ARCHITECTS AND PLANNERS, P.C.

2006 Master Plan Update

SUNY ORANGE

The Educational Choice of Orange County

Original Draft document issued in May 2006
Final Master Plan issued in June 2007

Master Plan Update

Presented to the OCCC Board of Trustees on 8 May 2006

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Executive Summary

Introduction

Almost half of the undergraduate students in public postsecondary schools in the U.S. are now enrolled in community colleges. Most of these students are juggling their college work with family and career responsibilities. A survey of 92,000 students at 152 community colleges[1] documented the following:

- 45% are the first in their families to attend college.
- 60% work more than 20 hours a week.
- 34% spend at least eleven hours a week as a caregiver.
- 53% want to transfer to a four-year college or university.
- 35% of community college students say they began their studies at another college.
- 16% say they already have a degree; many are returning to get specialized training or take courses that interest them.
- 6% say they're concurrently enrolled in another college.
- 3% are concurrently enrolled in high school.

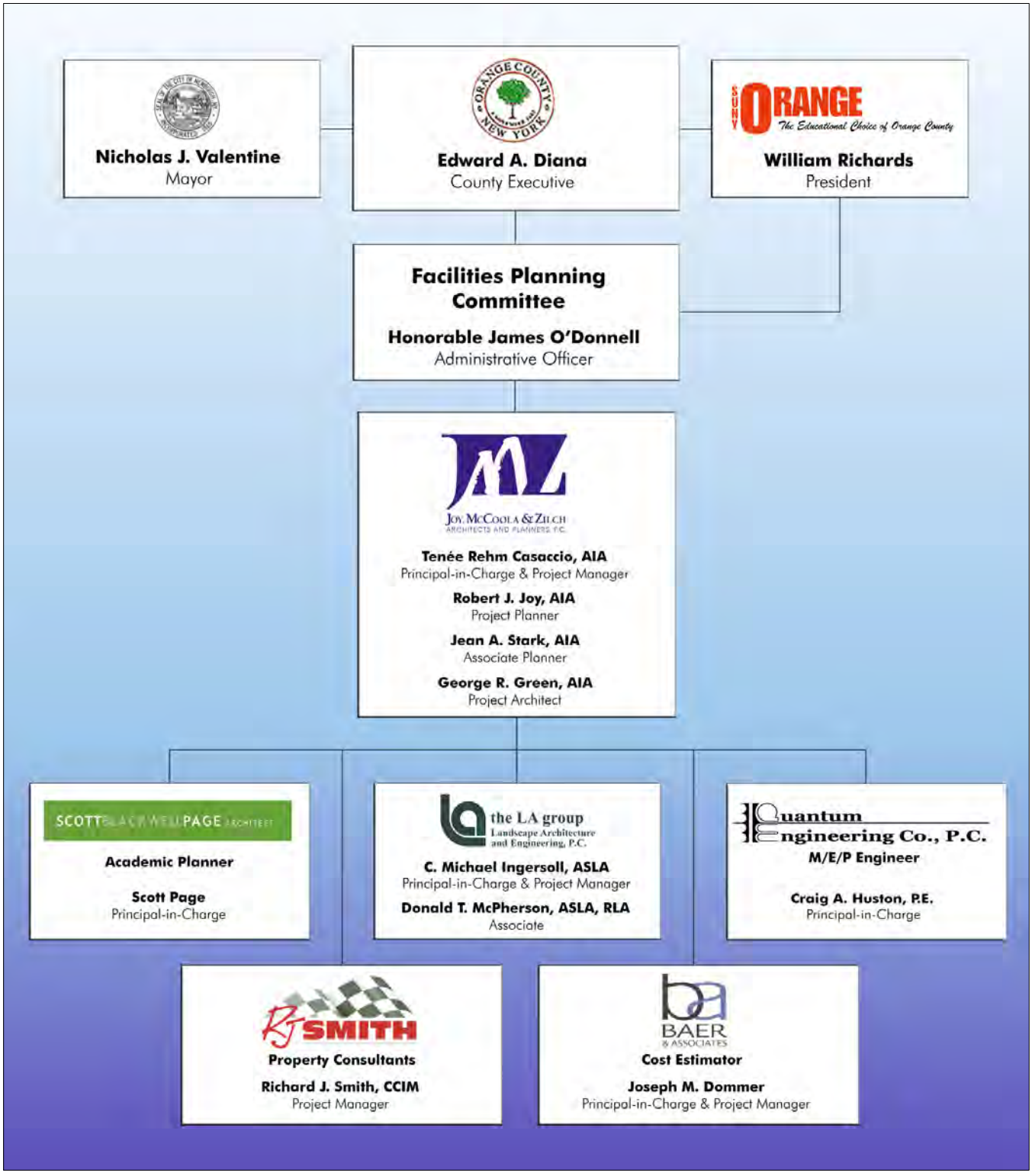
With postsecondary education becoming the minimum educational requirement for holding a job that supports at least a middle-class standard of living, the role community colleges play in this country will continue to increase in importance.

With all of this in mind, in September 2005, Orange County retained the firm of JMZ Architects and Planners, P.C. to prepare a Master Plan Update for OCCC's Middletown Campus and to guide the site selection process for a possible branch campus in the City of Newburgh.

This Master Plan serves two important purposes. By documenting the present condition of the College's facilities on the Middletown Campus, and predicting when major capital improvements may be required, it enables the College and its sponsors to identify current needs and anticipate long-range capital improvements that may be required. By identifying current and future space deficiencies and suggesting how they can be remedied, this Master Plan guides the College in its mission to provide a high level of service to the communities it serves.

[1] Community College Survey of Student Engagement, 2004 National Report, *Engagement by Design*.

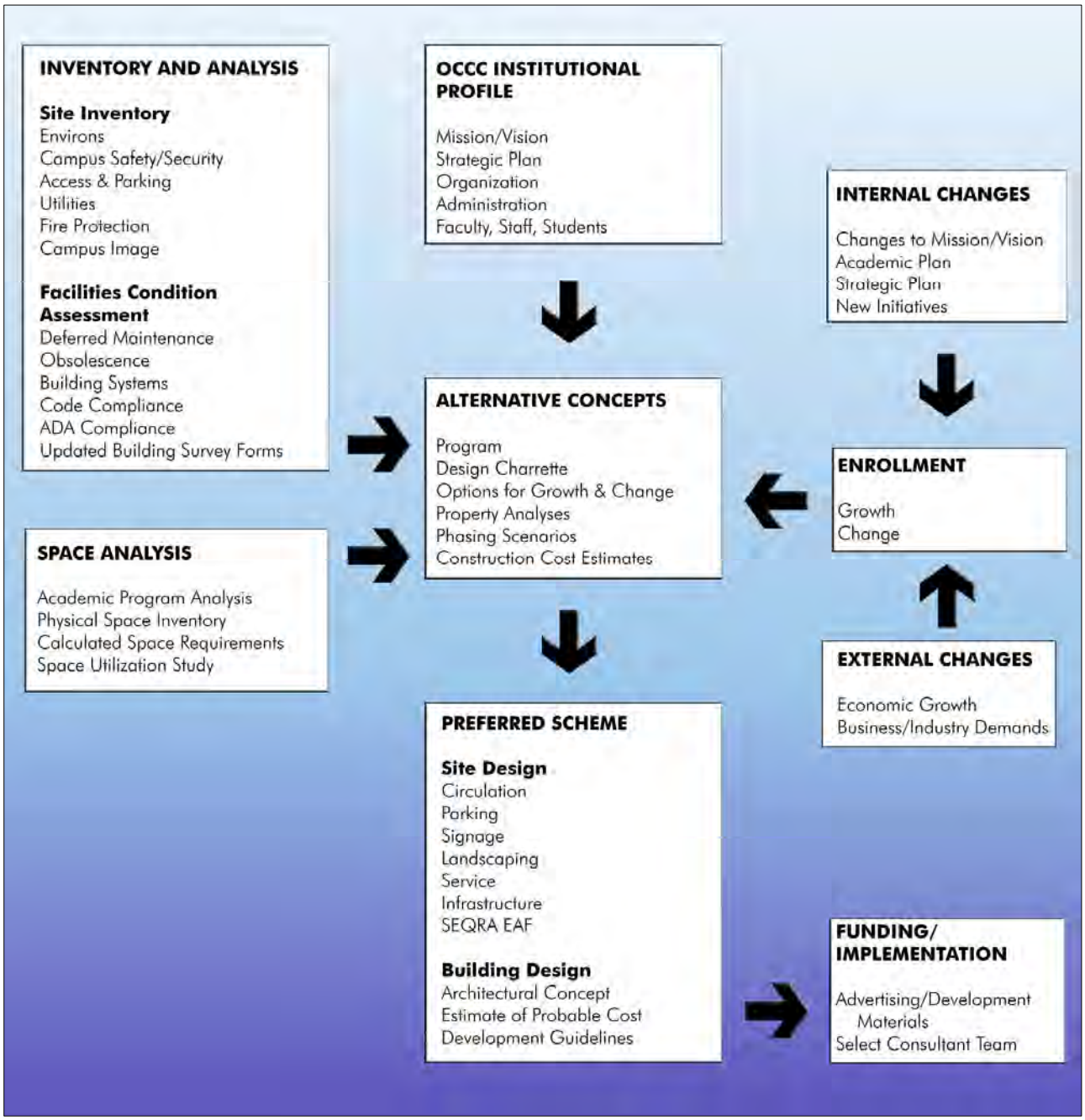
JMZ was assisted by Scott Blackwell Page, an academic planner from New York City; the LA Group, landscape architects from Saratoga Spring, New York; and Quantum Engineering of Selkirk, New York. RJ Smith Realty of Pine Bush, New York and Baer & Associates, cost estimators from Buffalo, New York, were also part of the Newburgh planning team.



The Master Planning Process

The Master Planning Process Chart below illustrates the flow of work and ideas that generated this plan. The planning team evaluated the College's facilities over the course of several months. They also conducted interviews with administrators, faculty and staff to document existing deficiencies and identify future needs. The planning team hosted two Design Workshops on the Middletown Campus in February 2006, met regularly with the Steering Committee, and made periodic presentations to the College's Board of Trustees.

For the Newburgh study, the consultants met with the site selection committee on a monthly basis throughout the course of the study.



The main entry to the campus core is used by both vehicles and pedestrians.

College personnel report that several times a year students are hit by cars on South Street.

The Existing College

Facilities Condition Assessment

A team of architects, landscape architects and engineers assessed the condition of each of the College's buildings and their systems, along with the site and campus infrastructure. Interviews were conducted with Facilities personnel, administrators, faculty and staff to document existing deficiencies and identify future needs.

The Middletown Campus

Orange County Community College's (OCCC) Middletown Campus is located in Middletown, New York, which is located 22 miles west of the City of Newburgh. Composed of approximately 20 acres of landscaped grounds and nine acres of parking, the campus is surrounded by residential neighborhoods and traversed by two town roads. Of the 20 college buildings (ten of which are major buildings) six primarily house academic departments and classrooms; one (Horton Hall) is used for classes but also houses Facilities Department offices; two are dedicated to student life, student services and dining; three house primarily administration and community service functions; two are greenhouses that have been used as classrooms in the past; and six are service or maintenance buildings.

A total of 219 deferred and projected maintenance projects necessary to maintain health and safety, and to preserve the integrity of the buildings, grounds, and campus infrastructure were identified on the Middletown Campus. Some of the major projects include:

<u>Site and Campus Infrastructure</u>

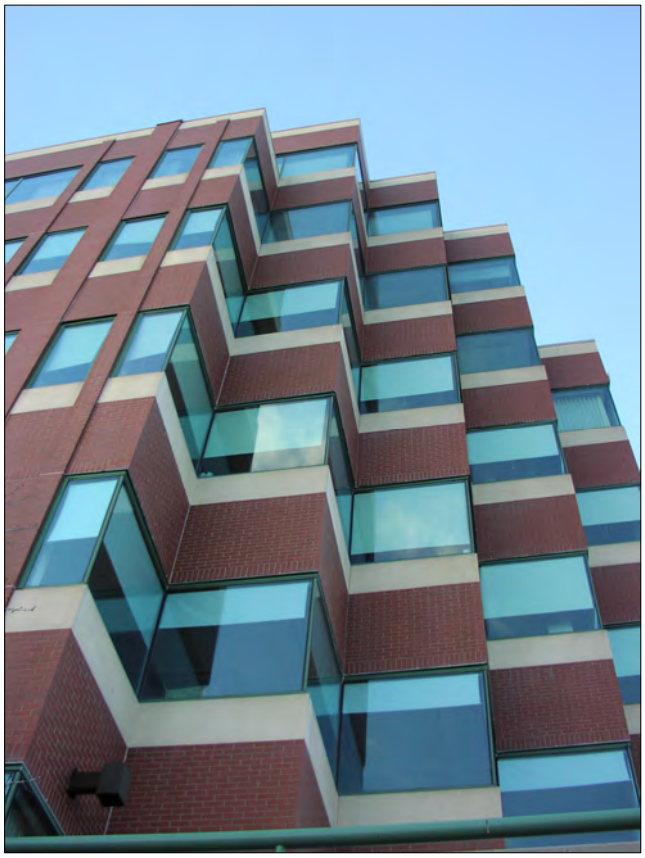
- Improve safety at South Street
- Upgrade campus electrical and IT distribution systems
- Upgrade the campus drainage system
- Improve sidewalks, plazas and parking areas
- Install additional site lighting, surveillance cameras and emergency phones
- Provide wayfinding signage

Campus Buildings

- Modernize all science laboratories
- Update lecture halls
- Create smart classrooms
- Restore both greenhouses
- Completely renovate the College Commons, and Harriman, Hudson and Horton Halls

Building Systems

- Repair/install elevators to improve accessibility
- Improve lighting throughout the campus
- Repair/replace electrical distribution systems and increase building electrical capacity
- Upgrade HVAC systems and improve indoor air quality
- Upgrade fire alarm systems



The Newburgh Extension Center

The Key Bank Building, constructed in 1989, was sub-leased to Orange County Community College in 1997 to provide the College with 75,000 GSF for its Extension Center in downtown Newburgh. The building sits at the corner of Broadway and Colden Street. Originally used as an office building, the College has classrooms, class labs, offices, and meeting spaces on floors one through three. Floors four and five are occupied by Key Bank. While occupants report they like the building's location and feel the building is attractive and secure, there appears to be a multitude of building and site-related deficiencies that need to be addressed.

Sidewalks and roadways are in need of repair and the entrance drive should be widened. There are currently an insufficient number of parking spaces available to the College, and this deficit will only increase as the College expands. Additional site lighting fixtures and emergency blue light phones should be installed.

A ubiquitous water infiltration problem at the heads of the building's windows appears to be the result of a construction detail that may be difficult and costly to correct. The standing-seam metal roof is covered with rust spots that need to be addressed, and the ballasted single-membrane roof will need to be replaced in the near future.

The interior wall partitions do not provide acoustic separation between rooms, making it difficult to have classes simultaneously in adjacent spaces. Modifications to the walls will be required for this building to function properly as an educational facility.

The building's heat pumps and cooling towers will need to be replaced. Additional electrical panels and new interior lighting fixtures will also be required.

While College officials report overall satisfaction with the location and physical condition of the site, many areas were observed to be showing signs of age and degradation.

Other OCCC Extension Sites

In addition to the Middletown Campus and the Newburgh Extension Center, the College currently offers programs in the following area high schools:

- Monroe
- Port Jervis
- Warwick

Minor offerings also occur at other Orange County high schools. A review of these facilities was outside the scope of this Master Plan, but the College is committed to continuing the successful relationships in these locations.

College-Wide Demographics

Orange County is entering a phase of strong population growth in residents who typically attend a community college. The population growth is occurring in two distinct groups. Identified in the table below, the first group is the traditional college-aged population. Represented by U.S. Census tracts 15 to 19 and 20 to 24-year-olds, this cohort will grow substantially over the next two decades. This is in contrast to most of upstate New York, where this population segment will decline during this period.

The second cohort is the 25 to 44-year-olds, a less traditional, more adult learner. This population will experience an even larger expansion. While contributing a smaller percentage of the overall enrollment, this cohort still plays a substantive role, providing 25% of the College's student full time equivalents (FTEs) and more than a third of the student headcount. In OCCC's service area, both cohorts will expand over the next two decades from 151,316 to 188,644.

Table 1.1 - Census Tracts for Orange County	2005	2015	2025
Traditional College-Aged Population			
15 to 19 Year Olds	29,493	30,447	32,491
20 to 24 Year Olds	25,379	31,321	30,762
Subtotal	**54,872**	**61,768**	**63,253**
Adult Learners			
25 to 29 Year Olds	21,035	30,744	32,338
30 to 34 Year Olds	20,070	27,427	33,407
35 to 39 Year Olds	25,404	22,507	31,901
40 to 44 Year Olds	29,935	20,912	27,745
Subtotal	**96,444**	**101,590**	**125,391**
Total	**151,316**	**163,358**	**188,644**
Overall Participation Rate (Median for OCCC for the last ten years)	4.26%	4.23%	4.23%
Ratio of 15 to 24 Years to Total	36.26%	37.81%	33.53%

College-Wide Enrollment Projections

Based on an historical participation rate of 4.23%, the percentage of the identified census tracts that attend the college, OCCC's enrollment will grow from 6,441 for the 2005/2006 academic year to almost 8,000 by 2025. Student FTEs will grow from the current 4,300 annualized FTEs (total credits generated for all sessions in the academic year divided by 30 credits) to over 5,700 FTEs by 2025.

Table 1.2 – Enrollment Growth College-Wide	2005/06	2015/16	2025/26
Annualized Student FTE	4,300.00	4,952.20	5,718.74
Fall Headcount	6,441	6,910	7,980
Average Credit Load	20.03	21.50	21.50

Participation Rates

The participation rate is a conservative assessment of the College's potential enrollment. It represents the previous ten-year median rate. Recent years have actually exceeded 4.23%. Table 1.3 on the following page illustrates various participation rates across the state. Highlighted are Broome, Dutchess, and Genesee Community Colleges. Each has a substantially higher participation rate than OCCC. If OCCC had the rate for Dutchess Community College, even though it seems only modestly higher, Orange County Community College's current, not projected, enrollment would expand by approximately 1,100 students.

Table 1.3 - Participation Rates

Community College	Fall 2002 Community College Enrollment Headcount	Fall 2002 Enrollment Headcount at a SUNY College	Percentage of Fall 2002 Total SUNY Students Enrolled at the Community College	15 to 44 Year Olds in County	Percentage of 15 to 44 Year Olds Enrolled at the Community College
Broome	4,656	8,900	52%	77,076	6.04%
Cayuga County	2,715	7,704	35%	86,037	3.16%
Columbia-Greene (258 to Hudson Valley)	1,393	3,038	46%	42,925	3.25%
Corning	3,221	5,943	54%	83,353	3.86%
Dutchess	6,152	9,319	66%	123,482	4.98%
Erie (894 to Niagara; 251 to Genesee)	10,599	35,228	30%	395,213	2.68%
Genesee	1,612	2,890	56%	24,890	6.48%
Jamestown	2,781	6,550	42%	91,295	3.05%
Monroe	13,506	24,830	54%	320,907	4.21%
Nassau	15,877	30,447	52%	529,207	3.00%
Niagara County	4,027	8,329	48%	88,719	4.54%
Sullivan	1,187	2,361	50%	29,161	4.07%
Tompkins Cortland	1,964	4,686	42%	78,468	2.50%
Ulster	2,747	6,127	45%	75,092	3.66%
Westchester	9,236	15,279	60%	376,663	2.45%
Totals & Averages	**81,673**	**171,631**	**48%**	**2,422,488**	**3.37%**

Enrollment Distribution

Two scenarios were evaluated for the distribution of students between the Middletown and Newburgh locations. One scenario assumed all future growth would occur at the Newburgh location, while the second looked at distributing part of that growth to the Middletown Campus. The College elected to build additional capacity at the Middletown Campus to accommodate modest growth at that location. Table 1.4 represents the distribution of FTEs between the two campuses and the county's high schools.

