to have facility condition and deferred maintenance issues addressed. When this work is scheduled, it is recommended to update the space to meet current student expectations for fitness facilities.

### PLAYING FIELDS

Develop placeholders for potential future playing field development on campus to support student engagement and recreational activity. Although playing fields were lost due to reconfiguration of the site to accommodate additional parking, playing field placeholders should be planned to provide activity space for both commuter students and potential on-campus residents (if housing is constructed). Depending on parking needs, this could be either on-grade or incorporated into a parking structure.



## OPEN SPACE

### EVENT SPACE

Re-imagine the main greenspace in the center of campus to accommodate larger outdoor events. If the current Liberal Arts Building location remains, the existing greenspace can be reconfigured to reduce cutacross and framed to be a more human-scaled space for student activities, large events and relaxation. If it is replaced with a new facility in a new location, the green

space can be reimagined as a new campus quad and organizing element.

## GATHERING SPACE

Provide smaller-scaled spaces throughout campus to encourage students to gather and showcase the products of college programs. These recommended spaces should be appropriately scaled, welcoming and safe spaces for people to gather outdoors for socializing, eating or play. In addition, these spaces can provide opportunities for the College to create outdoor learning environments and incorporate art onto campus, including student work.

## GREENSPACE

Reintroduce native plants and wildflowers to larger parts of the main campus. Similar to the efforts that have occurred on the west end of campus, along the nearby Rouge River watershed and at nearby Greenfield Village, intentionally planting native plant and wildflowers in more areas of campus will improve local biodiversity, reduce runoff, eliminate mowing and irrigation for those areas and provide opportunities for student and community studies.



## CAMPUS INFRASTRUCTURE

### PEDESTRIAN CIRCULATION

Reconfigure pedestrian pathways to provide more direct access between buildings, parking and public transportation as well as reduce maintenance. Current paved walks on campus are extensive, requiring continual repair and the result of multiple generations of overlaying circulation patterns. The master plan should address ways to reduce the amount of paved area, provide direct pathways where practical and discourage cutting across grass when possible. As future growth occurs to the north of campus, pedestrian pathways should ensure that pedestrians are a higher priority than the vehicle.

Pathways for students using public transportation should be as inviting and connected to the heart of campus as those for students arriving by car.

## VEHICULAR CIRCULATION AND PARKING

Separate parking traffic from drop-off traffic to improve flow and reduce conflicts. Reconfigure the drop-off sequence and approach in the central north parking lot, similar to the newer drop-off in the south parking lot, to take advantage of the existing service road and minimize back-ups in the parking lot.

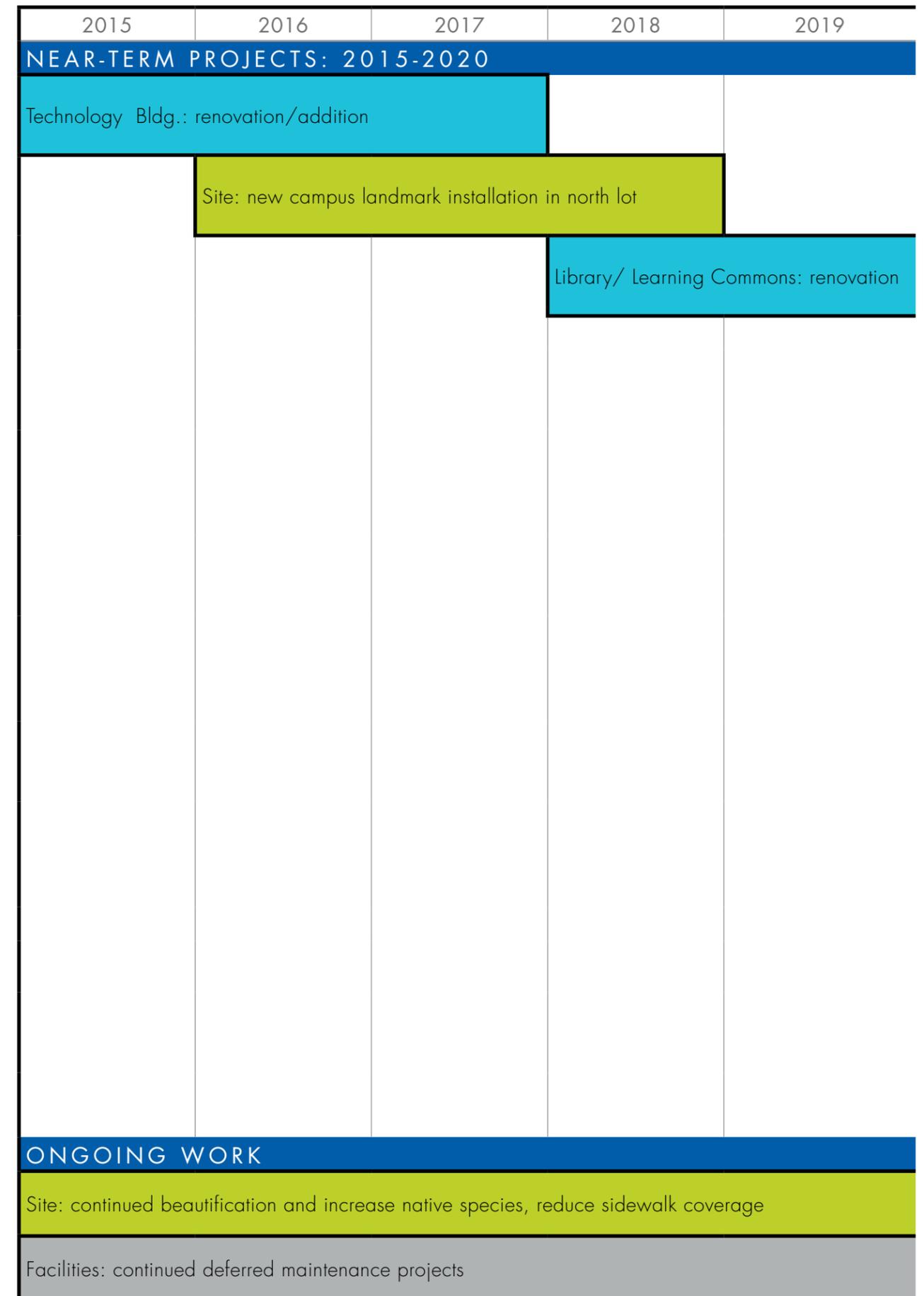
The current ring road and parking lot arrangement is ideal for keeping higher speed vehicles at the perimeter and minimizing the number of pedestrian-vehicle conflicts. This should not be compromised. If practical, the number of entry points from Evergreen should be reduced to minimize confusion, especially at the far north end of campus.

# T I M E L I N E

## PROPOSED PROJECT IMPLEMENTATION

### PROJECT TYPES

-  Academics
-  Student Life & Housing
-  Administration
-  Athletics & Recreation
-  Open Space
-  Infrastructure
-  Proposed Projects
-  Associated Work



2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Bookstore: relocate to learning commons	Student Success: relocate teams to learning commons								
<b>MID-TERM PROPOSALS: 2020-2030</b>										
SME West/South: renovation-lower level	Facilities Dept.: relocate to SME West/South	IT Dept.: relocate to SME West/South								
		Liberal Arts: New Building	Café and Student Organizations: relocate to Liberal Arts	LTC Faculty Offices: relocate to Liberal Arts	Central Plant: new equipment in Liberal Arts Bldg.	Bookstore/Facilities Bldg.: demolish and renovate site	Old Liberal Arts: demolish and renovate site	Site: new campus quad/events space	Site: new north parking drop-off loop	
			Fine Arts Bldg.: renovation		Site: new outdoor art gardens/studios					
			Hospitality/Culinary Arts Center: renovation/ addition				Site: renovate plazas, parking, walks and bus stop	LTC Bldg.: demolish and renovate site		
				Old Science Bldg.: renovation/addition						
				Athletic Memorial Bldg.: renovation/addition						
<b>LONG-TERM CONCEPTS: 2025+</b>										
				Student Housing: new Bldgs.		Site: new sports field				
				SME West/South: renovation		Administration: relocate to SME West/South				
				Administration Center: renovation						

# NEAR-TERM

## MASTER PLAN 2015-2020

### 1 TECHNOLOGY BUILDING

#### Goals

- Support new integrated programs.
- Celebrate Centers of Excellence
- Create multipurpose labs to improve utilization.
- Provide modern learning environments in heavily utilized facilities.
- Strengthen program connections.
- Support SuperLab concept for science and technology education.
- Support Ford ASSET program
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovate existing building (170,000 GSF).
- Build new 10,000 SF addition

#### Outcome

- Provide interdisciplinary support labs, celebrate Centers of Excellence, showcase programs and student work, create student collaboration space, strengthen program connections (STEM + Liberal Arts + Fine Arts) and modernize learning environments.
- Improve building envelope, interiors and systems.
- Address deferred maintenance issues.
- Accommodate new CIMEd and Super Labs

*Conceptual Cost Projection: \$30-33,000,000*

### 2 LIBRARY

#### Goals

- Promote student collaboration.
- Create a hub for outside-the-classroom learning.
- Re-imagine Library as knowledge center.
- Prepare LRC for potential Early College program expansion.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovate existing Library (83,000 GSF)

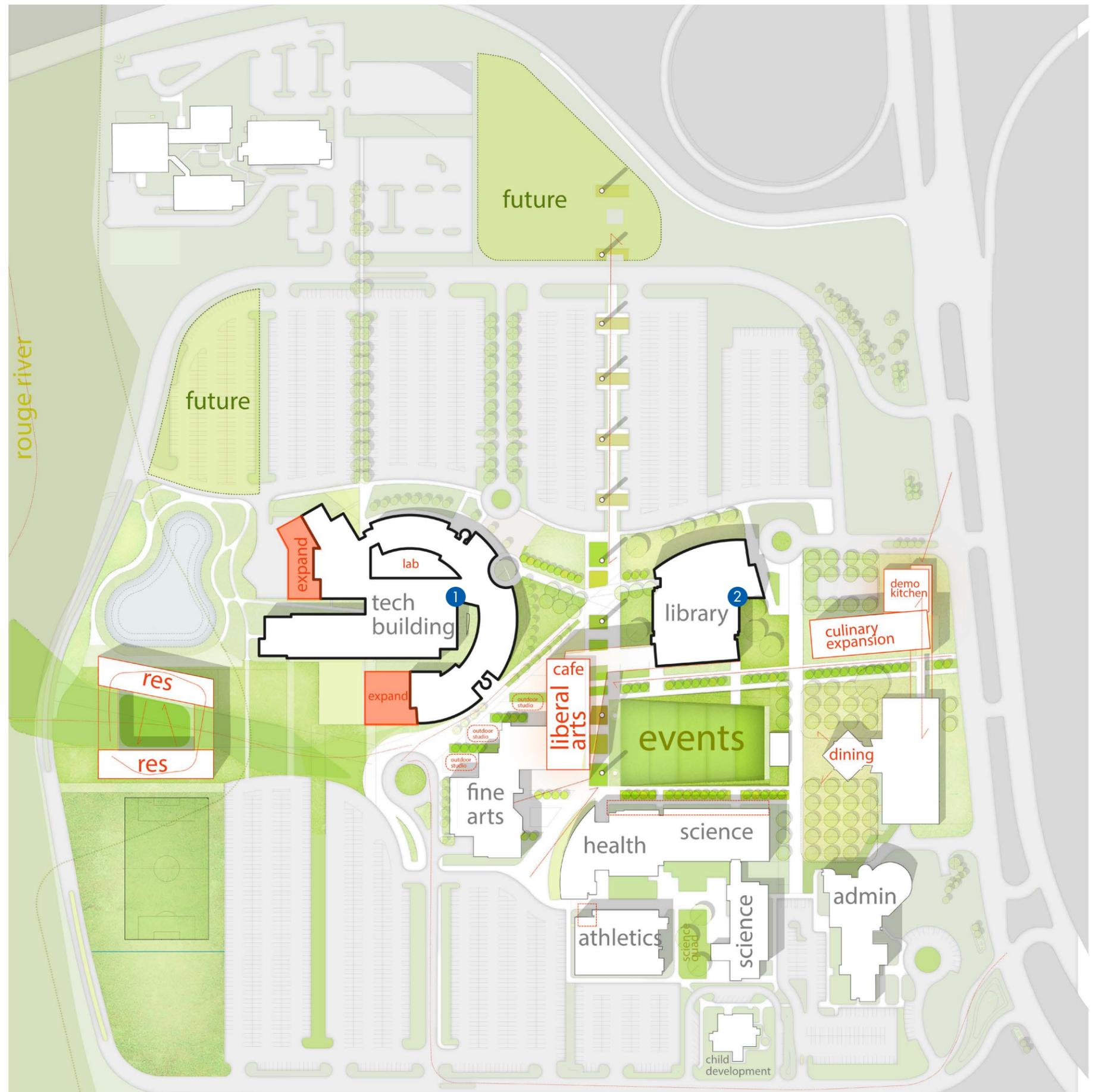
#### Outcome

- Create Learning Commons. Relocating the Bookstore to the Learning Commons.
- Reallocate floor space for quiet and collaborative study, distributing computers throughout the building.
- Incorporate Student Success Programs into building.
- Create a Learning Success Center (connected to LRC or relocated to another area of the building), which will house services such as SVA, Honors, Study Abroad, Service Learning, Civic Engagement, Assisted Learning, Outreach, Counseling, and Career Services.

*Conceptual Cost Projection: \$12,000,000*

# NEAR-TERM

MASTER PLAN 2015-2020



- KEY**
- ❶ Proposed Project
  - Renovation
  - New Construction

HFC NEAR-TERM MASTER PLAN

# M I D - T E R M

## MASTER PLAN 2020 - 2030

### 1 NEW LIBERAL ARTS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration
- Celebrate Centers of Excellence.
- Create a hub for outside-the-classroom learning.
- Provide modern learning environments in heavily utilized facilities.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.
- Strengthen program connections.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Construct new 130,000 GSF facility connected to Fine Arts Building and Learning Commons.

#### Outcome

- The new structure will include a shared common lobby/gallery space, a variety of different size flexible classrooms and learning environments, student collaboration spaces, faculty office suites, and student organization, student life and campus safety offices on main level.
- The design will provide opportunities to showcase programs & student work and will incorporate new heating/cooling plant into the building, allowing for the opportunity to relocate facilities to SME campus and demo existing building.

*Conceptual Cost Projection: \$42,000,000*

### 2 FINE ARTS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration.
- Put learning on display.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.
- Strengthen program connections.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovation the existing Fine Arts Building.

#### Outcome

- Consolidate fine arts programs in single facility.
- Create a shared common lobby/gallery space.
- Improve building interiors and systems.
- Create outdoor studio and art garden.
- Connect facility to Liberal Arts Building

*Conceptual Cost Projection: \$8,500,000*

### 3 CULINARY ARTS AND CAFÉ

#### Goals

- Support new integrated programs.
- Celebrate Centers of Excellence.
- Put learning on display.
- Provide modern learning environments in heavily utilized facilities.

- Strengthen program connections.
- Create space for state-of-the-art Culinary Arts program
- Improve usability of dining room.
- Consolidate Hospitality Program.

#### Work

- Demolishing the existing Learning Technology Center.
- Renovate the existing Culinary Arts building.
- Build a 15,000 GSF addition

#### Outcome

- Accommodate expanding programs including the Restaurant, demonstration kitchen, a culinary incubator and office suite.
- Renovated spaces will provide improved kitchen, classroom and teaching lab space, renovated food service, and an updated Kuhlman dining room with additional seating options and improved acoustics.
- Improve existing building envelope, interiors and systems.

*Conceptual Cost Projection: \$11,000,000*

### 4 SCIENCE/HEALTH CAREERS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration.
- Create multipurpose labs to improve utilization.
- Provide modern learning environments in heavily utilized facilities.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.

# M I D - T E R M

## MASTER PLAN 2020-2030

- Strengthen program connections.
- Bring original Science Building up to condition of new building.
- Upgrade classrooms and labs in academic buildings across campus.

### Work

- Renovate the existing Science/Health Careers building (30,000 GSF)
- Build a 5,000 GSF addition

### Outcome

- Improve the Science Building envelope and the connection between Science and HCEC.
- Create a student collaboration space and open-access Science Super Lab.

Conceptual Cost Projection: \$6,000,000

## 5 ATHLETIC MEMORIAL BUILDING

### Goals

- Strengthen program connections.

### Work

- Renovate existing Athletic Memorial Building (36,000 GSF)
- Build 2,000 GSF addition

### Outcome

- Enlarge the existing fitness center.
- Repurpose all classrooms for fitness.
- Improve building envelope, interiors and systems.

Conceptual Cost Projection: \$4,000,000

### KEY

- ① Proposed Project
- ▣ Renovation
- New Construction



HFC MID-TERM MASTER PLAN

# LONG-TERM

## MASTER PLAN 2025 +

### 1 STUDENT HOUSING AND SPORTS FIELDS

#### Goals

- Provide on-campus housing option for students.
- Upgrade and re-energize public spaces.

#### Work

- Build on-campus housing to accommodate 100+ students as a phased project.

#### Outcome

- Provide housing options for students looking for full college experience, athletes and foreign students.
- Coordinate with Student Life programs to provide sense of community not available off-campus.
- Activate the campus.
- Maximize facility use.
- Provide housing for summer programs.

*Conceptual Cost Projection: \$6,000,000+*

### 2 ADMINISTRATION BUILDING

#### Goals

- Improve efficiency of campus operations.
- Repurpose Administration Building.

#### Work

- Relocate Administration and IT departments (18,500 GSF) to SME site (66,000 GSF).

#### Outcome

- Create more developable space to support new programs, expanding programs or community outreach.
- Create a comprehensive support campus in conjunction with the Welcome Center, University Center and Facilities.

### 3 CREATE FUTURE DEVELOPMENT SITES

#### Goals

- Create opportunities for future growth and development on campus.

#### Work

- Identify future development sites.

#### Outcome

- Create opportunities within the existing campus borders for future development of housing, support facilities and sports fields.

### 4 CLARIFY CAMPUS EDGES AND ENTRIES

#### Goals

- Clarify campus edges and entries

#### Work

- Redesign campus edges and entries.

#### Outcome

- Define campus edges to create a strong entry and identity from the north.
- Strengthen the visual connection between Liberal Arts, Technology and

#### Library.

- Improve the entry sequence from the south and southwest and bus stop
- Create zones to showcase student work.

### 5 CREATE CAMPUS QUAD

#### Goals

- Re-imagine the main greenspace in the center of campus to accommodate larger outdoor events.

#### Work

- Redesign the heart of campus

#### Outcome

- Create large event space at center of the existing quad.
- Reduce quantity of walkways.
- Strengthen identity of buildings surrounding quad.
- Improve campus navigation.

### 6 CREATE SMALLER GATHERING SPACES ADJACENT TO CAFÉ

#### Goals

- Provide smaller-scaled spaces throughout campus to encourage students to gather and showcase the products of college programs.

#### Work

- Redesign outdoor spaces adjacent to cafe.

#### Outcome

- Provide seating for casual student gathering.
- Provide a variety of open and shaded spaces.
- Reduce quantity of sidewalks.

# LONG-TERM

## MASTER PLAN 2025 +

### 7 CAMPUS IDENTITY

#### Goals

- Strengthen the HFC identity throughout campus.

#### Work

- Identify and implement standards for lighting, site furnishings, signage, paving and plantings.

#### Outcome

- Strengthen campus identity
- Standardized lighting and site furnishings.
- Simplified walkway system.
- Incorporate native plant species in campus landscape to reduce maintenance.
- Reduce the number of emergency call boxes.
- Improving pedestrian and visual connection to the existing bus stop at Evergreen.
- Strengthen the overall visibility from Evergreen.

### 8 TECHNOLOGY BUILDING

#### Goals

- Support and Strengthen Superlab Concept

#### Work

- Infill existing courtyard as new high-bay space

#### Outcome

- Celebrate Centers of Excellence, showcase programs and student work, create student collaboration space, strengthen program connections and modernize learning environments.

#### KEY

- ① Proposed Project
- Renovation
- New Construction



HFC LONG-TERM MASTER PLAN



C A M P U S  
O V E R V I E W

# THE PROCESS

## INFORMATION GATHERING

### FAST FACTS - ESTABLISHING GOALS AND PRINCIPLES

Each Master Plan is driven by a three-level structure of Guiding Principles, Planning Goals and Initiatives for implementation. At Henry Ford College, these were developed through input from the Master Facility Planning Committee, interviews with stakeholders and strategic direction from the administration.

- **Guiding Principles** articulate the larger objectives by which the success of the master plan will be measured. These typically complete the statement "For this master plan to be successful, it must..."
- **Planning Goals** are built from these Guiding Principles, linking the Master Plan to the Strategic and other plans, providing a framework for supporting individual initiatives and projects.
- **Initiatives** are the detailed project proposals the college will undertake as the plan progresses. These can include everything from minor projects to site work to renovations, reconfigurations and new construction.

### GUIDING PRINCIPLES

#### Support The Henry Ford College Strategic Plan

- **Future Driven:** Plan with sufficient flexibility to support the ongoing Strategic Planning effort.

#### Create Environments Supportive Of Student Success

- **Modern Learning Environments:** Create and reconfigure academic spaces to flexibly support new learning modes and interdisciplinary opportunities, including the self-directed Super Lab concept.
- **Consolidate Student Support:** Provide an active hub of student academic support to engage all students in learning beyond the classroom walls.
- **Visible Learning:** Put learning on display.
- **Flexibility, Adaptability, Fluidity:** Ensure spaces are flexible day-to-day, adaptable to new methods and technologies, and promote fluid transitions from one learning mode to another.

#### Attract And Retain Students

- **Activate Student Life:** Ensure student life functions, office, organizations and activities are accessible, visible and activated.
- **Engage Students:** Create spaces, both indoors and out, that encourage students to engage with their studies, the College and each other.
- **Place Making:** Enhance the sense of place, welcoming and safety on campus.
- **Intuitive Movement:** Make navigation on campus simple and intuitive.
- **Student Life:** Develop a framework supportive of future growth of on-campus student life.

#### Promote An Identifiable Henry Ford College Community

- **Common Language:** Develop guidelines for a common language of design, form and materials throughout campus to promote campus cohesion and student pride.
- **Be Visible:** Create a visible, unifying identity for the College, visible from off campus.
- **Celebrate Programs:** Visibly celebrate the unique programs, activities and centers of excellence throughout HFC.
- **Celebrate Students:** Create spaces to showcase student work.
- **Connect Programs:** Strengthen the connections between the varied fields of study offered on campus.

#### Connect Technology, Space And Pedagogy

- **Real-World:** New and renovated academic spaces should mirror the world in which students will work.
- **The Verb:** Coordinate technology, space and pedagogy to focus on the activity of learning, not just the current tools or technology.

#### Be Cost Effective And Sustainable

- **High-impact:** Incorporate high-impact, low-cost projects early in the plan to sustain interest and support.
- **Attainable Implementation:** Develop an implementation plan to ensure projects are attainable, fiscally responsible, coordinated with college calendar, and simultaneously resolve deferred maintenance, aesthetics, function and operations.
- **Efficiency:** Improve facility utilization and operations, and reduce maintenance.
- **Enhance Revenue:** Create opportunities to enhance revenue while delivering excellent service.

# THE PROCESS

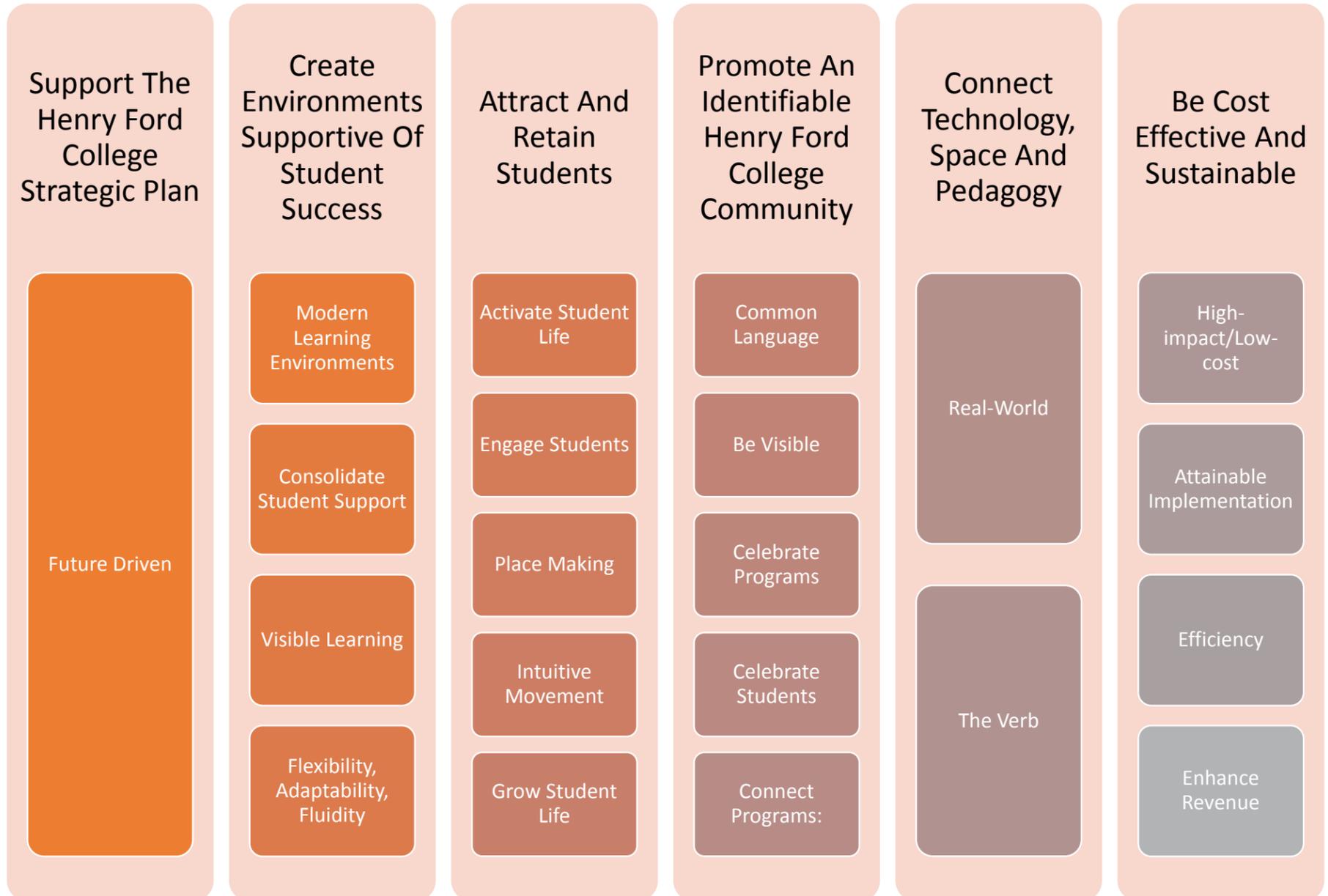
## GOALS & GUIDING PRINCIPLES

### FAST FACTS - MASTER FACILITY PLANNING COMMITTEE

- Craig Priskorn - Instructor, Architecture Construction Technology
- Dr. Cynthia Eschenburg - VP Administrative Services
- Gregory Laskowsky - Program Coordinator/Instructor
- Dr. Gwendolyn Pringle - Full Time Counselor
- James Pigott - Engineer
- Dr. John Satkowski - VP Financial Services
- Karen Wilmering - Academic Coordinator Interior Design
- Kenneth Donovan - Graphic Associate, Office of Marketing & Communications Graphics Center
- Paul Fisher - Associate Dean of Business & Computer Technology
- Ronald Emeigh - Adjunct Instructor, representative for Business
- Sandro Silvestri - CIO/Executive Director Information Technology Services & Facilities
- William Barber - Full Time Faculty staff member, Business Coordinator

### STEERING COMMITTEE

- Dr. Stan Jensen - President
- Dr. Cynthia Eschenburg - VP Administrative Services
- Dr. John Satkowski - VP Financial Services
- Sandro Silvestri - CIO/Executive Director Information Technology Services & Facilities
- Tracy Pierner - VP Academic Affairs



# STAKEHOLDER INPUT

## INTERVIEWS & FOCUS GROUPS

### FAST FACTS - ADMINISTRATIVE AND FACULTY STAKEHOLDERS

Paul Root	Science
Adam L Cloutier	Teaching & Learning Support
Katherine V Grahl	English
Susan McGraw	Telecommunications
Jennifer Ernst	English
Randy Knight	Humanities & Social Sciences
Paul Fisher	Business & Economics
Susan Shunkwiler	Nursing
Cynthia Eschenburg	Administrative Services
Eric Gackenbach	Hospitality
David Maier	Computer Information Systems
Bill Barber	Economics
Jim Smith	Physics
Carla Serfas	Biology
Gary Saganski	Industrial Tech Division
Tracy Pierner	VP Academic Affairs
Lisa Copprue	VP Student Affairs

### OVERVIEW

During the Discovery phase of the project, Stantec collaborated closely with HFC's Administrative Services to implement a planning process that was inclusive and comprehensive. The Administration and the Master Facilities Planning Committee identified various stakeholder groups to ensure broad input. Information was gathered through interviews, visioning sessions and from the collection and review of existing documentation.