Table 1.4 – Selected Enrollment Distribution Scenario

Campus or Extension	Fall 2005 Total	Fall 2010 Total	Fall 2015 Total	Fall 2020 Total	Fall 2025 Total
Middletown Campus	3,395.03	3,500.00	3,500.00	3,750.00	4,000.00
Monroe High School	24.60	25.00	25.00	25.00	25.00
Newburgh	530.67	943.63	1,063.63	1,056.55	1,307.18
Other Orange County High Schools	176.27	180.00	180.00	180.00	180.00
Port Jervis High School	18.67	20.00	20.00	20.00	20.00
Warwick High School	13.20	15.00	15.00	15.00	15.00
Total Fall FTEs	4,158.43	4,683.63	4,803.63	5,046.55	5,547.18
Annualized FTEs	4,300.00	4,828.48	4,952.20	5,202.63	5,718.74
Ratio of Fall to Annualized FTEs	97%	97%	97%	97%	97%

Middletown Campus Master Plan

Introduction

Orange County Community College's (OCCC) Middletown Campus was founded in 1950 on the former Morrison estate. Situated on approximately 20 acres of landscaped grounds with an additional nine acres of parking, the College still uses five of the original estate buildings: Morrison Hall, Horton Hall, the Ice House, and the two greenhouses. Remnants of the original estate gardens remain near Horton Hall.

Space Projections

This study identifies the amount and type of space the College will require in response to enrollment growth in the next 10 years, as projected by SUNY. It also examines long term needs (to 2025) in an effort to emphasize the anticipated continuous demand for space as the population in Orange County grows.

The following three tables represent the current and projected space needs for the Middletown Campus, in accordance with SUNY space guidelines. In total the campus will require 136,000 gross square feet (building area in contrast to usable area) of new construction to accommodate the projected 4,000 student FTEs by the year 2025.

Academic Space

Table 1.5 on the following page represents the academic space at Middletown. The table includes both shared space such as classrooms and computer labs and dedicated space that supports each of the three academic divisions. The projected need is for an additional 54,101 net assignable square feet (nasf) to meet the 4,000 FTEs in 2025.

Table 1.5 – Academic Space Summary

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Academic Space					
Classrooms	49,891 sf	31,861 sf	33,202 sf	35,741 sf	14,150 sf
Computer Labs	4,254 sf	4,843 sf	6,452 sf	8,807 sf	(4,553)sf
Contingency		*0 sf*	*0 sf*	*0 sf*	
Subtotal	**54,145 sf**	**36,704 sf**	**39,654 sf**	**44,547 sf**	**9,598 sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*15.9 sf*	*10.8 sf*	*11.3 sf*	*11.1 sf*	
Academic Divisions					
Business, Mathematics, Science & Technology	40,636 sf	47,990 sf	52,597 sf	57,095 sf	(16,459)sf
Health Professions	26,668 sf	34,730 sf	35,403 sf	35,403 sf	(8,735)sf
Liberal Arts	20,185 sf	43,167 sf	46,396 sf	49,092 sf	(28,907)sf
Subtotal	**87,489 sf**	**125,888 sf**	**134,396 sf**	**141,590 sf**	**(54,101)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*25.8 sf*	*37.1 sf*	*38.4 sf*	*35.4 sf*	
Subtotal Academic Space	**141,634 sf**	**162,592 sf**	**174,049 sf**	**186,137 sf**	**(44,503)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*41.7 sf*	*47.9 sf*	*49.7 sf*	*46.5 sf*	

Support Space

Table 1.6 represents the various support categories of the College's Middletown physical space inventory. While more modest than the academic need, the College will require an additional 32,780 net assignable square feet of support space. Significant deficits will occur within instructional support, technology, and student activities.

Table 1.6 - Support Space Summary	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Instructional Support	36,288 sf	39,149 sf	44,972 sf	46,125 sf	(9,837)sf
Technology	8,138 sf	12,713 sf	12,713 sf	12,713 sf	(4,575)sf
Public Service	7,896 sf	10,644 sf	11,407 sf	12,210 sf	(167)sf
Grant Funded Programs	2,501 sf	3,178 sf	3,178 sf	3,178 sf	(677)sf
Athletics & Recreation	56,683 sf	58,100 sf	58,100 sf	58,100 sf	(1,417)sf
Assembly & Exhibition	11,564 sf	13,094 sf	13,094 sf	13,094 sf	(1,530)sf
Student Activities	27,564 sf	32,646 sf	35,209 sf	37,771 sf	(10,207)sf
Kinder College	3,308 sf	3,677 sf	4,308 sf	5,043 sf	(1,735)sf
Student Services	15,613 sf	19,935 sf	20,648 sf	21,780 sf	(6,167)sf
Administration	12,906 sf	14,991 sf	14,991 sf	14,991 sf	(2,085)sf
Campus Services	23,514 sf	17,897 sf	17,897 sf	17,897 sf	5,618 sf
Subtotal Support Space	**205,975 sf**	**226,023 sf**	**236,515 sf**	**242,902 sf**	**(32,780)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*60.7 sf*	*66.6 sf*	*67.6 sf*	*60.7 sf*	

Total Need

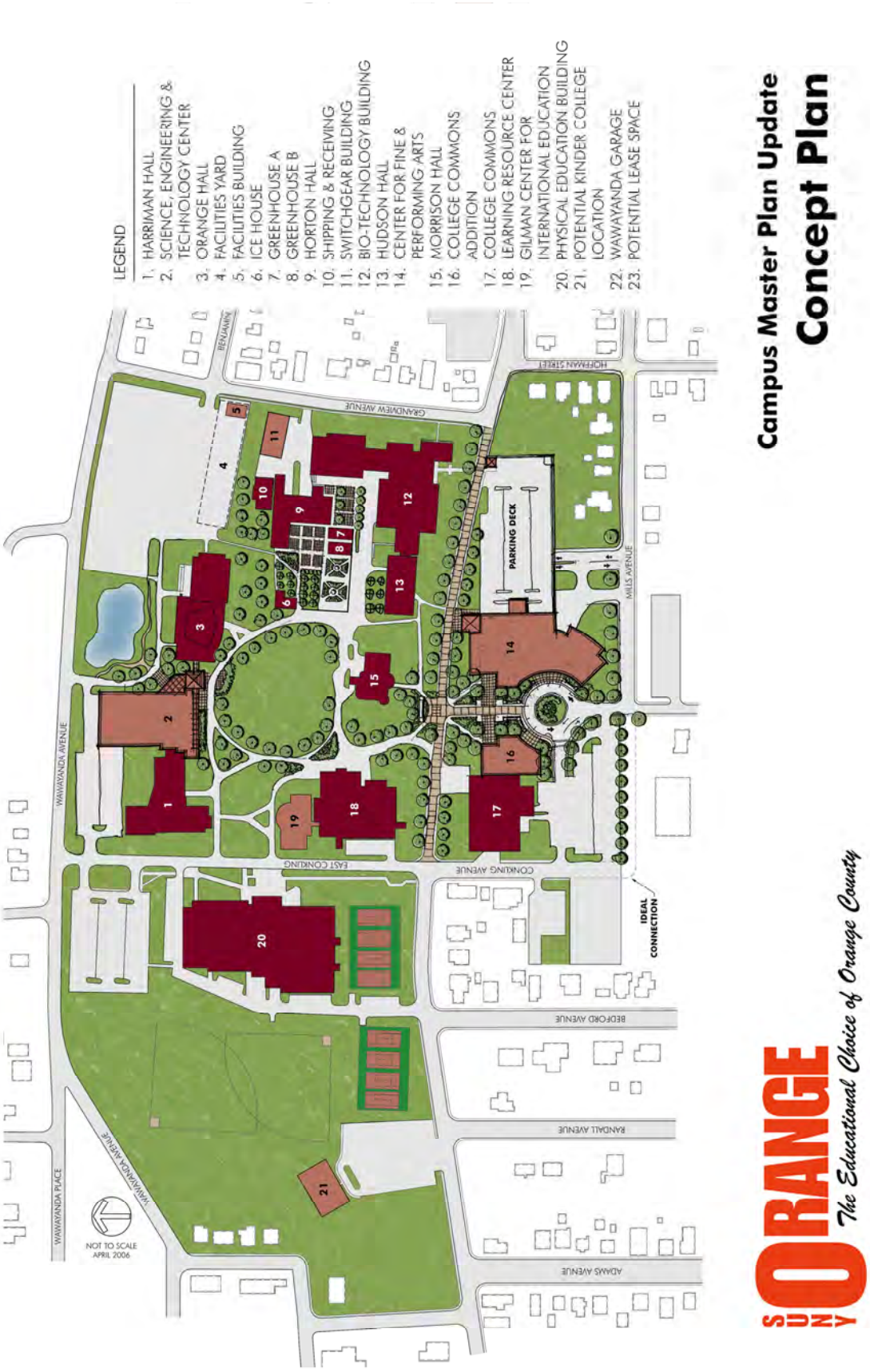
Table 1.7 represents the composite of the academic and support needs for the Middletown Campus. By 2025 Middletown will require approximately 87,000 net assignable square feet. This number excludes mechanical and circulation space, custodial facilities, and the interior and exterior walls. Including these components, the College will need an additional 136,000 gross square feet at the Middletown Campus.

Table 1.7 - Total Space	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Total Net Assignable Square Feet	347,609 sf	388,615 sf	410,564 sf	429,039 sf	(81,430) sf
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*102.4 sf*	*114.5 sf*	*117.3 sf*	*107.3 sf*	
Additional Gross Square Feet Required		**68,344 sf**	**104,926 sf**	**135,716 sf**	

Over 170 students, faculty and staff participated in two Master Plan design workshops.

To ensure OCCC's ability to accomplish its academic mission and accommodate projected growth at the Middletown Campus, a team of architects, landscape architects and engineers assessed the condition of each of the campus buildings and their systems, the site, and the campus infrastructure in order to update the College's 1997 Master Plan. Working with the College, in concert with planning efforts for a potential branch campus in the City of Newburgh, the planning team conducted over 48 interviews with members of the College community; held design workshops to solicit student input; developed enrollment and program projections; and identified projects that will support the long-term growth of the College.

The completion of projects identified in this plan will transform the Middletown Campus, as shown on the following page. However, it is rare for a college to be financially capable of implementing all of the projects recommended in a comprehensive master plan. Therefore, the College reviewed the projects recommended by the consultants and identified those that would have the greatest benefit to the College in the next ten years. These projects are included in Phase 1 of the Master Plan Implementation. The remaining projects have been grouped into Phases 2, 3 and 4.


Campus Master Plan Update
Concept Plan
SUNY ORANGE
The Educational Choice of Orange County
LEGEND
1. HARRIMAN HALL
2. SCIENCE, ENGINEERING & TECHNOLOGY CENTER
3. ORANGE HALL
4. FACILITIES YARD
5. FACILITIES BUILDING
6. ICE HOUSE
7. GREENHOUSE A
8. GREENHOUSE B
9. HORTON HALL
10. SHIPPING & RECEIVING
11. SWITCHGEAR BUILDING
12. BIO-TECHNOLOGY BUILDING
13. HUDSON HALL
14. CENTER FOR FINE & PERFORMING ARTS
15. MORRISON HALL
16. COLLEGE COMMONS
17. COLLEGE COMMONS ADDITION
18. LEARNING RESOURCE CENTER
19. GILMAN CENTER FOR INTERNATIONAL EDUCATION
20. PHYSICAL EDUCATION BUILDING
21. POTENTIAL KINDER COLLEGE LOCATION
22. WAWAYANDA GARAGE
23. POTENTIAL LEASE SPACE
WAWAYANDA AVENUE
WAWAYANDA PLACE
WAWAYANDA AVENUE
EAST CONKLING
CONKLING AVENUE
GRANDVIEW AVENUE
BENJAMIN
HOFFMAN STREET
PARKING DECK
MILLS AVENUE
IDEAL CONNECTION
BEDFORD AVENUE
RANDALL AVENUE
ADAMS AVENUE
NOT TO SCALE
APRIL 2006

Phasing Plan

The total estimated cost for the comprehensive Middletown Campus Master Plan is **$178,777,600**. The projects could be phased as shown in the tables below.

PHASE 1	Project Total
Create a Pedestrian Friendly Campus	$1,434,500
New Science, Engineering & Technology Center	$38,869,600
New Campus-Wide Electrical Distribution System	$3,629,000
Facilities Maintenance Projects	$4,284,300
TOTAL	**$48,217,400**

PHASE 2	Project Total
Renovation of Harriman Hall	$11,271,000
New Campus-Wide IT Distribution System	$1,982,000
Renovation of the Ice House	$1,553,300
Facilities Maintenance Projects	$3,677,000
TOTAL	**$18,483,300**

PHASE 3	Project Total
College Commons Addition	$6,239,300
Renovation of the Existing College Commons	$14,518,500
Renovation of Hudson Hall	$3,822,700
Relocate Facilities to Orange Hall	$54,900
Renovation of Horton Hall	$6,080,000
Facilities Maintenance Projects	$262,800
TOTAL	**$30,978,200**

PHASE 4	Project Total
New Center for Fine and Performing Arts	$66,695,400
Renovation of the Bio-Technology Building	$3,739,600
Renovation of the Estate Gardens and Plaza	$254,500
Facilities Maintenance Projects	$10,409,200
TOTAL	**$81,098,700**

Total All Phases **$178,777,600**

Creating Capacity: The Newburgh Story

Introduction

As the population in Orange County and the surrounding region continues to grow over the next decade and beyond, the College will be challenged to create space fast enough to keep up with the demand. While the College has done an excellent job with the resources it has been given, the combined pressure for building renovation and the creation of additional space in Middletown will continue. In the near term, the ability of the College to serve the residents of Orange County may hinge on expansion elsewhere.

Extension Center to Branch Campus

In New York State, colleges offering off-campus instruction has grown exponentially over the last two decades and continues to grow. Students currently enrolled at the Newburgh Extension Center must travel to the main campus in Middletown to finish their degree requirements. While the College offers shuttle service between the two sites, the 40-minute drive is seen as an inconvenience to some and an impediment to others, particularly given today's inflated gas prices. A branch campus in Newburgh will help insure the success of students who might not otherwise have the means or the inclination to travel to the main campus in Middletown. It is also the fastest way for the College to create the capacity necessary to respond to growth.

Newburgh's location within the County also provides a strategic advantage. Much like the Middletown Campus, other community colleges in the region are nearing capacity. Both Westchester Community College and Dutchess Community College are struggling to keep up with demand. While these colleges have extension centers within the Newburgh service area, establishing a well-sited branch campus in the City of Newburgh will provide some relief for the large demand in the region.

Space Projections

The population in the County principally serviced by the College (15 to 44-year-olds) is expected to increase to 165,000 by 2015, and the overall enrollment at OCCC is expected to climb to 7,000. At Newburgh, enrollment is projected to reach 1,100 FTEs by 2015.

Table 1.8 below represents the space requirements of the proposed Newburgh Branch Campus based on State University guidelines. The assessment illustrates the eventual enrollment of 1,300 FTEs by 2025. There is a need for 127,257 net assignable square feet by 2015. This translates to a gross square footage (or total building area) of 213,791. For the purpose of this study, the first phase of the Newburgh Branch Campus assumed a space need of 215,000 gross square feet.

Table 1.8 - Newburgh Campus Space Category	2005 Existing 531 FTEs	2005 Required 531 FTEs	Current Deficit	2015 Required 1,100 FTEs	Future Deficit	2025 Required 1,300 FTEs	Future Deficit
Instructional Space	31,000 sf	21,227 sf	9,773 sf	44,000 sf	(13,000)sf	52,000 sf	(21,000)sf
Public Service	0 sf	0 sf	0 sf	0 sf	0 sf	0 sf	0 sf
Instructional Resources	500 sf	2,960 sf	(2,460)sf	2,960 sf	(2,460)sf	2,960 sf	(2,460)sf
Electronic Data Processing	800 sf	2,280 sf	(1,480)sf	2,280 sf	(1,480)sf	2,280 sf	(1,480)sf
Library	2,000 sf	3,882 sf	(1,882)sf	6,906 sf	(4,906)sf	10,094 sf	(8,094)sf
Health & Physical Education	0 sf	28,000 sf	(28,000)sf	28,000 sf	(28,000)sf	28,000 sf	(28,000)sf
Student Activity Space	2,000 sf	5,572 sf	(3,572)sf	11,550 sf	(9,550)sf	13,650 sf	(11,650)sf
Health Services	0 sf	750 sf	(750)sf	750 sf	(750)sf	750 sf	(750)sf
Assembly & Exhibition	0 sf	11,120 sf	(11,120)sf	11,120 sf	(11,120)sf	11,120 sf	(11,120)sf
Administration	6,000 sf	3,184 sf	2,816 sf	6,600 sf	(600)sf	7,800 sf	(1,800)sf
Central Services	500 sf	9,384 sf	(8,884)sf	9,384 sf	(8,884)sf	9,384 sf	(8,884)sf
Building Services	300 sf	2,651 sf	(2,351)sf	3,707 sf	(3,407)sf	4,141 sf	(3,841)sf
Total Net Area	43,100 sf	91,009 sf	(47,909)sf	127,257 sf	(84,157)sf	142,179 sf	(99,079)sf
Anticipated Gross Square Feet		152,896 sf		213,791 sf		238,861 sf	
		81 sf		116 sf		109 sf	

Parking

SUNY's space guidelines suggest a range of 85 to 120 square feet to educate a community college student at a campus. Accommodating the student's car requires about 200 square feet. The amount of space it will take to park vehicles for an enrollment of 1,100 FTEs is substantial. Parking convenience is another important consideration for today's community college student. Providing an adequate number of convenient parking spaces is paramount to the success of a campus. The parking demand for the proposed Newburgh Branch Campus is estimated to be 715 spaces.

Summary of Needs

- Enrollment (531 FTEs in 2005)
  - 1,064 FTEs in 2015 (Phase I)
  - 1,308 FTEs in 2025 (Phase II)

- Program Area (75,000 gsf in 2005)
  - 215,000 gsf in 2015
  - 325,000 gsf in 2025

- Parking (+/-125 space in 2005)
  - 715 spaces in 2015
  - 1,170 spaces in 2025

Site Selection Process

Convenience is a critical ingredient for the community college student. The final location of the Newburgh Branch Campus will have an impact on its success. In an effort to identify the best location, the County formed a Site Selection Committee that met monthly during the course of this study. (The list of Committee Members is included in the beginning of this report.)

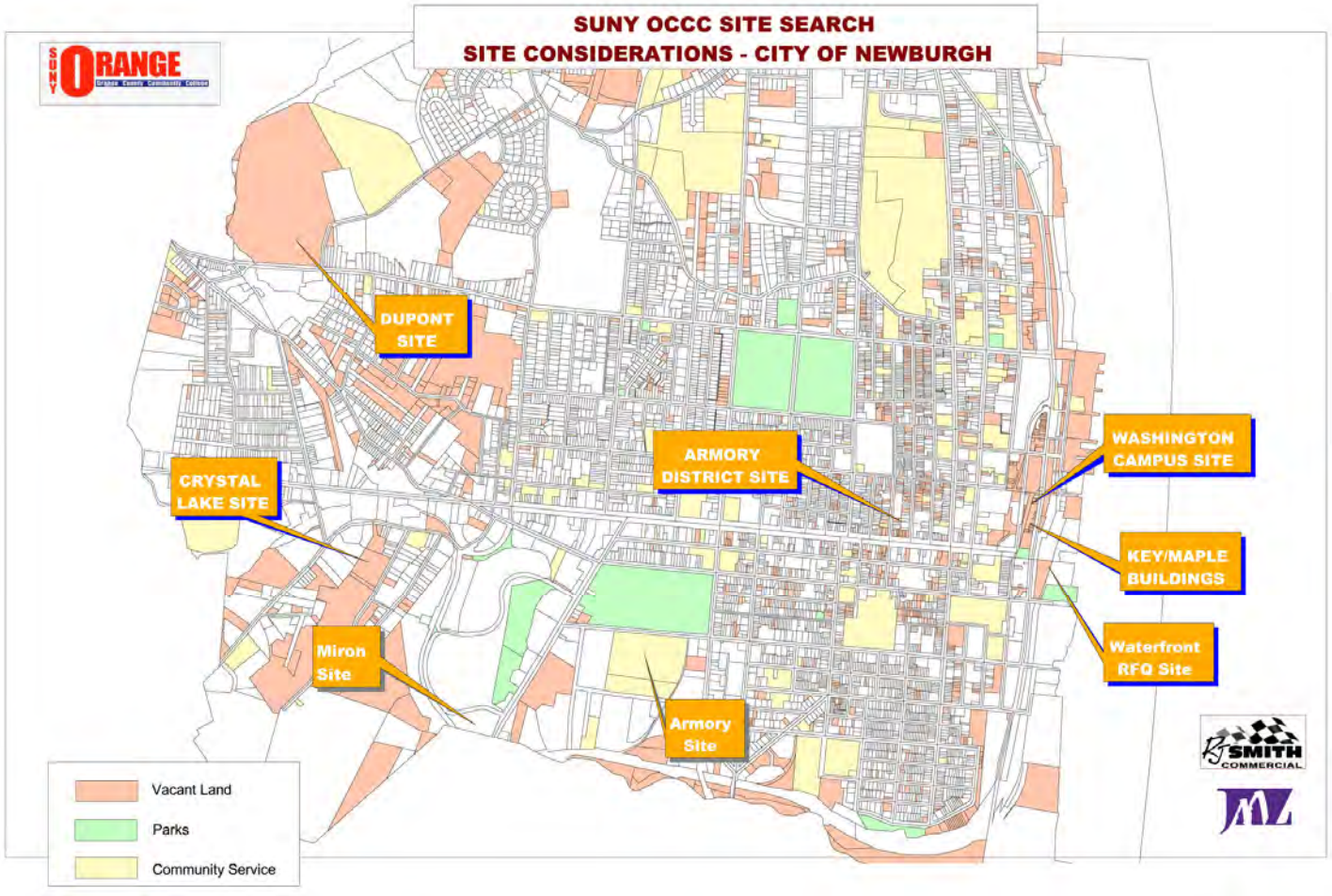
Committee members suggested then ranked the importance of specific site characteristics. The table on the left illustrates the agreed-upon priorities in terms of characteristics of the ideal site.

Characteristics of the Ideal Site

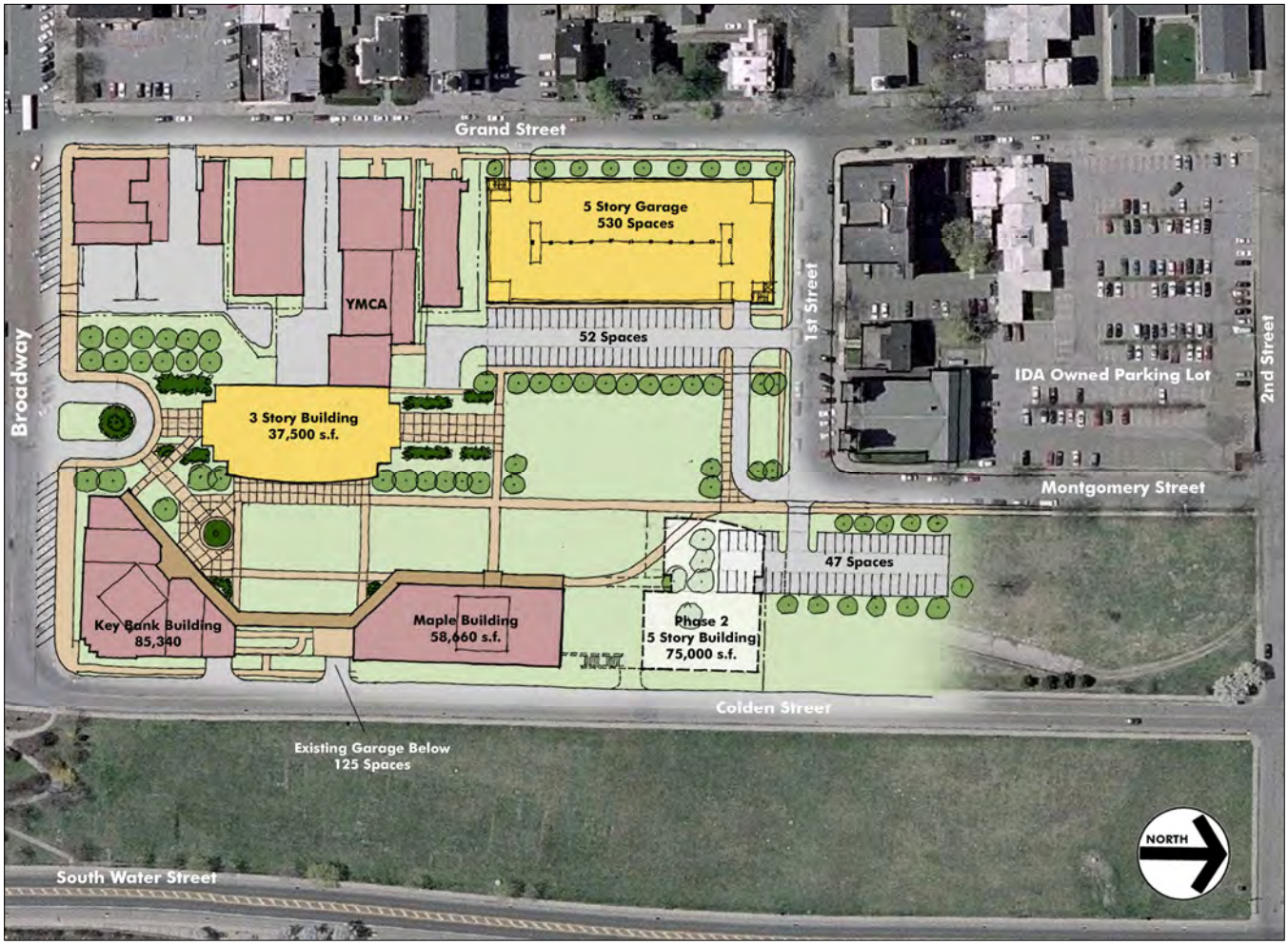
1. Safe location
2. Downtown location; not on the fringe of the City
3. Room for future expansion
4. Adequate space for parking
5. New building
6. Convenient access to public transportation
7. Minimize negative impact on community
8. Green space; "campus" image

With this in mind, the consultant team identified nine potential sites within city limits. After much discussion the list of potential sites was narrowed to four, as follows:

- Key Bank Site 6.5 acres
- Washington Campus 4.3 acres
- Broadway Site 4.0 acres
- South William Street (Armory) 14.0 acres

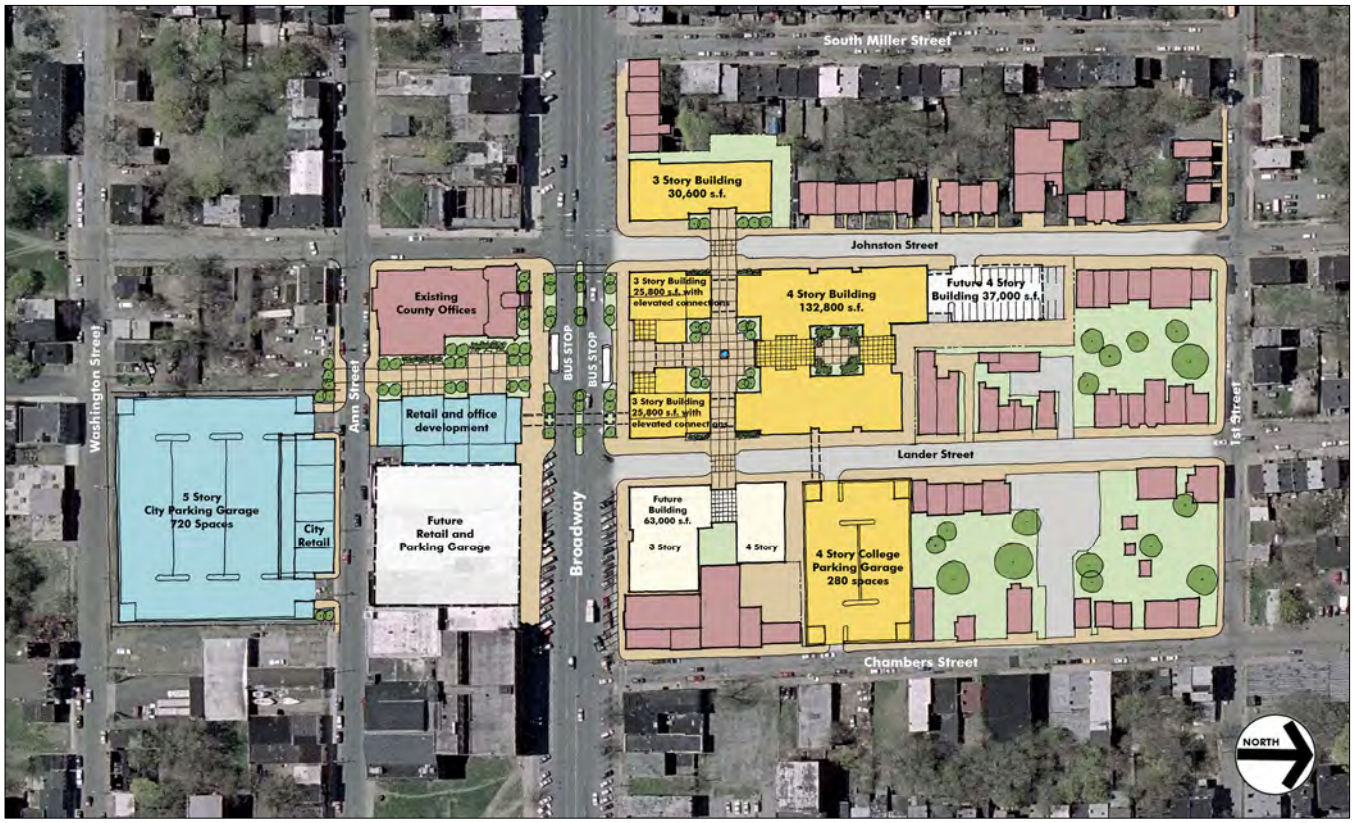


Multiple schemes were developed for each site, all of which are included in the body of this report. The selected schemes and corresponding total estimated project costs for each site are as follows:



Key Bank Site Selected Concept Plan: $88,213,000

Washington Campus Selected Concept Plan: $110,210,000



Broadway Site Selected Concept Plan: $113,027,000

South William Street Armory Site Selected Concept Plan: $93,783,000

Summary of Estimated Costs

Key Bank Site	$88,213,000
Washington Campus	$110,210,000
Broadway Site	$113,027,000
South William Street	$93,783,000

Final Site Selection

At the time of this report, a final site for the Newburgh Branch Campus was not yet selected by Orange County. Once this occurs, the consultant team will prepare more detailed drawings of the selected site and the buildings, and a more refined construction cost estimate will be obtained. The additional information will include:

- Concept Plan
- Building Image
- Description of Building Systems
- Estimate of Probable Cost
- Proposed Project Schedule

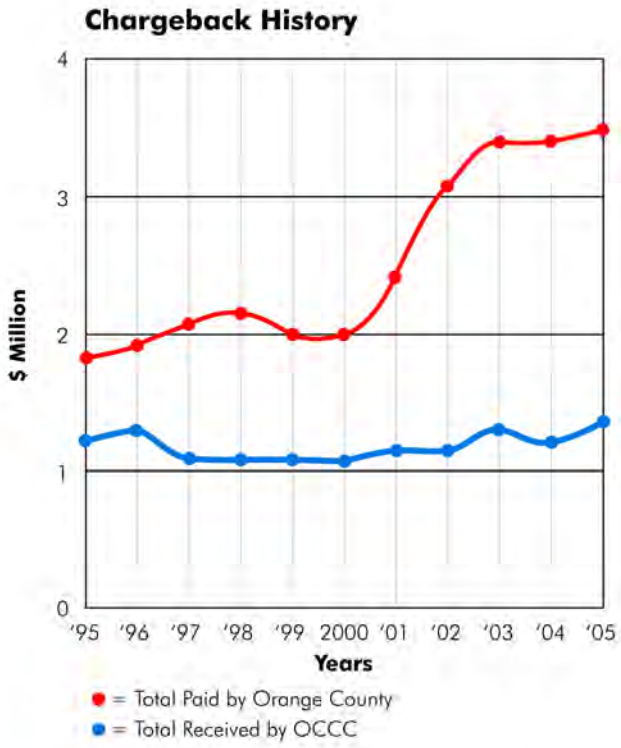
Why OCCC Needs to Continue Investing in Its Campuses

With a successful extension center in Newburgh and substantial facilities needs at the Middletown Campus, some might say that OCCC doesn't need a branch campus at all. The College could continue to operate for some time even if no further investment is made in its facilities. However, doing nothing to create capacity to accommodate the growing population and to address facilities obsolescence will actually cost Orange County residents more and more over time.

Facilities in Middletown have further declined since 1997 when the College's last master plan was prepared. With an aging infrastructure, the cost for renewal grows exponentially over time. It is now critically important to invest in the Middletown Campus. While facilities decline over time without investment, construction costs increase. Waiting longer to upgrade facilities in Middletown and to construct a branch campus in Newburgh will certainly translate to higher costs.

The regional population is growing at a much faster rate than other areas of the state. As illustrated in the concept plan for the Middletown Campus, there is not enough capacity to accommodate the College's projected growth in enrollment. If capacity is not created through expansion in Newburgh, Orange County residents will be forced to look elsewhere for their education. This will likely

have a dramatic affect on chargebacks to other counties.



Chargebacks: Extension Center vs. Branch Campus

Chargebacks are incurred by Orange County when its residents attend community colleges in other counties. Similarly, chargebacks are received by OCCC when students from other counties enroll here. Every year for the past decade, the amount of chargebacks paid by Orange County for students attending community colleges other than OCCC (expenses) has exceeded the amount taken in for out-of-county students who attend OCCC (revenue). It is clear that Orange County has been experiencing far more out-migration of students than in-migration. With the projected increase in the population over the next decade, a continuation of this trend and the resulting chargebacks could have a significant impact on Orange County's budget. Therefore, two chargeback scenarios were explored as part of this study.

Scenario One - What would happen to chargebacks if the Newburgh Extension Center stays "as is"?

If no additional capacity is created in Newburgh, more Orange County residents will be forced to travel to out-of-county community colleges, resulting in a larger amount of chargeback expenses paid by Orange County. At the same time, there will be less space available at OCCC to accommodate students from other counties, thus further decreasing the revenue generated by chargebacks. Therefore, the chargeback situation will be dramatically worse in 2015 than it is today.

Scenario Two - What would happen to chargebacks if a Newburgh Branch Campus is created?

Additional capacity in Newburgh will help retain Orange County residents and reduce chargeback expenses. At the same time, the introduction of health-related programs in Newburgh (particularly nursing) and the ability for students to complete their degree requirements in one location are expected to attract more out-of-county students to OCCC, thus increasing the chargeback revenue to the College.

By comparing the revenue-to-expenses line of each of the two scenarios, it is clear that the branch campus will effectively allow Orange County to avoid the loss of roughly $1.96 million per year. "Doing nothing" will be financially worse in terms of chargebacks than investing in the branch campus now.

Through the generosity of local businessman William Kaplan and his family, and the State of New York, a total of $40 million has already been designated for the creation of the OCCC Newburgh Branch Campus. The minimum total project cost is estimated at $90 million. Based on the timing of the donor's funding, if Orange County were to approve the project, a bond of $60 million would be required.

Chargebacks-to-Bond Cost Analysis

Yearly Payment on a $60 million, 30-year Bond @ 4.65%	$3,748,762
Less Chargeback Deficit Avoided by Construction of Branch Campus	-1,964,170
Total Yearly Cost of Bond	$1,784,592

Chargebacks to other counties are required by the state when Orange County residents enroll elsewhere. Therefore, the question is: Does Orange County want to build a campus here or fund the construction of one in another county? A branch campus in the City of Newburgh will be an effective way to help keep young people here; build a skilled workforce; attract companies to the area; and contribute to the overall quality of life. Investment in the community college is the right thing to do for the future of Orange County.

Demographics & Enrollment Projections

Introduction

This section represents the current and future programmatic space needs of the College. The issues reviewed include the local and regional demographics, the "participation rate" for the college and the neighboring community colleges, the migration of students both in and out of the county, and the distribution of student FTEs between the Middletown Campus and the proposed Newburgh Branch Campus.

Preliminary assessments based on the SUNY guidelines are provided both for the Middletown Campus and the proposed Newburgh Branch Campus. A more detailed analysis of the Middletown Campus is also provided, analyzing the need at both the division and department levels. The intent of this section is to provide the groundwork for the conceptual approaches for expansion.

Demographics & Enrollment Projections

Demographics as they are applied to a community college are substantially different from a more traditional liberal arts institution. A simple comparison between SUNY Geneseo and Orange County Community College provides a clear illustration of the differences.

SUNY Geneseo

Geneseo is a member of COPLAC, the consortium of Public Liberal Arts Colleges. The College primarily recruits high school graduates from both inside and outside New York State. Most students reside in student housing located on campus, though a portion of the enrollment is housed within the Village of Geneseo. Very seldom will you find a student over 22 years old on the campus.

In brief the enrollment at Geneseo is young and essentially all imported to the region. Geneseo is an exemplary institution with a national reputation. Even though upstate New York will have significant declines in the traditional college-aged population,

Geneseo, in contrast to most SUNY institutions, will be able to maintain its approximately 5,000 student enrollment because it is an exceptional institution and is not constrained to drawing students from a specific geographic region.