Through this phase of the project, the design team sought to understand the organization of campus land use, campus infrastructure open spaces and future development potential and to evaluate the qualitative and quantitative conditions of existing academic and administrative spaces.

### VISIONING SESSIONS

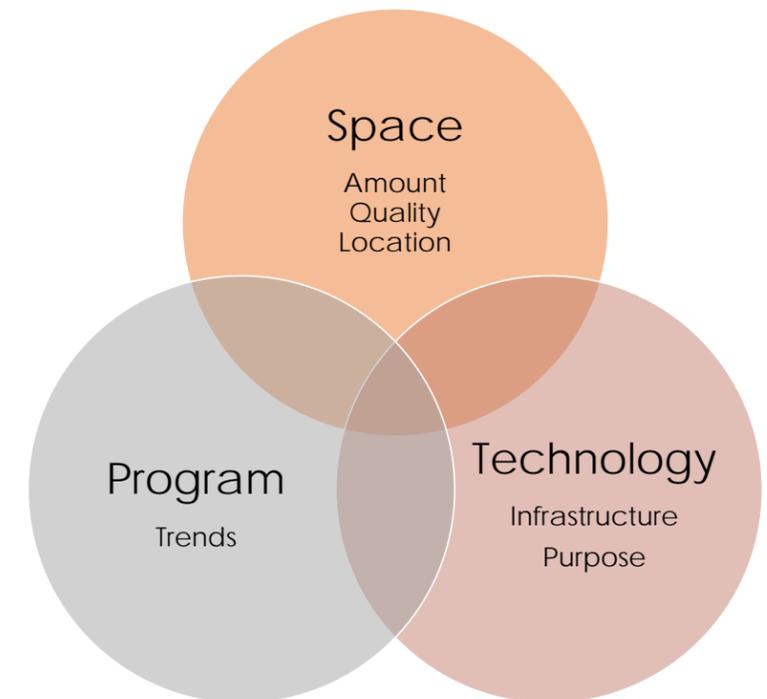
Early on in the process, Stantec held a visioning session with the stakeholders identified by the MFPC in order to identify the strengths, weaknesses, opportunities and threats to the existing HFC campus. This SWOT analysis yielded insightful observations and issues about the campus, which were categorized according to which guiding principles could address each observation. This session provided direction to the design team, and helped to focus the direction of the individual interviews and the exploration phase of the project.



### INTERVIEWS

Stakeholder interviews focused on anticipated **programmatic trends**, existing **space conditions** and **technological needs** for each Division, as illustrated in the Venn diagram below. Participants were asked to frame their responses in answer to the following questions:

- What works?
- What doesn't?
- What's missing?
- Anything else?



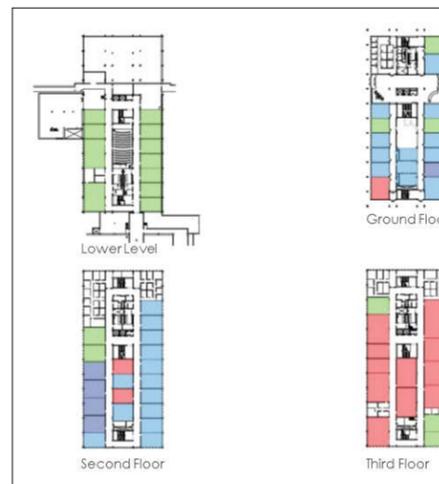
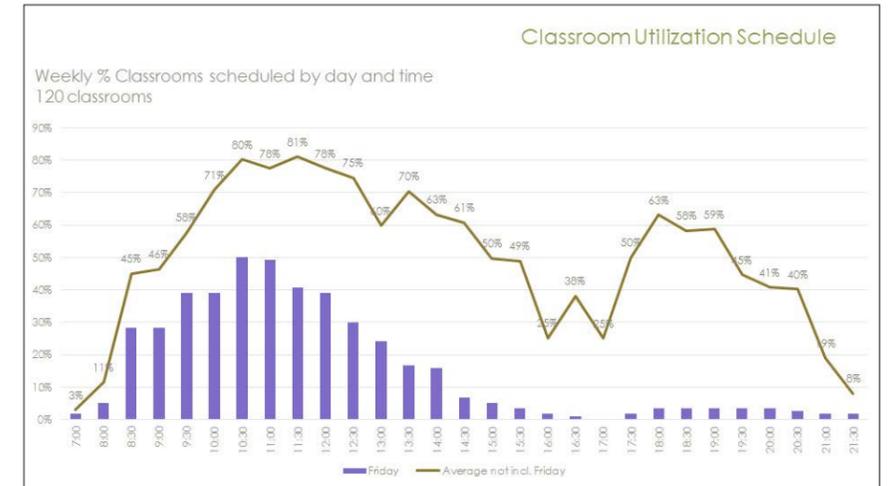
### PRESENTATIONS

Presentations were given throughout the planning process to the MFPC, President's Cabinet and the Board of Trustees. Feedback from these sessions, as well as interviews and focus groups, was then discussed with the administration and MFPC to determine how the plan should proceed. A wrap-up presentation to the campus community also provided an opportunity for broad feedback and conversation regarding the future of the college.



#### Major Programmatic Elements

- Super labs
  - Tech
  - Liberal Arts
- Centers of Excellence
  - World Languages
  - Culinary
  - Math Lab
  - Writing Center
- Student Success Center
- Learning Commons



#### Utilization Study

Understanding how spaces are currently used, in order to know what is needed to accommodate future growth



# CAMPUS PROFILE

## STATISTICAL & ENROLLMENT DATA

### FAST FACTS - STUDENT PROFILE

#### 2013-2014 Enrollment:

- Unduplicated headcount: 20,931
- FTE: 10,116

#### Gender

- 65% Female
- 44% Male

#### Age

- Average Age: 26
- 43% 20 and younger
- 57% 21 and older

#### Average Course Load

- 9 credit hours per term
- 36% students full time
- 64% students part time
- 63% students attend day classes
- 14% students attend evening classes
- 23% students attend both evening and day classes

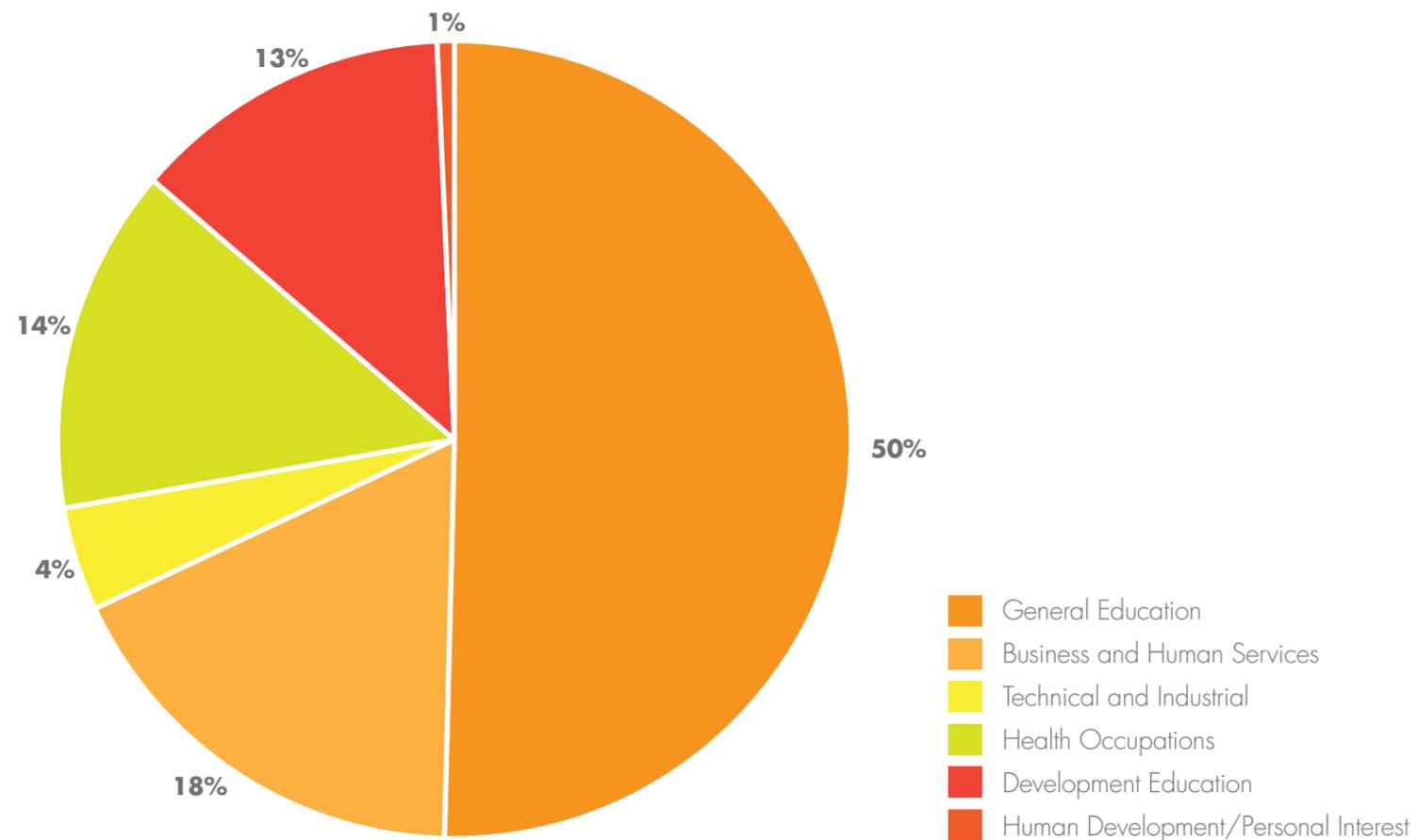
\*Michigan Community College ACS 2011-2012 Data Book

### DEMOGRAPHICS

As with most community colleges throughout the state, Henry Ford College experienced an uptick in enrollment from 2006 to 2012. However, coinciding with the nation's economic recovery, enrollment has declined since 2012. Recent information shows a recovery in enrollment for Fall 2014.

Academic programs are conducted mainly through on-campus instruction at HFC's Main Campus, with Nursing located at the East Campus. Although online courses have increased significantly, they only account for about 15% of sections offered. The College does expect this balance to shift to more online and blended courses. Training programs for business and industry are often conducted offsite or at the M-TEC.

### DISTRIBUTION OF STUDENT CONTACT HOURS



## FAST FACTS - FACULTY PROFILE

- 176 full time faculty
- 632 adjunct faculty
- 55 full time administrative staff
- 129 part time professional staff
- 89 full time support staff
- 23 part time support staff
- 52 building operations staff

## ORGANIZATION

Academic programs at HFC are organized into seven Divisions:

### Business and Computer Technology

- Accounting
- Administrative Office Technology
- Business Administration
- Management
- Paralegal Studies
- Hospitality/Culinary Arts
- Computer Information Systems
- 5101 Restaurant

### Industrial Technology

- Computer Aided Design
- CNC - Machine Tool
- Electrical Technology
- Manufacturing Systems
- Process Technology
- Skilled Trades & Apprenticeship
- Welding
- Architecture/Construction Technology
- Automotive
- HVAC
- Renewable Energy
- Plumbing/Pipefitting
- Power Engineering
- Multi-skilled Facility Maintenance Technician

### Humanities and Social Sciences

- General Studies
- Criminal Justice
- Early Care and Education

- Fine Arts
- Ceramics
- Music
- Fitness
- Graphic Arts
- Interior Design
- Theater
- Honors College

### Communications

- Telecommunication
- English Language Institute
- Arab Cultural Studies

### Math and Science

- Biology - Pre-Professional
- Biotechnology
- Chemistry - Pre-Professional
- Environmental Studies
- Pre-Engineering

### Health Sciences

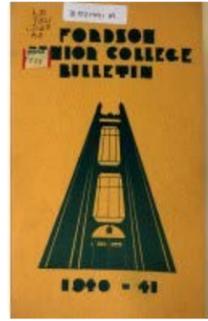
- Medical Office Assistant
- Paramedic/Firefighter
- Pharmacy Technician
- Radiography
- Ophthalmic Technician
- Physical Therapist Assistant
- Respiratory Therapist
- Surgical Technologist
- Nursing

### Teaching & Learning Support Services

### Workforce and Professional Development

# CAMPUS HISTORY

EVOLUTION OF A CAMPUS



Fordson Junior College, established in 1938.

Became Henry Ford Community College in 1952, named after the Henry Ford Trade School (which closed and its assets were transferred to the Dearborn School Board of Education.)



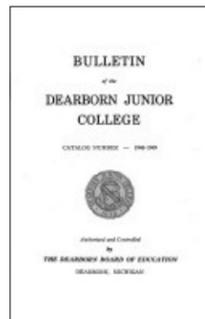
1963 – Learning Technology Center, Liberal Arts, Power House, Science Building, Student and Culinary Arts Center constructed.



1965 – Technology Building constructed.

1930 1940 1950 1960 1970

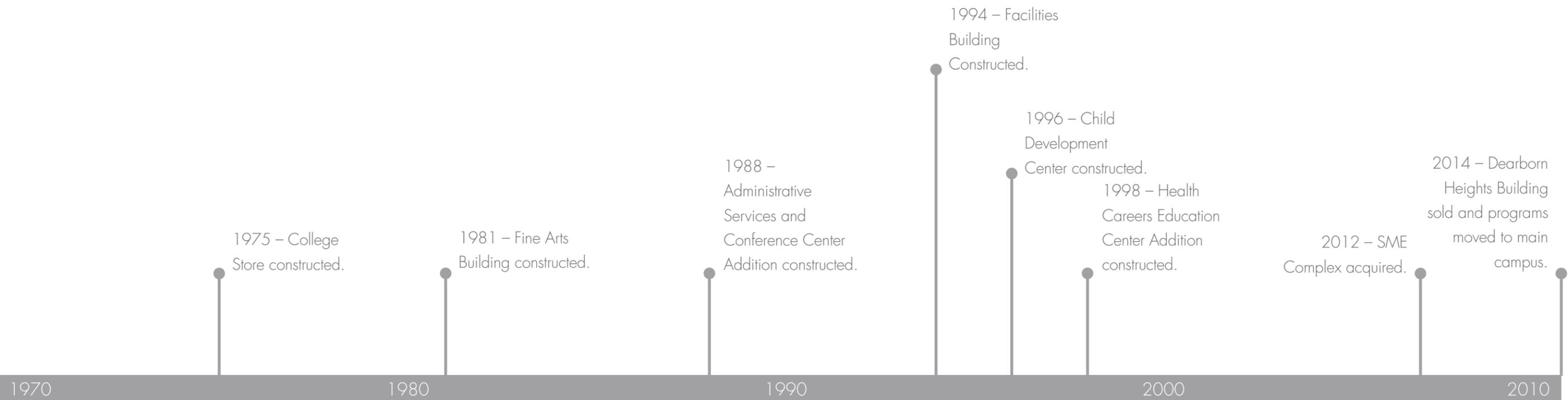
Became Dearborn Junior College in 1946.



1962 – SME North and West buildings constructed.

1964 – Athletic Memorial Building and Technology Pump House constructed.

1966 – Learning Resource Center Library constructed.



1970 1980 1990 2000 2010

1979 – SME South Building constructed.

1993 – Athletic Memorial Building Addition constructed.

2001 – MI Technical Education Center & School of Nursing constructed, establishing East Campus.

2009 – New Science Wing constructed.

1983 – Administrative Services and Conference Center and SME East Building constructed.

1999 – UAW Building acquired.

1995 – Liberal Arts Building Chiller Addition and Technology Building Addition constructed.

1997 – Learning Resource Center North Hall and Learning Technology Center Addition constructed.



# CAMPUS HISTORY

## EVOLUTION OF A CAMPUS

### FAST FACTS - CAMPUS ASSETS

#### Main Campus

- Established 1962
- 19 buildings totaling 909,907 GSF (includes SME)
- 75 acres

#### East Campus

- Established 2001
- 2 building totaling 61,270 GSF

#### Total Campus

- 21 buildings totaling 1,971,177 GSF

#### Campus Buildings

1. Technology Building
2. Bookstore
3. Facilities
4. Library
5. Learning Resource Center
6. Learning Technology Center
7. Student Center and Culinary Arts
8. Administrative Services and Conference Center
9. Childhood Development Center
10. Science Building
11. Health Careers Building
12. Athletic Memorial Building
13. Fine Arts
14. Liberal Arts

#### SME Complex

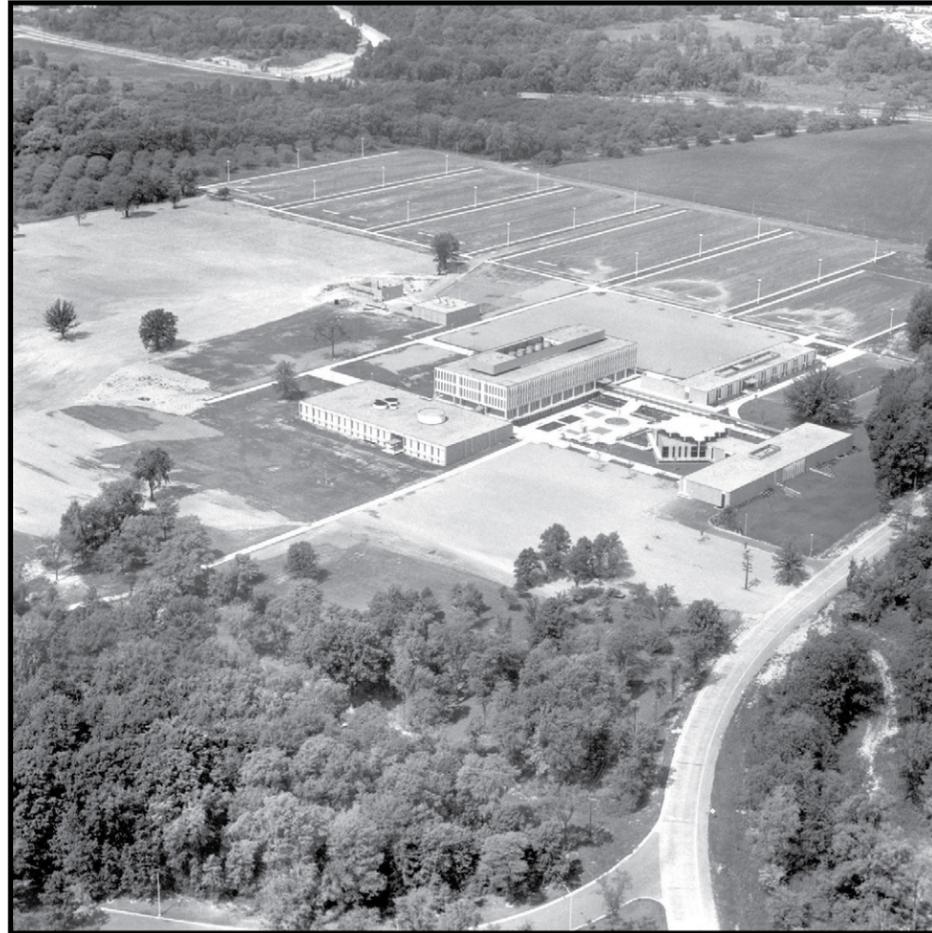
- A. SME North
- B. SME East
- C. SME South
- D. SME West

#### KEY

- 1962-1966
- 1975-1983
- 1994-1998
- 2009-present



HFC HISTORICAL DEVELOPMENT



# BUILDING USE

## EXISTING CONDITIONS

### FAST FACTS - BUILDING INVENTORY

Main Campus GSF:	772, 207
SME Campus GSF:	137,700
<b>TOTAL GSF:</b>	<b>909,907</b>

### CAMPUS CONTEXT

Located just under four miles from downtown Dearborn, Henry Ford College's 75-acre main campus is situated on the southwest corner of Ford Road and Evergreen, just north of the University of Michigan Dearborn campus. Although founded in 1938, the earliest vintage building currently on campus is from 1962. Campus development over time has been somewhat haphazard, with a multitude of walkways segmenting the numerous open spaces throughout the campus. The architectural style of the buildings eschews the traditional collegiate style, varying between brutalism, modernism and postmodernism.

### ACADEMICS

Academics on the main campus are concentrated in eight main buildings, dotted about of the campus: Liberal Arts, Science, Health Careers, Fine Arts, the Tech Building, the Learning Resource Center, the Student Center and the Library. Minimal academic space can also be found in the Learning Technology Center.

### ADMINISTRATION & OPERATIONS

Although administrative spaces can be found in nearly all academic buildings, most administrative functions are housed in the Administrative Services and Conference Center, located at the southeast corner of the Main Campus, the SME complex, located in the north west corner of Campus, and the Learning Technology Center, located on the east side of the middle of campus.

### STUDENT LIFE & HOUSING

The Student Center is the primary location for Student Life activities for Henry Ford College. The building houses dining services, the College radio station, and various other Student Life offices.

### ATHLETICS & RECREATION

Henry Ford's Athletics and Recreation are concentrated in the Athletic Memorial Building, located on the south side of Campus. While the College did have numerous outdoor recreational and athletic fields, those fields were paved over to provide more parking for commuter students.

### SITE & OPEN SPACE

HFC's Main Campus has a significant amount of open space available, leaving much opportunity to organize and define these spaces to create distinct outdoor experiences. Most notably, there is a concrete sunken plaza with a water feature located between the Liberal Arts Building and the Student Center, and an expansive open space nestled between the core academic buildings in the center of Campus that is crisscrossed by sidewalks. A formal courtyard space sits south of the Technology Building, and a more pastoral, passive open space with a sizable retention pond sits to the far west side of Campus, connecting with the Rouge River basin.

# BUILDING USE

## EXISTING CONDITIONS

### OPPORTUNITY SITES

A master plan should provide direction for future development, even when the specifics are not yet determined. There are several locations on the Henry Ford Campus where opportunities exist for future development. Although there are few buildings that would qualify as “underutilized”, some of the existing buildings are not particularly suited to their current uses, and some existing open spaces would function better as building sites.

#### KEY

-  Developable Site
-  Academic
-  Administrative
-  Student Life
-  Athletics and Recreation
-  Operations
-  Support



HFC BUILDING USE AND DEVELOPABLE SITES

# FACILITIES

## FACILITIES ASSESSMENT

### FAST FACTS - FACILITIES ASSESSMENT

#### Buildings on Main Campus, included in Facilities Assessment

BUILDING	USE	YEAR BUILT	ADDITIONS	AREA	FLOORS	CRV	5 YEAR FCI
Liberal Arts	Gen Classroom, Office	1960		104,046	3	\$30,170,000	30%
Library	Library, Office	1960		46,587	2	\$11,646,000	20%
Learning Resource Ctr	Classroom, Office, Computer Labs	1998		53,744	3	\$13,436,000	5%
College Store	Store, Offices	1970		7,730	1	\$1,778,000	18%
Athletic Memorial Bldg	Gym, Locker Rooms, Classrooms, Offices	1964		36,640	2	\$9,115,000	13%
Facilities Bldg	Mechanical Spaces, Workshops, Offices	1960		16,093	2	\$4,023,000	7%
Fine Arts Bldg	Classrooms, Offices	1978		74,742	3	\$18,940,000	7%
Technology Bldg	Classrooms, Labs, Offices	1964	1993	168,848	2	\$50,100,000	17%

#### Buildings on Main Campus, to be assessed at a later date

BUILDING	USE	YEAR BUILT	ADDITIONS	AREA	FLOORS
Administrative Services & Conf Ctr	Offices, Conference, Exhibition	1983	1988	59,002	4
Child Development Ctr	Daycare	1996		7,003	2
Health Careers Education Ctr	Classrooms, Labs, Offices	1998		83,956	3
Learning Technology Ctr	Offices, Campus Safety	1963	1997	25,772	3
Science	Classrooms, Labs, Offices	1963	2009	72,086	2
Student Ctr and Culinary Arts	Student Union, Classrooms, Labs, Offices, Food Service	1963		39,504	1

Totals GSF on Main Campus 772,207

SME Campus 137,700

### FACILITIES ASSESSMENT

Stantec performed a facilities assessment on eight of the fourteen buildings currently at the HFC Main Campus. The purpose of this study was to:

- Provide an inventory of Henry Ford College's buildings to allow for quick access to facilities information.
- Determine the general condition of the facilities and provide the data in a concise format, allowing quick determination of the current replacement value and condition of the facilities.
- Determine a Facilities Condition Index (FCI) for the buildings at Henry Ford College. The FCI is a benchmark index that rates the condition of existing buildings and is used by facilities managers to quantify and prioritize deferred maintenance projects for capital planning purposes.
- Assist Henry Ford College in meeting the goals of its Mission Statement through timely maintenance of the physical backbone of the College – the buildings of HFC.

### DEFINITIONS

#### Current Replacement Value (CRV)

The CRV is the cost to construct a replacement building in today's dollars, based on the square footage of the current structure and the estimated current construction cost for that type of structure.

#### Deferred Maintenance Backlog (DMB)

DMB represents the total value of projects that will require attention within the next five years. This value is included to help determine the investment required to repair and/or replace problem items before they become critical.

# FACILITIES

## FACILITIES ASSESSMENT

### Facilities Condition Index (FCI)

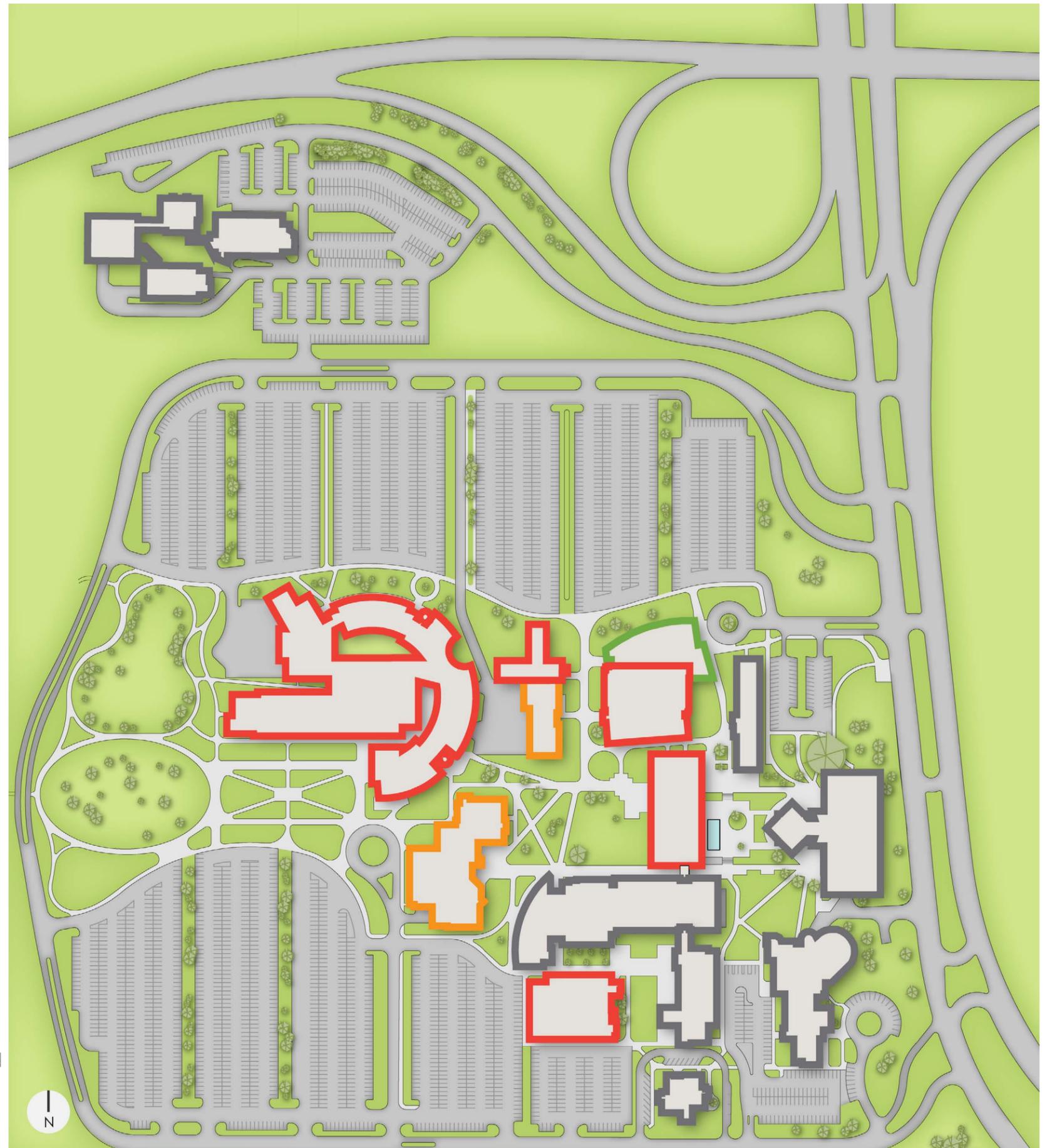
Simply put, the FCI is the current DMB divided by the CRV. The resulting number is compared against nationally accepted standards and used to determine the condition of the facilities.

The Association of Higher Education Facility Officers (APPA) – the organization whose standards were used to develop this system of facility assessment – recommends that the FCI for any given building should not exceed 5% for the building to be considered in “Good” condition. The rating of “Fair” (5-10%) indicates that the building requires some attention to bring it up to standard, with some problems areas potentially requiring immediate attention. The rating of “Poor” (>10%) indicates that the building needs urgent attention to prevent the existing problems from affecting other building systems and compounding future repair costs annually due to inflation.

The entirety of this study is available in the Appendix of this report.

### KEY

- FCI < 5%      Good
- FCI 5% - 10%      Fair
- FCI > 10%      Poor
- To Be Assessed



HFC BUILDING CONDITION

# FACILITIES

## EXISTING SPACE INVENTORY

### FAST FACTS - ACADEMIC SPACE INVENTORY

#### Main Campus

##### Classrooms

- 120 rooms
- 94,152 total ASF
- 729 average ASF

##### Instructional Laboratories

- 76 rooms
- 98,198 total ASF
- 1,259 average ASF

### SPACE INVENTORY AND UTILIZATION ANALYSIS

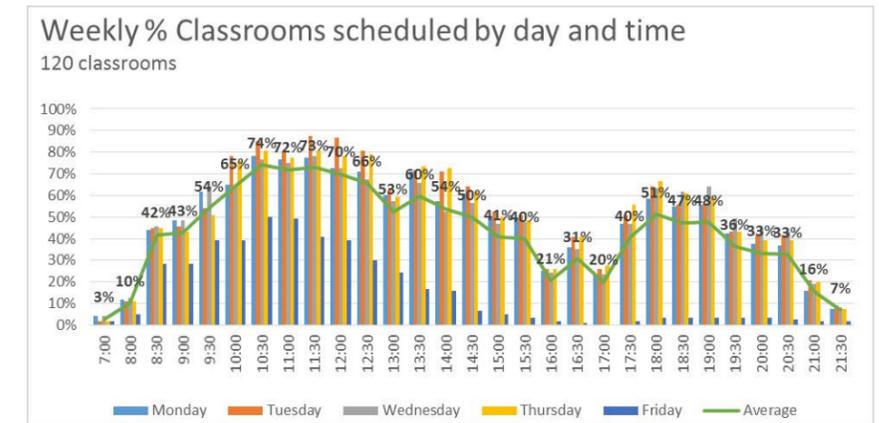
Stantec performed an academic space inventory and utilization analysis of the classroom and laboratory spaces located at the HFC Main Campus. The inventory documented the number of rooms in each building, the number of student stations per room and the assignable square footage in each room. Only classrooms and labs that have classes scheduled via Datatel system (via the Registrar) are included in this study. Spaces such as those used solely for unscheduled tutoring, study groups, or open labs were not included. Also omitted were spaces where the planned use is set to change, and the schedule data for the future program was not available (for example, T-177, T-178 in the Technology Building).

### CLASSROOMS

While HFC's utilization of its classrooms holds up well against national target standards, there is opportunity available by improving utilization of existing spaces. As previously noted, there are currently 120 classrooms on campus. These classrooms are available to be scheduled for a total of 15 hours a day, 5 days a week, for a total of 75 hours a week. If each room were to be scheduled for the full 75 hours a week, there would be 9,000 weekly hours of scheduled class time on campus:

$$120 \text{ rooms} \times 75 \text{ available hours/week} = 9,000 \text{ weekly available room hours}$$

Currently, there are 3,026 weekly hours of scheduled class time on campus. Another way to look at this is the percentage of total classrooms on campus that are scheduled on any given day:



While there are peak times when a larger amount of rooms are in use, there are opportunities for additional classes to be scheduled throughout the week.

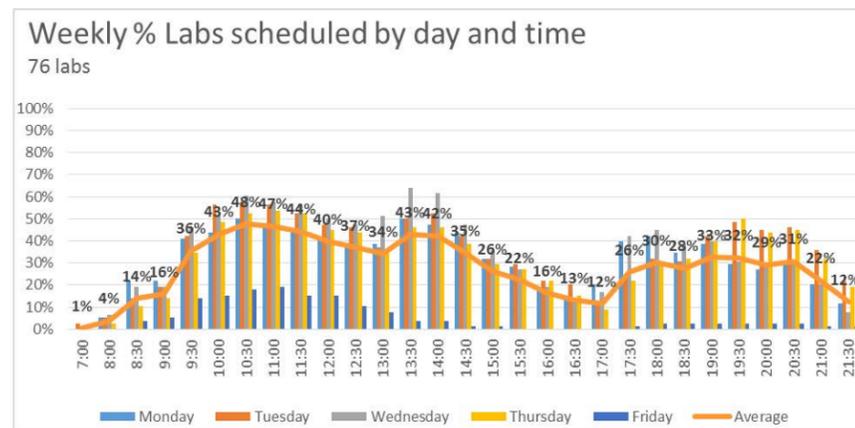
# FACILITIES

## EXISTING SPACE INVENTORY

### INSTRUCTIONAL LABS

Like HFC's classrooms, on-campus labs follow a similar pattern of use. Peak utilization times run from late morning to early afternoon, with a smaller surge of utilization in the early evening. Opportunities exist for additional classes to be scheduled throughout the week.

HFC's low weekly room hour average for its labs makes for a compelling argument for the development of flexible "superlabs", which would operate independently from traditional semester schedules, and instead focus on competency-based curriculum.



### KEY

[Building Name]	
#	# of
Classrooms	Labs
8	7



HFC EXISTING CLASSROOMS AND LABS

# INFRASTRUCTURE

## EXISTING CONDITIONS

### FAST FACTS - CIRCULATION AND PARKING

General Parking Spaces: 2,950

Handicapped Parking Spaces: 69

### GETTING ONTO CAMPUS

Henry Ford Campus is a suburban campus, with limited access onto the campus itself. Vehicular access is only available on Evergreen Road, at four different locations. The multiple curb cuts at Evergreen creates a somewhat confusing entry sequence, as three of them are very closely spaced, and the existing geometry does not emphasize a single, obvious entry point. There is a regularly used public bus stop located on Evergreen just north of the Student Center. There are no sidewalks, bike lanes or crosswalks along Evergreen within the vicinity of the Campus, making walking or biking to the Campus difficult.

### GETTING AROUND CAMPUS

A two-way ring road surrounds the Campus, minimizing vehicular/pedestrian conflicts and providing access to all of the parking lots associated with Campus center, as well as to the Welcome Center. Pedestrian pathways throughout the Campus are numerous, but without much logic - neglecting certain high-usage pedestrian pathways, such as from the bus stop on Evergreen.

### PARKING

Parking is concentrated to the north and south sides of the campus, with the bulk of the parking open to students, and a couple of lots reserved for faculty and staff.

# INFRASTRUCTURE

EXISTING CONDITIONS

- KEY**
- Vehicular Path
  - Pedestrian Path
  - Potential Conflict Points



HFC VEHICULAR AND PEDESTRIAN CIRCULATION





# ACADEMICS

CHAPTER 1

# DISCOVERY

## ACADEMICS

### FAST FACTS - ACADEMIC DIVISIONS

- Business and Computer Technology
- Industrial Technology
- Health Sciences
- Humanities and Social Sciences
- Communications
- Math and Science
- Teaching and Learning Support Services
- Workforce and Professional Development

### OVERVIEW

Academic uses on the HFC Campus are largely organized around the center of campus. The Technology Building, Fine Arts Building, Health Careers Education Center (HCEC), Science Building, Liberal Arts Building, Library, Learning Resource Center (LRC) and the Student Center form a strong academic core at the heart of the campus.



#### LIBERAL ARTS

Built: 1960 (55 years)

104,046 GSF

Long Term FCI: 30%

Most of HFC's Academic Divisions have some class space within the Liberal Arts Building. It is the main classroom building on campus and has many faculty offices. The building is also home to the English Language Institute, which offers instruction in American English language and culture to help students meet their English language goals. The large lobby is undergoing renovations to provide a more collaborative gathering area. Staff and faculty interviews confirmed facilities assessment findings that the building is in poor condition and is generally poorly suited for 21st century educational delivery.

#### SCIENCE BUILDING

Built: 1963 (52 years)

72,086 GSF

Most Math and Science Division classes are conducted in the Science Building. This building has two distinct sections - the original 1960s building, which was recently partially renovated, and



the new wing, constructed in 2009. It houses classrooms, laboratories and faculty offices. The building is also the home of the HFC Planetarium. Although Stantec did not include this structure in the facilities assessment due to the recent renovation, overall, the building is in good condition.

#### HCEC

Built: 1998 (17 years)

83,956 GSF

Of all the academic buildings on campus, faculty who worked in the Health Careers Division expressed the most satisfaction with their facilities, including the HCEC. This building contains classrooms, labs and offices, as well as the Hackett Conference Room. It is primarily used by the Health Careers Division, with some crossover from Science and Math.

#### FINE ARTS BUILDING

Built: 1978 (37 years)

74,742 GSF

Long Term FCI: 7%

The Fine Arts Building houses classrooms, studios and faculty offices, primarily related to Fine Arts. Communications has a select few spaces within the building as well. Additionally, the Adray Auditorium and Sisson Art Gallery are also housed here. The building is in fair condition.



#### TECHNOLOGY BUILDING

Built: 1964 (51 Years)

168,848 GSF

Long Term FCI: 17%

The Technology Building consists of two





### FAST FACTS - FALL 2013 CLASSROOM INVENTORY

#### Classroom Stats

- Classrooms - 120
- Average size - 729 ASF
- Average Seats - 30.67
- Total Seats - 36,196

#### Classroom Mix

- Small; 11 - 20 seats (10 rooms)
- Medium; 21 - 30 seats (83 rooms)
- Large; 31 - 40 seats (18 rooms)
- Lecture; 41+ seats (9 rooms)

#### Classroom Utilization

- Assignable SF/Student Station - 26 sf/station
- Weekly Room Hours - 29 hours/week
- Student Station Occupancy - 69%

### INTRODUCTION TO UTILIZATION

Understanding how educational spaces on campus are currently used is key to defining what an institution's future needs are. As part of the HFC Facilities Master Plan, an in-depth Utilization Study was conducted for all classroom and laboratory spaces that are scheduled through the Registrar.

Utilization was looked at in 3 ways in this study:

- **Assignable Square Feet per Student Station (ASF/SS):** This number is used to understand whether or not a space is adequately sized for its current use and seat capacity. The national target for ASF/SS varies, depending upon the type of room and subject being taught.
- **Weekly Room Hours (WRH):** This number is an average of the number of hours per week that a room is scheduled to be in use. For the purposes of this study, it was assumed that HFC has about 60 hours per week of available time in the schedule (15 hours a day, Monday through Thursday.) The national target is about 32-36 WRH for classrooms, and around 28-34 for labs.
- **Student Station Occupancy (SSO):** SSO looks at the average percentage of student seats occupied in a room during scheduled class time. It provides understanding as to whether or not there are enough rooms with the right amount of seating available on campus. The national target occupancy for classrooms is about 65%, while the target for labs is closer to 70%

### ASSUMPTIONS

A number of assumptions frame this utilization study:

1. **This is a quantitative study that looks only at numeric data;** it does not evaluate the qualities of spaces, such as the quality of technology, room orientation, or room location relative to programmatic synergies
2. **The study omits Friday classes.** While Friday classes are scheduled on campus, there are significantly fewer than Monday through Thursday. As a result, Friday class data serves only to skew the average use lower, providing an inaccurate picture. With Friday classes omitted, Henry Ford College has approximately 60 hours of available class time during the week (15 hours/day, Monday through Thursday).
3. **Only classrooms and labs that have classes scheduled via Datatel system (via the registrar) are included in this study.** Spaces such as those used solely for unscheduled tutoring, study groups, open labs are not included. Also omitted are spaces where the planned use is set to change, and the schedule data for the future program was not available (for example, T-177, T-178 in the Technology Building).
4. This study looked at 120 classrooms and 76 labs in 8 different buildings
5. National Utilization Targets:

Classroom/Lecture		
ASF/SS	WRH	SSO
21-33	32-36	65%

Laboratory/Studio		
ASF/SS	WRH	SSO
52	28-34	70-75%

# DISCOVERY

## ACADEMICS

### FAST FACTS - FALL 2013 LAB INVENTORY

#### Lab Stats

- Labs - 78
- Average size - 1,140 ASF
- Average Seats - 24.12
- Total Seats - 12,688

#### Lab Mix

- Seminar; 0 - 10 seats (6 rooms)
- Small; 11 - 20 seats (17 rooms)
- Medium; 21 - 30 seats (51 rooms)
- Large; 31 - 40 seats (2 rooms)
- Lecture; 41+ seats (2 rooms)

#### Lab Utilization

- Assignable SF/Student Station - 74 sf/station
- Weekly Room Hours - 19 hours/week
- Student Station Occupancy - 76%

#### KEY

[Building Name]	
#	# of
Classrooms	Labs
8	7



HFC EXISTING CLASSROOMS AND LABS

## UTILIZATION DEFINITIONS

Utilization is analyzed in three ways:

**Assignable Square Feet per Student Station (ASF/SS)** looks at how much space is available for each student.

**Student Station Occupancy (SSO)** looks at how many available seats are filled.

**Weekly Room Hours (WRH)** looks at how often is the room used.

### National Targets

Classroom/Lecture		
ASF/SS	WRH	SSO
21-33	32-36	65%

Laboratory/Studio		
ASF/SS	WRH	SSO
52	28-34	70-75%

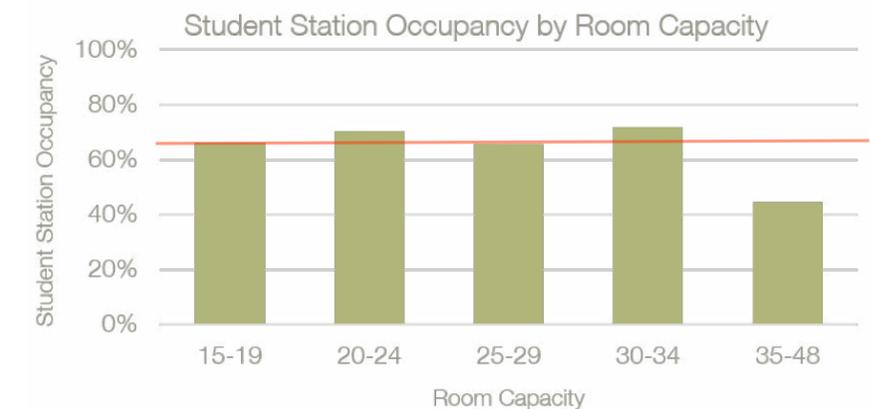
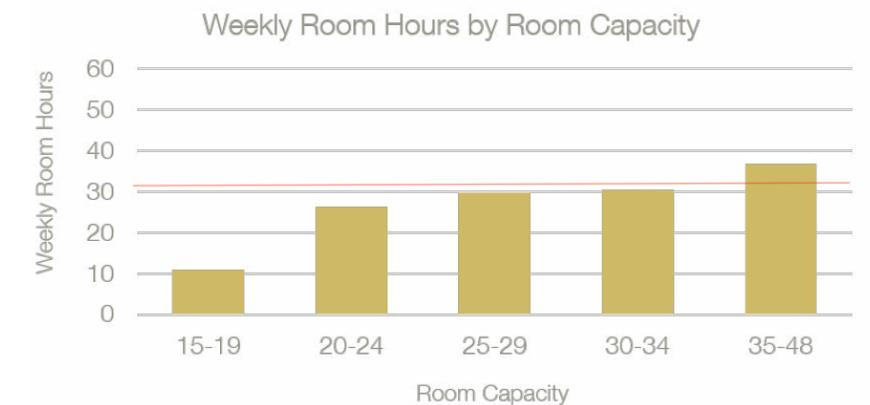
## CLASSROOM UTILIZATION

Of the 120 classrooms on campus, the majority are located in the Liberal Arts building. Built in 1963, this building is generally perceived to be in poor condition and badly in need of infrastructure, finish and layout improvements. Of the classroom spaces on campus, those located in the Liberal Arts building are on average undersized, coming in at 21 Assignable Square Feet per Student Station (ASF/SS), as compared to the target of 22-48 ASF/SS.

Building	Number of Rooms	Total Area	Average ASF/SS	Average Weekly Seat Hours	Average Weekly Room Hours	Student Station Occupancy
ATHL	2	2,015	47	27.7	32	82%
FA	8	5,350	31	19.8	22	90%
HCEC	21	18,072	26	20.5	30	67%
LA	57	35,167	21	22.8	32	73%
LRC	1	712	40	27.8	38	74%
SC	2	1,785	43	11.3	25	42%
SCI	7	7,678	26	15.7	36	48%
TECH	22	16,705	32	10.9	19	59%
<b>Total</b>	<b>120</b>	<b>87,483</b>	<b>26</b>	<b>19.6</b>	<b>29</b>	<b>69%</b>

Classrooms included in this study averaged 29 Weekly Room Hours across the campus, with an average Student Station Occupancy of 69%. Classrooms with smaller capacity are used less frequently during the week, but have a higher occupancy rate when they are scheduled. The larger rooms were used more frequently, but with a lower occupancy rate. These averages are not too far off from the target Weekly Room Hours of 32 and Student Station Occupancy of 65%.

Additionally, with an average 26 Assignable Square Feet per Student Station (ASF/SS), HFC is well within the target range of 22-48 ASF/SS, although at the low end of that range. This wide range allows for different types of classrooms with different furniture needs and set ups, with the smaller end of the range being appropriate for lecture halls with fixed seating, and the larger end being geared towards flexible classrooms with movable furniture.



### TEACHING LAB UTILIZATION

This study included 76 teaching labs on campus. For the purposes of this study, the term “lab” includes any of the following spaces that were scheduled by the registrar for instruction:

- Computer labs
- Art studios
- Culinary spaces
- Science labs
- Tech labs
- Fitness centers

Open labs - those not scheduled, but available for student use such as an open computer lab, were not included.

It should be noted that student station occupancy data for some of these spaces appears exceedingly high, specifically for spaces in the Student Center, which houses the Culinary Arts program. This anomaly is due to the fact that these spaces have no actual “stations” per se; capacity is instead determined by the enrollment cap provided by the registrar.

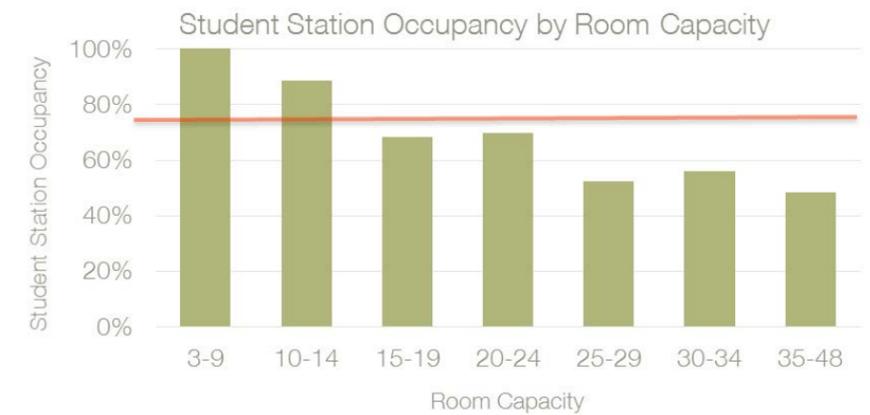
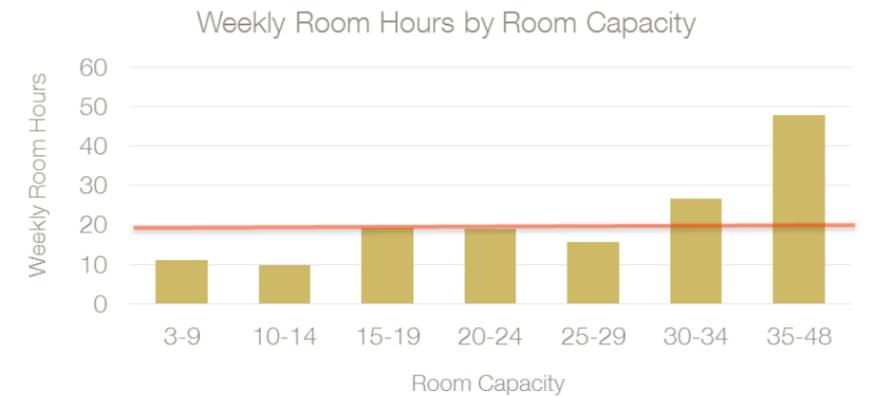
Omitted from this analysis were two lab spaces – T-177 and T-178 – located in the Technology Building. These were omitted as they were slated to change use to a program currently not held on campus. As a result, no scheduling data was available for them.

Building	Number of Rooms	Total Area	Average ASF/SS	Average Weekly Seat Hours	Average Weekly Room Hours	Student Station Occupancy
ATHL	1	1,000	42	7.1	22	33%
FA	7	9,119	61	13.7	21	68%
HCEC	14	16,098	73	11.1	15	80%
LA	5	5,139	38	23.5	34	69%
SC	6	5,774	168	18.6	21	152%
SCI	18	18,629	42	14.8	20	74%
TECH	27	40,120	91	11.5	18	64%
<b>Total</b>	<b>76</b>	<b>95,879</b>	<b>75</b>	<b>13.7</b>	<b>19</b>	<b>76%</b>

The majority of HFC’s lab spaces are located in the Technology Building. This building was built in 1965, with an addition in 1995. It is widely considered to be in need of updating in order to support the modern technological needs of its programs.

Labs included in this study had an average of 19 Weekly Room Hours, and an average Student Station Occupancy of 76%. Assignable Square Feet per Student Station varies widely – from 42 to 168 ASF/SS – as the variety of “labs” means a wide variety of equipment types and space needs.

The Weekly Room Hour target for labs is generally lower than that for classrooms, at around 22 hours/week, and the Student Station Occupancy target is higher, at around 70%. The lower weekly room hour target is due to the tendency for labs to be specialized, dedicated spaces that can only accommodate the specific programs they are designed for. This lower number is also impacted by lab setup time and open use.



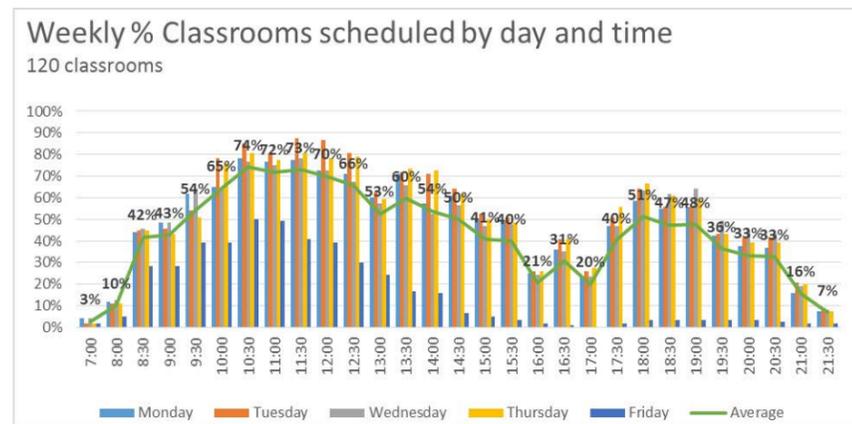
### UTILIZATION ANALYSIS

#### Classrooms

While HFC’s utilization of its classrooms holds up well against national target standards, there is opportunity available by improving utilization of existing spaces. As previously noted, there are currently 120 classrooms on campus. These classrooms are available to be scheduled for a total of 15 hours a day, 5 days a week, for a total of 75 hours a week. If each room were to be scheduled for the full 75 hours a week, there would be 9,000 weekly hours of scheduled class time on campus:

$$120 \text{ rooms} \times 75 \text{ available hours/week} = 9,000 \text{ weekly available room hours}$$

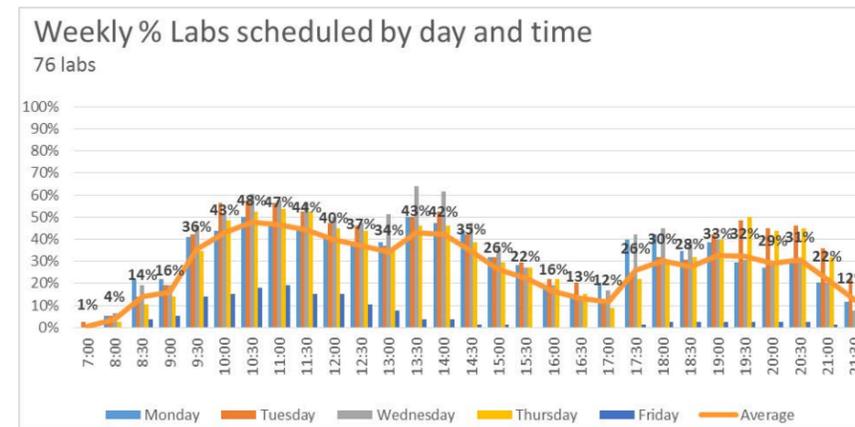
Increasing classroom room hours to reach this maximum is not ideal, as it will create difficulties with scheduling by reducing flexibility. However, there are currently only 3,026 weekly hours of scheduled class time on campus, so there is some room for growth. Another way to look at this is the percentage of total classrooms on campus that are scheduled on any given day:



While there are peak times when a larger amount of rooms are in use, there are opportunities for additional classes to be scheduled throughout the week. Morning classes’ utilization can be increased without significantly impacting schedules, and the Friday schedule can handle significant increases, as well.

#### Labs

Like HFC’s classrooms, on-campus labs follow a similar pattern of use. Peak utilization times run from late morning to early afternoon, with a smaller surge of utilization in the early evening. Opportunities exist for additional classes to be scheduled throughout the week.



HFC’s low weekly room hour average for its labs makes for a compelling argument for the development of flexible “superlabs”, which would operate independently from traditional semester schedules, and instead focus on competency-based curriculum.



# EXPLORATION

## ACADEMICS

Working with Stantec, HFC identified a series of goals to help advance the guiding principles identified at the start of the planning process as they relate to academic needs on campus. These goals further helped to define master plan projects for the short, mid and far term ranges.

- 1 **Support new integrated programs.** As Henry Ford College looks to improve cross-collaboration between Divisions and Programs, it will become essential that these integrated programs are supported by flexible, active learning environments that allow for hybrid educational delivery methods.
- 2 **Promote student collaboration.** Similarly to Division/Program cross-collaboration, student collaboration needs to be supported by flexible, accessible spaces that provide a variety of learning environments outside the classroom and give students the tools to enhance their own academic experience.
- 3 **Celebrate Centers of Excellence.** HFC has highlighted a number of its stellar educational programs as “Centers of Excellence.” However, these standout programs do not currently reside in spaces that reflect the same level of distinction.
- 4 **Create multipurpose labs to improve utilization.** Improvements in design and technology are allowing for greater flexibility within classrooms. This, coupled with the institution’s desire to move towards more competency-based curriculum, creates the perfect opportunity to improve classroom and lab utilization by focusing on creating multipurpose spaces, rather than dedicated classrooms and labs.
- 5 **Put learning on display.** Henry Ford College prides itself on the innovative work its students produce. This work should be showcased across campus,

both as a means of promotion of the institution and as a means of sharing knowledge and encouraging collaboration.