Orange County Community College

Orange County Community College, in contrast, enrolls students who are indigenous to the County and region. For community colleges, it is not surprising to find that the number of students as a portion of the regional population rapidly declines more than 20 miles from a campus. Also, because it is a regional provider of education, OCCC students are not limited to the traditional-aged college student. OCCC recruits students who can be categorized as "boomers", though the majority of college enrollment is under the age of 44. US Census tracts framed at the low end by 15-year-olds and by 44-year-olds at the high end represent 99% of the enrollment of a community college.

Typically a community college gets roughly two-thirds of its students from the 15 to 19 and 20 to 24 census tracts. This group generates almost 75% of a community college's student full time equivalents (FTEs) because they tend to be more fulltime. One FTE is based on either dividing total fall semester credits by 15 to generate a fall student FTE, or total annual credits by 30 for an annualized student FTE. SUNY's space analyses are based on fall FTEs, but tuition aid is based on annualized FTEs.

An older population (adult learners) provides the remaining enrollment. These students are drawn from the four census tracts between the 25-year-olds and the 44-year-olds.

Regional Demographics

The demographics for the region are very strong. Unlike the upstate regions, such as the Genesee Valley or the Western Region, the Mid-Hudson Valley population will continue to grow throughout the next several decades. The table on the following page represents the projected growth by census tract for Orange County. Both the traditional college-aged population and the adult learner population will grow substantially over the next two decades.

Table 2.1 - Census Tracts for Orange County	2005	2015	2025
15 to 19 Year Olds	29,493	30,447	32,491
20 to 24 Year Olds	25,379	31,321	30,762
Subtotal	**54,872**	**61,768**	**63,253**
25 to 29 Year Olds	21,035	30,744	32,338
30 to 34 Year Olds	20,070	27,427	33,407
35 to 39 Year Olds	25,404	22,507	31,901
40 to 44 Year Olds	29,935	20,912	27,745
Subtotal	**96,444**	**101,590**	**125,391**
Total	**151,316**	**163,358**	**188,644**
Overall Participation Rate	4.26%	4.23%	4.23%
Ratio of 15 to 24 Years to Total	36.26%	37.81%	33.53%

State-Wide Demographics

Table 2.2 is a listing of the other regions of New York and the current and projected population of 15 to 24-year-olds through 2025. Mid-Hudson, and Orange County in particular, is one of the few areas outside of New York City that will have an increasing college-aged population, regardless of what institution they attend. Most upstate institutions of higher education will have to compensate for the loss of regional indigenous students by importing from New York City. The population gain in the Mid-Hudson region is large enough in scale to compensate for the loss upstate.

Table 2.2 - Other Regions of the State	2005 – 15 to 24 Year Olds	2025 – 15 to 24 Year Olds	Percentage of Increase or Decline
Central Region	234,030	189,186	-19%
Genesee Valley	199,109	162,659	-18%
Long Island	355,943	366,532	3%
New York City	1,052,454	1,213,518	15%
Northeast Region	271,386	225,445	-17%
Northern Region	50,251	41,979	-16%
Western Region	208,835	171,207	-18%

High School Graduation Rates

The census tract information is further confirmed by the high graduate projections. Table 2.3 shows the high school graduation rates as projected by the New York State Education Department (SED). Currently the department is providing projections only through 2013, but the numbers support the previous projections.

Table 2.3 - Community College and Related County	Fall 2004	Community Enrollment Growth Since 1999	High School Graduation Rates Percentage Increase 2004 to 2013
Dutchess	7,790	18.2%	9%
Orange	6,269	8.6%	23%
Rockland	6,409	3.0%	27%
Westchester	11,935	7.9%	24%

Participation Rates

Any projections of the College's enrollment will be based on what percentage of the County's population can be recruited to attend the College. For the last academic year, OCCC enrolled 4.26% of the 15 to 44-year-old population of Orange County. For the purposes of this study a participation of 4.23% was utilized for future projections. This number represents the median participation rate for the last ten years. To provide some perspective on this participation rate, see Table 2.4 below. The table identifies the participation rates for several of the community colleges within the state.

Table 2.4 - Participation Rates

Community College	Fall 2002 Community College Enrollment Headcount	Fall 2002 Enrollment Headcount at a SUNY College	Percentage of Fall 2002 Total SUNY Students Enrolled at the Community College	15 to 44 Year Olds in County	Percentage of 15 to 44 Year Olds Enrolled at the Community College
Broome	4,656	8,900	52%	77,076	6.04%
Cayuga County	2,715	7,704	35%	86,037	3.16%
Columbia-Greene (258 to Hudson Valley)	1,393	3,038	46%	42,925	3.25%
Corning	3,221	5,943	54%	83,353	3.86%
Dutchess	6,152	9,319	66%	123,482	4.98%
Erie (894 to Niagara; 251 to Genesee)	10,599	35,228	30%	395,213	2.68%
Genesee	1,612	2,890	56%	24,890	6.48%
Jamestown	2,781	6,550	42%	91,295	3.05%
Monroe	13,506	24,830	54%	320,907	4.21%
Nassau	15,877	30,447	52%	529,207	3.00%
Niagara	4,027	8,329	48%	88,719	4.54%
Sullivan	1,187	2,361	50%	29,161	4.07%
Tompkins Cortland	1,964	4,686	42%	78,468	2.50%
Ulster	2,747	6,127	45%	75,092	3.66%
Westchester	9,236	15,279	60%	376,663	2.45%
Totals & Averages	**81,673**	**171,631**	**48%**	**2,422,488**	**3.37%**

College-Wide Enrollment Projections

Based on an historical participation rate of 4.23%, the percentage of the identified census tracts that attend the College, OCCC's enrollment will grow from 6,441 for the 2005/2006 academic year to almost 8,000 by 2025. Student FTEs will grow from the current 4,300 annualized FTEs (total credits generated for all sessions in the academic year divided by 30 credits) to over 5,700 FTEs by 2025.

Table 2.5 – College-wide Enrollment Projections	2005/06	2015/16	2025/26
Annualized Student FTE	4,300.00	4,952.20	5,718.74
Fall Headcount	6,441	6,910	7,980
Average Credit Load	20.03	21.50	21.50

Campus Enrollment Distribution

Two scenarios were developed as approaches to distributing FTEs between the two campuses. The relative distance between the Middletown and Newburgh campuses, while adequate, does not place each outside of the other's service area. Some students will find that it is equally convenient to enroll at either campus, and in some cases, they may take courses at both. In comparison, Jamestown Community College has campuses in Jamestown and Olean. The distance between the two campuses is over an hour.

Scenario One is based on maintaining relatively constant enrollment at the Middletown Campus while developing essentially all of the enrollment growth at the proposed Newburgh Branch Campus. The advantage of this scenario would be that the Newburgh Branch Campus would grow more quickly and the campus budget would be able to develop more fully due to a higher ratio of full-time to part-time faculty. The branch campus, because of its scale, would also be more attractive to potential students from Dutchess, Putnam and Westchester counties. The proposed Newburgh Branch Campus would be over 1,800 FTEs, with a student headcount of almost 2,800 students by 2025.

Table 2.6 - Scenario One

Campus or Extension	Fall 2005 Total	Fall 2010 Total	Fall 2015 Total	Fall 2020 Total	Fall 2025 Total
Middletown Campus	3,395.03	3,500.00	3,500.00	3,500.00	3,500.00
Monroe High School	24.60	25.00	25.00	25.00	25.00
Newburgh	530.67	943.63	1,063.63	1,306.55	1,807.18
Other Orange County High Schools	176.27	180.00	180.00	180.00	180.00
Port Jervis High School	18.67	20.00	20.00	20.00	20.00
Warwick High School	13.20	15.00	15.00	15.00	15.00
Total Fall FTEs	4,158.43	4,683.63	4,803.63	5,046.55	5,547.18
Annualized FTEs	4,300.00	4,828.48	4,952.20	5,202.63	5,718.74
Ratio of Fall to Annualized FTEs	97%	97%	97%	97%	97%

Table 2.7 - Scenario Two

Campus or Extension	Fall 2005 Total	Fall 2010 Total	Fall 2015 Total	Fall 2020 Total	Fall 2025 Total
Middletown Campus	3,395.03	3,500.00	3,500.00	3,750.00	4,000.00
Monroe High School	24.60	25.00	25.00	25.00	25.00
Newburgh	530.67	943.63	1,063.63	1,056.55	1,307.18
Other Orange County High Schools	176.27	180.00	180.00	180.00	180.00
Port Jervis High School	18.67	20.00	20.00	20.00	20.00
Warwick High School	13.20	15.00	15.00	15.00	15.00
Total Fall FTEs	4,158.43	4,683.63	4,803.63	5,046.55	5,547.18
Annualized FTEs	4,300.00	4,828.48	4,952.20	5,202.63	5,718.74
Ratio of Fall to Annualized FTEs	97%	97%	97%	97%	97%

In Scenario Two, rather than placing most of the growth at the proposed Newburgh Branch Campus, Middletown will expand to 4,000 FTEs by 2025. However, since Middletown is a mature campus with buildings that require renovation and lack additional space, it will actually have to lose capacity as buildings are taken off-line to provide an effective renovation program.

For example, in Harriman Hall, currently the home of the business-related curriculum at the College, an efficient renovation would empty the building, taking 55,000 square feet of instructional space temporarily off-line. By constructing new facilities for future enrollment growth first, the existing space will function for the near term and will be used as surge space during interim renovations.

This will restrict the near-term size of the Newburgh Campus. But given its location relative to Putnam, Dutchess, and Westchester counties, the campus will certainly continue to expand beyond the time frame of this study.

Conclusion

The College selected Scenario Two for further development.

Campus Program Distribution

Middletown Campus

Middletown Campus will maintain almost its entire current program offering. While Dental Hygiene Assistant may be relocated to the proposed Newburgh Branch Campus, other programs such as Nursing will be offered at both campuses. Even programs that will not be offered at both campuses will have course offerings at both campuses.

Newburgh Campus

The programs for the proposed Newburgh Campus beyond the Dental Hygiene Assistant will be built on the concept of core and career programs. Core programs will include Liberal Arts - Humanities & Social Sciences; Liberal Arts - Mathematics & Science, Accounting, Business Administration, Business Management, Computer Information Systems and Criminal Justice. Career programs include Dental Hygiene, Early Childhood Development, Engineering Science, Nursing, including programs within Converging Technologies such as Visual Communications and Information Technologies.

Core Program Offerings

- Liberal Arts - Humanities & Social Science
- Criminal Justice
- English
- History
- Liberal Arts - Mathematics & Science
- Accounting
- Business Administration
- Business Management
- Computer Information Systems
- Marketing Management
- Mathematics

Career Program Offerings

- Health Professions
  - Nursing
  - Occupational Therapy Assistant
  - Diagnostic Imaging (Certificates)
  - Lab Tech (Certificate)
- Workforce Development
- Corporate Training
- Center for Convergent Technologies
  - Visual Communications
  - Telecommunications
  - Information Technology

The Middletown Campus

Introduction

Orange County Community College's Middletown Campus was founded in 1950 on the former Morrison estate. Situated on approximately 20 acres of landscaped grounds with an additional nine acres of parking, the College still uses five of the original estate buildings: Morrison Hall, Horton Hall, the Ice House, and the two greenhouses. Remnants of the original estate gardens remain near Horton Hall.

To ensure OCCC's ability to accomplish its academic mission and accommodate projected growth at the Middletown Campus, a team of architects, landscape architects and engineers assessed the condition of each of the campus buildings and their systems, the site, and the campus infrastructure in order to update the College's 1997 Master Plan. Working with the College, in concert with planning efforts for a potential branch campus in the City of Newburgh, the planning team conducted interviews, held design workshops to solicit College community input, developed enrollment and program projections, and identified projects that will support the long-term growth of the College. This section describes in detail the Master Plan process and the resulting Campus Concept Plan.

The completion of projects identified in this plan will transform the Middletown Campus. However, it is rare for a college to be financially capable of implementing all of the projects recommended in a comprehensive master plan. Therefore, the College reviewed the projects recommended by the consultants and identified those that would have the greatest benefit to the College in the next ten years. These projects are included in Phase 1 of the Master Plan Implementation. The remaining projects have been grouped into Phases 2, 3 and 4.

State University Assessment

The State University of New York utilizes a series of space categories to allocate capital between the 64 state colleges. State University guidelines divide a college's space into 13 categories. Space allocation is based on the type of institution, i.e. a community college or a four-year college, as well as the enrollment. Utilizing fall student FTEs, instructional space is assigned a separate value according to discipline. English gets a smaller allocation than Dental Hygiene. For larger non-instructional categories such as Student Activities or Administrative Space, SUNY allocates space according to the total number of FTEs. The following tables are based on Scenario Two for both the Middletown and Newburgh Campuses.

Table 3.1 represents the assessment for the Middletown Campus. The table provides both current and projected space needs. The projections are for both 2015 and 2025. While this type of state university master plan is based on a ten-year projection, most are not executed in that time frame. Based on Scenario Two, the total need at the Middletown Campus is 96,763 gross square feet by 2025.

Table 3.1 - Space Assessment

SUNY Calculations Middletown Campus College Fall - 2005	2005 Existing 3,395 FTEs	2005 Required 3,395 FTEs	Current Deficit	2015 Required 3,500 FTEs	Future Deficit	2025 Required 4,000 FTEs	Future Deficit
Instructional Space	131,510 sf	129,010 sf	2,500 sf	133,000 sf	(1,490)sf	152,000 sf	(20,490)sf
Public Service	13,989 sf	14,000 sf	(11)sf	14,000 sf	(11)sf	14,000 sf	(11)sf
Instructional Resources	3,895 sf	8,296 sf	(4,401)sf	8,296 sf	(4,401)sf	8,296 sf	(4,401)sf
Electronic Data Processing	0 sf	5,310 sf	(5,310)sf	5,310 sf	(5,310)sf	5,310 sf	(5,310)sf
Library	34,624 sf	34,109 sf	515 sf	36,125 sf	(1,501)sf	39,844 sf	(5,220)sf
Health & Physical Education	55,518 sf	55,518 sf	0 sf	55,518 sf	0 sf	55,518 sf	0 sf
Student Activity Space	29,452 sf	35,648 sf	(6,196)sf	36,750 sf	(7,298)sf	42,000 sf	(12,548)sf
Health Services	496 sf	1,500 sf	(1,004)sf	1,500 sf	(1,004)sf	1,500 sf	(1,004)sf
Assembly & Exhibition	11,564 sf	11,564 sf	0 sf	11,564 sf	0 sf	11,564 sf	0 sf
Administration	25,333 sf	25,333 sf	0 sf	25,333 sf	0 sf	25,333 sf	0 sf
Central Services	23,689 sf	23,689 sf	0 sf	23,689 sf	0 sf	23,689 sf	0 sf
Building Services	3,265 sf	10,319 sf	(7,054)sf	10,533 sf	(7,268)sf	11,372 sf	(8,107)sf
Total Net Area	**347,609 sf**	**357,690 sf**	**(20,960)sf**	**365,118 sf**	**(28,283)sf**	**394,425 sf**	**(47,090)sf**
Anticipated Gross Square Feet		**600,920 sf**		**613,397 sf**	**47,515 sf**	**662,635 sf**	**96,763 sf**
				104 sf		99 sf	

Detailed Assessment

The State University guidelines in most of the individual categories use a top down model. The guidelines provide broad budgeting, leaving the distribution of space to the discretion of the individual institution. The difficulty for mature campuses is that simply providing broad space assessments provides little insight into the complex phased renovations that are commonly required.

To overcome these limitations, an alternate analysis was prepared for the Middletown Campus. This analysis, based on current best practices, allows the planning team to identify individual programs or departments that require additional space not accounted for in the SUNY guidelines.

The outcome of this analysis is a space program larger than one developed using SUNY guidelines. This is largely due to the need for more instructional space. The divergence is the result of the increased utilization of tables and chairs for the basic classroom (SUNY assumes a 16 square foot station size which is inadequate for these furnishings); the increased application of computer labs for delivery of core courses in English and Mathematics; and greater sophistication in the types of labs necessary for the delivery of instruction, especially in the Health Professions. Table 3.2 shows academic space needs based on the alternate evaluation. The total need is for 44,503 square feet of additional academic space by 2025.

Table 3.2 - Space Summary

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2015
Academic Space					
Classrooms	49,891 sf	31,861 sf	33,202 sf	35,741 sf	14,150 sf
Computer Labs	4,254 sf	4,843 sf	6,452 sf	8,807 sf	(4,553)sf
Contingency		*0 sf*	*0 sf*	*0 sf*	
Subtotal	**54,145 sf**	**36,704 sf**	**39,654 sf**	**44,547 sf**	**9,598 sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*15.9 sf*	*10.8 sf*	*11.3 sf*	*11.1 sf*	
Academic Divisions					
Business, Mathematics, Science & Technology	40,636 sf	47,990 sf	52,597 sf	57,095 sf	(16,459)sf
Health Professions	26,668 sf	34,730 sf	35,403 sf	35,403 sf	(8,735)sf
Liberal Arts	20,185 sf	43,167 sf	46,396 sf	49,092 sf	(28,907)sf
Subtotal	**87,489 sf**	**125,888 sf**	**134,396 sf**	**141,590 sf**	**(54,101)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*25.8 sf*	*37.1 sf*	*38.4 sf*	*35.4 sf*	
Subtotal Academic Space	**141,634 sf**	**162,592 sf**	**174,049 sf**	**186,137 sf**	**(44,503)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*41.7 sf*	*47.9 sf*	*49.7 sf*	*46.5 sf*	
Percentage Growth			*3%*	*18%*	

Support Space

Table 3.3 represents the support components of the College. Critical categories requiring expansion are Instructional Support (this includes the library and tutoring center), Technology, and Student Activities. The overall shortfall is 32,780 net assignable square feet.

Table 3.3 - Support Space	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Instructional Support	36,288 sf	39,149 sf	44,972 sf	46,125 sf	(9,837)sf
Technology	8,138 sf	12,713 sf	12,713 sf	12,713 sf	(4,575)sf
Public Service	7,896 sf	10,644 sf	11,407 sf	12,210 sf	(167)sf
Grant Funded Programs	2,501 sf	3,178 sf	3,178 sf	3,178 sf	(677)sf
Athletics & Recreation	56,683 sf	58,100 sf	58,100 sf	58,100 sf	(1,417)sf
Assembly & Exhibition	11,564 sf	13,094 sf	13,094 sf	13,094 sf	(1,530)sf
Student Activities	27,564 sf	32,646 sf	35,209 sf	37,771 sf	(10,207)sf
Kinder College	3,308 sf	3,677 sf	4,308 sf	5,043 sf	(1,735)sf
Student Services	15,613 sf	19,935 sf	20,648 sf	21,780 sf	(6,167)sf
Administration	12,906 sf	14,991 sf	14,991 sf	14,991 sf	(2,085)sf
Campus Services	23,514 sf	17,897 sf	17,897 sf	17,897 sf	5,618 sf
Subtotal Support Space	205,975 sf	226,023 sf	236,515 sf	242,902 sf	(32,780)sf
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*60.7 sf*	*66.6 sf*	*67.6 sf*	*60.7 sf*	

Total Net Assignable Space Needs

Table 3.4 represents the total net assignable square footage (NASF), needed now and in the future. Currently the campus has 347,609 NASF. By 2025, based on an enrollment growth to 4,000 FTEs, the campus will need to be expanded to 429,039 square feet for a shortfall of 81,430 square feet. As discussed previously, this does not represent the necessary total building area. The total building area required by 2025 is approximately 136,000 gross square feet.

This total need does not take into account the obsolescence of the current buildings. Several, such as Sarah Wells, have exceeded their useful life span and cannot be easily renovated and repurposed to the College's projected needs. If demolished, an equal amount of space needs to be created elsewhere to meet the programmatic needs of the College.

Table 3.4 - Total Space	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Total Net Assignable Square Feet	347,609 sf	388,615 sf	410,564 sf	429,039 sf	(81,430) sf
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*102.4 sf*	*114.5 sf*	*117.3 sf*	*107.3 sf*	
Additional Gross Square Feet Required		68,344 sf	104,926 sf	135,716 sf	

Shared Instructional Space

Shared Instructional Space includes general classrooms and shared computer labs. Currently the Middletown campus has almost 50,000 square feet of general classroom space, which is a fairly large surplus. However, this does not mean that classroom space simply needs to be reduced. The classroom inventory needs to be reinvented. Classrooms need to be resized to accommodate tables and chairs and to incorporate technology. Rooms need to be reconfigured to more closely match the actual size of course sections being offered.

Additional computer labs are also needed because the computer lab is increasingly being used for delivery of general education courses in English and Mathematics, as well as for career courses such as Accounting. While most classroom space needs to be renovated has to be upgraded, the College will be able to reduce the square footage devoted to these shared facilities.

Table 3.5 - Space Summary	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Academic Space					
Classrooms	49,891 sf	31,861 sf	33,202 sf	35,741 sf	14,150 sf
Computer Labs	4,254 sf	4,843 sf	6,452 sf	8,807 sf	(4,553)sf
Contingency		*0 sf*	*0 sf*	*0 sf*	
Subtotal	54,145 sf	36,704 sf	39,654 sf	44,547 sf	9,598 sf
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*15.9 sf*	*10.8 sf*	*11.3 sf*	*11.1 sf*	

Table 3.6 - Business, Mathematics, Science & Technology					
	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Accounting/Office Technologies	2,308 sf	4,140 sf	2,200 sf	2,400 sf	(92)sf
Applied Technology	14,108 sf	10,557 sf	10,557 sf	11,907 sf	2,201 sf
Biology	10,693 sf	14,075 sf	18,281 sf	20,191 sf	(9,498)sf
Business Management	1,671 sf	3,613 sf	5,313 sf	5,513 sf	(3,842)sf
Mathematics & Computer Science	3,272 sf	6,250 sf	6,800 sf	7,550 sf	(4,278)sf
Science & Engineering	8,584 sf	8,415 sf	8,415 sf	8,415 sf	169 sf
Contingency		*941 sf*	*1,031 sf*	*1,120 sf*	(1,120) sf
Total	**40,636 sf**	**47,990 sf**	**52,597 sf**	**57,095 sf**	**(16,459) sf**
Student FTES	*1,380.00*	*1,380.00*	*1,430.00*	*1,690.00*	
Square Feet per FTES	*29.4 sf*	*34.8 sf*	*36.8 sf*	*33.8 sf*	

Academic Divisions

The College organizes its various academic departments into three divisions: Business, Mathematics, Science & Technology; Health Professions; and Liberal Arts.

The Biology Department is the pivotal element in its division. A critical service department for the health related professions, as well as many liberal arts transfer programs, the department is currently distributed between Bio-Tech and Hudson Hall. The Hudson Hall labs are particularly obsolete and need to be replaced in their entirety.

Overall the Business, Mathematics, Science & Technology division needs to be expanded by more than 16,000 net assignable square feet with much of that expansion requiring new construction rather than the selective renovation of current facilities.

Health Professions

The Health Professions Division includes many of the most highly desired programs at the College. The health professions programs typically have two students on a waiting list for every one in the program. The smallest division in total student FTEs, the division consists of seven departments.

Impact of the New Branch Campus

One department, Dental Hygiene Assistant, including its program, may be relocated to the proposed Newburgh Branch Campus. A second, the Nursing Department, will have its enrollment essentially capped at the Middletown Campus with all additional enrollment growth occurring at the proposed Newburgh Branch Campus. All other departments and their respective programs will have offerings at Newburgh, but no full programs.

Table 3.7 - Health Professions

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Dental Hygiene Assistant	2,854 sf	0 sf	0 sf	0 sf	2,854 sf
Diagnostic Imaging	1,658 sf	4,928 sf	5,580 sf	5,580 sf	(3,922)sf
Lab Technology	6,923 sf	6,605 sf	6,605 sf	6,605 sf	319 sf
Movement Science	1,500 sf	1,938 sf	1,938 sf	1,938 sf	(438)sf
Nursing	7,969 sf	12,380 sf	12,384 sf	12,384 sf	(4,415)sf
Occupational Therapy Assistant	2,313 sf	3,070 sf	3,070 sf	3,070 sf	(757)sf
Physical Therapy Assistant/Massage Therapy	3,451 sf	5,088 sf	5,088 sf	5,088 sf	(1,637)sf
Contingency		*723 sf*	*739 sf*	*739 sf*	*(739) sf*
Total	**26,668 sf**	**34,730 sf**	**35,403 sf**	**35,403 sf**	**(8,735) sf**
Student FTES	*420.00*	*420.00*	*420.00*	*435.00*	
Square Feet per FTES	*63 sf*	*83 sf*	*84 sf*	*81 sf*	

Space Needs

Beyond the Dental Hygiene Assistant program whose existing space may be converted to other functions, the division will require approximately 9,000 additional net square feet.

Diagnostic Imaging will need to undergo a major modernization. The facilities are very modest and significantly behind other regional radiologic technology programs. The Radiologic Technology Program at New York City College of Technology currently has several more x-ray tables for skills training. Their program is currently going through an expansion to add more diagnostic modalities such as ultrasound and nuclear medicine. The program for the Middletown Campus more than triples the current amount of space, adding additional tables along with digital technology.

Laboratory Technology currently has space that is used to house a defunct electron microscopy suite. This space will be retained and utilized to create an instrumentation lab that will be utilized by both the labs within Lab Technology and the forensic courses in Criminal Justice (see Liberal Arts Division).

Movement Science is housed in the Physical Education Building. The space identified in Table 3.8 represents only the faculty office space for Movement Science. The teaching facilities are covered under the Physical Education, Athletics & Recreation section.

Even with the Nursing's relatively constant enrollment, the facilities need to be expanded to provide expanded skills labs, additional mediated learning space, and an assessment facility.

Modest additions need to be made to both the OTA and PTA programs. The primary change is creating a separate facility for the massage therapy program that is currently embedded in the Physical Therapy Department.

Liberal Arts Division

The Liberal Arts Division is comprised of five departments, the first of which is Arts & Communications. The department includes all of the visual and performing arts programs, along with service courses at the College. The department requires a substantial investment to expand the facility for traditional music and visual arts, as well as to provide space for new technologies.

Criminal Justice and Education are both modest departments currently composed of only faculty offices. The Master Plan proposes expanding department offices and adding needed teaching labs, such as forensics and crime scene labs.

English & Foreign Languages will continue to have several writing centers, both remedial and content focused, strategically placed around the campus. The department is also outgrowing its faculty offices in Morrison Hall.

Social Sciences, limited to faculty offices, needs to be expanded by 75%.

Table 3.8 - Liberal Arts

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Arts & Communication	8,302 sf	17,845 sf	19,135 sf	21,065 sf	(12,763)sf
Criminal Justice	1,690 sf	6,622 sf	6,322 sf	6,322 sf	(4,632)sf
Education	390 sf	2,525 sf	3,075 sf	3,075 sf	(2,685)sf
English & Foreign Languages	7,002 sf	10,710 sf	11,920 sf	12,520 sf	(5,518)sf
Social Sciences	2,801 sf	4,413 sf	4,813 sf	4,913 sf	(2,112)sf
Contingency		*1,053 sf*	*1,132 sf*	*1,197 sf*	(1,197) sf
Total	**20,185 sf**	**43,167 sf**	**46,396 sf**	**49,092 sf**	**(28,907) sf**
Student FTES	*1,595.00*	*1,595.00*	*1,650.00*	*1,875.00*	
Square Feet per FTES	*12.7 sf*	*27.1 sf*	*28.1 sf*	*26.2 sf*	

Instructional Support

Instructional Support includes the Library, the proposed Gilman Collection, and the College's Tutorial Center. The total space need is for an additional 10,000 NASF.

Table 3.9 - Instructional Support	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Library	34,875 sf	35,648 sf	33,250 sf	34,000 sf	875 sf
Gilman Special Collection	0 sf	0 sf	8,000 sf	8,000 sf	(8,000)sf
Tutorial Center	1,413 sf	2,546 sf	2,625 sf	3,000 sf	(1,587)sf
Contingency		*955 sf*	*1,097 sf*	*1,125 sf*	(1,125)sf
Total	**36,288 sf**	**39,149 sf**	**44,972 sf**	**46,125 sf**	**(9,837)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*10.7 sf*	*11.5 sf*	*12.8 sf*	*11.5 sf*	

Technology

Previously the State University assigned the components in this category to two separate categories; Instructional Resources and Electronic Data Processing. Because of the convergence of technology, these components are typically found either adjacent to, or under the same, organizational structure. The assessment, which assumes a consolidated Computer Center and Instructional Technology Department, indicates a need to expand the combined entity by 50%.

Table 3.10 - Technology	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Computer Center	4,875 sf	8,096 sf	8,096 sf	8,096 sf	(3,221)sf
Instructional Technology	3,263 sf	4,307 sf	4,307 sf	4,307 sf	(1,044)sf
Contingency		*310 sf*	*310 sf*	*310 sf*	(310)sf
Total	**8,138 sf**	**12,713 sf**	**12,713 sf**	**12,713 sf**	**(4,575)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*2.4 sf*	*3.7 sf*	*3.6 sf*	*3.2 sf*	

Public Service

Public Service includes elements of the campus that have a public use or outreach. Included in the category are CAPE and the historic space on the first floor of Morrison Hall. CAPE, which stands for Continuing and Professional Education, will be relocated to the proposed Newburgh Branch Campus. The historic space in Morrison Hall is treated as a constant for this study.

Table 3.11 - Public Service

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
CAPE	1,214 sf	3,962 sf	0 sf	0 sf	1,214 sf
Morrison Hall Conference Space	6,682 sf	6,682 sf	6,682 sf	6,682 sf	0 sf
Contingency		*0 sf*	*0 sf*	*0 sf*	*0 sf*
Total	**7,896 sf**	**10,644 sf**	**6,682 sf**	**6,682 sf**	**1,428 sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*2.3 sf*	*3.1 sf*	*1.8 sf*	*1.7 sf*	

Grant Funded Programs

The College has one grant funded program. EOP, a state funded program, provides educational assistance for disadvantaged students, including financial aid and tutoring services. Modest expansion is required.

Table 3.12 - Grant Funded Programs

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Educational Opportunity Program	2,501 sf	3,100 sf	3,100 sf	3,100 sf	(599)sf
Contingency		*78 sf*	*78 sf*	*78 sf*	(78)sf
Total	**2,501 sf**	**3,178 sf**	**3,178 sf**	**3,178 sf**	**(677)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*0.7 sf*	*0.9 sf*	*0.9 sf*	*0.8 sf*	

Athletics & Recreation

Table 3.13 - Athletics & Recreation	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Athletic Space (Exercise Science)	56,683 sf	56,683 sf	56,683 sf	56,683 sf	0 sf
Contingency		*1,417 sf*	*1,417 sf*	*1,417 sf*	(1,417)sf
Total	**56,683 sf**	**58,100 sf**	**58,100 sf**	**58,100 sf**	**(1,417)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*16.7 sf*	*17.1 sf*	*16.6 sf*	*14.5 sf*	

Assembly & Exhibition

Assembly & Exhibition includes four spaces at the Middletown Campus. The two assembly spaces are the auditorium in Harriman Hall and the Theater in Orange Hall. The assumption is that the Orange Hall Theater will require replacement while the Harriman Auditorium will be renovated and augmented with needed support space. The proposal is to create one central gallery space to replace the two separate galleries on campus.

Table 3.14 - Assembly & Exhibition	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Assembly					
Orange Hall Theatre	6,985 sf	8,956 sf	8,956 sf	8,956 sf	(1,971)sf
Harriman Hall Auditorium	1,940 sf	2,369 sf	2,369 sf	2,369 sf	(429)sf
Exhibition					
Orange Hall Gallery	2,103 sf	1,450 sf	1,450 sf	1,450 sf	653 sf
Harriman Gallery	536 sf	0 sf	0 sf	0 sf	536 sf
Contingency	*319 sf*		*319 sf*	*319 sf*	(319)sf
Total	**11,564 sf**	**13,094 sf**	**13,094 sf**	**13,094 sf**	**(1,530)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*3.4 sf*	*3.9 sf*	*3.7 sf*	*3.3 sf*	

Student Activities

Student Activities covers merchandizing, food service, and space for lounges and student organizations. The placement of these components is often more critical than the total amount of space. The majority of these facilities are currently located across South Street in the College Commons Building. This is adequate for full-time day students, but it does not respond to the large part-time, and in particular, the evening student population. The Master Plan seeks to create a more distributed model for these facilities, "pushing" services to where the students are.

Table 3.15 - Student Activities

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Bookstore	2,291 sf	3,500 sf	3,500 sf	4,000 sf	(1,709)sf
Food Service	15,732 sf	16,000 sf	17,500 sf	19,500 sf	(3,768)sf
Student Union	9,541 sf	12,350 sf	13,350 sf	13,350 sf	(3,809)sf
Contingency		*796 sf*	*859 sf*	*921 sf*	(921)sf
Total	**27,564 sf**	**32,646 sf**	**35,209 sf**	**37,771 sf**	**(10,207)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*8.1 sf*	*9.6 sf*	*10.1 sf*	*9.4 sf*	

Kinder College

Presently located in Sarah Wells Hall, the Kinder College needs to be expanded to respond to service demands of a growing student enrollment. Currently located at the center of campus, the Kinder College should be relocated to an area with better and more private access to its playground. The facility will need to be expanded by 1,700 square feet to provide roughly 5,000 total net assignable square feet. The total building, if developed as a standalone facility, will be approximately 8,000 gross square feet.

Table 3.16 - Kinder College	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Kinder College	3,308 sf	3,588 sf	4,203 sf	4,920 sf	(1,612)sf
Contingency		*90 sf*	*105 sf*	*123 sf*	(123)sf
Total	**3,308 sf**	**3,677 sf**	**4,308 sf**	**5,043 sf**	**(1,735)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*1.0 sf*	*1.1 sf*	*1.2 sf*	*1.3 sf*	

Student Services

The Student Services are comprised of college departments that provide services directly to students. OCCC had one of the first consolidated "one-stop" student service centers in the state, with all student services located together in the College Commons. While progressive at the time of its construction, the College Commons is now inadequate and the departments, as a result incremental expansion, are poorly configured. A reorganization and expansion of 40% is required.

Table 3.17 - Student Services	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Academic Services	1,368 sf	2,100 sf	2,300 sf	2,500 sf	(1,132)sf
Admissions	3,105 sf	3,200 sf	3,500 sf	4,100 sf	(995)sf
Bursar	493 sf	600 sf	600 sf	600 sf	(107)sf
Counseling	5,664 sf	6,500 sf	6,700 sf	6,900 sf	(1,236)sf
Financial Aid	1,311 sf	2,500 sf	2,500 sf	2,500 sf	(1,189)sf
Placement	796 sf	1,250 sf	1,250 sf	1,360 sf	(564)sf
Registrar	2,247 sf	2,500 sf	2,500 sf	2,500 sf	(253)sf
Student Health Services	629 sf	850 sf	850 sf	850 sf	(221)sf
Contingency		*435 sf*	*448 sf*	*470 sf*	(470)sf
Total	**15,613 sf**	**19,935 sf**	**20,648 sf**	**21,780 sf**	**(6,167)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*4.6 sf*	*5.9 sf*	*5.9 sf*	*5.4 sf*	

Administration

Administration space includes the remaining professional offices of the College. The category includes the President's Office and related administrative offices. Expansion needs are modest, requiring only another 2,000 net assignable square feet.

Table 3.18 - Administration

	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Academic Vice President	1,149 sf	1,300 sf	1,300 sf	1,300 sf	(151)sf
Accounting	581 sf	750 sf	750 sf	750 sf	(169)sf
Affirmative Action	305 sf	450 sf	450 sf	450 sf	(145)sf
Business Office (Includes VP)	3,542 sf	3,600 sf	3,600 sf	3,600 sf	(58)sf
Faculty Student Association	1,013 sf	1,200 sf	1,200 sf	1,200 sf	(187)sf
Human Resources	1,230 sf	1,500 sf	1,500 sf	1,500 sf	(270)sf
Institutional Advancement	2,748 sf	3,000 sf	3,000 sf	3,000 sf	(252)sf
President's Office	757 sf	900 sf	900 sf	900 sf	(143)sf
Public Relations	835 sf	900 sf	900 sf	900 sf	(65)sf
Purchasing	270 sf	350 sf	350 sf	350 sf	(80)sf
Student Development Vice President	476 sf	675 sf	675 sf	675 sf	(199)sf
Contingency		*366 sf*	*366 sf*	*366 sf*	(366)sf
Total	**12,906 sf**	**14,991 sf**	**14,991 sf**	**14,991 sf**	**(2,085)sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*3.8 sf*	*4.4 sf*	*4.3 sf*	*3.7 sf*	

Campus Services

Campus Services are currently distributed on both sides of South Street. One of the goals of this Master Plan is to consolidate the facilities to a central location. Consolidation with modernized facilities would afford some space savings, especially for Building Maintenance and the Store House.

Table 3.19 - Campus Services	Existing Fall 2005	Need Fall 2005	Projected Fall 2015	Projected Fall 2025	Projected Deficit or Surplus Fall 2025
Building Maintenance	14,234 sf	11,360 sf	11,360 sf	11,360 sf	2,874 sf
Central Reproduction	711 sf	1,200 sf	1,200 sf	1,200 sf	(489)sf
Security	372 sf	650 sf	650 sf	650 sf	(278)sf
Store House	8,066 sf	4,000 sf	4,000 sf	4,000 sf	4,066 sf
Telephone	131 sf	250 sf	250 sf	250 sf	(119)sf
Contingency		*437 sf*	*437 sf*	*437 sf*	(437)sf
Total	**23,514 sf**	**17,897 sf**	**17,897 sf**	**17,897 sf**	**5,618 sf**
Student FTES	*3,395.00*	*3,395.00*	*3,500.00*	*4,000.00*	
Square Feet per FTES	*6.9 sf*	*5.3 sf*	*5.1 sf*	*4.5 sf*	

Campus Input

The master planning team made a special effort to involve members of the OCCC community in the development of the Campus Master Plan. Interviews were conducted with administrators, faculty and staff during which interview respondents were asked to evaluate the adequacy and condition of existing space in their area of responsibility and predict future needs.

In addition to interviews, the planning team held open Design Workshops where students, faculty and staff were asked to participate in two surveys.