- 6 **Create a hub for outside-the-classroom learning.** One telling comment made during interviews with faculty and staff is that the corridors in the buildings on campus were “lifeless, have no energy”. Bringing learning into spaces outside the classroom is one way to bring some vitality onto campus.



- 7 **Re-imagine Library as knowledge center.** Now seen as mostly a warehouse for books, the Library can find new life as an active learning hub, where students come to do research online, collaborate on projects and generate new ideas.



- 8 **Prepare LRC for potential Early College program expansion.** The Early College program is essential to the future of HFC. Anticipating its expansion and growth is vital.
- 9 **Provide modern learning environments in heavily utilized facilities.** Although well-maintained, many of the more well-utilized facilities on campus are dated, with worn finishes, inadequate technology and inflexible classrooms. Updating these will help energize the learning environment and support new learning modes.



- 10 **Bring faculty together in order to make them more visible and accessible and to promote collaboration.** An oft-repeated comment received from faculty and staff is that they felt isolated from the students, as well as from other Divisions. Creating a highly-visible, centralized spot for faculty can encourage inter-Division collaboration, and improve access for students.
- 11 **Strengthen program connections.** In addition to faculty collaborations, overall programmatic collaboration can be strengthened as part of this plan. Examples of potential connections include:
  - STEM + Liberal Arts + Fine Arts
  - Interior Design + Architectural Technology + Construction
  - Nutrition + Culinary Arts
  - Science + Health, Science + Manufacturing
- 12 **Create space for state-of-the-art Culinary Arts program.** Although HFC’s Culinary Arts program is state-of-the-art, the current facilities are old and crowded. Updating these facilities so they support the program is essential to Culinary Art’s success.
- 13 **Improve usability of dining room.** The current main dining room at the Student Center, although well-used, is not a particularly flexible space, with only one type of seating available. There is no soft seating, and ambient noise is amplified by the prevalence of hard, sound reflective surfaces. Renovating this space to make it more flexible and comfortable for students will create a gathering space that is not only frequently used, but well-loved by the student body as well.
- 14 **Consolidate Hospitality Program.** Currently, Hospitality is divided up between the Student Center and Technology Building. Consolidating the program will provide more opportunities for collaboration and create greater efficiency in operations.

- 15 Support SuperLab concept for science and technology education. Low lab utilization due to high specialization of spaces results in an inefficient use of space. By redesigning these labs into spaces where more than one kind of learning can be happening simultaneously, utilization will improve and programs can become more interdisciplinary.
- 16 Bring original Science Building up to condition of new building. As part of the 2009 addition to the Science Building, some of the learning spaces in the existing portion of the building were updated. However, spaces that were not included in the 2009 renovation should be addressed.
- 17 Upgrade classrooms and labs in academic buildings across campus. With few exceptions, many of the classrooms and labs in buildings across HFC's campus are in need of wholesale updates. Finishes are approaching the end of their useful lives, technology requirements are not being met and the environment (air, temperature, lighting, acoustics) is not conducive to student focus. There is a large range with regard to the quality of the learning spaces on campus, and it is a goal of the institution to create a campus-wide standard, bringing all of those spaces up to a higher level of quality.



# RECOMMENDATIONS

## ACADEMICS

### FAST FACTS - PROPOSED IMPROVEMENTS

- Renovate academic buildings and relocate learning environments in ways that promote interdisciplinary opportunities within and between programs.
- Create flexible learning environments that are appropriately sized and equipped to adjust to multiple learning modes.
- Provide flexible, technology-equipped classrooms to support multiple teaching modes and improve space utilization.
- Create open-entry/open-exit lab spaces supportive of integrated curriculum, collaboration and blended, self-paced learning.
- Create spaces, indoors and out, to showcase state-of-the-art programs and discoveries, promote interdisciplinary projects, and celebrate student work.

These recommendations focus on the core needs of the college – to provide facilities with modern learning environments capable of accommodating changing teaching methods, learning activities and technology. Some recommendations are likely to be part of projects several years in the future; some will require considerable renovations to accomplish, and some can be incorporated as part of smaller, lower cost efforts that can still have a significant impact.

### ACADEMIC SYNERGIES

- 1 **Renovate academic buildings and relocate learning environments in ways that promote interdisciplinary opportunities within and between programs.** While addressing deferred maintenance and facility condition issues rethink building configurations and program locations to create stronger connections between STEM programs and the Arts and Humanities. These improvements run the gamut from renovations in the Technology Building to locate classrooms to maximize use with SuperLab programs to potentially relocating the Liberal Arts Building, creating an interdisciplinary Academic Core on campus, physically bringing the largest academic divisions closer together.

Programs such as fine arts and welding could collaborate in maker spaces, displaying projects in a common gallery. Ceramics, technology and science could collaborate on the use of ceramics in manufacturing. A tightly integrated Learning Commons could provide the outside-the-classroom support and skills students need to be successful.

### LEARNING ENVIRONMENTS

- 2 **Create flexible learning environments that are appropriately sized and equipped to adjust to multiple learning modes.** Classrooms and labs need to be sufficiently sized to be flexible and equipped to adapt to multiple uses, within and across disciplines. Additionally, learning environments should be usable for business and industry training and community enrichment programs. The College currently runs a collaborative program with Ford called ASSET (Automotive Student Service Educational Training). This unique program prepares individuals for entry-level service and repair positions in automobile dealerships and independent garages and requires a flexible learning environment that allows new technology to be covered as it is released.
- 3 **Provide flexible, technology-equipped classrooms to support multiple teaching modes and improve space utilization.** The utilization study indicated that while the College average classroom size is fair at 26 square feet per student station, the Liberal Arts Building, with nearly half of the classrooms on campus, has a per student station average of only 21 square feet. While adequate for formal lectures with students in tablet arms chairs, it is insufficient for new methods of teaching and for the flexibility to reconfigure classrooms. Classrooms should be able to switch from lecture to small group to large group seamlessly, with some capable of combining with adjacent spaces for larger groups. Classrooms and supporting spaces should be general enough in nature to allow use by any program with a specific seat requirement.

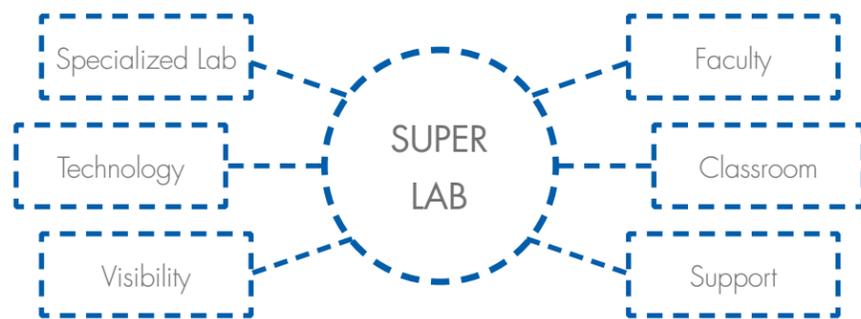
The physical master plan must also coordinate with the current 2013-2018 Technology Plan to provide a framework for easy implementation of new equipment.

# RECOMMENDATIONS

## ACADEMICS

- 4 Create open-entry/open-exit lab spaces supportive of integrated curriculum, collaboration and blended, self-paced learning. Reconfigure existing labs, where appropriate, from single-purpose, separated spaces into a SuperLab concept of a comprehensive main lab tightly connected to specialized support labs, classrooms, faculty and collaborative spaces. In the Technology Building, the master plan recommends implementation of the Center for Innovative Manufacturing Education (CIMed) program as outlined by HFC. The goal is to combine the best of e-learning, flipped classroom, in-class instruction and open-lab environment in a self-paced environment built around "Centers of Technology".

Beyond the CIMed program, other programs (science, math, writing, health) are recommended to incorporate the student-centered SuperLab concept of learning and lab stations designed for open-flexible use by students using varied course learning modules.



- 5 LEARNING ON DISPLAY

Create spaces, indoors and out, to showcase state-of-the-art programs and discoveries, promote interdisciplinary projects, and celebrate student work. Build on the program identification achieved by improved signage to include making the learning experience visible (e.g., the SuperLab concept above) and provide space to share student and faculty work with the campus and community.



HFC RECOMMENDATIONS

# RECOMMENDATIONS

## ACADEMICS

### FAST FACTS - PROPOSED IMPROVEMENTS

- Provide collaborative spaces of various sizes, functions and visibility throughout the campus and buildings, whether new or existing.
- Locate faculty currently scattered between multiple buildings to be in better proximity to students, learning environments and each other.
- Create a single location that brings knowledge creation and academic support to students in a welcoming environment.

### 6 COLLABORATIVE SPACE

Provide collaborative spaces of various sizes, functions and visibility throughout the campus and buildings, whether new or existing. Learning occurs as much outside the classroom walls as inside. Community college campuses, dating from the 1950s to the 1970s, provided little space for student or faculty collaboration. The move to team projects, increased use of mobile technology, changes in schedules –even the growth of the coffee shop, have increased the need for space outside the classroom for working on projects and socializing.

It is recommended that all buildings provide collaboration spaces of various sizes and boundaries, both schedulable and open, with access to comfortable seating, white boards, display, data and power. These spaces should encourage collaboration for multiple groups: student-student, student-faculty and faculty-faculty.

### 7 FACULTY

Locate faculty currently scattered between multiple buildings to be in better proximity to students, learning environments and each other. To improve student access to faculty, promote collaboration between departments and ensure adjunct faculty have shared space within each department, future renovations and new construction should bring faculty together from across campus into easily accessed and visible suites with nearby collaborative space.

### LEARNING COMMONS AND STUDENT SUCCESS

- 8 Create a single location that brings knowledge creation and academic support to students in a welcoming environment. The role of the Library has changed from a place where information is stored to a place where knowledge is created and support for student success is available.

Leverage the potential in the Library and adjacent LRC to provide a range of spaces for collaboration, study, research and obtaining academic assistance in an environment that supports uses from active to quiet, solitary to group, and academic to social. This approach will be successful when the threshold to access of these services is wiped away, the library is seen as an integral part of the learning experience and all are encouraged to take advantage of this campus asset.

# RECOMMENDATIONS

ACADEMICS



HFC RECOMMENDATIONS





# ADMINISTRATION & OPERATIONS

CHAPTER 2

# DISCOVERY

## ADMINISTRATION & OPERATIONS

### FAST FACTS - ADMINISTRATION AND OPERATIONS

#### Administration

- Academic Affairs
- Administrative Services
- Book Store
- Development
- Financial and Auxiliary Services
- Information, Marketing & Effectiveness
- Legal Services
- President
- Student Affairs
- Welcome Center

#### Operations

- Facilities
- Campus Safety

### OVERVIEW

Although administrative spaces can be found in nearly all academic buildings, most administrative functions are housed in three main locations on campus: the Administrative Services and Conference Center, the Book Store and the Learning Technology Center. Additionally, administrative spaces exist at the SME complex. Operations facilities are similarly scattered about campus, but focused in the Facilities Building, and the Learning Technology Center.

### ADMINISTRATIVE SERVICES AND CONFERENCE CENTER

Built: 1983 (32 years)

59,002 GSF

Originally built for the UAW, the Administrative Services and Conference Center houses the bulk of the administrative spaces on campus, and a few key exhibition/meeting spaces, including the Forfa Auditorium, Berry Amphitheater and Rosenau Board Rooms. However, the halls of some of the upper floors have also become a sort of temporary storage for outdated technology equipment, indicating a larger storage issue. It is generally well maintained, but somewhat dated.



### BOOKSTORE

Built: 1970 (45 years)

7,730 GSF

Long Term FCI: 18%

The campus Bookstore is an inefficient use of prime space. Although heavily visited at the beginning and end of the semesters, for the majority of the year, the building serves as warehouse for books. It is in poor physical condition and located in the middle of the main pedestrian entrance to campus.



### SME CAMPUS

137,700 GSF

The SME campus is located in the northwest corner of HFC's property, on the outside of the ring road circumventing the campus. Originally owned by the Society of Manufacturing Engineers, the buildings were acquired in 2008. While its location makes it less desirable for academic, student life or recreational uses, the site does have some features (such as multiple loading docks) that make it ideal for administrative and operations uses.

Although well-designed and highly utilized, the newly developed Welcome Center is currently somewhat isolated and hard to find, being located at the extreme north edge of campus. Potential students coming to the campus for the first time often have difficulty locating it. While the new wayfinding plan will help provide more visibility, additional development of the SME campus would also help increase its visibility.



### LEARNING TECHNOLOGY CENTER

Built: 1963 (52 years)

25,772 GSF

The Learning Technology Center houses Campus Safety, faculty offices and the campus Data Center. Originally the administration building, the facility is dated and has proportions that make it unsuitable for instruction. In its current location, Campus Safety is segregated from students, as there are no academic uses in the building, and would benefit from being relocated to a more central location.



# DISCOVERY

## ADMINISTRATION & OPERATIONS

### FACILITIES BUILDING

Built: 1960 (55 years)

16,093

Long Term FCI: 7%

The Facilities Building is a well-maintained building, located in the north-central part of the main campus. It houses Facilities Services for all of Henry Ford College, as well as Purchasing, Shipping and Receiving and the campus boilers. Its location, along with the Book Store, creates a barrier in front of the Technology Building and to the center of campus. The building is in fair physical condition.

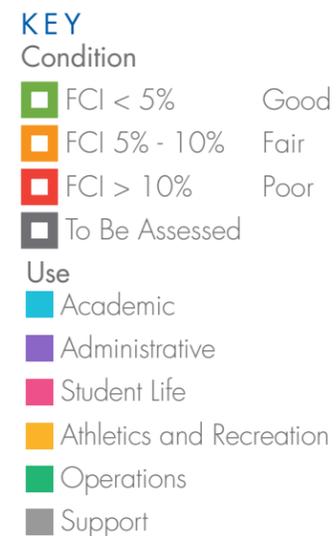


### CHILD DEVELOPMENT CENTER

Built: 1996 (19 years)

7,003 GSF

This building houses the college's child care operations and is undergoing study for alternate uses as these facilities are typically difficult to operate efficiently on a commuter campus.



HFC BUILDING USE AND CONDITION

# EXPLORATION

## ADMINISTRATION & OPERATIONS

- 1 Improve access to multiple student services.** Currently, student services such as academic support, student life and student organizations have low visibility, and are scattered across campus. Consolidating these services and providing them with increased visibility by locating them in higher traffic areas will improve students' access to these services.
- 2 Increase traffic to Bookstore.** Except at the beginning and end of each semester, the Bookstore is not often visited throughout the academic year. By rethinking how the Bookstore operates and where it is housed, there may be opportunities for increasing its relevance throughout the year by showcasing other merchandise.
- 3 Improve efficiency of campus operations.** Opportunities exist to maximize the efficiency of operations by carefully considering the locations of dedicated and specialized operations facilities. Additionally, co-locating other building uses with similar operational needs can increase operations efficiency.
- 4 Repurpose Administration Building.** In the spirit of improving campus efficiency and opening spaces to strengthen the academic core as needed, relocating administrative uses from the current Administrative Services and Conference Center should be considered for the future, so that it may be repurposed with another use.

# EXPLORATION

ADMINISTRATION & OPERATIONS



HFC EXPLORATION

# RECOMMENDATIONS

## ADMINISTRATION & OPERATIONS

### FAST FACTS - PROPOSED IMPROVEMENTS

- Refer to the Facility Condition Assessment when making decisions to reinvest in a particular building. Where practical, address deferred maintenance and programmatic improvements simultaneously.
- Analyze the cost and benefits of continued investment in the existing major campus infrastructure, including relocation or reconfiguration.
- Create a framework that addresses potential future campus growth without having to construct new buildings.
- Open up the main north pedestrian entry to campus by relocating the facilities department and service yard to the lower level of either the SME West or SME South Building and demolishing the existing building for future development.
- Relocate the bookstore operations to a higher traffic area and create a visually appealing north pedestrian entry to campus by demolishing the existing building for future development.
- Provide a central location for Campus Safety near the heart of campus and areas of high student traffic.

### OVERVIEW

Beyond immediate issues related to facility condition and campus infrastructure, most of the following recommendations for administrative spaces are long term in nature and driven by growth, other building renovations and operational decisions. A major factor impacting the proposed relocations will be the decision on how to address the space and repair needs of the Liberal Arts Building.

### FACILITY CONDITION AND DEFERRED MAINTENANCE

- 1 Refer to the Facility Condition Assessment when making decisions to reinvest in a particular building. Where practical, address deferred maintenance and programmatic improvements simultaneously. To be efficient with College resources and reduce facility downtime, the facility condition assessment should be coordinated with the space and programmatic improvements in the master plan. This has the potential of reducing the magnitude of renovation costs that can occur when reworking building systems after a space is reconfigured.

Continued investment in existing buildings should be carefully considered for the Liberal Arts Building, the Learning Technology Center (Campus Safety and faculty offices) and the Campus Bookstore, given the extent of age-related system issues. This should not preempt repairs necessary to maintain building operations. Major system repairs in the Technology Building should be evaluated in light of the proposed renovation of the entire building.

### CAMPUS INFRASTRUCTURE

- 2 Analyze the cost and benefits of continued investment in the existing major campus infrastructure, including relocation or reconfiguration. Campus systems, including central heating and cooling systems and piping, should be evaluated against switching to discreet heating and cooling for

each building. Since most major system components are past the end of their expected lifespan, this decision should be made as early in the project development phase as possible, as it will impact tunnel work, site work, building downtime and increased mechanical system space in each building. Another potential approach would be to relocate the heating and cooling plants to a single location in the basement of a new Liberal Arts Building.

### ADMINISTRATIVE SERVICES AND CONFERENCE CENTER

- 3 Create a framework that addresses potential future campus growth without having to construct new buildings. While there is no immediate need to relocate Administrative Offices, the Master Plan includes long-range recommendations to ensure that space is available if the need arises and that a plan exists to support decisions of future administrations. If the current SME Building tenant consolidates or relocates out of the SME West or SME South buildings, there are up to 60,000 square feet available to house the Administrative and IT Offices, which require under 20,000 square feet. The benefit of this location is its proximity to other administrative and outreach functions, including the Welcome Center and University Center. This will allow for significant program space in the current Administrative Services and Conference Center on the second, third and fourth levels.

### NORTH CAMPUS "FRONT DOOR" APPROACH

- 4 Open up the main north pedestrian entry to campus by relocating the facilities department and service yard to the lower level of either the SME West or SME South Building and demolishing the existing building for future development. The current location of the Facilities Department, while adjacent to the central heating plant, is in the heart of the main pedestrian entry to campus from the north. The service yard blocks pedestrian traffic and presents an unappealing view. The proposed relocation can take

# RECOMMENDATIONS

## ADMINISTRATION & OPERATIONS

advantage of a hidden service yard, ample indoor storage space and several loading docks already part of the SME complex.

- 5 Relocate the bookstore operations to a higher traffic area and create a visually appealing north pedestrian entry to campus by demolishing the existing building for future development. The current bookstore is old, faces considerable deferred maintenance issues and is located in the center of the main campus entry from the north, presenting a view of its windowless storage wing and loading dock. As the nature of college bookstores and textbooks have changed considerably in the last few years (and will continue to change), storage and display space required for textbooks will continue to decline. Relocating the bookstore to another building on campus has the potential to increase traffic for non-textbook purchases. There are potential synergies in co-locating the bookstore in the library or near student activities offices.

### CAMPUS SAFETY DEPARTMENT

- 6 Provide a central location for Campus Safety near the heart of campus and areas of high student traffic. The Learning Technology Center, where Campus Safety is housed, is not central to campus and is facing considerable deferred maintenance repairs and/or replacements. Campus Safety operations could be relocated to either an expanded Technology Building or a new Liberal Arts Building, both centrally located and in areas of high levels of student traffic. This will allow for faster response times and a more visible presence on campus.



HFC RECOMMENDATIONS





# STUDENT LIFE & HOUSING

CHAPTER 3

# DISCOVERY

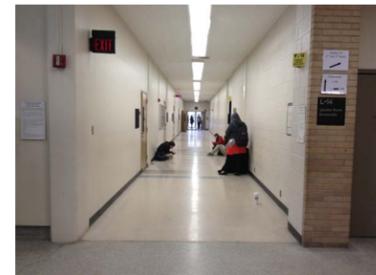
## STUDENT LIFE & HOUSING

### FAST FACTS - STUDENT LIFE CLUBS

African American Association	Mirror News - Student Newspaper
All Around Art Association (Sketch Club)	Muslim Students Association (MSA)
Amnesty International	National Society for Leadership & Success
Arab Student Union	Paralegal Studies Club
Astronomy Club	Phi Theta Kappa
Baking Club	Pre-Pharmacy Club
Christian Club	Programming Club
Community Service Club	Psi Beta-National Honor Society in Psychology
Criminal Justice Club	Science Association
Diversity Club	Student Environmental Association
Film Club	Student Nurses Association
Future Teachers Association	Web Design Club
Graphic Novel Club	Yemen Student Association
HFC Rotary Club	
HFC Student Veterans Association	
HFC Team Ceramics	
Ice Carving Club	
Informance Assurance Alliance Club	
International Student Organization	
Intervarsity Christian Fellowship	
Lebanese American Heritage Club	
Math Club	

### OVERVIEW

Student Life spaces are limited on the HFC campus, concentrated mainly in the Student Center. Many of the academic buildings on campus have some small spaces that could be used as lounge space - Liberal Arts, HCEC and Technology buildings. However these spaces are generally lacking in appropriate furniture, lighting and amenities to make them true lounge spaces.



Additionally, in Stantec's interviews with HFC faculty and staff, it was noted that the corridors in most buildings are used exclusively as circulation spaces and lack a certain energy or vitality with no places for students to sit, and a lack of transparency into active spaces. Many

students choose to sit in their cars between classes

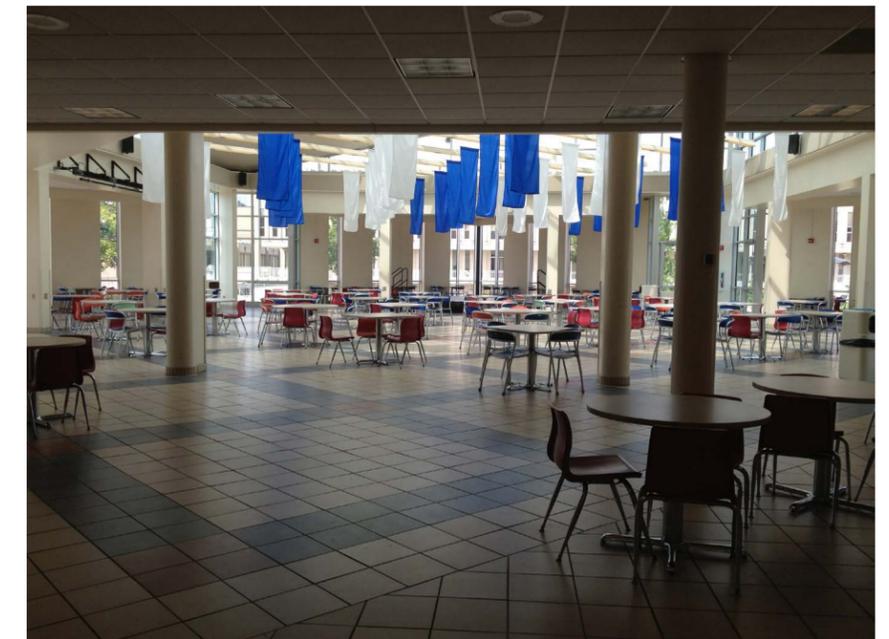
### STUDENT CENTER AND CULINARY ARTS

Built: 1963 (52 years)  
39,504 GSF

The Student Center houses the sole student food service for the campus (outside of vending machines scattered across



campus); a multi-station cafeteria-style food service operation. Additionally, the Student Center provides space for the culinary arts program, the Fifty-One-O-One Restaurant, and for student activities. The campus radio station, WHFR 89.3 FM, also broadcasts out of the facility. Its main gathering space is a large, sunlit atrium that is set up mainly for sitting in small groups, with tables for four arranged throughout the space. There is no soft space. It is used as the main student dining area on campus, has been significantly renovated, but remains under used by students, with poor acoustics and little variety of spaces for gathering and activities.



# DISCOVERY

STUDENT LIFE & HOUSING

**KEY**

**Condition**

- FCI < 5%      Good
- FCI 5% - 10%      Fair
- FCI > 10%      Poor
- To Be Assessed

**Use**

- Academic
- Administrative
- Student Life
- Athletics and Recreation
- Operations
- Support



HFC BUILDING USE AND CONDITION

# EXPLORATION

## STUDENT LIFE & HOUSING

- 1 Create hubs for outside-the-classroom learning.** One telling comment made during interviews with faculty and staff is that the corridors in the buildings on campus were “lifeless, have no energy”. Bringing learning into spaces outside the classroom is one way to bring some vitality onto campus.
- 2 Improve access to multiple student services.** Collocation of student services enables an institution to provide the most comprehensive support to its at-risk students, allowing services to collaborate and communicate easily and enable students to receive the specialized support they require.
- 3 Bring support to students.** For many, there is still a stigma attached to receiving academic or other forms of support. Creating vibrant, visible spaces that are located in areas where the students are already can help combat that stigma and encourage students to get the support they need.
- 4 Provide prime location for student success and support services, embedding student activities where students are.** Student success and support services are more successful when located in areas with high visibility and high traffic, where students feel comfortable accessing these services. Participation in student activities can be bolstered by anchoring these uses in areas that already attract students.
- 5 Improve food choices for students.** Expanding food choices for students will enable students to stay on campus longer and give the institution greater flexibility in scheduling classes.
- 6 Student Housing and sports fields.** Currently, HFC does not provide student housing. However, considering the limited developable land and the potential for programs to expand into four-year degrees, the institution may want to consider potential future residential development sites. Ideally, future housing would be located close to the academic core, student services, and parking, with some recreational fields nearby.

# EXPLORATION

STUDENT LIFE & HOUSING



HFC EXPLORATION

# RECOMMENDATIONS

## STUDENT LIFE & HOUSING

### FAST FACTS - PROPOSED IMPROVEMENTS

- Place Student Activity offices and student organizations where students are.
- Re-imagine student dining to be truly competitive with other options and integral with culinary and community entrepreneurial programs.
- Create spaces for gathering and socialization both indoors and out to activate campus and encourage students to stay throughout the day.
- Plan placeholders for potential future housing development on campus to support student engagement, activity and summer programs.

### OVERVIEW

As the costs of a large university education increase, more students are looking to the community college for as much of the full student experience as possible. The goal of the following recommendations is to strengthen student connections to Henry Ford College and to create an activated, thriving campus that supports the College's student life initiatives.

These recommendations range from short-term moves that have the potential to positively impact how students and community perceive and interact with the College, to the development of placeholders for long-term development opportunities for on-campus housing.

### STUDENT ACTIVITIES AND ORGANIZATIONS

- 1 **Place Student Activity offices and student organizations where students are.** Relocating student life and student organizations to a high-traffic academic building flips the model of students having to seek the activities office to one where the activities are in the forefront for every student entering the building. This has the potential to significantly increase visibility of and student engagement with these programs.

### DINING

- 2 **Re-imagine student dining to be truly competitive with other options and integral with culinary and community entrepreneurial programs.** Encouraging students to remain on campus to eat means updating the current dining approach as well as providing a welcoming area in which to eat. The existing student center has the potential to successfully undergo these changes.

Approaches to provide food service include leasing space to name brand outlets; connecting food service to culinary arts or providing incubator space for HFC and local culinary entrepreneurs to grow their businesses by being part of the student dining operations.

### 3 GATHERING

**Create spaces for gathering and socialization both indoors and out to activate campus and encourage students to stay throughout the day.** This recommendation is integral with several other recommendations, including creation of collaboration spaces in all academic buildings and development of appropriately scaled, welcoming and safe spaces for people to gather outdoors for socializing, eating or play. The master plan proposes multiple locations and space types to accomplish this goal.

### 4 STUDENT HOUSING

**Plan placeholders for potential future housing development on campus to support student engagement, activity and summer programs.** Placeholders for housing development are proposed in order to ensure the orderly, thoughtful development of campus assets. Student housing can be phased to ensure supply meets demand, placed to take advantage of the beautiful views of the Rouge River and support College student life initiatives.

# RECOMMENDATIONS

STUDENT LIFE & HOUSING



HFC RECOMMENDATIONS





# ATHLETICS & RECREATION

CHAPTER 4

# DISCOVERY

## ATHLETICS & RECREATION

### FAST FACTS - ATHLETICS & RECREATION

#### Varsity Sports

- Baseball
- Men's Basketball
- Women's Basketball
- Softball
- Golf

#### Club Sports

- Soccer
- Tennis
- Wrestling

### OVERVIEW

Athletics and recreation on the HFC campus are limited entirely to the Athletic Memorial Building, located on the south side of campus. This building houses a gymnasium, locker rooms, fitness center, some assorted classrooms and offices.

Originally adjacent to several playing fields that were removed to enlarge parking lots, the building is located in what can be considered the "back of house" section of campus, giving the facility low visibility.



### ATHLETIC MEMORIAL BUILDING

Built: 1964 (51 years)

36,640 GSF

The brutalist style facade treatment leaves no transparency, and provides no opportunity for outside observers to engage with the activities going on on the inside of the building. Over time, mismatched uses have been squeezed into the building including adjunct offices and non-physical education classes.



Comments regarding the athletics and recreation facilities on campus focused on their need for general renovation. Finishes and building equipment in the Athletic Memorial building require updating, particularly in the locker rooms and fitness center. Many of the physical education spaces have low ceilings, which is not conducive to many PE activities. The building has too many entry points and is not easily secured.



# DISCOVERY

ATHLETICS & RECREATION



HFC BUILDING USE AND CONDITION

# EXPLORATION

## ATHLETICS & RECREATION

HFC, with the assistance of Stantec, has developed the following goals to help advance the guiding principles identified at the start of the planning process as they relate to campus athletics and recreation. These goals further help to define master plan projects for the short, mid and far term ranges.

- 1 Engage students and encourage physical fitness.** Promote physical fitness by creating more visibility for athletics and recreation.
- 2 Dedicate facility to only recreation and athletics.** Removing non-fitness uses out and allowing the building to be a dedicated athletic/recreational facility will utilize it to its fullest potential, creating more opportunities for programmatic enhancements to HFC's athletics and recreation offerings.
- 3 Update facility to make it a point of attraction for students.** In an effort to retain students on campus during the day, make the Athletic Memorial Building more of a campus asset by updating fitness areas and improving visibility of activities.

# EXPLORATION

ATHLETICS & RECREATION



HFC EXPLORATION

# RECOMMENDATIONS

## ATHLETICS & RECREATION

### FAST FACTS - INVENTORY

- Update existing facilities to encourage student activity and provide up-to-date space for fitness and recreation.
- Develop placeholders for potential future playing field development on campus to support student engagement and recreational activity.

### GYM/FITNESS FACILITIES

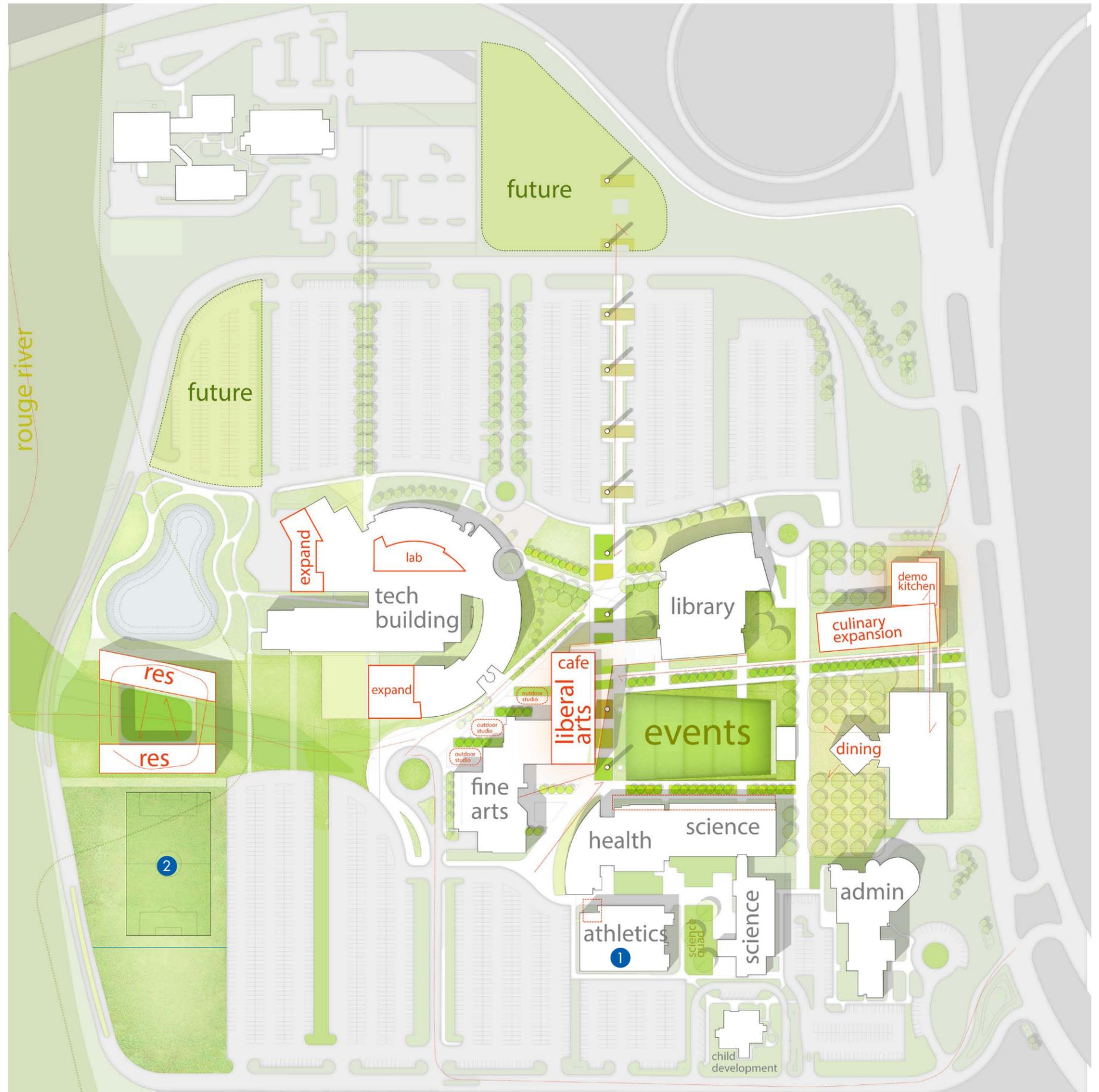
- 1 Update existing facilities to encourage student activity and provide up-to-date space for fitness and recreation. The current Athletic Memorial Building is generally original and due to have facility condition and deferred maintenance issues addressed. When this work is scheduled, it is recommended to update the space to meet current student expectations for fitness facilities. A small addition will provide more space for a fitness center and improve visibility into the building.

### PLAYING FIELDS

- 2 Develop placeholders for potential future playing field development on campus to support student engagement and recreational activity. Although playing fields were lost due to reconfiguration of the site to accommodate additional parking, playing field placeholders should be planned to provide activity space for both commuter students and potential on-campus residents (if housing is constructed). Depending on parking needs, this could be either on-grade or incorporated into a parking structure.

# RECOMMENDATIONS

ATHLETICS & RECREATION



HFC RECOMMENDATIONS





# OPEN SPACE

CHAPTER 5

# DISCOVERY

## OPEN SPACE

### FAST FACTS

- 75 acre campus

### FEATURED CAMPUS SPACES

On its 75 acre campus, HFC has several prominent campus spaces. The most iconic of these spaces is the sunken plaza that sits between the Student Center and the Liberal Arts building. Designed with a brutalist aesthetic, the plaza is largely concrete and brick, and dotted with a few select prominent design features: a rectangular reflecting pool to the south, and a circular raised planter to the north. Fixed seating is arranged around the plaza. The limited trees and plantings in the space



offer little shade or wind protection, making it difficult to spend long periods of time in the plaza. The concrete has proved difficult to maintain over the years, as there are many areas where it is in poor condition.

The large open green space at the heart of the academic core is reminiscent of a classic university quadrangle, with sprawling turf dotted with trees and bisected by multiple sidewalks. As it approaches Liberal Arts, the land slopes down rather sharply, limiting its usability for programming in the area immediately adjacent to the building.



The open grassy area to the west side of campus is perhaps the largest space on campus, with sidewalks winding through and benches scattered about in manner reminiscent of a park. This is a more passive green space, suitable for more casual, meditative use, rather than planned events or recreational activities.



This area's adjacency to the Rouge River watershed allows it to serve as a transition space between the developed campus and the natural habitat surrounding the river, however, it is not near the heart of campus

### TRANSITIONAL SPACES

Transitional spaces abound on the HFC campus - between buildings, between open spaces and around the parking lots. Many of these spaces are in need of some design attention, as they have been treated as afterthoughts. In some cases, building utilities are poorly located and highly visible without aesthetic screening.



# DISCOVERY

## OPEN SPACE

### CAMPUS DENSITY AND UNDER-DEVELOPED SPACES

The HFC campus is landlocked, making campus density an important issue. With arterial roads to the north and east, wetlands to the west and the University of Michigan Dearborn to the south, there is very little possibility for adjacent expansion beyond the existing campus property. Because land is at such a premium, HFC will have to look at increasing density if they wish to expand operations at the main campus. Currently, density on campus is relatively low. There are several underutilized buildings on campus, such as the Book Store, and the Learning Technology Center, and a large amount of area dedicated to surface parking lots. These under-utilized areas are prime opportunities for future development. Additionally, there are a few select areas of open space that may be appropriate for future development.

- KEY**
- ④ Building Stores
  - Open Space
  - Developable Sites



HFC OPEN SPACE AND DEVELOPABLE SITES

# EXPLORATION

## OPEN SPACE

These goals, identified by HFC with the assistance of Stantec, are intended to advance the guiding principles identified at the start of the planning process as they relate to campus open space. These goals further helped to define master plan projects for the short, mid and far term ranges.

- 1 **Put learning on display.** Bolster HFC's culture of innovation and creation by designing opportunities in high traffic areas across campus to showcase student work and to observe learning in action.
- 2 **Upgrade and re-energize public spaces.** Redesign public spaces to better meet the needs of the target users and to provide the layouts and amenities necessary to program these spaces for events and activities.
- 3 **Clarify campus edges and entries.** Support HFC's wayfinding plan by enhancing campus edges, entries and paths. Re-imagine these features in ways that makes them more efficient and definitive.
- 4 **Create campus quad.** Currently, HFC has a large, open green space at the heart of the campus. However, it lacks the amenities and design to allow it to function as a true campus quad.
- 5 **Create smaller gathering spaces adjacent to Café.** Providing informal and formal small-scale outdoor gathering spaces will not only create more venues for special events, but will enliven campus by creating outdoor lounges for regular use.
- 6 **Campus identity.** As the institution makes the shift from "Henry Ford Community College" to "Henry Ford College", its physical form can work to support the transition of its identity. A key goal of its physical forms should be to build and reinforce the cohesiveness of this identity.
- 7 **Campus landmark.** Enhancing the visibility of the HFC campus from Ford and Evergreen roads is a priority for HFC leadership. The creation of a landmark to highlight the campus would give HFC a physical presence at the scale they desire.

# EXPLORATION

OPEN SPACE



HFC EXPLORATION

# RECOMMENDATIONS

## OPEN SPACE

### FAST FACTS - PROPOSED IMPROVEMENTS

- Re-imagine the main greenspace in the center of campus to accommodate larger outdoor events.
- Provide smaller-scaled spaces throughout campus to encourage students to gather and showcase the products of college programs.
- Reintroduce native plants and wildflowers to larger parts of the main campus.

### EVENT SPACE

- 1 Re-imagine the main greenspace in the center of campus to accommodate larger outdoor events. If the current Liberal Arts Building location remains, the existing greenspace can be reconfigured to reduce cut-across and framed to be a more human-scaled space for student activities, large events and relaxation. If it is replaced with a new facility in a new location, the green space can be reimagined as a new campus quad and organizing element.

### GATHERING SPACE

- 2 Provide smaller-scaled spaces throughout campus to encourage students to gather and showcase the products of college programs. These recommended spaces should be appropriately scaled, welcoming and safe spaces for people to gather outdoors for socializing, eating or play. In addition, these spaces can provide opportunities for the College to create outdoor learning environments and incorporate art onto campus, including student work.

### GREENSPACE

- 3 Reintroduce native plants and wildflowers to larger parts of the main campus. Similar to the efforts that have occurred on the west end of campus, along the nearby Rouge River watershed and at nearby Greenfield Village, intentionally planting native plant and wildflowers in more areas of campus will improve local biodiversity, reduce runoff, eliminate mowing and irrigation for those areas and provide opportunities for student and community studies.

# RECOMMENDATIONS

OPEN SPACE



HFC RECOMMENDATIONS





# INFRASTRUCTURE

CHAPTER 6

# DISCOVERY

## INFRASTRUCTURE

### FAST FACTS - INVENTORY

#### Parking

General Spaces: 2,950

Handicapped Spaces: 69

SME:

#### Central Boilers

Age:

Capacity:

Due for replacement:

#### Central Chillers

Age:

Capacity:

Due for replacement:

#### PEDESTRIAN CIRCULATION

Pedestrian pathways throughout the Campus are numerous, but without much logic - certain high-volume routes, such as from the bus stop on Evergreen, lack a formal sidewalk or any wayfinding/amenities. There are no sidewalks, bike lanes or crosswalks along Evergreen within the vicinity of the Campus, making walking or biking to the Campus difficult. In other areas, such as the large green in the center of campus, the number of sidewalks is excessive, providing more options than is needed. The numerous concrete sidewalks have proven to be more than the institution can easily maintain, as many of them are in poor condition. The College has undertaken efforts to replace damaged concrete and reduce the number of walkways



#### VEHICULAR CIRCULATION

Henry Ford College is a suburban campus with limited entries onto the campus itself. Vehicular access is only available on Evergreen Road, at four different locations. The multiple curb cuts at Evergreen creates a somewhat confusing entry sequence, as three of them are very closely spaced together, and the existing geometry does not emphasize a single, obvious entry point. New signage at the two main entries has improved this significantly, although the north most entry remains a challenge to navigate. There is a regularly used public bus stop located on Evergreen just north of the Student Center. A two-way ring road surrounds the Campus, providing access to all of the parking lots associated with Campus center, as well as to the

Welcome Center. This road is in good condition, and has multiple traffic calming measures integrated into its design.

#### PARKING

As a result of campus redevelopment a few years ago, the HFC campus has ample parking, with over 2,900 spaces distributed across fifteen lots on the main campus. Additionally, there are 400 general and 18 handicapped spaces in the SME parking lot. Dedicated faculty parking is located at the lot furthest to the northeast, and staff parking is located in the lot furthest to the southeast. There is rarely a time when finding a parking spot on campus is difficult, although it may require a considerable walk. The parking lots are in excellent condition.

#### UTILITIES

HFC has a central chiller and central boilers serving most buildings. The chillers are located in the lower level of the Liberal Arts Building, and the boilers are located under the Facilities Building. Despite maintenance and replacements of the chillers, many parts of these systems are approaching or past the end of their useful lives.

# DISCOVERY

## INFRASTRUCTURE



### WAYFINDING

Currently, a wayfinding and signage master plan is being implemented on campus to replace the existing signage, which was haphazard, lacked a common vernacular, and had little consistency from one sign to the next. This plan will create a system that identifies buildings by letters, making them easier to sign. Signage intended for both pedestrians and drivers will make navigating around the campus more intuitive.

### BUILDINGS

Although we have discussed building condition throughout this report, it is helpful to discuss them in the context of infrastructure. While the buildings are autonomous, because they are part of a campus, they are also function as a network, and thinking of them as such - particularly when addressing topics such as addressing deferred maintenance and construction phasing - can be helpful in planning for these events. The facilities assessment conducted by Stantec (and available in the appendix of this report) is the first step toward understanding the condition of this network of buildings.

### KEY

- H** Boilers
- C** Chillers
- Condition**
- FCI < 5%      Good
- FCI 5% - 10%      Fair
- FCI > 10%      Poor
- To Be Assessed
- Use**
- Academic
- Administrative
- Student Life
- Athletics and Recreation
- Operations
- Support
- Circulation**
- ⋯ Vehicular Path
- ⋯ Pedestrian Path
- Drop-off Queue
- ⊙ Potential Conflict Points



HFC BUILDING USE AND CONDITION

# EXPLORATION

## INFRASTRUCTURE

The following are a series of goals, identified by HFC with the assistance of Stantec, to help advance the guiding principles identified at the start of the planning process as they relate to campus infrastructure. These goals further helped to define master plan projects for the near-, mid- and long-term ranges.

- 1 Enhance campus vehicular circulation.** Optimize configuration of HFC's internal roadway network to minimize queues, maximize safety and enhance efficiency of vehicular transport.
- 2 Enhance campus pedestrian circulation.** Re-imagine the sidewalk network on campus to make it more efficient, maintainable and intuitive. Ensure that the sidewalk network is complete with no dead ends.
- 3 Improve energy efficiency.** As systems and equipment reach the end of their useful life, replace with systems and equipment that maximize energy efficiency.
- 4 Resolve deferred maintenance.** As buildings throughout the campus are updated and renovated, address deferred maintenance backlog for each facility to extend the life of college assets and replace when warranted.
- 5 Improve efficiency of maintenance.** As systems and equipment reach the end of their useful life, replace with systems and equipment that maximize cost effectiveness and simplify maintenance.

# EXPLORATION

INFRASTRUCTURE



HFC EXPLORATION

## FAST FACTS - PROPOSED IMPROVEMENTS

- Reconfigure pedestrian pathways to provide more direct access between buildings, parking and public transportation as well as reduce maintenance.
- Separate parking traffic from drop-off traffic to improve flow and reduce conflicts.

## PEDESTRIAN CIRCULATION

- 1 Reconfigure pedestrian pathways to provide more direct access between buildings, parking and public transportation as well as reduce maintenance. Current paved walks on campus are extensive, requiring continual repair and the result of multiple generations of overlaying circulation patterns. The master plan should address ways to reduce the amount of paved area, provide direct pathways where practical and discourage cutting across grass when possible. As future growth occurs to the north of campus, pedestrian pathways should ensure that pedestrians are a higher priority than the vehicle.

Pathways for students using public transportation should be as inviting and connected to the heart of campus as those for students arriving by car.

## VEHICULAR CIRCULATION AND PARKING

- 2 Separate parking traffic from drop-off traffic to improve flow and reduce conflicts. Reconfigure the drop-off sequence and approach in the central north parking lot, similar to the newer drop-off in the south parking lot, to take advantage of the existing service road and minimize back-ups in the parking lot.

The current ring road and parking lot arrangement is ideal for keeping higher speed vehicles at the perimeter and minimizing the number of pedestrian-vehicle conflicts. This should not be compromised. If practical, the number of entry points from Evergreen should be reduced to minimize confusion, especially at the far north end of campus.

# RECOMMENDATIONS

INFRASTRUCTURE



HFC RECOMMENDATIONS





# MASTER PLAN

CHAPTER 7

# N E A R - T E R M

## MASTER PLAN 2015 - 2020

### 1 TECHNOLOGY BUILDING

#### Goals

- Support new integrated programs.
- Celebrate Centers of Excellence
- Create multipurpose labs to improve utilization.
- Provide modern learning environments in heavily utilized facilities.
- Strengthen program connections.
- Support SuperLab concept for science and technology education.
- Support Ford ASSET program
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovate existing building (170,000 GSF).
- Build new 10,000 SF addition

#### Outcome

- Provide interdisciplinary support labs, celebrate Centers of Excellence, showcase programs and student work, create student collaboration space, strengthen program connections (STEM + Liberal Arts + Fine Arts) and modernize learning environments.
- Improve building envelope, interiors and systems.
- Address deferred maintenance issues.
- Accommodate new CIMEd and Super Labs

2015-2017

Conceptual Cost Projection: \$30-33,000,000

### 2 LIBRARY

#### Goals

- Promote student collaboration.
- Create a hub for outside-the-classroom learning.
- Re-imagine Library as knowledge center.
- Prepare LRC for potential Early College program expansion.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovate existing Library (83,000 GSF)

#### Outcome

- Create Learning Commons. Relocating the Bookstore to the Learning Commons.
- Reallocate floor space for quiet and collaborative study, distributing computers throughout the building.
- Incorporate Student Success Programs into building.
- Create a Learning Success Center (connected to LRC or relocated to another area of the building), which will house services such as SVA, Honors, Study Abroad, Service Learning, Civic Engagement, Assisted Learning, Outreach, Counseling, and Career Services.

2018-2020

Conceptual Cost Projection: \$12,000,000

# NEAR-TERM

MASTER PLAN 2015-2020



- KEY**
- ❶ Proposed Project
  - Renovation
  - New Construction

HFC NEAR-TERM MASTER PLAN

### AVENUE OF LIGHT

As part of an effort to increase Henry Ford College's visibility from Ford Road, create memorable outdoor gathering spaces on campus and to create a connection between the Main Campus and the SME campus, an "Avenue of Light" is proposed, running along the north-south axis through campus and leading out to the northern edge of the campus. Similar to the illuminated pylons at the Los Angeles Airport by Ted Tokio Tanaka Architects, this linear feature will be comprised of several illuminated columns, allowing it to both function as a system and as individual elements. In addition to physically enhancing the campus, these columns of lights could be donor opportunities.

2018+



The illuminated pylons at Los Angeles Airport provide an iconic image for visitors to easily identify where they are, both from a distance and at street level.



# M I D - T E R M

## MASTER PLAN 2020 - 2030

### 1 NEW LIBERAL ARTS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration
- Celebrate Centers of Excellence.
- Create a hub for outside-the-classroom learning.
- Provide modern learning environments in heavily utilized facilities.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.
- Strengthen program connections.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Construct new 130,000 GSF facility connected to Fine Arts Building and Learning Commons.

#### Outcome

- The new structure will include a shared common lobby/gallery space, a variety of different size flexible classrooms and learning environments, student collaboration spaces, faculty office suites, and student organization, student life and campus safety offices on main level.
- The design will provide opportunities to showcase programs & student work and will incorporate new heating/cooling plant into the building, allowing for the opportunity to relocate facilities to SME campus and demo existing building.

2022-2024

*Conceptual Cost Projection: \$42,000,000*

### 2 FINE ARTS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration.
- Put learning on display.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.
- Strengthen program connections.
- Upgrade classrooms and labs in academic buildings across campus.

#### Work

- Renovation the existing Fine Arts Building.

#### Outcome

- Consolidate fine arts programs in single facility.
- Create a shared common lobby/gallery space.
- Improve building interiors and systems.
- Create outdoor studio and art garden.
- Connect facility to Liberal Arts Building

2024-2026

*Conceptual Cost Projection: \$8,500,000*

### 3 CULINARY ARTS AND CAFÉ

#### Goals

- Support new integrated programs.
- Celebrate Centers of Excellence.
- Put learning on display.
- Provide modern learning environments in heavily utilized facilities.
- Strengthen program connections.

- Create space for state-of-the-art Culinary Arts program
- Improve usability of dining room.
- Consolidate Hospitality Program.

#### Work

- Demolishing the existing Learning Technology Center.
- Renovate the existing Culinary Arts building.
- Build a 15,000 GSF addition

#### Outcome

- Accommodate expanding programs including the Restaurant, demonstration kitchen, a culinary incubator and office suite.
- Renovated spaces will provide improved kitchen, classroom and teaching lab space, renovated food service, and an updated Kuhlman dining room with additional seating options and improved acoustics.
- Improve existing building envelope, interiors and systems.

2024-2028

*Conceptual Cost Projection: \$11,000,000*

### 4 SCIENCE/HEALTH CAREERS BUILDING

#### Goals

- Support new integrated programs.
- Promote student collaboration.
- Create multipurpose labs to improve utilization.
- Provide modern learning environments in heavily utilized facilities.
- Bring faculty together in order to make them more visible and accessible and to promote collaboration.
- Strengthen program connections.
- Bring original Science Building up to condition of new building.

# M I D - T E R M

## MASTER PLAN 2020-2030

- Upgrade classrooms and labs in academic buildings across campus.

### Work

- Renovate the existing Science/Health Careers building (30,000 GSF)
- Build a 5,000 GSF addition

### Outcome

- Improve the Science Building envelope and the connection between Science and HCEC.
- Create a student collaboration space and open-access Science Super Lab.

2025

Conceptual Cost Projection: \$6,000,000

### ATHLETIC MEMORIAL BUILDING

#### 5 Goals

- Strengthen program connections.

### Work

- Renovate existing Athletic Memorial Building (36,000 GSF)
- Build 2,000 GSF addition

### Outcome

- Enlarge the existing fitness center.
- Repurpose all classrooms for fitness.
- Improve building envelope, interiors and systems.

2025

Conceptual Cost Projection: \$4,000,000

### KEY

- ① Proposed Project
- ▣ Renovation
- ▣ New Construction



HFC MID-TERM MASTER PLAN

### 1 STUDENT HOUSING AND SPORTS FIELDS

#### Goals

- Provide on-campus housing option for students.
- Upgrade and re-energize public spaces.

#### Work

- Build on-campus housing to accommodate 100+ students as a phased project.

#### Outcome

- Provide housing options for students looking for full college experience, athletes and foreign students.
- Coordinate with Student Life programs to provide sense of community not available off-campus.
- Activate the campus.
- Maximize facility use.
- Provide housing for summer programs.

*Conceptual Cost Projection: \$6,000,000+*

### 2 ADMINISTRATION BUILDING

#### Goals

- Improve efficiency of campus operations.
- Repurpose Administration Building.

#### Work

- Relocate Administration and IT departments (18,500 GSF) to SME site (66,000 GSF).

#### Outcome

- Create more developable space to support new programs, expanding programs or community outreach.
- Create a comprehensive support campus in conjunction with the Welcome Center, University Center and Facilities.

### 3 CREATE FUTURE DEVELOPMENT SITES

#### Goals

- Create opportunities for future growth and development on campus.

#### Work

- Identify future development sites.

#### Outcome

- Create opportunities within the existing campus borders for future development of housing, support facilities and sports fields.

### 4 CLARIFY CAMPUS EDGES AND ENTRIES

#### Goals

- Clarify campus edges and entries

#### Work

- Redesign campus edges and entries.

#### Outcome

- Define campus edges to create a strong entry and identity from the north.
- Strengthen the visual connection between Liberal Arts, Technology and

#### Library.

- Improve the entry sequence from the south and southwest and bus stop
- Create zones to showcase student work.

### 5 CREATE CAMPUS QUAD

#### Goals

- Re-imagine the main greenspace in the center of campus to accommodate larger outdoor events.

#### Work

- Redesign the heart of campus

#### Outcome

- Create large event space at center of the existing quad.
- Reduce quantity of walkways.
- Strengthen identity of buildings surrounding quad.
- Improve campus navigation.

### 6 CREATE SMALLER GATHERING SPACES ADJACENT TO CAFÉ

#### Goals

- Provide smaller-scaled spaces throughout campus to encourage students to gather and showcase the products of college programs.

#### Work

- Redesign outdoor spaces adjacent to cafe.

#### Outcome

- Provide seating for casual student gathering.
- Provide a variety of open and shaded spaces.
- Reduce quantity of sidewalks.

# LONG-TERM

## MASTER PLAN 2025 +

### 7 CAMPUS IDENTITY

#### Goals

- Strengthen the HFC identity throughout campus.

#### Work

- Identify and implement standards for lighting, site furnishings, signage, paving and plantings.

#### Outcome

- Strengthen campus identity
- Standardized lighting and site furnishings.
- Simplified walkway system.
- Incorporate native plant species in campus landscape to reduce maintenance.
- Reduce the number of emergency call boxes.
- Improving pedestrian and visual connection to the existing bus stop at Evergreen.
- Strengthen the overall visibility from Evergreen.

### 8 TECHNOLOGY BUILDING

#### Goals

- Support and Strengthen Superlab Concept

#### Work

- Infill existing courtyard as new high-bay space

#### Outcome

- Celebrate Centers of Excellence, showcase programs and student work, create student collaboration space, strengthen program connections and modernize learning environments.