Campus Interviews

As part of the Campus Master Plan, meetings were held with individuals and smaller groups in January and February 2006. Over 48 members of the College community, including the President, were interviewed and asked to share thoughts on their specific space needs, and also on campus needs, in general.

The following list of "hot topics" summarizes common threads that were heard during the interview process.

- There are an insufficient number of parking spaces on campus.
- Classrooms need to be updated and equipped with "smart" technology.
- Science labs should be renovated.
- Temperature controls and ventilation are inadequate in many campus buildings.
- Additional full-time and adjunct faculty offices are needed.
- Storage space is in short supply throughout the campus.
- Additional meeting space should be created on campus.
- Building housekeeping should be improved.

Additional comments related to the needs of specific departments or groups were recorded and used to inform the development of the space program for the College.

Design Workshops

In addition to interviews, the planning team held two open Design Workshops in February 2006: one in the Bio-Technology Building during the evening and the other in the College Commons during the day. A total of 177 students, faculty and staff participated in two workshops.

The first survey entitled, "Welcome to the Check Republic," asked whether individuals agreed or disagreed with a series of statements. Their responses were tabulated and ranked by the percentage of individuals who agreed with a particular statement. The following provides a summary of some of the responses:

Bio-Technology Group (36 Participants)

- The buildings are generally well maintained (91%).
- There should be air-conditioning in all of the buildings (89%).
- I feel safe on this campus (78%).
- I would buy food on campus if the selection/locations were expanded (78%).
- The science laboratories work well for classes (42%).
- I can usually find a convenient parking space (34%).
- The furniture in classrooms is comfortable (12%).

College Commons Group (141 Participants)

- The buildings are generally well maintained (48%).
- There should be air-conditioning in all of the buildings (95%).
- I feel safe on this campus (88%).
- I would buy food on campus if the selection/locations were expanded (49%).
- The science laboratories work well for classes (18%).
- I can usually find a convenient parking space (33%).
- The furniture in classrooms is comfortable (12%).

The second survey, entitled "Dotmocracy," asked respondents to prioritize a series of proposed initiatives using three different colored dots representing their first, second and third choices. The

responses were again tabulated and ranked by the number of first-place votes.

Bio-Technology Group (36 Participants)

- 61% of participants (22 votes) want to see additional parking spaces on campus (77% of them voted it as their number one priority).
- 47% (17 people) voted for updating classrooms with new furniture (29% rated it their number one priority).
- 28% (10 participants) want to see the heating and air-conditioning systems upgraded (100% gave this their number one vote).
- 25% (9 votes) would like to see food service provided in the evenings (11% gave rated it their number one priority).
- 19% (7 votes) want to see science lab improvements (57% indicated this was the most important issue for them).
- 16% (6 votes) would like more group study rooms (67% felt this was the most important issue).

College Commons Group (141 Participants)

- 55% (78 votes) want to see additional parking on campus (65% rated it their number one concern).
- 46% (65 participants) felt installing new technology in classrooms is important (52% selected it as their top priority).
- 44% (62 votes) want to see the heating and air-conditioning systems upgraded (26% voted it number one).
- 30% (42 votes) want more comfortable furniture in classrooms (14% gave it their number one vote).
- 22% (31 participants) would like to see expanded food service options (6% rated it their number one priority).
- 20% (28 votes) would like to see more open computer labs (25% selected it as their number one priority).

After completing the two surveys, individuals attending the Design Workshop were given an opportunity to share other concerns and/or ideas. Some of their comments echoed those that were heard during the formal interview process. Some of the most frequently mentioned topics were:

Academics

- There should be more course offerings.
- Extend tutoring hours.
- Include work with cadavers in Anatomy and Physiology classes.
- Additional office space and offices with computers and phones are needed for adjunct faculty.
- Additional, updated science labs should be provided.
- Technology labs (AutoCad, drafting, etc.) should be upgraded with new furnishings and computers.
- There should be more group study rooms.
- Department offices should be set up in suites with meeting rooms and spaces for students to gather and study.

Technology

- There should be more "smart" classrooms.
- The campus should be "wireless."
- The College should stay current by updating technology throughout the campus.

Student Services

- Improve the organization and appearance of student service areas in the Commons to better serve students.
- Set-up on-line registration and let students pay with PayPal.

Lounge/Recreation/Athletics

- There should be a consolidated space for students to meet, gather and study.
- Create a football team (not intramural).
- Provide more funding for clubs.

Food Service

- There should be expanded food service options (hours and choices) with healthier selections and more locations.
- Provide more "grab and go" type meals.

Parking, Roadways and Transportation

- Additional convenient parking or a parking garage is needed.
- Close off South Street to prevent students from being hit by cars and to make the Commons feel like it's a part of the campus.

- The shuttle bus to the Newburgh Extension Center should make more frequent trips.
- Provide more visitor parking.
- Widen drives in parking areas.

Buildings

- Update and renovate older buildings.
- Building air quality and temperature controls should be improved.
- Building housekeeping should be improved.
- Orange Hall is too small to properly accommodate or serve the Arts & Communications Department. The theater, practice areas and classrooms are too small and acoustic separation is almost nonexistent.

Green Building Issues

- We need a greater focus on energy efficiency, recycling, and green buildings.
- Provide recycling bins in all buildings.

SUNY ORANGE
The Educational Choice of Orange County

WELCOME to the "CHECK REPUBLIC"

	AGREE
The buildings are generally clean and well maintained.	**91%**
There should be air-conditioning in all of the buildings.	**89%**
I feel safe on this campus.	**78%**
I would buy more food on campus if the selection/locations were expanded.	**78%**
I can usually find a good place to study.	**76%**
I can usually get the courses I want.	**69%**
There should be more student club and activity space on campus.	**66%**
I can usually get access to a computer when I need one.	**60%**
There is adequate lighting in the parking lots and on pedestrian walkways.	**54%**
The science laboratories work well for classes.	**42%**
I can usually find a convenient parking space.	**34%**
I can usually get help tutoring when I need it.	**33%**
The furniture in classrooms is comfortable.	**12%**

Bio-Tech Front Lobby - Campus Master Plan
February 2006

JMZ

SUNY ORANGE
The Educational Choice of Orange County

"DOTMOCRACY" in Action

	Total	#1	% of Total Voting #1
Providing more parking spaces.	22	17	77%
Updating classrooms with new furniture.	17	5	29%
Upgrading heating and air-conditioning systems in buildings.	10	0	0%
Providing food service in the evenings.	9	1	11%
Expanding food service options.	9	0	0%
Improving science laboratories.	7	4	57%
Creating group study rooms.	6	4	67%
Improving disabled access to all areas of the campus.	6	1	17%
Expanding recreation and athletic facilities.	5	2	40%
Installing new technology in classrooms.	5	0	0%
Expanding the child care center.	4	1	25%
Providing more open computer labs.	4	0	0%
Improving the cleaning and maintenance of campus buildings.	1	0	0%
Providing more space for student clubs and activities.	0	0	0%

Bio-Tech Front Lobby - Campus Master Plan
February 2006

JMZ

SUNY ORANGE
The Educational Choice of Orange County

WELCOME to the "CHECK REPUBLIC"

	AGREE
There should be air-conditioning in all of the buildings.	**95%**
I feel safe on this campus.	**88%**
There should be more student club and activity space on campus.	**68%**
I can usually get access to a computer when I need one.	**61%**
I can usually find a good place to study.	**56%**
I would buy more food on campus if the selection/locations were expanded.	**49%**
The buildings are generally clean and well maintained.	**48%**
I can usually get the courses I want.	**39%**
I can usually get help tutoring when I need it.	**34%**
I can usually find a convenient parking space.	**33%**
There is adequate lighting in the parking lots and on pedestrian walkways.	**29%**
The science laboratories work well for classes.	**18%**
The furniture in classrooms is comfortable.	**12%**

Commons Cafeteria - Campus Master Plan
February 2006

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SUNY ORANGE
The Educational Choice of Orange County

"DOTMOCRACY" in Action

	Total	#1	% of Total Voting #1
Providing more parking spaces.	78	51	65%
Installing new technology in classrooms.	65	34	52%
Upgrading heating and air-conditioning systems in buildings.	62	16	26%
Updating classrooms with new furniture.	42	7	14%
Expanding food service options.	31	2	6%
Providing more open computer labs.	28	7	25%
Improving the cleaning and maintenance of campus buildings.	26	5	19%
Improving disabled access to all areas of the campus.	16	4	25%
Improving science laboratories.	15	2	13%
Providing more space for student clubs and activities.	12	0	0%
Expanding the child care center.	10	4	40%
Expanding recreation and athletic facilities.	9	2	22%
Creating group study rooms.	8	1	13%
Providing food service in the evenings.	4	0	0%

Commons Cafeteria - Campus Master Plan
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Stone carving detail from the exterior of Morrison Hall.

Middletown Campus: Facilities Assessment

A team of architects, landscape architects, and engineers assessed the condition of each of the campus buildings and their systems, the site, and the campus infrastructure in order to update the College's 1997 Master Plan for the Middletown Campus. Existing documents were reviewed and several campus visits were made. Interviews were conducted with Facilities Department personnel, administrators, faculty and staff to document existing deficiencies and current and future needs. Using all of the information that was gathered, the team identified projects necessary to maintain the health and safety of the College community and to preserve the integrity of the buildings, grounds, and campus infrastructure.

Current capital projects (2006-2008) that the College is already planning include:

- A college-wide fire alarm system upgrade
- An ongoing roof maintenance program
- Campus-wide ADA upgrades
- Parking lot repaving and sidewalk repair
- Campus water pipe replacement projects
- HVAC and electrical system upgrades

The findings of the master planning team, documented in this Facilities Condition Assessment Report, support the need for all of the above projects.

In addition, there are several other projects that are needed throughout the campus.

- ADA-compliant signage should be installed throughout all of the buildings to improve wayfinding and compliance with ADA requirements. Exterior signage is also needed.
- The College has indicated that a public address system, linked to a campus-wide network, should be installed in all campus buildings.
- The need for a master clock system, linked to a campus-wide network, has also been identified by the College.

- The domestic cold water connections to boilers throughout the campus are only protected by a single check valve. In order to prevent boiler water from possibly entering the domestic cold water system, a reduced-pressure zone backflow preventer should be installed at all boilers connections.

While these ubiquitous projects are mentioned here, they are also included in the individual building sections of this report to ensure they are not overlooked.

Site and Campus Infrastructure

Orange County Community College's Middletown Campus is composed of approximately 20 acres of landscaped grounds and nine acres of parking. The campus is surrounded by residential neighborhoods and traversed by two town roads. Of the 20 college buildings, ten of which are major buildings, six accommodate academic departments and classrooms; one (Horton Hall) is used for classes but also includes Facilities Department offices; two are dedicated to student life, student services and dining; three are primarily devoted to administration and community service functions; two are greenhouses; and six are service or maintenance buildings.

1. HARRIMAN HALL
2. SARAH WELLS
3. ORANGE HALL
4. ICE HOUSE
5. HORTON HALL
6. SHIPPING AND RECEIVING
7. HVAC SHOP
8. GREENHOUSE A
9. GREENHOUSE B
10. BIO-TECHNOLOGY BUILDING
11. HUDSON HALL
12. MORRISON HALL
13. LEARNING RESOURCE CENTER
14. PHYSICAL EDUCATION BUILDING
15. COLLEGE COMMONS
16. YELLOW HOUSE
17. CHRISTINE MORRISON HOUSE
18. POLE BARN
19. GROUNDS SHOP
20. MAINTENANCE SHOP

Reportedly, several students are hit by cars each year as they cross South Street.

The primary vehicle entry to the campus core is also the primary pedestrian entry point. These two should be separated from each other.

Vehicular Circulation

The campus is bounded by Wawayanda Avenue to the north and Grandview Avenue to the east. East Conkling Avenue runs north/south and separates the Physical Education Building, tennis courts, and athletic fields from the main core of the campus. South Street bisects the campus, leaving the College Commons, the Yellow House, Christine Morrison House, and several Facilities Department buildings somewhat isolated from the rest of the College.

South Street also presents a hazard as several students are reportedly hit by cars each year as they cross the street. This appears to be due, in part, to vehicle speed but also because the crosswalks are poorly defined. Closing a portion of South Street to through traffic would connect the two sides of the campus and eliminate these dangerous vehicular/pedestrian conflicts. South Street is a busy thoroughfare, however, and this may be difficult to accomplish.

The following projects are recommended to improve pedestrian and vehicle safety and to create a sense of arrival to the College.

- Improvements to South Street. The pedestrian/vehicular conflicts that occur along South Street are a significant issue that will be addressed by this Master Plan. While improvements such as creating well-defined crosswalks and road edges, improving site lighting and signage, burying overhead wiring and introducing trees, banners, and raised planters would all help to "calm" traffic and reduce the number of accidents, additional issues must be addressed. For example, the main pedestrian entry route to the campus is also used by vehicles. This Master Plan will examine ways to separate these two to improve pedestrian safety. In addition, there is a need to create a better connection between the two sides of the campus and clearly signal to drivers that they have arrived on the Middletown Campus.

An additional entry to the Orange Hall parking lot should be constructed from Wawayanda Avenue.

The College should consider widening the road and bridge at the entry to the Harriman Hall parking lot.

Regrading and reconfiguring the Orange Hall parking lot could result in the creation of additional parking capacity.

- Widen the entrance road and bridge at the Harriman Hall parking lot. The existing entry road and bridge are quite narrow, making it tight for two cars to cross the bridge at the same time. The College should consider widening the roadway to improve traffic flow in this area.

Parking

Since 1997 the College has made improvements to some parking lots and added parking capacity in several locations. This work included the following projects:

- A new parking lot was constructed west of Conklin Avenue near the College Commons.
- The College Commons lot was expanded.
- A small parking lot was added adjacent to the Yellow House.
- The South Street and Orange Hall parking lots appear to have been reconfigured to accommodate additional vehicles.
- The Physical Education and Harriman Hall parking lots were resurfaced.
- The parking area east of Horton Hall was repaved.

The creation of additional parking lots has eased, but not eliminated, the parking shortage on campus. This issue will be addressed in this Master Plan.

The master planning team recommends the following additional parking lot work:

- Reconfigure the Orange Hall parking lot. The College plans to resurface the Orange Hall parking lot in 2006. The lot currently contains some awkwardly positioned parking spaces. In addition, grade changes between parking rows consume a fair amount of space. Additional spaces may be created by regrading and reconfiguring the entire lot in conjunction with the planned repaving and restriping project.
- Resurface the tennis court parking lot. The parking lot adjacent to the tennis courts is in poor condition and should be resurfaced.

The sidewalk northwest of the Bio-Tech Building is in poor condition and should be replaced.

Pedestrian Circulation

Sidewalks, Site Stairs and Ramps

The College has completed many of the projects that were recommended in the 1997 Master Plan:

- New sections of concrete walk were installed on the east side of Conklin Avenue next to the College Commons; on the west side of Grandview Avenue adjacent to Horton Hall; and on the west side of East Conkling near the Physical Education Building parking lot.
- A new concrete landing was installed on the south side of the Bio-Tech Building and the steps have been repaired.
- A wheelchair ramp was constructed at Morrison Hall.
- Many slate walking surfaces have been replaced with either concrete or asphalt.
- The walk leading from the Orange Hall parking lot to the inner loop road was resurfaced and widened, and a new site stair was constructed west of the building.
- A new site stair and walkway were installed at the northeast corner of Horton Hall.
- The sidewalk serving the quad entrance to Orange Hall was replaced with a stamped asphalt walk.
- The pedestrian entrance to Horton Hall, off Grandview Avenue, was repaved and a handrail was installed between the loading dock and the walkway.
- Many accessibility improvements, including the construction of curb ramps at existing sidewalks, have been made throughout the campus.

The College should continue to improve accessibility and pedestrian safety by implementing the following projects:

- **Continue to replace substandard sidewalks and site stairs.** Among the concrete sidewalks that should be replaced, those northwest of the Bio-Tech Building remain in the poorest overall condition. The walks have settled at building entrances, creating tripping hazards, and uneven settling, cracking, and spalling plague the walk and plaza areas. Among the asphalt-paved

An access ramp is needed at Sarah Wells to make at least the quad level floor accessible.

The paved road west of Horton Hall has settled above the utility tunnel that runs between Horton Hall and the Ice House. The pavers should be removed; the area should be regraded; and the pavers should be reinstalled.

sidewalks, those along Wawayanda Avenue are in the poorest overall condition. Many other stretches of asphalt are in only fair condition. An intermediate handrail should be installed at the site stair at the northwest corner of the Bio-Technology Building. The expansion joint at the top of the stair should also be repaired to eliminate the potential tripping hazard.

- Install a concrete sidewalk along the south side of South Street. Create a new sidewalk on South Street in conjunction with a Master Plan project to change the character of the stretch that bisects the campus.
- Improve access to Sarah Wells. Install an accessible ramp on the south side of Sarah Wells to make the quad level floor accessible.
- Add sidewalk curb cuts. Install accessible curb cuts at public sidewalks around the perimeter of the campus.
- Consider installing a walkway connecting the rear of Horton Hall and the main quad. Facilities personnel have expressed interest in the installation of a wide walkway running from the parking area behind Horton Hall to the main quad roadway so they can respond quickly to problems on campus. This should be considered as part of the overall Master Plan.

Plazas

- Specially paved plazas have been installed in front of, and to the east of, the College Commons, at the quad entrance to Orange Hall, and at the main entrance to the Physical Education Building.

This Master Plan recommends the College undertake the following projects to improve existing plazas:

- Repair the plaza and roadway at Horton Hall. Remove the brick paving and sub-base from the garden/greenhouse area (west of Horton Hall) all the way to the garden wall at the central quad. The paving has settled over the service tunnel, creating an uneven walking surface. The area should be regraded and a new sub-base should be installed. Repave the entire area with salvaged bricks.

The stone site wall, a portion of which serves as the east wall of Greenhouse A, should be repointed.

The site wall and stair at the southeast corner of the Bio-Technology Building are beginning to deteriorate.

- Redesign the plaza and walkways north/northwest of the Bio-Technology Building. As mentioned previously, the plaza and sidewalks north/ northwest of the Bio-Technology Building are in poor condition. The College should consider redesigning the area and reducing the amount of paved surface around the building. A portion of the concrete plaza could be replaced with landscaped beds to improve the appearance of this well-traveled area.

Site Walls

- The site wall along Grandview Avenue, behind Horton Hall, has been replaced.

The following work is needed to repair and maintain other site walls around the campus:

- Repoint the stone site wall around the Horton Hall gardens and greenhouses. The stone walls should be repaired to prevent further deterioration of the mortar.
- Repair the campus site wall/fence. The concrete wall that supports the fence that surrounds the campus is cracked and crumbling in some areas.
- Repair the Bio-Technology site wall. The site wall and stair at the southeast corner of the Bio-Technology Building are beginning to deteriorate and should be repaired to prevent further damage.

Athletic Fields

Two projects have been completed since the 1997 Master Plan:

- The tennis courts were resurfaced and the fence surrounding the courts was replaced.
- A new baseball field was created on land located one-half mile from the College.

The following projects should be addressed:

- Replace tennis net sleeves. The sleeves holding the tennis net posts are too loose, causing the nets to sag. The sleeves should be replaced.
- Repair/replace the scoreboard. The athletic field scoreboard does not work properly. It should be repaired or replaced.

Additional site lighting should be installed along the walkway between Orange and Horton Halls.

A comprehensive campus signage plan should be developed to improve exterior wayfinding and informational signage throughout the campus.

- Improve athletic field drainage. Water drains down the slope north/northwest of the tennis courts and puddles on the adjacent playing fields. Corrective measures, such as the installation of a swale in this area or underdrains that carry water to a drain structure, should be taken to address this issue.

Site Lighting

Projects that have been completed include:

- New carriage-style streetlights were installed throughout campus.
- Some parking lot lighting fixtures were replaced in parking lots that have been repaved.

This Master Plan recommends the following site lighting projects:

- Install site lighting fixtures. Additional lighting fixtures should be installed at the perimeter of parking lots and along walkways that are not well illuminated, such as the walkway between Orange and Horton Halls.
- Continue upgrading parking lot lighting fixtures. As parking lots are repaved/reconfigured, older lighting fixtures should be replaced with units that provide adequate light levels while avoiding night light pollution.

Signage

- Develop a comprehensive campus signage plan. Additional, ADA compliant exterior signage is needed to improve wayfinding on campus. A comprehensive signage plan, including building, pedestrian and vehicular signage, should be developed. Campus directories should be installed at major entry points to the campus.

Campus Landscape

The beautifully landscaped campus is one of the College's greatest assets. In order to maintain it, the following projects should be undertaken:

- Prune or replace overgrown plantings, especially adjacent to buildings.

The distribution switch gear and main disconnect switch for the campus are located in the basement of Hudson Hall. The draw-out fuse boxes (shown below) can be pulled out while still under a live electrical load, presenting a possibly hazardous condition. The distribution equipment should be replaced.

- <u>Develop a landscaping master plan.</u> The College should consider developing a comprehensive landscaping plan that includes the preservation and renovation of the Horton Hall gardens and the development of a central campus landscaping theme.

Campus Infrastructure

Electrical Utilities

Several campus electrical projects have been completed since 1997.

- With the exception of parking lot light fixtures, all site lighting on campus has been upgraded.
- The 13.2kV switchgear was cleaned and limited maintenance and infrared scans were performed.
- A new campus emergency generator and associated distribution system were installed.

A significant investment will be needed to upgrade the College's electrical infrastructure to ensure continued service and to support campus growth. The existing electrical distribution system consists of a 13.2 kV utility service incoming to the Ice House through a transformer that converts it to 480/277 volts, which is then distributed through the switchgear. Building loads are fed through fused switches in the switchgear. The 480 volts are then distributed outward from the tunnel/basement area of the Ice House through several underground conduits, some of which are routed through the tunnels, then underground to all of the buildings north of South Street. This arrangement creates a potential single point of failure beneath the Ice House.

The 1997 Master Plan called for the replacement of the main distribution switchgear located on the upper floor of the Ice House. The switchgear should be replaced, as it is original equipment that is past the end of its useful life.

The tunnels beneath the Ice House expose the existing secondary distribution system to a deleterious environment for electrical equipment and conductors. The tunnel/basement area beneath the Ice House is constantly infiltrated with flowing

ground water. This has resulted in extensive damage to the existing junction boxes and conduit, exposing conductors to possible water damage, as well. If allowed to continue, this condition could lead to an electrical failure.

The following projects should be undertaken within the next few years:

The main switchgear equipment and transformer in the Ice House are past their useful life and should be replaced.

The electrical junction box in the basement of the Ice House is severely deteriorated because of water infiltration through the conduits.

- <u>Replace the main switchgear equipment.</u> The 13.2 kV switchgear is over 40 years old and past its useful life. The switchgear equipment and the transformer should be replaced. Prior to the replacement of the switchgear. A study should be completed to determine the most appropriate switchgear and distribution system for the College. The study should evaluate reliability, constructability, first cost and maintenance costs. The design will need to be compatible with the new emergency generator system installed approximately five years ago.
- <u>Construct a new underground ductbank system.</u> Install a new 480 volt secondary underground ductbank electrical distribution system to serve the entire campus. The ductbank should originate either from the Ice House, or from wherever the new switchgear equipment is located. The ductbank should run to all campus buildings on the north side of South Street. Underdrains should be installed to prevent water infiltration in the new ductbank.

  This extensive project is recommended because all of the secondary power for the campus passes through the tunnel area under the Ice House. Here, the condition of the raceways is very poor and the cabling is openly exposed to excessive ground water. The underground feeders to the campus buildings are of the same vintage as the switchgear in the Ice House. In the event of a catastrophic electrical failure at this location, a significant portion of the campus would be without power for an extended period of time. The new ductbank system could also accommodate telephone and data lines.

View of the underground service tunnel.

The old boiler in Harriman Hall should be replaced within the next ten years.

- <u>Replace lighting fixtures in the service tunnels.</u> The existing lighting in the service tunnels is in extremely poor condition due to excessive corrosion. Once the new ductbank and electrical distribution system is in place, the deteriorating lighting fixtures and the abandoned electrical cabling should be removed from the service tunnels. If the College wishes to maintain the tunnels for their historical value, a new lighting system designed for wet locations and controllable from all three tunnel end locations should be installed.

Campus-Wide HVAC Issues

- As boilers, chillers, and air-handling units are replaced, load calculation studies for the buildings these units serve should be completed. Some of the units may have been sized for conditions that no longer exist in the buildings. The study should determine if the unit capacity is still appropriate or if a smaller (or larger) unit would better serve the building.
- Openings that provide combustion air to boilers appear to be undersized in several locations, including Orange Hall, Harriman Hall, Sarah Wells, the Yellow House, and the Christine Morrison House. The size of these louvers should be compared to the combustion air requirements for the boilers. The louvers should be enlarged, if necessary, or a dedicated combustion air fan should be installed.
- Domestic cold water piping is reportedly deteriorating on campus. The cause of this deterioration should be investigated. If the cause is sub-standard piping, the piping should be replaced. Older types of solder, which contained lead, may have contributed to the decay of these pipes. The deterioration may have also been caused by the creation of a dielectric situation (high ground water and electrical grounding straps being attached to the water pipes). This would cause the copper pipe to act as a sacrificial anode, resulting in corrosion.
- Occupants in several buildings commented on poor air quality and temperature control issues. In order to verify that the installed systems are functioning as intended, this Master Plan recommends commissioning buildings where

these persistent problems occur. Commissioning will reveal the corrective measures that should be taken to improve building systems.

- Many buildings are heated by a single boiler and some, like Sarah Wells, only have one pump. In these buildings, if either of these units were to fail the building would be without heat until the malfunctioning unit was repaired or replaced. As buildings are renovated, redundant pumps and appropriately sized boilers should be installed.

Water, Sanitary Sewer and Stormwater Systems

- Underground oil storage tanks located near Horton Hall have been removed.

The need to upgrade the site drainage system was identified in the 1997 Master Plan. This work has not been carried out, so drainage remains a problem on campus.

- Upgrade the campus site drainage system. The Facilities Department reports that the drywells may have been improperly installed and, therefore, do not work correctly. Reportedly, water stays in the drain structure rather than exfiltrating or overflowing to downstream wells or other outlets. This problem will require further investigation as it is not clear if the problem is the result of improper placement of infrastructure or some other cause, such as silt clogging the system components. The problem could be caused by a combination of factors.
- Upgrade main water distribution lines connected to the municipal system. The Facilities Department identified this project. The water line that runs from Wawayanda Avenue under the Orange Hall parking lot is deteriorating and should be replaced prior to the repaving/reconfiguration project scheduled for later this year.

Communications

- Install telephone, fiber-optic and energy management system lines in a new ductbank. Install a new campus-wide telephone trunk line, fiber-optic data backbone, and energy management system network in an underground ductbank system (in conjunction with the

proposed electrical power distribution ductbank). This would remove the cabling for these systems from exposure to the humid environment in the service tunnels.

- Install new campus-wide public address and master clock networks.

Fire Protection

Facilities personnel report that a campus-wide upgrade of the fire alarm equipment and devices in all of the College buildings is currently being planned. The need for this project is supported by the findings documented in this report.

Campus Security

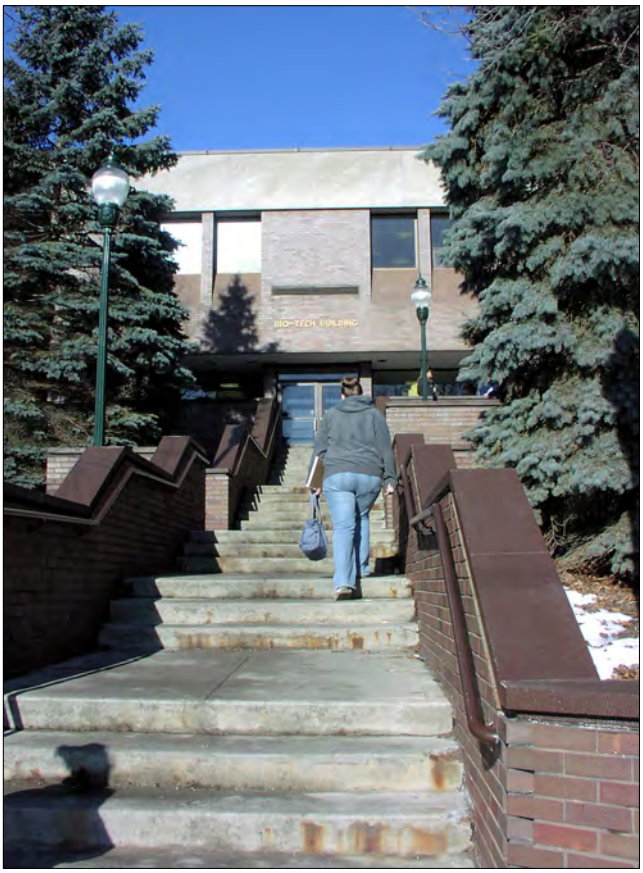
- A blue light emergency phone was installed at the west side of the inner loop road. Additional emergency phones were added at building entrances.

- Install surveillance cameras. Add new surveillance cameras at selected locations to improve security's coverage of the campus.
- Install blue light emergency phones in parking lots.

Campus Security expressed an interest in locating security booths at several locations around the campus and creating security stations in the main entries of campus buildings to heighten the department's visibility on campus. This should be considered as part of the overall Master Plan for the campus.

Hazardous Materials Storage

- Provide a Hazardous Materials Storage Facility. The College has indicated they would like to construct a dedicated hazardous materials storage facility with an appropriate exhaust system.



The exterior south stair to the Bio-Tech Building.

The Bio-Tech Building

Building History and Use Summary

Located on the east edge of campus, this 32 year old building contains a large percentage of the College's instructional space. Constructed in 1974, it is one of the newer campus buildings, built around the same time as the College Commons, the Physical Education Building and the Learning Resource Center.

Building Condition Summary

The 118,452 square foot, 3-floor building has been well maintained and is in good condition. Some of the building's components are beginning to show their age, however, and will need to be upgraded or replaced during the next ten years.

The exterior plaza north of the building is in need of repair, as is the southeast site stair. The original roof, recoated in 1998, will need to be recoated prior to 2016.

For the most part, the building's interior finishes appear to be in good condition. The science labs and some of the tiered classrooms are dated. This Master Plan recommends that the College develop a phased plan for upgrading all of these spaces with new furnishings and technology.

The College has made a significant effort to improve accessibility throughout the building. In addition to the already completed work, the College should install ADA compliant signage throughout the building and handrails in the connector to Hudson Hall.

Occupants report that thermal control throughout the building is a problem and that rooms are either too hot or too cold throughout the year. The HVAC system should be commissioned to ensure the entire system is functioning properly. A new cooling tower, fan coil units and controls should be installed. The electrical distribution system should be thoroughly inspected and upgraded as necessary and new panelboards should be installed to increase the building's electrical capacity.

Building Condition Assessment

Year Constructed: 1974
Gross Square Footage: 118,452
Number of Floors: 2 stories and a basement

Building Exterior

G	Roof
G	Walls
G	Windows
G	Doors
G	Painting/Caulking
F/G	Steps/Ramps/Entrances
P	Plazas/Walkways

Building Interior

G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
G	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
F	Elevators

Mechanical/Electrical/Plumbing Issues

F	Heating/Cooling System
PX	Chiller/Controls
G	Plumbing System/Fixtures
F	Pumps/Motors/Compressors
GX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
FX	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
PX	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Deteriorating plazas to the north/northeast of the building should be repaired. The retaining wall at the southeast site stair (below) is also in need of repair.

Building Site

The Bio-Tech Building sits at the corner of South Street and Grandview Avenue. Connected to Hudson Hall to the west, the building is separated from Horton Hall and the greenhouses to the north by a large paved plaza.

The following site work has been completed since the 1997 Master Plan:

- The concrete exterior stairs leading to the South Street second level entrance have been repaired.

In addition to site projects already mentioned in the Site and Campus Infrastructure section of this report, the following site project is recommended:

- Repair southeast exterior stair and site wall. The exterior stair and site wall at the southeast corner of the building is beginning to deteriorate. Repairs should be made to prevent further deterioration.

Building Exterior

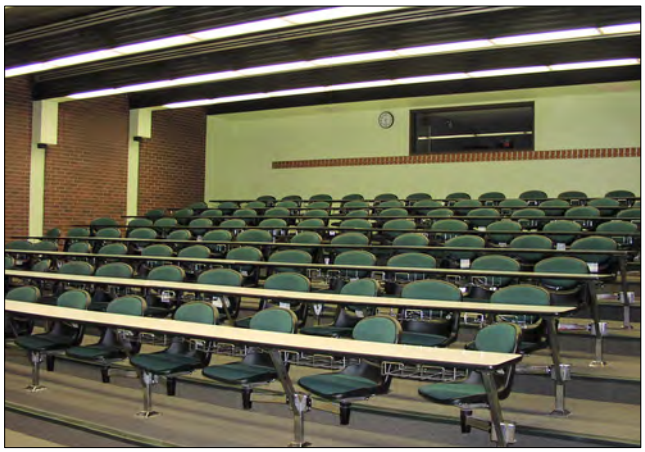
The exterior of the building appears to be in good condition. Since 1997 the following exterior work has been completed:

- In 1998 the roof was recoated with a GE silicone roof coating system that carries a ten-year warranty.

While the fixed, single-pane windows are not energy efficient, there have been no complaints about water leaks. However, occupants do complain that they cannot open the windows to allow fresh air into the rooms. Exterior building projects that should be addressed within the next ten years include:

- Install energy efficient operable windows. The installation of operable windows in selected areas would provide occupants with the opportunity for introducing fresh air into some spaces. Modern, insulated double-pane glazing would improve energy efficiency and occupant comfort.

- Recoat/resurface the roof. While there are no reports of roof leaks, the warranty on the most recent resurfacing project expires in two years. The roof will need to be recoated within the next ten years.



New seats were installed in BT311.

Building Interior

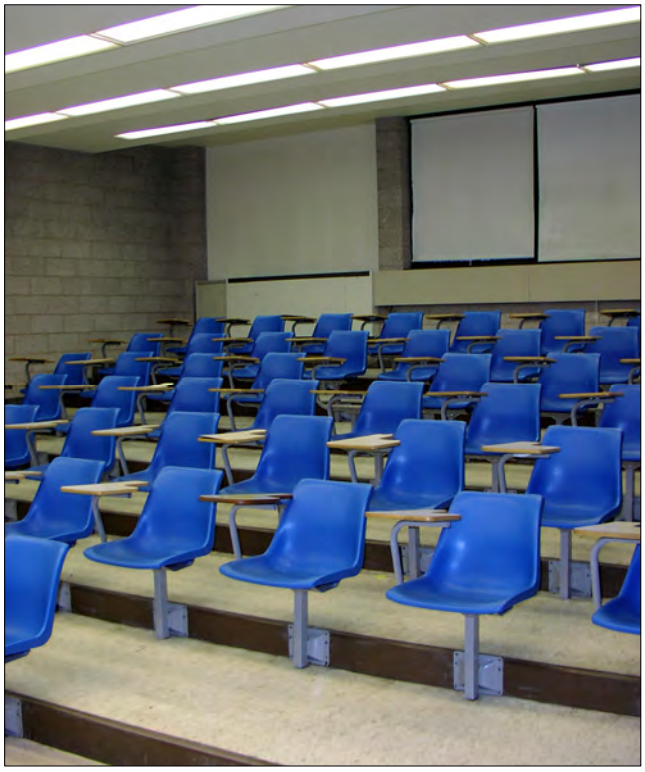
The College has completed many of the projects that were recommended in 1997, including:

- Replacement of concealed spline ceilings in most areas.
- Installation of new seats in lecture halls BT207 and BT311.
- Asbestos abatement in renovated areas. Asbestos abatement is an ongoing process, as asbestos reportedly remains in some plaster ceilings, floor tile and pipe joints.

In order to maintain and upgrade the existing building, the following projects are recommended:

Faculty report that the risers on the lab tables in BT315 interfere with teaching.

- Renovate science labs. The existing lab tables and casework in science labs (BT315 through 320) were installed in 1974. Although they have been well maintained, they are beginning to show signs of age and they do not support today's teaching methods (e.g. the lab risers in BT315 make it difficult for faculty to teach and see what students are doing). A plan should be put in place to update all six labs during the next ten years.
- Upgrade Architecture Lab BT251. The tables in BT251 are old test benches and the seats are backless stools, neither of which is ergonomically appropriate for working on computers. New tables, chairs, and lighting fixtures should be installed in this space.
- Upgrade lab tables in BT352. Criminal Justice faculty report that the water and gas taps on the lab tables in BT352 are not functional. Since coursework would benefit if students had access to water and gas, the lab tables should be repaired to make them functional.
- Upgrade the Technology Writing Lab. Faculty report that the lighting in BT260 is poor and the computer wiring hangs loosely from the ceiling. It was also reported that the room is



Tiered classrooms should be updated with seating that is more appropriate for today's students.

too hot and that the moveable partition does not work. The College should completely upgrade this lab, including the installation of smart technologies, such as a teacher's workstation with a computer and internet access and projection equipment for electronically generated presentations. More appropriate seating should also be provided.

- Install secondary lighting system in BT103. The existing lighting functions well for Physical Therapy courses, but is too bright and inappropriate for Massage Therapy and massage clinics. A secondary lighting system should be installed to improve lighting control in the room.
- Replace the elevator. Occupants report that the elevator breaks down frequently. The elevator should be upgraded or replaced to ensure reliable service.

ADA Issues

The following modifications have been completed to bring building elements into compliance with ADA requirements:

- Pay phone volume controls have been installed.
- Accessible door hardware has been installed throughout the building.
- Insulation has been installed at toilet room lavatory piping.
- Accessible viewing positions have been created in tiered classrooms.
- An ADA compliant phone has been installed in the elevator.
- Automatic door openers have been added at building entrances.