#### KEY

- ① Proposed Project
- Renovation
- New Construction



HFC LONG-TERM MASTER PLAN

# T I M E L I N E

## PROPOSED PROJECT IMPLEMENTATION

### PROJECT TYPES

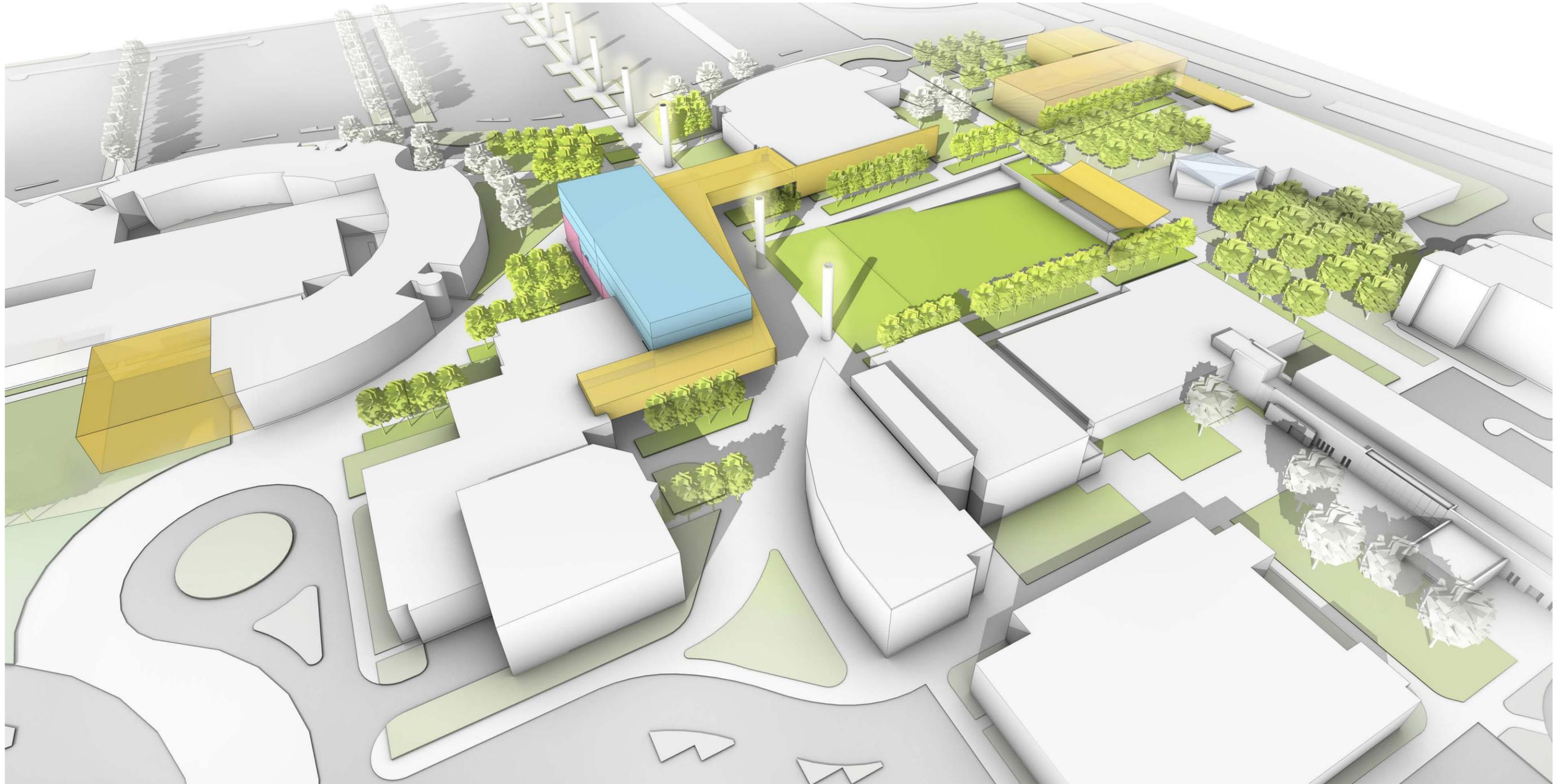
-  Academics
-  Student Life & Housing
-  Administration
-  Athletics & Recreation
-  Open Space
-  Infrastructure
-  Proposed Projects
-  Associated Work

2015	2016	2017	2018	2019
<b>NEAR-TERM PROJECTS: 2015-2020</b>				
Technology Bldg.: renovation/addition				
	Site: new campus landmark installation in north lot			
			Library/ Learning Commons: renovation	
<b>ONGOING WORK</b>				
Site: continued beautification and increase native species, reduce sidewalk coverage				
Facilities: continued deferred maintenance projects				

2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Bookstore: relocate to learning commons	Student Success: relocate teams to learning commons								
<b>MID-TERM PROPOSALS: 2020-2030</b>										
SME West/South: renovation-lower level	Facilities Dept.: relocate to SME West/South	IT Dept.: relocate to SME West/South								
		Liberal Arts: New Building		Café and Student Organizations: relocate to Liberal Arts	LTC Faculty Offices: relocate to Liberal Arts	Central Plant: new equipment in Liberal Arts Bldg.	Bookstore/Facilities Bldg.: demolish and renovate site	Old Liberal Arts: demolish and renovate site	Site: new campus quad/events space	Site: new north parking drop-off loop
				Fine Arts Bldg.: renovation		Site: new outdoor art gardens/studios				
				Hospitality/Culinary Arts Center: renovation/ addition			Site: renovate plazas, parking, walks and bus stop	LTC Bldg.: demolish and renovate site		
				Old Science Bldg.: renovation/ addition						
				Athletic Memorial Bldg.: renovation/ addition						
<b>LONG-TERM CONCEPTS: 2025+</b>										
				Student Housing: new Bldgs.		Site: new sports field				
				SME West/South: renovation		Administration: relocate to SME West/South				
				Administration Center: renovation						

# LONG-TERM

MASTER PLAN



Aerial view of HFC Main Campus looking northeast.



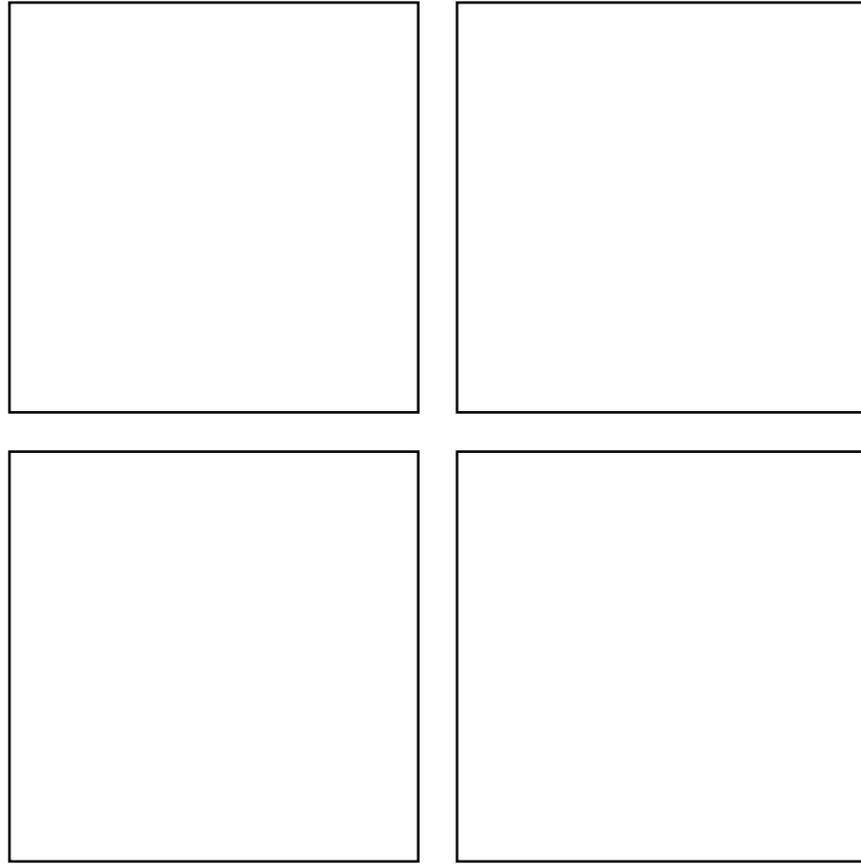
Ground level view of HFC Main Campus, entering from the south and looking northeast toward the Library.

# LONG-TERM

MASTER PLAN



Ground level view of HFC Main Campus, entering from the north and looking south toward the the proposed new Liberal Arts Building.



# A P P E N D I X



Facilities Assessment  
And  
Deferred Maintenance Capital Planning  
Report  
2014



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## Purpose of the Study

This Facilities Assessment and Deferred Maintenance Capital Planning Study were performed to accomplish the following objectives:

- Provide an inventory of Henry Ford College's buildings in a database format to be easily updated and maintained by College personnel and allow for quick access to facilities information.
- Determine the general condition of the facilities and provide the data in a concise format, allowing quick determination of the current replacement value and condition of the facilities.
- Determine a Facilities Condition Index (FCI) for the buildings at Henry Ford College. The FCI is a benchmark index that rates the condition of existing buildings and is used by facilities managers to quantify and prioritize deferred maintenance projects for capital planning purposes.
- Assist Henry Ford College in meeting the goals of its Mission Statement through timely maintenance of the physical backbone of the College – the buildings of HFC.

### **Mission Statement**

*Henry Ford College transforms lives and builds better futures by providing outstanding education. As a student-centered, evidence-based college, our success is measured by the success of our students. We empower learners through the development of independent, critical and creative thinking, and we foster diversity, tolerance, understanding, and acceptance to prepare learners to succeed in a global society. We anticipate and respond to the needs of our stakeholders, exceed expectations and serve the public good.*



## Recommendations

Refer to the glossary for definitions and to page 7 for detailed information.

The results of this assessment show the assessed facilities achieving a Priority 1 Facilities Condition Index (FCI) of 6.6% or “fair”. This number is an average of all the buildings.

The combined Priority 1 and Priority 2 FCI is 15.0%, or in the “poor” range.

As stated in the Deferred Maintenance Backlog Background, the investment solution has two facets:

- The funds needed for immediate repair projects – repairs and/or replacements that will prevent further deterioration of the buildings and infrastructure.
- The funds required to maintain and/or improve the condition of the buildings. These funds need to be budgeted in advance to allow for repairs at the appropriate time - before items become critical or cause additional damage. We propose the following:

### **Short Term Recommendation**

HFC should review the items that comprise the Priority 1 Deferred Maintenance Backlog of \$4.0 million and first address those affecting life/safety issues, those having the greatest potential for future damage to other building components, those that are code compliance issues, and critical mechanical and electrical issues.

### **Long Term Recommendation**

If no further deferred maintenance repair is done, the FCI may increase to over 8% within five years. HFC should consider budgeting up to \$1.0 million annually for the next five years to reduce significantly the anticipated Priority 2 Deferred

Maintenance Backlog. This plan should also provide an adequate base for future equipment and system replacement.

**Maintenance Recommendation**

After this initial period of covering the funding backlog, the College should then allocate approximately \$1.2 million annually to maintain the new, lower FCI. This amount is equal to approximately 2% of the Current Replacement Value of the facilities (a national benchmark value considered adequate to maintain the condition of a typical building).

By allocating 2% of the Current Replacement Value annually, the University should be able to do the following:

- Fund annual building maintenance, exclusive of catastrophic and atypical equipment failure.
- Save for future equipment replacement and expected building system replacement (i.e. roofs, boilers, etc.)

## Glossary

Following are definitions of terms used in this report.

### Vital Statistics

Basic building information– building use types (i.e. housing, classroom, library, and administration), year built, building area in square feet, and number of floors.

### Observation Highlights

This is a partial list of field observations highlighting major repair/replacement items and recently completed work. For a more complete list of field observations, see the individual building database sheets in the appendix.

### Current Replacement Value (CRV)

The CRV is the cost to construct a replacement building in today's dollars. The figure is based on the square footage of the current structure and the estimated current construction cost for that type of structure. Since some buildings are conglomerations of different uses (i.e. classroom, library, administration) the CRV is based on estimated proportions of use types in each building. By the nature of the calculations and square foot construction costs, the current replacement value has a  $\pm 20\%$  margin of error and will likely increase annually due to inflation.

### Priority 1 Deferred Maintenance Backlog

The Priority 1 DMB represents the value of projects that have been deferred and require completion in order to maintain facilities and related infrastructure for their safe use. The Priority 1 DMB amounts shown are for items requiring immediate attention to fix critical problems. *A long-term investment strategy should also include items that require repair or replacement within 5 years, thus avoiding the collateral damage and increased repair costs resulting from deferred repairs (i.e. leaky roof damaging interior finishes).*

### Facilities Condition Index (FCI)

Simply put, the FCI is the current DMB divided by the CRV. The resulting number is compared against nationally accepted standards and used to determine the condition of the facilities.



The Association of Higher Education Facility Officers (APPA) – the organization whose standards were used to develop this system of facility assessment – recommends that the FCI for any given building should not exceed 5% for the building to be considered in “Good” condition. The rating of “Fair” indicates that the building requires some attention to bring it up to standard, with some problem areas potentially requiring immediate attention. The rating of “Poor” indicates that the building needs urgent attention to prevent the existing problems from affecting other building systems and compounding future repair costs.



The APPA FCI Ratings, indicating the general condition of the building, are shown here along with the corresponding “traffic signals” that give a quick visual indication of the FCI rating.

### Priority 1 DMB Excess

This represents the amount the DMB exceeds the APPA benchmark of a building with a 5% FCI – essentially the dollar amount to be spent immediately to reduce the DMB to attain the APPA rating of “Good”. In situations where a building is in better than “Good” condition (FCI<5%), the Priority 1 DMB excess is shown as zero.

For example, if a building has a CRV of \$1,000,000 and an FCI of 10%, the DMB would be \$100,000. This would leave a DMB excess of \$50,000 – the amount to be spent to reduce the FCI to within the APPA 5% benchmark

#### **Priority 1-3 Deferred Maintenance Backlog**

Similar to the Priority 1 DMB, the Priority 1-3 DMB represents the total value of projects that will require attention within the next five years, including those that fall under the Priority 1 DMB. This value is included to help determine the investment required over the next five years to repair and/or replace problem items before they become critical.

Looking at the previous example, if the building condition survey indicated an additional \$250,000 in repairs from years 1-5, then the Priority 1-3 DMB would total \$350,000 (including \$100,000 from the first year).

#### **Priority 1-3 DMB Excess**

Similar to the Priority 1 DMB Excess value, this amount represents the investment to bring the DMB in line with the APPA benchmark of 5% of the Current Replacement Value. In situations where a building is in better than “Good” condition – a bit more difficult over a five year span, the Priority 1-3 DMB excess is shown as zero.

This number is a good starting point for determining budgets – it allows the facility managers to see what to spend to bring buildings into the APPA “Good” range – with the understanding that complete elimination of the Deferred Maintenance Backlog is not a likely scenario.

#### **Important Note about DMB Excess**

***The correlation between the FCI and the DMB Excess (where an FCI less than 5% means no DMB Excess) is true for individual buildings, but not true when all facilities are averaged together.***

***Although the aggregate FCI is calculated as an average, the total DMB Excess is calculated not by averaging, but by adding each building’s DMB Excess together. This avoids the problem of a new building, in good condition, masking the high maintenance costs of another building in poor condition.***

#### **DMB Equilibrium (Annual cost to maintain current DMB)**

This is the dollar amount to be invested annually to keep the FCI (and DMB) from deteriorating – regardless of the current condition of the building. Reusing the previous example, the amount required to maintain the FCI at current levels would be \$30,000 annually (3% of \$1,000,000). The number is based on a nationally accepted rule of 3% of the CRV and assumes that building components have a 50-year renewal cycle and depreciate along a straight line. The assumptions were made to simplify calculations; in reality, building components DO NOT expire according to straight-line depreciation, and most components will require replacement within 30-40 years (excluding structure and foundation).

***To restate – this annual investment will only maintain the existing FCI and do little or nothing to reduce any existing backlog.***

**Building Use Types**

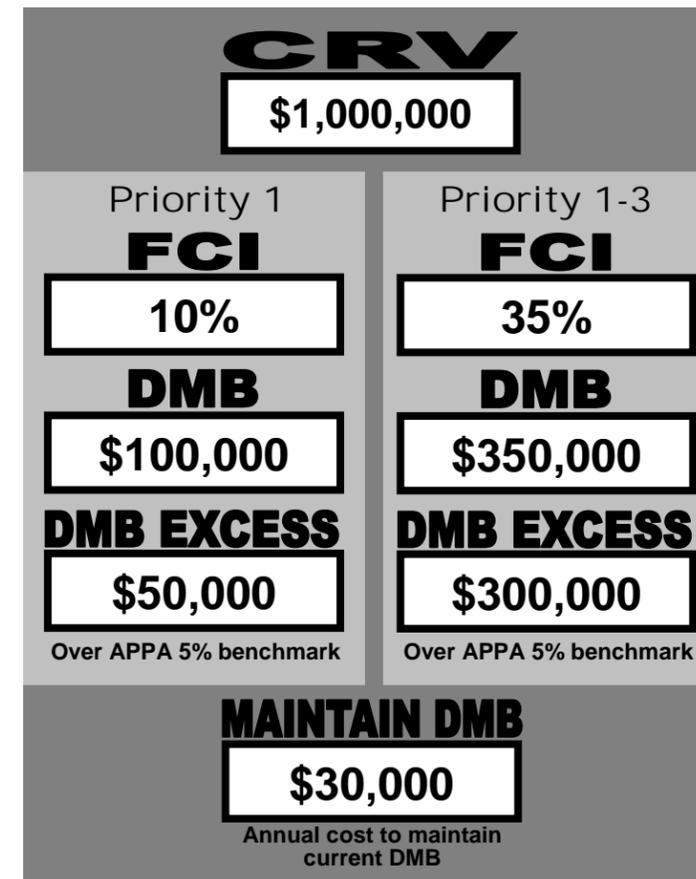
The table to the right shows the building use types in this assessment and their respective current construction cost per square foot. This cost is based on the construction costs for similar projects and regionally weighted data from cost estimating services. Due to the range of construction methods, these values are assumed to have a ±20% margin of error.

Use Type	Cost/SF
General Classroom	\$268

**Building Components**

The table to the right shows the building components used in the report. These are the basic components having a major influence on the replacement value of a building. The buildings were evaluated during walk-throughs with facility personnel to determine how much of each component made up the CRV. It was then determined what percentage of each component required replacement within one year, five years, ten years, and beyond. This data is used to determine the investment required to reduce the current and future deferred maintenance backlog.

Category	Component Name
Structure	Structure
Envelope	Roof
	Glazing
	Cladding
Mechanical	HVAC Equipment
	Plumbing
Electrical	Primary/Secondary
	Distribution
	Lighting
	Voice/Data
Finishes	Ceilings
	Walls
	Doors
	Floors
	Safety/Code
Other	Immediate Site, Ext. Lighting, etc.



Example of how the aforementioned data appears in this report

## Deferred Maintenance Backlog

### *A Brief Background*

The problem of deferred maintenance at colleges and universities has been studied and better understood over the last decade. From an article by Dan Hounsell, in the magazine Maintenance Solutions, discussing how universities are addressing the issue of deferred maintenance:

**“Maintenance management professionals, who once seemed to be one of the few parties giving serious thought to the issue, now have been joined in the debate by growing numbers of sympathetic voters and far-sighted facility decision makers.”**

The Association of Higher Education Facilities Officers (APPA) concluded in a 1995 report titled “A Foundation to Uphold: A Preliminary Report” that the national backlog of deferred maintenance at colleges and universities exceeds \$26 billion, up 27 percent from estimates made in a similar report from 1988.

\$5.7 billion of that \$26 billion backlog is classified as “urgent deferred maintenance” – projects that require immediate attention and that will cost far more if they are not completed within a year. Although spending this sum will eliminate current urgent needs, in only a few years there will be a new roster of items to replace them – if future budget planning is not undertaken. According to the APPA report, the current backlog “represents a threat to the capability of higher education facilities to support college and university missions.”

Other conclusions from the report include:

- More than 50 percent of all college types reported that deferred maintenance increased or stayed the same since 1988; only 25 percent reported decreases.

- 20 percent of the colleges in the study accounted for nearly 60 percent of the accumulated deferred maintenance.
- Public colleges typically have a greater deferred maintenance backlog than private universities, with 78 percent of the public research universities reporting an increase in deferred maintenance backlogs.
- By assuming that deferred maintenance of infrastructure – site repairs, road and parking lot maintenance, exterior lighting, etc. – was not included in the figures provided by the campuses in the study, the estimated cost to eliminate accumulated deferred maintenance increases to \$32.5 billion – with urgent needs increasing to \$7.1 billion.
- When senior school administrators made deferred maintenance a priority, the institution made progress in reducing its backlog.

**The most important point to remember is that even if universities and colleges spend these amounts, this will only eliminate the existing deferred maintenance backlog. There needs to be a coordinated, funded plan put into place at colleges and universities to maintain the condition of the facilities once they have been repaired – or time will again take its toll.**

## Building Summary - Vital Statistics

### Henry Ford College Facilities Assessment

The condition of the assessed facilities is generally poor for the Liberal Arts Building and the College Store Building. The Athletic Memorial Building, while currently in good condition, could quickly reach a poor condition if deferred maintenance items are not addressed in the next few years. The Learning Resource Center, the Facilities Building and the Fine Arts Building are in good condition but could reach fair condition without addressing deferred maintenance over the next few years. The Eshleman Library and the Technology Building are in fair condition but could reach poor condition without addressing deferred maintenance over the next few years.

With the exception of the Learning Resource Center, the Facilities Building and the Fine Arts Building, the remaining facilities have many building materials and systems that have reached or passed their life expectancies. Roofs need replacing, mechanical and electrical systems need to be replaced, and finishes are worn – to name a few. In some cases, repair and replacement of items are being addressed as part of planned upgrades. In other cases, insufficient general maintenance over the decades is accelerating the failure of building systems.

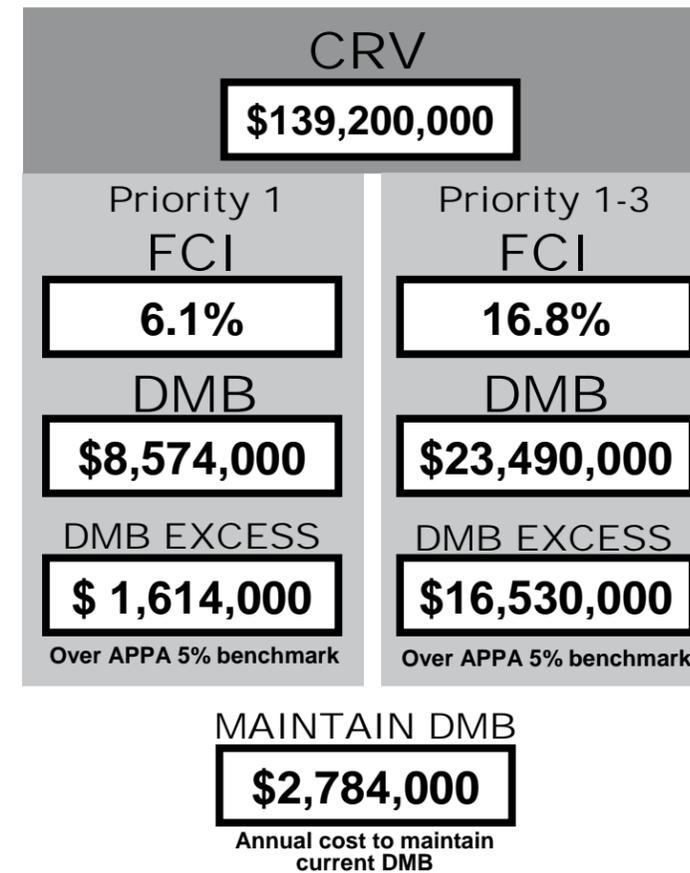
While the immediate FCI of 4.3% for the 510,250 gross square feet of facilities is slightly below the national average of approximately 5%, this still represents a sizeable capital investment, even to maintain conditions in their current state. However, if nothing is done to deal with existing deferred maintenance issues, the combined FCI will increase – possibly to 10% (Liberal Arts on its own may increase to over 29.7%) – within approximately five years. As stated in the Deferred Maintenance Backlog Background, the investment solution has two facets:

- The funds needed for immediate repair projects – repairs and/or replacements that will prevent further deterioration of the buildings and infrastructure.



- The funds required to maintain and/or improve the condition of the buildings. These funds need to be budgeted in advance to allow for repairs at the appropriate time - before items become critical or cause additional damage.

When taken as an aggregate and compared to the accepted APPA benchmark, this data shows that the assessed HFC facilities are currently in **fair condition**. It must be remembered that this average is weighted by the newer Learning Resource Center and by the fact that it contributes much less to this backlog than other buildings. The following pages break this data down into a building-by-building review to clarify where the most attention is needed.



Priority 1



Priority 1-3

Henry Ford College  
Assessment Summary

## Vital Statistics

Liberal Arts Building

**Use Type(s):** General Classroom, Office

**Built:** 1960

**Area:** 104,046 GSF

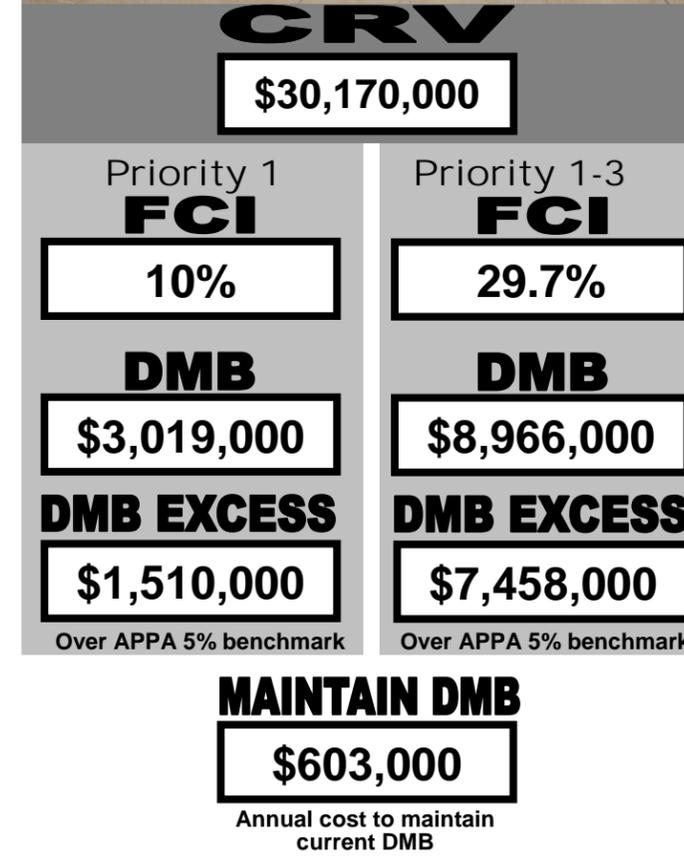
**Floors:** 3 (plus basement)

### Building Description:

Constructed in 1963, the Liberal Arts building is a three story building with a basement level. The building has a total gross square feet of 104,046 and it houses general classrooms and offices for the Liberal Arts Department. It is a pre-cast concrete building with a concrete column and waffle slab construction. The windows and fire alarm and emergency lighting systems were replaced in 1993. The building is connected to the Science Building at the Lower Level and connected to the Power House via a walk-thru utility tunnel.

### Observation Highlights:

- Many of the building systems are original to the building and have by far exceeded their life expectancy.
- Exterior sidewalks and elevated structures are showing significant signs of wear and failure.
- The single-ply roofing system is past its useful life and the insulation below is spongy. The overall condition of the roof is poor.
- Interior finishes, such as the wall paint and ceiling tiles, are in poor condition and due for replacement.
- The exterior aluminum doors are in poor condition and have failed.
- HVAC system and electrical systems are well beyond their useful life.





Priority 1



Priority 1-3

Liberal Arts Building  
Facility Highlights



Site steps and supporting structures are failing.



Water damage and infiltration at HVAC system louvers.



Wooden-structure cooling tower is original to the building and in extremely poor condition.



Electrical substation and power distribution equipment is severely corroded due to water infiltration.



Substation feeders and conduits are severely corroded due to water infiltration and wrapped in plastic as a temporary fix.



Air-Handling Units are original to the building and well beyond their useful life.



Wash fountains in toilet rooms are not compliant with ADA.



Site pavers surrounding building are cracked, heaving and deteriorated.

## Summary:

The Liberal Arts Building, when originally constructed was constructed of appropriate durable materials. However, its age and significant deferred maintenance has created concern as to the “return on investment” of the “patching-up” of this somewhat preserved structure.

Many of the building systems have exceeded their life expectancy, in particular, much of the exterior sidewalks and elevated structures, the single ply roof system, the lay-in ceiling systems on the lower floors, exterior aluminum doors, as well as the majority of the mechanical, electrical and plumbing systems which are original to the building.

The facility has accessibility issues including non ADA-compliant toilet rooms and plumbing fixtures as well as accessibility issues in the basement auditorium space.

The elevated walkways of the surrounding site as well as the plaza require significant repairs.

The building structure has only minor superficial patching with no reported issues.

The Owner indicates that the mounting hardware of the exterior precast concrete panels may be rusting due to water infiltration and will need replacement.

The exterior windows were replaced approximately 15 to 20 years ago. With the exception of window caulk replacement, the windows are in fair condition.

The Vinyl Composite Tile (VCT) was installed over the Vinyl Asbestos Tile (VAT) throughout the building in 2012. Because the VCT was installed over the top of VAT, it is likely that the VCT will not last as long as expected and replacement will be needed within the next 10 years.

The HVAC equipment within the building – including wooden structure cooling tower on roof, constant-volume dual duct air-handling units in basement, and dual duct mixing boxes throughout – are original 1960’s vintage, well beyond their useful life and outdated, inefficient technology. While some HVAC systems have been retrofit with a modern DDC control system for energy management, the majority of the controls in the occupied spaces are still pneumatic. Operating and maintaining these systems is very costly. The equipment has been well maintained and is still operational, but plans should be made for replacing this equipment as soon as possible.

Most of the plumbing fixtures and faucets are past their useful service lives.

The building’s electrical gear is well past its useful service life. Casings are corroded and pose a safety hazard.

A Fire Alarm System was installed in 1993, however there is no wet-pipe fire protection system. A standpipe with fire hose stations is located on each floor.

The bulk of the facility’s electrical power distribution equipment is original to the building and in poor condition. Equipment is well past its useful life and in some cases lacking modern safety features.

## Recommendations:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$2.7 million as soon as possible to address the following Priority 1 issues:

### Immediate Site, Exterior Lighting, etc.

- Repair or replace metal railings around building's exterior.
- Elevated concrete walkways are showing signs of significant water damage and must be repaired.
- Repair the concrete slab at the South entry that is negatively pitched and causing water to flood the vestibule.
- Repair or replace significantly cracked and deteriorating concrete pavers surrounding the building.
- Repair or replace concrete steps and supporting structures that have deteriorated significantly.

### Roof

- Roof is past its useful service life and is in poor condition. Insulation below roof membrane is spongy. Replace entire roof.

### Glazing

- Water and air infiltration is present at the windows on the Northwest side of building. Windows need to be repaired, caulked and sealed.

### Doors

- Exterior doors are past their useful life and door hardware is failing. Replace all exterior doors.

### HVAC

- The roof-mounted cooling tower is well beyond its useful life, is in extremely poor condition and is outdated, inefficient technology. Replace cooling tower with new.

### Electrical

- Much of the building's main electrical gear and power distribution equipment is original to the building and well beyond its useful service life. Also, evidence of significant water damage is present on main gear and conduits. Replace equipment.
- Basement lighting is showing signs of significant water damage and salt build-up. Replace lighting.
- Lighting levels in mechanical and electrical rooms is inadequate and potentially unsafe. Replace lighting to increase lighting levels.

### Plumbing

- Urinals don't drain well due to scale and build-up in drain piping.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$2.7 million needed for immediate repairs, the College should allocate an additional \$5.8 million to address the following over the next few years:

### Structure

- Repair cracking at the southeast corner of the foundation.

### Glazing

- Overall window caulking is deteriorating and is in need of repair within the next 5 years.

### HVAC

- HVAC Louvers are rusted/corroded and deteriorating. Replace louvers.

- HVAC equipment – air-handling units, ductwork distribution, dual-duct mixing boxes, and controls – is original to the building and well beyond its useful service life. Replace HVAC system in its entirety.

#### Plumbing

- Toilet room fixtures are not compliant with ADA requirements and are high consumers of water. Replace fixtures.
- Each toilet room has its own electric water heater. Heaters are nearing the end of their useful service life. Replace with new heaters or a central domestic water heating system.

#### Electrical

- Electrical equipment rooms and electrical raceways are full and there is no room for additional equipment to service new loads. Space and equipment should be reconfigured to allow for spare capacity.

#### Walls/Cabinetry

- Interior surfaces were painted in 2012 but paint is peeling because surfaces were not properly prepped for painting. Prep and paint interior walls.

#### Building, Fire, ADA, Elevators

- Upgrade toilet rooms so that they are compliant with ADA requirements.
- Modify basement auditorium seating to provide an accessible area for persons bound to a wheelchair.
- The building does not have a wet-pipe fire suppression system. Consider adding in the next major renovation.

## Vital Statistics

Eshleman Library Building

**Use Type(s):** Library, Office

**Built:** 1960

**Area:** 46,587 GSF

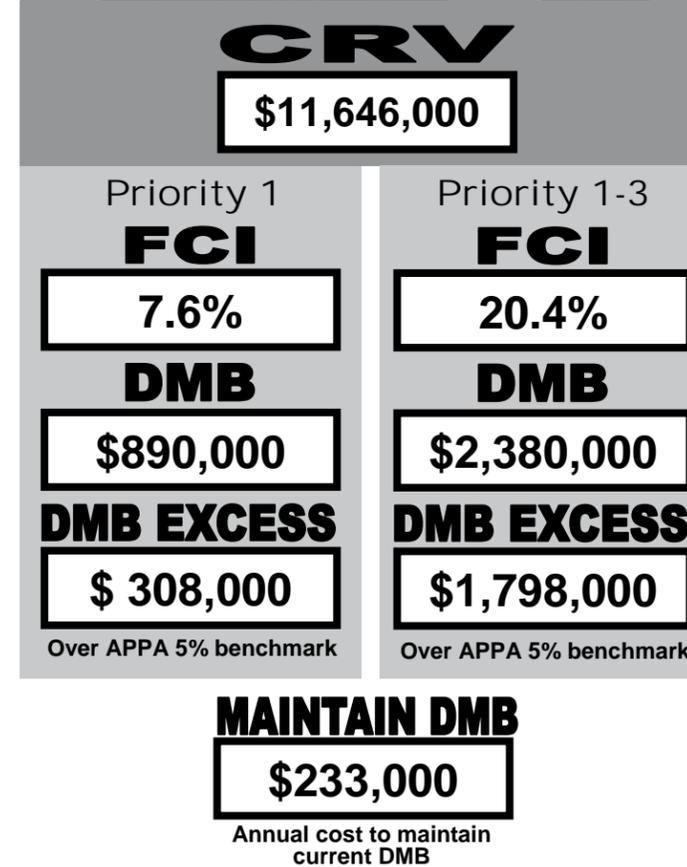
**Floors:** 2 (plus basement)

### Building Description:

The Eshleman Library was constructed in 1960. It is a two story building with a basement level. It is a brick veneer building with a concrete column and waffle slab construction. The Library was expanded to the South in 1997 at the same time that the LRC was constructed to the Library's North. The building is dedicated almost entirely to library stacks, study spaces and library resources.

### Observation Highlights:

- The building's elevator is past its useful life and is failing.
- Concrete slabs at East and West entrances are heaving.
- EPDM roof is past its useful life and due for replacement. The expansion joint between the Library and adjacent LRC roof has holes in it.
- The exterior brick veneer has some staining that should be cleaned and requires some minor tuck-pointing.
- Paint is peeling on waffle slabs throughout the building, likely because the surface was not properly prepped before paint was applied.
- Throughout most of the building, the carpet is significantly worn and due for replacement.
- The building's air-handling unit is original to the building and therefore well beyond its useful service life. They system is also outdated, energy inefficient technology.
- Electrical gear is past its useful service life.



Priority 1



Priority 1-3

Eshleman Library Building

Facility Highlights



Concrete slabs heaving at East/West entrances.



Peeling paint on waffle slab structure.



Carpeting is worn and due for replacement.



HVAC equipment is original to building and past its useful service life.

## Summary:

The Eshleman Library Building is in fair condition and has aged past the useful service life of many of its systems. While these systems are operational, they should be scheduled for replacement.

Systems which are due for replacement include, the single ply roof system and expansion joints, carpeting and ceiling paint throughout the building, as well as mechanical and electrical systems that are original to the building.

The elevator is in poor condition and must be replaced.

Each toilet rooms contains an ADA complaint stall. Main corridors and entry appear ADA compliant.

The site is comprised of concrete sidewalks and lawn area that are in good condition. However, the concrete stoops at the east and west exterior doors have heaved and must be corrected.

The building structure has no reported issues.

The masonry of the building envelope is in good condition with only minor tuckpointing necessary.

The exterior windows are a combination of original and replacement casement windows with no reported issues.

The painted exposed ceilings have peeled throughout the building and must be prepped and repainted.

The interior walls and millwork are in good condition with no reported issues.

As part of the LRC additions in 1997, some of the heating hot water equipment in the basement level was upgraded, but the air-handling systems are original to the building and well beyond their useful service life.

Much of the main electrical gear and approximately one half of the buildings electrical distribution equipment is original to the

building. Equipment is well beyond its useful service life and lacking modern safety features. Replace electrical gear and outdated distribution equipment.

## Recommendations:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$793,000 as soon as possible to address the following Priority 1 issues:

### Roof

- EPDM ballasted roof is past its useful service life and expansion joints have holes in them.

### Ceilings

- Paint is peeling on concrete waffle slabs.

### Floors

- Carpet throughout building is significantly worn and past its useful service life.

### Electrical

- Electrical gear is original to the building and well beyond its useful service life.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$793,000 needed for immediate repairs, the College should allocate an additional \$1.4 million to address the following over the next few years:

### HVAC

- Multi-zone air-handling unit located in basement is original to the building and well beyond its useful service life. Unit should be replaced.

### Ceilings

- Some ceiling tiles are stained and water damaged and should be replaced.

### Building, Fire, ADA, Elevators

- Elevator is past its useful service life and should be replaced.

### Immediate Site, Exterior Lighting, etc.

- Concrete slabs at East and West exterior entrances are heaving and should be replaced.

## Vital Statistics

Learning Resource Center

**Use Type(s):** Classroom, Office, Computer Labs

**Built:** 1998

**Area:** 53,744 GSF

**Floors:** 2 (plus basement)

### Building Description:

The Learning Resource Center was built adjacent to the existing Library in 1997. It is a two (2) story building with a basement level and it contains a total of 53,744 square feet. It is a concrete structure with waffle slab construction. The façade is predominately a curtain-wall system with some areas of brick veneer. The building houses the offices of the Registrar, Financial Aid, Career Services, Counseling, Enrollment as well as the Learning Lab and testing rooms. The Basement Level is currently being renovated (Summer of 2014).

### Observation Highlights:

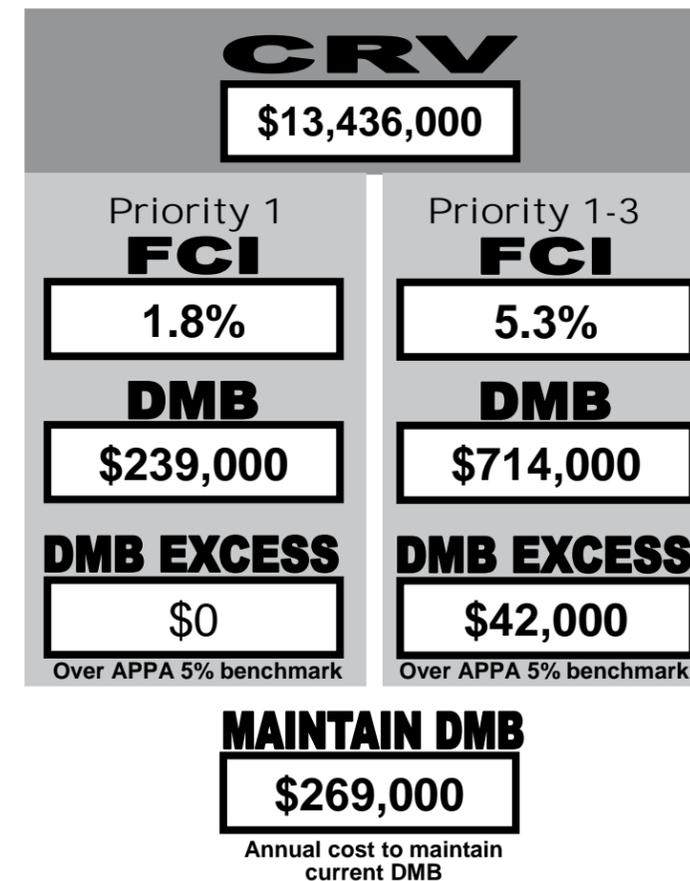
- The LRC was constructed more recently and is in good overall condition. Most building systems are in good condition with no observed or reported issues.
- The EPDM ballasted roof is past its useful service life and is showing signs of deterioration. Skylights and expansion joints are showing signs of wear and water infiltration.
- Entry door seals and sweeps are missing and need to be replaced.
- Carpeting in the first floor counseling area is worn and past its useful life.
- Mechanical, electrical and plumbing equipment is in good, operating condition and has been well maintained.
- Ventilation shafts are lacking life safety dampers.



Priority 1



Priority 1-3



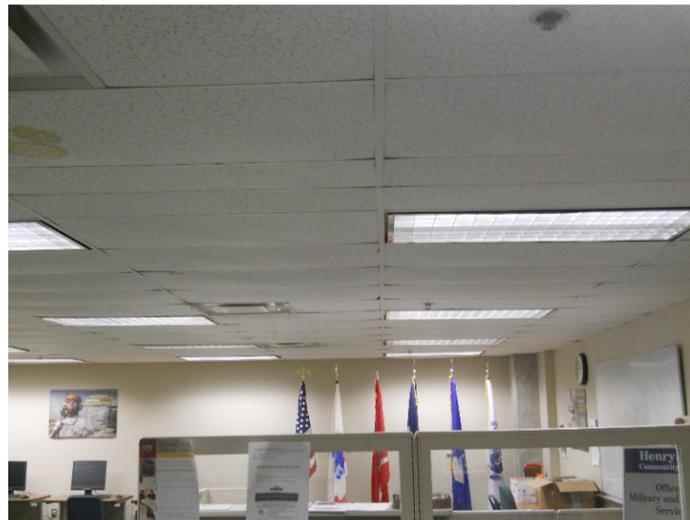
Learning Resource Center  
Facility Highlights



Skylights are showing signs of wear and water infiltration.



EPDM roof is past its useful service life and due for replacement.



First floor counseling area – ceiling tiles are sagging and stained



Entry door sweeps/seals are missing. Thresholds are deteriorating.

## Summary:

The Learning Resource Center is a newer building, constructed in 1997. It consists of the 1997 North Addition to the Eshleman Library Building.

Most of the buildings systems are in good condition and have been well maintained, however some systems are past their useful service life and showing signs of wear and deterioration. This includes the EPDM roof, interior finishes such as carpet and ceilings.

The wheelchair ADA toilet stalls are not ADA compliant.

The site is comprised of concrete sidewalks and lawn area. With the exception of minor sidewalk cracks, there are no reported issues.

The building structure has no reported issues.

The masonry of the building envelope is in good condition with no reported issues.

The exterior windows are a combination of original and replacement casement windows with no reported issues.

The interior walls and millwork are in good condition with no reported issues.

The west stair doors are rusted and should be replaced. The seals of the front entry doors need to be replaced. The remaining exterior doors are in good condition.

Mechanical and plumbing systems are in good working condition.

The existing main fire alarm control panel is nearing the end of its useful life.

Emergency strobe coverage does not meet current code.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$239,000 as soon as possible to address the following Priority 1 issues:

### Roof

- EPDM ballasted roof is in poor condition and at the end of its useful life.
- Water infiltration is being experienced around skylights due to deteriorating flashings.

### Doors

- Entry door hardware is failing and should be replaced.
- Door seals and sweeps should be replaced.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$237,000 needed for immediate repairs, the College should allocate an additional \$439,000 to address the following over the next few years:

### HVAC

- Life safety dampers should be added to ventilation shafts.

### Floors

- Carpet is showing signs of wear and is nearing the end of its useful life.

## Vital Statistics

College Store Building

**Use Type(s):** Store, Offices

**Built:** 1970

**Area:** 7,730 GSF

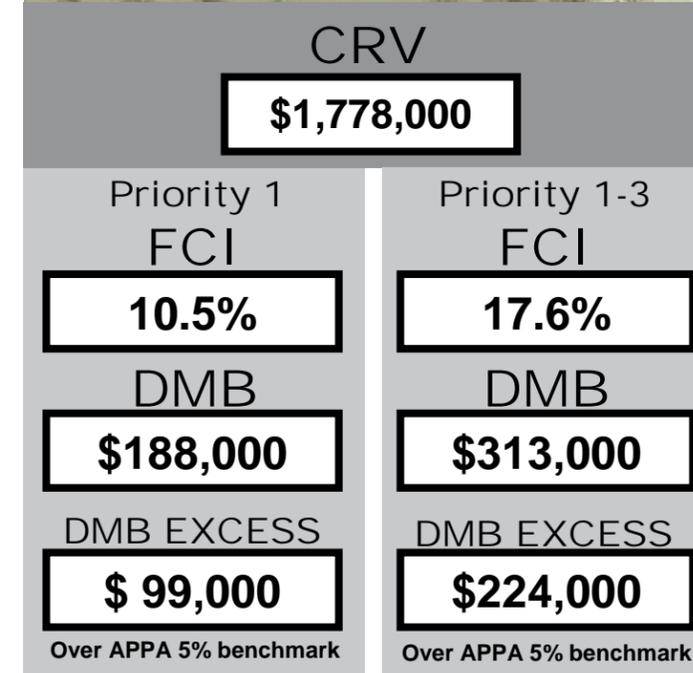
**Floors:** 1

### Building Description:

The College Store Building was built adjacent to the existing Facilities Maintenance Building in 1970. It is a one (1) story building and it contains a total of 7,730 square feet. It is of wood stud and wood truss construction. The façade is predominately a brick veneer system with limited window openings. The roof is a shingle roof.

### Observation Highlights:

- The building is lacking ADA compliant toilet rooms.
- The carpeting is worn and past its useful life.
- The suspended ceiling system is worn and past its useful life.
- There is no provision for required outdoor air; therefore, airflow is inadequate to keep parts of the building warm in the winter.
- Electrical panelboards are obsolete and need to be replaced.
- The ceiling light lenses are past their useful life.



### MAINTAIN DMB

**\$36,000**

Annual cost to maintain current DMB



Priority 1

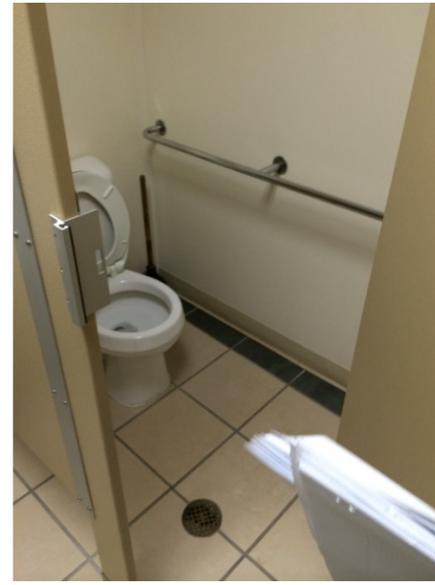


Priority 1-3

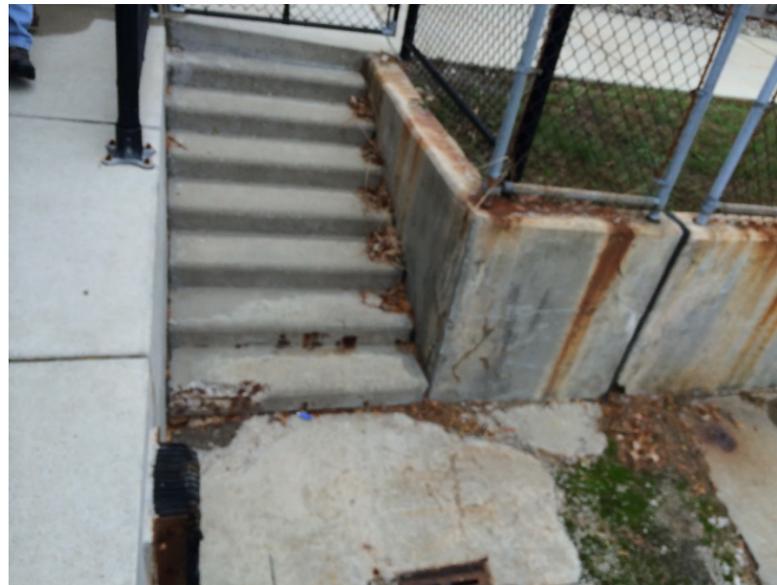
College Store Building  
Facility Highlights



Ceiling and carpet and worn and need to be replaced.



Non-ADA compliant toilet rooms.



Damage at concrete loading dock.

## Summary:

Several of the College Store Building's systems are in poor condition and have aged past their useful service life. While these systems are operational, they should be scheduled for replacement.

Systems which are due for replacement include, the carpeting and suspended ceiling throughout the building, HVAC, as well as the electrical panels, fire alarm panel and light lenses that are original to the building.

The toilet rooms, although in good condition, are not ADA compliant.

The site adjacent to the building is comprised of concrete sidewalks and lawn areas. The sidewalks and lawn are in good condition. A portion of the loading dock fence is damaged and must be replaced.

The structure is in good condition with no reported issues.

The shingle roof is in fair overall condition; however, the portion of the roof adjacent to the Facilities building has created a ponding condition and must be replaced.

Except for minor fascia damage at the front entrance, the building envelope is in good condition.

There are no reported issues with the limited amount of glazing on the building.

The west exterior door is damaged and needs to be replaced.

The existing mechanical system provides inadequate airflow to keep parts of the store warm in the winter. Correction of this condition requires converting to a commercial style AHU with a properly designed duct system and controls.

There are no reported issues with the plumbing fixtures.

Although the emergency egress lighting may have been compliant to the original code at the time the building was constructed, it is unlikely that the existing egress lighting system meets the current code standards for minimum footcandles.

Similarly, the strobe coverage and horn coverage do not meet the current building code standards.

The site lighting panel, which was recently installed, appears to be powered from a different source than the rest of the building. This violates current NEC requirements. Further investigation is required to determine the appropriate solution.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$188,000 as soon as possible to address the following Priority 1 issues:

### Site

- A portion of the loading dock fence and concrete are damaged and need to be replaced.

### Roof

- Ice dams form at the joint between this building and the Facilities building. The current drainage at this point is insufficient. This portion of the roof must be replaced to provide sufficient drainage.

### Ceiling

- Suspended ceiling system is worn and should be replaced.

### Floor

- The carpeting is worn and should be replaced.

### Doors

- The west exterior door leaf has holes and should be replaced.

### HVAC

- The existing AHU should be converted to a commercial style AHU with a properly designed duct system and controls to improve air flow.

### Electrical

- The existing site lighting panel must be corrected to meet current code.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$188,000 needed for immediate repairs, the College should allocate an additional \$125,000 to address the following over the next few years:

### Walls and Casework

- Shelving exhibits some minor chips/worn spots and should be renovated.

### HVAC

- The building contains no occupancy sensors and should be upgraded accordingly.

### Power

- Electrical panelboards are past their useful life and need to be replaced.

### Lighting

- Lighting lenses are worn and need to be replaced.

## Vital Statistics

Athletic Memorial Building

**Use Type(s):** Gym, locker rooms, classrooms, offices

**Built:** 1964

**Area:** 36,460 GSF

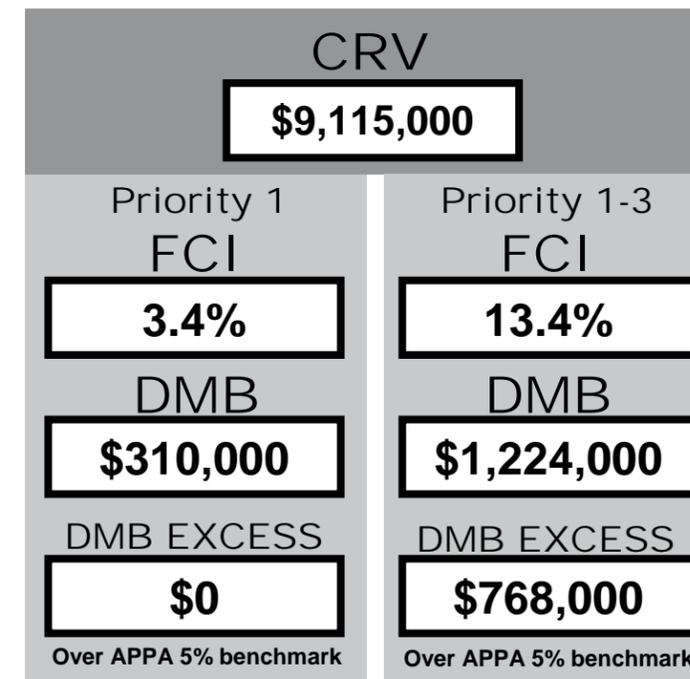
**Floors:** 2

### Building Description:

Located just south of the Health Careers Education Center, the Athletic Memorial Building was built in 1964. It is a (2) story building and it contains a total of 36,460 square feet. The structural system consists of concrete columns and beams. The façade is predominately a brick veneer system with ribbon windows. The roof is a built-up roof system.

### Observation Highlights:

- There is some minor cracking on exterior envelope that should be repaired.
- The windows are past their useful life and need to be replaced.
- Locker ASUs are 100% outdoor air and are original equipment. These units consume excessive energy and should be replaced.
- The unit room coolers in the offices have experienced condensate pump failures causing water damage.
- Locker room plumbing fixtures are not ADA compliant.
- The electrical substation room lacks a second means of egress.
- Electrical panelboards are past their useful life and need to be replaced.



### MAINTAIN DMB

**\$182,000**

Annual cost to maintain current DMB



Priority 1



Priority 1-3

Athletic Memorial Building  
Facility Highlights



Non ADA compliant locker room.



Gymnasium partition must be replaced.



Panelboards in need of replacement.

## Summary:

The some of the Athletic Memorial Building's systems have aged past the useful service life of some of its systems. While these systems are operational, they should be scheduled for replacement. This includes the electrical panelboards, step down transformer, light lenses, main fire alarm control panel, exterior windows, corridor ceiling tiles, exterior door hardware, gymnasium operable partition and the gymnasium floor finish.

Although the elevator has no reported issues, the elevator contains non ADA compliant controls. The building contains an ADA compliant toilet room, however, the locker rooms within the lower level are not ADA compliant. The gymnasium bleachers and interior door hardware are not ADA compliant.

The site adjacent to the building is comprised of concrete sidewalks and lawn areas. The sidewalks and lawn are in good condition. Two of the concrete stairs to the building have cracks that should be repaired. There is one negative pitch outside the elevator lobby that should be corrected.

The building structure is in fair condition with only minor concrete patching issues observed.

The roof is in fair condition but is expected to be replaced within the next ten years.

The building envelope is in fair condition with minor tuckpointing and soffit repair needed.

The building has experienced minor water infiltration, and weather exposure issues which have damaged some systems. This includes, the ceiling in lower level shower room, a few of the exterior door leafs, exterior soffits, and minor cracking at exterior concrete stoops.

The unit cooling units for the offices have caused water damage and should be replaced with ERU's.

Other systems, while not violating the original code under which they were installed, do not meet current code. This

includes, the entrance to the substation, light illumination levels for egress corridors, lack of occupancy sensors, exhaust relief for ASU-1, and non ADA compliant plumbing fixtures.

The intake louver has been partially blocked off such that the louver is only at 25% capacity. This unnecessarily increases velocity and pressure drop across the usable portion of the louver.

The locker room ASU's consume high amounts of energy compared to modern units and should be replaced.

The automatic, electrical transfer switches do not meet the full intent of life safety code because they service multiple buildings. Any major renovations in the future would require dedicated transfer switches for this building.

Many light lenses and housings on light fixtures are showing their age and should be replaced.

The data equipment located in the mechanical tunnel may experience higher temperatures and excessive dust; heat and dust shorten equipment life. Dedicated telecommunication closets are recommended along with appropriate cooling systems.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$310,000 as soon as possible to address the following Priority 1 issues:

### Ceiling

- Suspended ceiling system in the lower level shower room is damaged and should be repaired.

### Walls & casework

- The basketball backboard supports are failing and need to be repaired.
- The gymnasium operable partition is worn and should be replaced.

### Floor

- The threshold to the shower room is damaged and needs to be repaired.

### Doors

- (1) pair of exterior door leafs has holes and need to be replaced.

### HVAC

- ASU-1 has return air/outdoor air but no provision for exhaust relief. This must be corrected.
- Offices have had unit room coolers installed. These have experienced condensate pump failures causing water damage.

### Electrical

- The electrical substation room has only a single entrance and does not comply with NEC 110.33. A second entrance at the opposite end of the equipment should be added. Further study will be required to determine whether a second entrance can be added between sub and mechanical room.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$310,000 needed for immediate repairs, the College should allocate an additional \$914,000 to address the following over the next few years:

### Site

- The exterior concrete stair stoops exhibit signs of cracking and should be repaired.
- A negative pitch pocket just outside of the elevator lobby should be corrected.

### Structure

- There is minor spalling of exterior concrete elements at southeast corner of the building that must be repaired.
- This is minor cracking of exterior concrete elements at southwest corner of the building that must be repaired.
- The top of the mechanical areaway is cracked and must be repaired.

### Cladding

- The exterior soffits are showing signs of wear and need to be repaired.

- There is water infiltration at the northwest corner of the building that must be corrected.

#### Glazing

- The exterior window system is past its useful lifecycle and should be replaced.

#### Ceiling

- The ceiling tiles and the corridors and classrooms are sagging and need to be replaced.

#### Walls and Casework

- The walls of the south stairwell have stains that should be corrected.

#### Doors

- The exterior door hardware is worn and should be replaced.

#### Floors

- There is localized water damage of gymnasium floor that should be repaired.
- The floor finish of the gymnasium floor is worn and needs to be refinished.

## Vital Statistics

### Facilities Building

**Use Type(s):** Mechanical spaces, workshops, offices

**Built:** 1960

**Area:** 16,093 GSF

**Floors:** 2

### Building Description:

Located adjacent to the College Store Building, the Facilities Building was built in 1960. It is a (2) story building and it contains a total of 16,093 square feet. The structural system consists of steel columns with steel joists and beams. The façade is brick veneer system with punched openings for windows. The roof is a built-up roof system.

### Observation Highlights:

- The roof is past its useful life and needs to be replaced.
- The loading dock masonry screen wall has deteriorated and must be repaired.
- The hot water converter is undersized, making the building difficult to keep warm during cold weather months.
- Pumping system is inefficient and lacking sufficient control valves.
- The substation location inside the existing boiler room is a hazardous condition for which water could potentially be near electrical equipment.
- The fire alarm control panels are near the end of their useful life and should to be replaced within 5 years.



Priority 1



Priority 1-3

CRV	
<b>\$4,023,000</b>	
Priority 1 FCI	Priority 1-3 FCI
<b>1%</b>	<b>7.3%</b>
DMB	DMB
<b>\$18,000</b>	<b>\$293,000</b>
DMB EXCESS	DMB EXCESS
<b>\$ 0</b>	<b>\$92,000</b>
<small>Over APPA 5% benchmark</small>	<small>Over APPA 5% benchmark</small>

### MAINTAIN DMB

**\$80,000**

Annual cost to maintain current DMB



East lawn negative pitch and erosion.



Location of substation creates potentially hazardous condition.



Deterioration at loading dock sitewall.



Light level in garage area is too low for working environment.

## Summary:

Some of the buildings systems are past their useful service life and showing signs of wear and deterioration. This includes the receptacle panel, the roof system, exterior window caulking, and carpeting.

The entry doors and toilet room are ADA compliant.

The site adjacent to the building is comprised concrete walkways and partial lawn area and is in good condition. Most of the sidewalks were replaced in 2014. On the east elevation of the building there is one small area within the lawn that has a negative pitch against the building which must be corrected.

The loading dock site wall shows significant signs of deterioration that exceeds tuckpointing. It is recommended that the affected portions of the wall be rebuilt.

The building structure is in fair condition with no reported issues.

The building envelope is in good condition with only minor tuckpointing needed. The existing window system was replaced by a double-paned insulated approximately 15 – 20 years ago.

The interior ceiling systems are in overall good condition with only minor repairs needed.

While the majority of the interior partitions are in good condition, the walls of room B-210 are damaged and need to be repaired.

With the exception of the loading dock area, most of the doors are in good condition. The east main entry doors show signs of water infiltration and need to have seals replaced. The finish on the loading dock door overhead doors is worn and should be refinished. The exterior swing door and frame in the loading dock area is worn and damaged and needs to be replaced.

It is difficult to keep the building warm in winter. The hot water converter was designed for 380F EWT and is currently being operated at 300F EWT. To correct this condition, the HX system should be upgraded. The pumping for the hot water heating system is a constant volume system that is inefficient. Some of the heating units lack localized valves. It is also recommended that the existing RTU be replaced with an Energy Recovery Unit.

Domestic water supply system, sanitary drainage, and toilet room fixtures are original to the building with no reported issues.

The building does not currently utilize occupancy sensors. It is recommended that the installation of sensors be studied as a means to reduce energy costs.

Whenever a substation is not within a dedicated room, it is inherently risky and dangerous. The Power House substation is within a Boiler Room, which increases the risk level. It is understood that maintenance personnel may be operating a hose adjacent to the existing substation, creating high levels of risk for electrocution or an arc flash-related explosion. Although relocating the substation to a dedicated room elsewhere would be ideal, the college needs to take immediate action to train and inform personnel about the hazards of water near electrical gear.

Due to a lack of storage closets, items are stored adjacent to electrical panels. Codes require that 36" or more be maintained clear in front of general panelboards. Clutter in front of electrical equipment may represent a fire hazard or even a life safety hazard for electrical maintenance.

It's unlikely that the egress paths are illuminated in accordance with the latest codes (1.0 footcandle average) and need to be upgraded.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$18,000 as soon as possible to address the following Priority 1 issues:

### Site

- Correct negative pitch along east elevation of building.

### Doors

- East entrance door seals need to be replaced.
- Loading dock door and frame need to be replaced.

### Electrical

- Since the Power House substation is within a Boiler Room, it is understood that maintenance personnel may be operating a hose adjacent to the existing substation, creating high levels of risk for electrocution or an arc flash-related explosion. Although relocating the substation to a dedicated room elsewhere would be ideal, the college needs to take immediate action to train and inform personnel about the hazards of water near electrical gear.
- Due to a lack of closets, items are stored adjacent to electrical panels. Codes require that 36" or more be maintained clear in front of general panelboards. Clutter in front of electrical equipment may represent a fire hazard or even a life safety hazard for electrical maintenance.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$18,000 needed for immediate repairs, the College should allocate an additional \$275,000 to address the following over the next few years:

### Roof

- The roof system is past its useful lifecycle and should be replaced.

### Cladding

- Site wall is spalling and needs to be renovated.

### Glazing

- The exterior window caulking is past its useful lifecycle and should be replaced.

### Ceiling

- Minor amount of the ceiling tiles are damaged or missing in storage room and corridors.

### Walls and Casework

- The walls of room B-210A are damaged and need to be repaired.

### Floors

- Carpeting in conference room and offices is worn and needs to be replaced.

### HVAC

- It is difficult to keep the building warm in winter. The hot water converter was designed for 380F EWT and is currently being operated at 300F EWT. To correct this condition, the HX system should be upgraded.
- The pumping system is inefficient and lacks room control. VFDs to pumps should be installed.
- Outside air volume is indeterminate. Repair or replace RTU with Energy Recovery Unit.

#### Electrical

- Panelboards are past their useful life and need to be replaced.

#### Emergency Power

- EM Panelboards are past their useful life and need to be replaced.

#### Lighting

- The Users working within the Garage area state that the illumination levels are too low to work on equipment. It is recommended that higher illumination be provided to promote a safer work environment.
- The high-bay fixtures within the Boiler Room can be very difficult to re-lamp, re-ballast, and maintain. A lamp source with a longer lifespan is recommended.

## Vital Statistics

Fine Arts Building

**Use Type(s):** classrooms, offices

**Built:** 1978

**Area:** 74,742 GSF

**Floors:** 3

### Building Description:

The Fine Arts Building was built in 1978. It is a (3) story building and it contains a total of 74,742 square feet. The structural system consists of concrete columns and beams. The façade is brick veneer system with casement as well as ribbon windows. The roof is a built-up roof system.

### Observation Highlights:

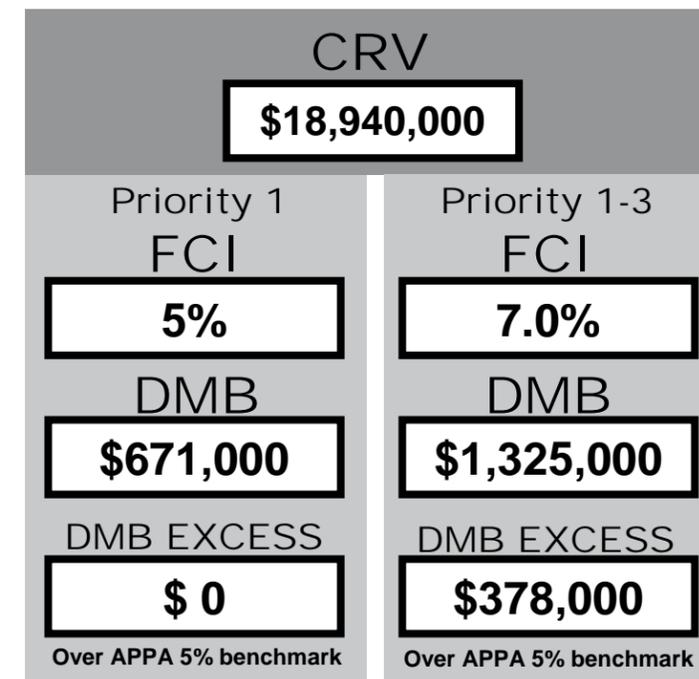
- Skylights are failing and must be replaced.
- Water infiltration at recessed windows and stair foundation must be corrected.
- Metal ceilings in corridors are damaged and should be replaced.
- Carpeting is worn and needs to be replaced.
- Hanging Unit Ventilators are difficult to maintain and should be replaced.
- Use of fire dampers in corridors is inconsistent and doesn't meet current code.
- Electrical panelboards are past their useful life and must be replaced.



Priority 1



Priority 1-3

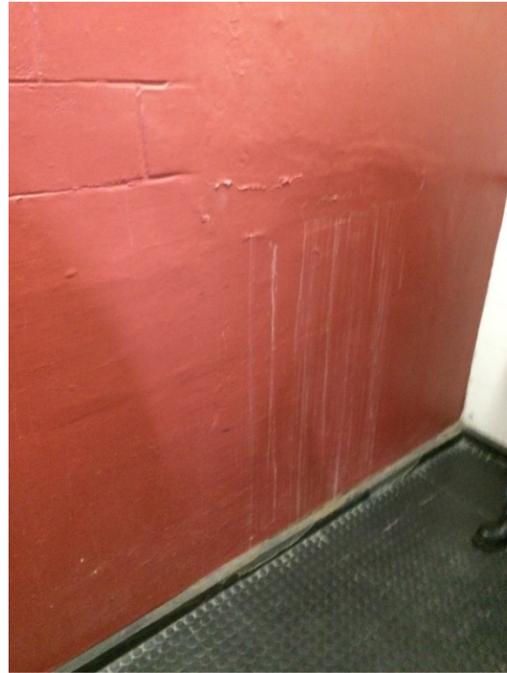


### MAINTAIN DMB

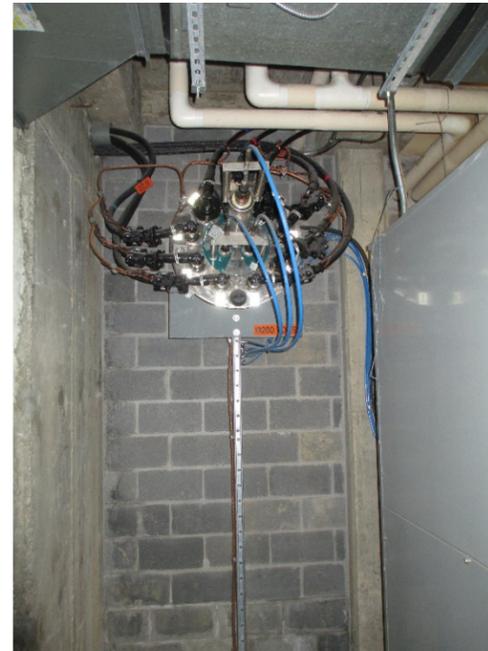
**\$379,000**

Annual cost to maintain current DMB

Fine Arts Building  
Facility Highlights



Water infiltration at stair.



Location of loop switch to substation creates a potentially hazardous condition.



Skylight leakage above gallery.

## Summary:

The some of the systems of the Fine Arts Building have aged past the useful service life. While these systems are operational, they should be scheduled for replacement. This includes the skylights, exterior window caulking, carpeting, lay-in ceilings, auditorium seating, toilet fixtures, stepdown transformer, and electrical and emergency panelboards.

HFC reports no maintenance issues associated with the elevator except for a damaged rear door. Elevator controls are ADA compliant. The building does not contain ADA compliant toilet rooms. Interior door hardware is not ADA compliant.

The site adjacent to the building is in good condition with only a few minor recommended improvements. There are two small sidewalk locations where water is ponding.

The building structure is in good condition; however, there is evidence of water infiltration at the east stair foundation wall.

The roof is in fair condition with replacement expected within the next ten years.

Three of the building skylights as well as the masonry ledge at the exterior recessed windows show evidence of water infiltration. Only minor tuckpointing is recommended for the exterior masonry.

Except for the deterioration of the window caulking, there are no reported issues with the exterior window system.

Some of the interior finishes are damaged and should be replaced. Portions of the corridor metal ceilings are bent or damaged in many locations and need to be replaced. Within the Sisson Gallery the wall panels are warped and need to be replaced.

Most of the exterior doors are in good condition. The double door and frame outside of the glass kiln room should be replaced.

Within the art classrooms the hanging unit ventilators are very difficult to maintain and do not include any form of exhaust/relief air and have cooling coils located at discharge so that condensate spills out of the units. Replacement of the ventilators with Energy Recovery Units is recommended.

In the basement of the mechanical room, SAU's #6, #7 and #9 have no exhaust/relief duct/damper. When the RA damper closes, the OA damper opens, pressurizing the rooms served. This condition needs to be corrected.

The building does not currently utilize occupancy sensors. It is recommended that the installation of sensors be studied as a means to reduce energy costs.

The building appears to have sporadic use of fire dampers only, which does not meet current life safety code.

A comprehensive study of exhaust systems should be done to determine current needs.

The existing toilet room plumbing fixtures are older high water consumption technology and should be replaced.

The substation has only a single entrance and does not comply with NEC 110.33. Recommend adding a second entrance at the opposite end of the equipment. Need to study whether second entrance can be added between sub and mechanical room.

The wall-mounted loop switches appear to be in decent condition, but the Owner stated that they do not have a UL listing or overcurrent protection. Caution should be taken when servicing or operating this equipment. The loop switch within the substation room is in a potentially dangerous location; although it has the required 5'-0" working space clearance, it is near the substation and could easily arc to the substation enclosure. Recommend relocating loop switch; further study required.

Due to a lack of janitor closet space, many electrical closets serve as storage and janitorial space. Codes require that 36"

or more be maintained clear in front of general panelboards. Clutter in front and on top of electrical equipment may represent a fire hazard or even a life safety hazard for electrical maintenance.

It was reported that some of the high-end computer graphic machines have been failing due to unspecified power quality issues. Re-wiring these machines to the computer power system may alleviate issues. Owner may acquire local UPSs at each station. Further study is recommended to determine the nature of the power quality issue.

It's unlikely that the egress paths are illuminated in accordance with the latest codes (1.0 footcandle average) and need to be upgraded. Many batteries do not operate and need replacement.

The existing downlights are mercury vapor lamp type. This lamp source has low color rendering ability and is inappropriate for a Fine Arts facility. This lamp type rarely fails, but simply emits less light every year for the same wattage. An LED replacement is recommended with high color rendering as well as instant on capability.

The fixtures in the auditorium are reportedly lamped with 500W incandescents as well as some mercury vapor lamps. The incandescents can require frequent and difficult re-lamping. Some of the fixture stems are being unscrewed during lamp replacements and are liable to fall. The mercury vapor lamps are not an appropriate lamps source for a Fine Arts facility. An LED system is recommended for long life, high color rendering, and instant on capability.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$671,000 as soon as possible to address the following Priority 1 issues:

### Code

- The elevator rear door is damaged and needs to be replaced.

### Structure

- Water infiltration at east stair needs to be repaired.

### Roof

- Skylights are past their useful life and are leaking.

### Glazing

- The caulking of the existing windows on northwest elevation of the building has failed and caused water infiltration.

### Floor

- The carpet in the offices, auditoriums and Adray gallery is worn and past its useful life.

### HVAC

- Hanging Unit Ventilators are difficult to maintain and should be replaced.
- Use of fire dampers in corridors is inconsistent and doesn't meet current code.

### Electrical

- The electrical substation room has only a single entrance and does not comply with NEC 110.33. A

second entrance at the opposite end of the equipment should be added.

- Emergency lighting consists mainly of "bug-eye" style fixtures, installed in 1982. It's unlikely that the egress paths are illuminated in accordance with the latest codes (1.0 footcandle average, 40:1 max-to-min uniformity).
- Remove clutter in front and on top of electrical equipment to reduce the potential for a fire hazard.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$671,000 needed for immediate repairs, the College should allocate an additional \$654,000 to address the following over the next few years:

### Site

- (2) Sidewalk locations are not sloped properly and pond the water. Locations: East and Southeast elevations of the building.

### Cladding

- Water is infiltrating at the horizontal ledges of the recessed windows
- Minor tuckpointing is needed along all elevations of the building.

### Glazing

- Approximately 50% of exterior window system caulking is past its useful lifecycle and should be replaced.

### Ceiling

- The lay-in ceiling within the office suite across from the Sisson Gallery is worn and needs to be replaced.
- Portions of the corridor metal ceilings are bent or damaged in many locations and need to be replaced.

#### Walls and Casework

- Within the Sisson Gallery the wall panels are warped and need to be replaced.

#### Doors

- The exterior doors at the glass kiln room are damaged and need to be replaced.

#### Floors

- The seats in the auditorium space are worn and need to be replaced.

#### HVAC

- A comprehensive study of multiple exhaust systems should be done to determine current needs.

#### Plumbing

- Replace the existing high water consumption plumbing fixtures.

#### Electrical

- Relocate 13.2kV loop switch to a lower hazard location.
- Replace electrical panelboards
- Replace step-down transformer
- It was reported that some of the high-end computer graphic machines have been failing due to unspecified power quality issues. Re-wiring these machines to the computer power system may alleviate issues. Owner may acquire local UPSs at each station. Further study is recommended to determine nature of power quality issue.

#### Emergency Power

- Receptacle panelboard is past its useful life and must be replaced.

#### Lighting

- Replace mercury vapors lamps in auditorium lobby and gallery.
- Replace Incandescent lamps in auditorium.

## Vital Statistics

### Technology Building

**Use Type(s):** classrooms, labs, offices

**Built:** 1964 with an addition built in 1993

**Area:** 169,848 GSF

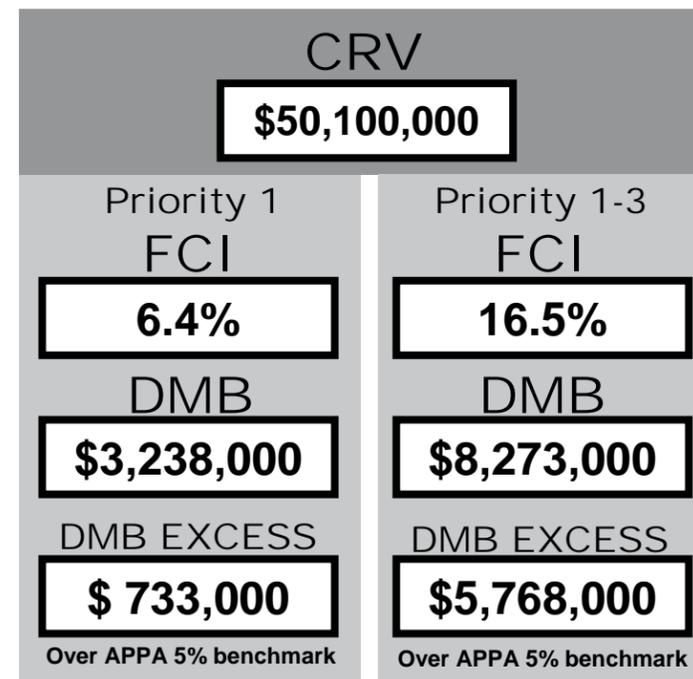
**Floors:** 2

### Building Description:

The structural system consists of concrete beam and column structure and limited areas of steel frame construction. The façade is a combination of precast concrete panels, concrete, brick, glass and metal siding. The roof of the original building is a ballasted roof which is + 20 years old. The roof of the new addition was replaced in 1995 and is reported to be in good shape.

### Observation Highlights:

- The roof is past its useful life and needs to be replaced.
- Precast concrete panels, sills and tees show signs of spalling and cracking.
- Lay-in ceilings and carpet are past their useful life.
- HVAC units operate all night to keep building warm in winter. It is difficult to maintain temp when exterior is below 10 degrees F.
- Dual-duct boxes and distribution equipment is original to the building and well past their useful life.
- Use of fire dampers in corridors is inconsistent and doesn't meet current code.
- Cast iron drain piping and domestic water piping are past their useful life.
- Electrical panelboards and fluorescent lamps are past their useful life.



### MAINTAIN DMB

**\$1,000,000**

Annual cost to maintain current DMB



Priority 1



Priority 1-3

Technology Building  
Facility Highlights



Detail at loading dock indicating concrete spalling.



Socket failure at 8'-0" long fluorescent lights.



Detail of VCT deterioration at walker duct.



Electrical closet as shared storage space.

## Summary:

Some of the buildings systems are past their useful service life and showing signs of wear and deterioration. This includes the roof hatch on the original building, lay-in ceilings, VCT, carpet, some of the exterior doors, step-down transformers, electrical panelboards, metal halide light fixtures, and keyed light switches and the substation in the original building.

HFC reports no maintenance issues associated with the elevator. Elevator controls are ADA compliant. The technology building contains at least (1) instance of an ADA compliant toilet rooms. Roughly 50% of the door hardware within the original building is non-ADA compliant.

The site is in generally good condition. There is some minor repair work that is recommended at the curved site wall located on the southeast corner of the building. Likewise, there is one small section of sidewalk along the northeast corner of the building that should be adjusted for proper drainage.

There are numerous areas around the exterior of the building where concrete has deteriorated. At the loading dock, the ends of concrete tees and the tops of concrete columns have evidence of spalling. In some instances the rebar is exposed. Many concrete window sills have cracks.

Approximately 48% of the roof system is due for replacement within the next five years.

The exterior red metal panels exhibits signs of damage of failing finish system.

Window caulking has failed along many parts of the exterior and needs to be replaced.

Most of the lay-in ceilings in the addition as well as the concealed spline ceiling in the original building are either worn or sagging and should be replaced. Exposed ceilings in the stairwells are extensively peeling.

There are no reported issues associated with the walls and millwork.

With the exception of a few exterior doors, most of the interior and exterior doors are in fair condition.

The VCT flooring is failing at specific locations. In the original building, the VCT is failing over the walker ducts. In the addition, the VCT failed in the stairwells and needs to be replaced.

Within the addition, HVAC units operate all night to keep building warm in winter. It is difficult to maintain temp when exterior is below 10 degrees F. The result is an inefficient system with units that are operational but unreliable. The dual-duct boxes and distribution equipment is original to the addition and well past their useful life. The equipment is unreliable and inefficient. The addition also has poor air throw from the perforated 4-way ceiling diffusers, therefore the reheat coils are running at full capacity to maintain setpoints.

Within the original building the outside air dampers on AHU are non-functional and leaking badly. The AHU's are unreliable and past their useful life. The machine shop T-126 is difficult to heat.

Most of original building has fire dampers at some but not all corridor penetrations. The 1993 addition appears to have sporadic use of fire dampers only, which does not meet current life safety code.

Since the function of many classrooms has changed over time, the building needs comprehensive study of the exhaust systems to determine current needs.

Cast iron drain piping and copper with lead solder domestic water piping are original to the building and should be replaced within the next major renovation.

The room which houses the substation in the original building has only a single entrance and does not comply with NEC

110.33. It is recommended that a second entrance at the opposite end of the equipment be added.

Due to a lack of janitor closet space, many electrical closets serve as storage and janitorial space. Clutter in front and on top of electrical equipment may represent a fire hazard or even a life safety hazard for electrical maintenance.

Some of the labs have metal halide high-bays. These sources have long strike times, offer poor color rendering, and are often located such that they are over existing lab equipment and difficult to maintain. Recommend replacing with new LED high bay source.

Original light fixtures that had 8'-0" long fluorescent lamps are "power groove" type and they are now experiencing socket failure.

## Recommendation:

Critical **Priority 1** deferred maintenance items listed in the appendix, including those related to code-compliance, those capable of causing collateral damage, and especially those pertaining to life safety must be dealt with by the College as soon as possible to protect against additional damage, increased repair costs, and to improve occupant safety. The College should set aside approximately \$3,238,000 as soon as possible to address the following Priority 1 issues:

### Roof

- The portions of the roof on the original and new building must be repaired.
- The roof hatch on the original building must be replaced.

### Cladding

- Exterior window sills along interior courtyard must be repaired or replaced.

### Glazing

- (1) panel of glass along the north side of the addition is broken and needs replacement.

### Ceilings

- Refinish ceilings within the stairwells of the addition.

### Doors

- The hinges and closers of the north entry doors have failed and need replacement.
- The door leafs of the exterior service shed are failing and need replacement.

### Floors

- Carpet in the office suite located in the addition is worn and past its useful life.
- VCT failure over the walker ducts, at the control joints in the addition, and in the addition stairwells.

## HVAC

- Within the addition, the HWH system 2-way control valves have no bypass, and no VFD at pumps which is causing mechanical failure.
- Outside air dampers on AHU are non-functional and leaking badly.
- Use of fire dampers in corridors is inconsistent and doesn't meet current code.

## Electrical

- The electrical substation room has only a single entrance and does not comply with NEC 110.33. A second entrance at the opposite end of the equipment should be added.
- Emergency lighting consists mainly of "bug-eye" style fixtures, installed in 1982. It's unlikely that the egress paths are illuminated in accordance with the latest codes (1.0 footcandle average, 40:1 max-to-min uniformity).
- Remove clutter in front and on top of electrical equipment to reduce the potential for a fire hazard.
- Many of the existing keyed switches have a high failure rate.

Building systems and components listed in the appendix as **Priority 2** deferred maintenance items should be prioritized and budgeted for repair or replacement as soon as practical. In addition to the \$3,238,000 needed for immediate repairs, the College should allocate an additional \$5,035,000 to address the following over the next few years:

#### Structure

- At the loading dock, the ends of concrete tees and the tops of concrete columns have evidence of spalling. In some instances the rebar is exposed. Many concrete window sills have cracks.

#### Roof

- Portions of the new and original roofs must be replaced.

#### Cladding

- Tuckpointing needed at masonry within exterior courtyard.
- Red metal panels along portions of north and west sides of the addition have damaged/failing finish.

#### Glazing

- Exterior window system caulking is past its useful lifecycle and should be replaced along west and east elevations of the addition.
- The ribbon windows and back storefront vestibule of the original building are past their useful life.

#### Ceiling

- The classroom lay-in ceilings within the addition are sagging and should be replaced.
- The concealed spline ceiling in the original building is worn and past its useful life.

#### Doors

- North exterior service door and west exterior entrance doors are failing.

#### HVAC

- The addition has minimal FTR on exterior walls. Have to run HVAC units all night to keep building warm in winter. System is unreliable.
- The dual-duct boxes and distribution equipment is original to the addition and well past their useful life.
- The building needs comprehensive study of the exhaust systems to determine current needs.
- In the addition, there is poor air throw from the perforated 4-way ceiling diffusers.
- Machine Shop T-126 is difficult to heat.
- Perimeter HWH setpoint problem in addition.

#### Plumbing

- Replace the existing high water consumption plumbing fixtures.
- Replace cast iron drain piping and copper with lead solder domestic water piping.

#### Electrical

- Replace electrical panelboards.
- Replace step-down transformers.

#### Lighting

- Replace metal halide lights in workshops and labs.
- Replace light fixtures in corridors of original building.
- Replace 8'-0" long fluorescent lamps in original building.

# HENRY FORD COLLEGE