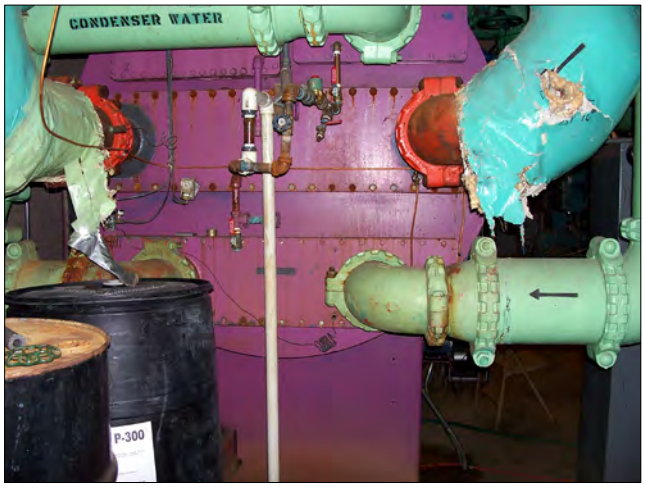
The following projects are recommended to continue the College's ongoing accessibility improvements.

- Upgrade elevator car controls. Provide ADA-compliant car controls so that no floor button is more than 54" above the finished floor (aff). The current floor buttons are located between 50" and 58" aff.

Disability Services reports that several disabled individuals have fallen at the cross ramp in the connector between the Bio-Technology Building and Hudson Hall. Hand rails should be provided to improve accessibility in this area.

- Install hand rails in the connector between Hudson Hall and the Bio-Tech Building. The cross-sloping connector between both levels of the Bio-Tech Building and Hudson Hall is difficult to navigate for individuals using canes, walkers and wheelchairs. Reportedly, an individual using a walker fell in this area in the fall of 2005. The College should install hand rails to improve accessibility.
- Upgrade seating in tiered classrooms. The swivel, tablet-arm seating in several of the building's tiered classrooms does not comfortably accommodate many of today's students. The College should consider replacing seats in BT201, 203, 301 and 303 with seats and tables similar to those found in BT311.
- Install ADA compliant signage.

New air-handling unit located in the basement.



The existing absorption chiller is being replaced.

The existing tower pumps should be replaced.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects identified in the 1997 Master Plan that have been completed include:

- Hot and chilled water pumps and associated valves were replaced in the boiler room.
- The three roof-mounted air-handling units and the air-handling unit located in the basement were replaced.
- Some of the exhaust fans were replaced.
- Some of the fan coil units were replaced.
- Building ductwork was cleaned.
- The absorption chiller is being replaced with a new 500-ton unit.

The 1997 Master Plan noted that space heating and cooling was inconsistent throughout the building. Occupants also report that ventilation is poor throughout the building, and in some rooms the HVAC equipment is so noisy it is difficult to hear the instructor. HVAC projects that should be addressed in the next ten years include:

- Replace the cooling tower. The cooling tower, tower pumps, and associated valves are all past their useful lives and should be replaced.
- Replace the remaining exhaust fans.
- Replace the remaining fan coil units.
- Install direct digital controls. The existing controls appear to be pneumatic. They should be upgraded to a direct digital controls (DDC) system.
- Install new boilers. The two boilers are nearing the end of their useful life. They will need to be replaced within the next several years.
- Commission the HVAC system. Temperature control issues persist. As a first step, the existing system should be commissioned to verify that the HVAC system is functioning as intended. This should include air balancing. Further steps, if necessary, should be evident from the commissioning process and report.

Interior Lighting and Wiring

Some electrical improvements have been made. Electrical projects that remain include:

- Inspect and upgrade the electrical distribution equipment. Enlist a manufacturer's factory technician to extensively inspect, clean, repair, and conduct checks and infrared scans of the electrical bus work on all electrical distribution equipment to assess the integrity of the insulation supports of the buswork and the insulation of the conductors. The system should be upgraded, as necessary.
- Upgrade lighting fixtures. Replace the existing "old-technology" lighting fixtures with new energy efficient units that use T-8 fluorescent lamps and electronic ballasts. The existing fixtures are old and they are not energy efficient.
- Replace electrical panelboards. Replace branch circuit panelboards on each floor. The panelboards are more than 30 years old and are at the end of their useful life.
- Increase the building's electrical capacity. Add new branch circuit panelboards in selected areas to increase the number of pole spaces and provide capacity for future growth. This will also allow for the proper separation of the lighting and convenience power circuits that are currently mixed.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

- Install a backflow preventer.

The boiler piping should be reworked to comply with manufacturer's recommendations.

Christine Morrison House

Building History and Use Summary

The 101 year old building, originally a private residence, is currently home to CAPE (Continuing and Professional Education). It is located south of the South Street parking lot at the corner of Bennett Street and Academy Avenue.

Building Condition Summary

This quaint 4,250 square foot building has many interesting features, however, it is not appropriate for college use. Although the College installed an access ramp at the rear of the building, the interior is largely inaccessible with its steep stairs, narrow doorways, and residential bathrooms. Given the age, size and construction type of this building, the completion of modifications to make it fully accessible and modern does not appear to be prudent.

If the College chooses to continue using this building, however, the following projects should be addressed:

- Provide a dedicated outdoor air/ventilation system. The house currently does not have a ventilation system that delivers fresh air to occupied spaces, as required by the NYS Building Code. A dedicated outdoor air system should be installed.
- Modify the boiler piping. The steam boiler should be re-piped so the piping is in accordance with manufacturer's recommendations. Also install a reduced-pressure zone backflow preventer.
- Provide adequate combustion air for the boiler.
- Update the fire alarm system.
- Install public address and master clock systems.

Building Condition Assessment

Year Constructed: 1905
Gross Square Footage: 4,250
Number of Floors: 2 stories and a basement

Building Exterior

G	Roof
G	Walls
FX	Windows
G	Doors
G	Painting/Caulking
F	Steps/Ramps/Entrances
N/A	Plazas/Walkways

Building Interior

F	Floors
F	Walls
F	Ceilings
F	Doors
P	Stairs
G	Painting

Safety/Security Issues

N/A	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
G	Intrusion Detection
N/A	Emergency Phones

ADA Issues

F	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
F	Accessible Routes (Horizontal)
N/A	Accessible Routes (Vertical)
P	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
N/A	Drinking Fountains
P	Accessible Men's Rooms
P	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

PX	Heating/Cooling System
N/A	Chiller/Controls
PX	Plumbing System/Fixtures
F	Pumps/Motors/Compressors
G	Electrical Systems
F	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
P	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The College Commons, seen from the east.

The second floor of the Commons, looking toward the main lounge area and the Bursar's office.

College Commons

Building History and Use Summary

The College Commons, constructed in 1974, sits on the south side of South Street across from the Learning Resource Center. Admissions, Bursar, Registrar, Financial Aid, Counseling, Student Life, Student Support Services, the bookstore, the cafeteria, the Success Center and the main student lounge are all located in this 66,720 square foot building. While students are drawn to the services in the facility, the building remains somewhat isolated from the main portion of the campus on the other side of South Street.

Building Condition Summary

The exterior of this 32 year old building appears to be in good condition. The new roof coating, installed in 2005, carries a ten-year warranty. All of the building's entry doors should be replaced, however.

The interior of this heavily used building is showing signs of age. The College has made improvements to make the facility more accessible and lighting and finishes in some areas have been updated, but the building still looks tired and worn. Updating the finishes and upgrading the lighting would improve the appearance of the building and make it more inviting.

Occupants complain of temperature control problems. Food and exhaust smells sometimes waft through the building. Installing air-handling units with economizers and re-zoning the building based on renovation plans proposed in this Master Plan should help alleviate some of the air quality, temperature control, and humidity problems. A new chiller has been installed and is scheduled to come online this spring, which may also help improve indoor air quality.

The building's electrical system should be thoroughly inspected and upgraded to increase electrical capacity for future growth. The installation of public address and master clock systems should be considered.

Building Condition Assessment

Year Constructed: 1974
Gross Square Footage: 66,720
Number of Floors: 2 stories and a basement

Building Exterior

G	Roof
G	Walls
G	Windows
P	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

F/G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
F	Security Cameras
F	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
F/G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
G	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
G	Elevators

Mechanical/Electrical/Plumbing Issues

F	Heating/Cooling System
FX	Chiller/Controls
G	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
GX	Electrical Systems
GX	Fire Alarms/Smoke Detection
G	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
FX	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
G	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Building Exterior

The exterior of the building appears to be in good condition. The roof was recoated with a Dow Corning silicone/polyurethane foam roof system in July 2005 and is covered by a warranty through 2015.

- Replace all exterior entry doors. The entry doors are old and in poor working condition. They should be replaced.
- Replace all windows. The single-pane windows are not energy efficient and should be replaced.

Building Interior

The College has completed many of the projects identified in the 1997 Master Plan, including:

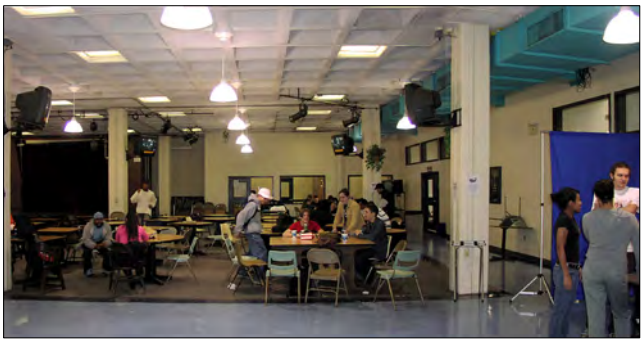
- Lighting upgrades in many areas.
- The installation of opening protectives (such as fire shutters and fire-resistant glazing) at student services offices and the bookstore.

A roll-down fire shutter was installed at the Bursar's counter, located in the main lounge on the second floor.

In addition to this work, several departments have been relocated. Completed projects include moving the Bursar to the second floor, creating Student Government offices and a game room in the cafeteria, and locating the Success Center on the second floor.

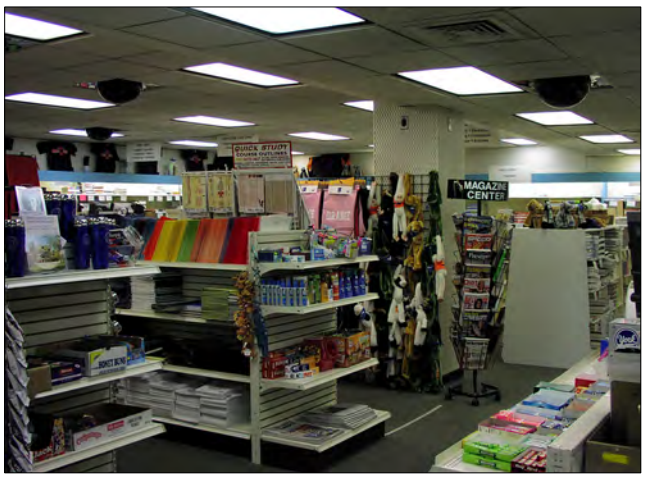
The College Commons is often the first stop for perspective students and their parents, and first impressions can have a significant impact on a student's college choice. For this reason, the following projects are recommended:

- Upgrade interior finishes and improve lighting. Upgrade the interior finishes and lighting throughout the building in conjunction with a Master Plan project to reconfigure and renovate the Commons.
- Renovate the cafeteria. The high school-type cafeteria should be updated. The existing kitchen equipment is 32 years old and should be replaced. Instead of duplicating the existing cafeteria set-up, however, the College should consider creating a food court where the cooking is done in front of the customers, not hidden in the kitchen. Many of OCCC's peers have moved



The cafeteria should be renovated to make it more appealing to students and the rest of the College community.

The third floor of the building should be completely renovated and reconfigured to streamline the delivery of student services to students.



The bookstore should be updated.

to this form of dining platform with great success. The dining area should also be updated to provide a greater variety of seating options. Tables, banquettes, and bar stool seating should be provided to create a more welcoming and user-friendly environment.

- Renovate the Student Services offices. OCCC was one of the first community colleges to create a "One Stop" student services center. The model has served students well for many years, but the offices on the third floor have become over-crowded and noisy. Walls have been reconfigured as departments have grown, making it difficult to balance temperatures and ventilation throughout the building. This is because the HVAC system has not always been reconfigured when walls have been moved. The Assessment Lab is located in a space that was not designed to accommodate the heat load from all of the computers. The entire third floor should be renovated, including the HVAC system, in conjunction with a Master Plan project to reorganize the Student Services area.
- Renovate the bookstore. The bookstore is in need of renovation. The bookstore manager would like to reconfigure the existing space to better serve students and improve operations.

ADA Issues

The College has completed much of the work identified in 1997 to bring the building into compliance with the Building Code and ADA requirements, including:

- Pay phone volume controls were installed.
- Accessible door hardware was installed throughout the building.
- Insulation was installed at toilet room lavatory piping.
- Accessible water fountains were installed.

The following projects are recommended as an extension of the work the College has already completed to make the building more accessible:

- Install ADA compliant signage.
- Improve access to Disability Services offices. As

Staff report that some disabled students have had difficulty maneuvering around the cramped Disability Services office area.

The new cooling tower is scheduled to come online in spring 2006.

part of the renovation of the third floor, improve accessibility to the office of Disability Services. Staff report that disabled individuals have had difficulty moving around the existing office.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning

Two important projects identified in 1997 have been completed by the College:

- The cooling tower and piping from the tower pumps was recently replaced. This unit will become operational in the spring of 2006.
- Controls were updated from pneumatic to electric switches and DDC controllers.

As reported in the 1997 Master Plan, space heating and cooling is inconsistent throughout the building. Occupants also report that ventilation is poor. The following projects are recommended to help eliminate these problems:

- Replace the cooling tower pumps and valves.
- Replace the kitchen exhaust hood.
- Replace all fin tube, cabinet heaters, and re-heat coils.
- Replace the three air-handling units, including economizers. Install air-handling units with economizers and re-zone the building based on the new configuration proposed in this Master Plan. This should help eliminate some of the air quality and temperature control problems.
- Investigate cause of excess humidity. Occupants report high humidity levels during warmer months. The humidity has damaged books in the bookstore and occasionally causes floors to become slippery. During summer months, the exterior doors should be kept closed to prevent hot, moist outside air from coming in contact with cooler building surfaces, as condensation can form resulting in slippery conditions. The humidity problem should be considered when the HVAC system is modified.

The boilers were recently replaced.

A displaced filter on an air-handling unit should be put back in place to improve indoor air quality in the Commons.

Black dirt can be seen at many air supply diffusers.

- Clean the supply and return air ducts. There is evidence of black dirt on the ceilings beside supply diffusers. This Master Plan recommends cleaning the supply and return ducts, and the air-handling units, including coils and outdoor air intakes. The cause of this streaking should be investigated. If the filters are torn or the air is bypassing the filters, this should be corrected. If deemed necessary, an electrostatic air precipitator could be installed to remove dirt from the building air system.

Interior Lighting and Wiring

Some new lighting fixtures have been installed. Additional projects recommended by this Master Plan include:

- Inspect and upgrade the electrical distribution equipment. Enlist a manufacturer's factory technician to extensively inspect, clean, repair, and conduct checks and infrared scans of the electrical bus work on all electrical distribution equipment. The system should be upgraded, as necessary.
- Replace electrical panelboards. Replace all Federal Pacific electrical panelboards with new boards by Square 'D' or equal. The existing panelboards are more than 30 years old and are at the end of their useful life.
- Increase the building's electrical capacity. Occupants report problems with thrown circuit breakers. New branch circuit panelboards should be added in selected areas to increase the number of pole spaces and provide capacity for current use and future growth. This will also allow for the proper separation of the lighting and convenience power circuits that are currently mixed. This should improve the situation in the Bursar's office where the electrical circuits regularly become overloaded when several pieces of office equipment are used at the same time.
- Upgrade lighting fixtures. Replace all existing "old-technology" lighting fixtures with new energy efficient units that use T-8 fluorescent lamps and electronic ballasts. The existing fixtures are old and are not energy efficient. Install additional fixtures, as needed, to improve lighting throughout the building.

- Upgrade the building security system. Provide additional surveillance camera and motion sensor coverage in the bookstore and cafeteria to complement the existing sensors. This would provide more complete coverage of these areas, as desired by Campus Security.
- Install public address and master clock systems.

Plumbing and Fire Protection

Additional recommendations:

- Replace the cafeteria kitchen equipment. As noted in the 1997 Master Plan, the kitchen equipment is original to the building and should be upgraded as part of the overall renovation of the cafeteria.
- Install a backflow preventer.

Greenhouse A

Greenhouse B

Greenhouses A & B

Building History and Use Summary

The two greenhouses near Horton Hall were part of the original Morrison estate. Greenhouse A served as a laboratory for a natural history course until the heating system failed in the early 1990s. Greenhouse B is a working greenhouse that houses the College's extensive tropical plant collection.

Building Condition Summary

Built in 1908, both greenhouses are in need of repair. The front portion of Greenhouse A received a new clay tile roof in 1995, but the remaining roof and all of the glazing is in poor condition and should be replaced. In addition, its stone walls need to be repointed. Greenhouse B's wood frame and glazing are also in poor condition and should be replaced.

Both buildings require new electrical, lighting and communication systems, new water distribution systems, and new radiant heating piping.

Building Exterior

P	Roof
P	Walls
P	Windows
F	Doors
P	Painting/Caulking
N/A	Steps/Ramps/Entrances
N/A	Plazas/Walkways

Building Interior

F	Floors
N/A	Walls
N/A	Ceilings
N/A	Doors
N/A	Stairs
N/A	Painting

Safety/Security Issues

N/A	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
N/A	Emergency Phones

Building Condition Assessment

Year Constructed: 1908
Gross Square Footage: 1,464 (each)
Number of Floors: 1 story

ADA Issues

F	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
F	Accessible Routes (Horizontal)
N/A	Accessible Routes (Vertical)
N/A	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
N/A	Drinking Fountains
N/A	Accessible Men's Rooms
N/A	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

PX	Heating/Cooling System
N/A	Chiller/Controls
PX	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
FX	Electrical Systems
PX	Fire Alarms/Smoke Detection
PX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
N/A	Technology/Communication
N/A	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Building Site

The gardens around the greenhouses are well maintained and provide a perfect spot for outdoor relaxation during warmer months. The plant starter beds used by the College's horticulturist are deteriorating, however.

- Repair the original plant starter beds. The stone walls should be repointed/reparged and structurally repaired, where necessary.

Building Exterior

Both of the greenhouses are in need of repair. The front section of Greenhouse A received a new tile roof in 1995, which is in excellent condition.

Exterior building projects that should be addressed within the next ten years include:

- Restore Greenhouse A for use as a laboratory/classroom: In the past, both greenhouses were used for science courses. Faculty would like to be able to use them for this purpose again. To make this possible, the metal roof, all of the glazing, and the entry door should be replaced. The stone walls should be repointed.
- Replace Greenhouse B's frame and glazing: Greenhouse B is a working greenhouse that is home to OCCC's extensive tropical plant collection. The existing glazing and frame are in poor condition. While it would be preferable to restore the greenhouse, it would less costly to replace the existing frame and glazing system with a prefabricated cap with either tempered glass or polycarbonate sheathing. The entry door should also be replaced.

Building Interior

A new gas-fired boiler that serves Greenhouse B was recently installed in Horton Hall. In order to make both buildings functional for academic purposes, however, the following projects are recommended for both buildings:

- Upgrade the electrical, lighting systems and communication systems. Install new lighting, telephone, data, electrical power feeders, panelboards and branch circuits in both greenhouses. The equipment is beyond its useful life and has been subjected to a high humidity environment for an extended period of time.
- Replace the water distribution system. The domestic water distribution system has deteriorated. It should be replaced from the water mains to the distribution points, including all of the controls. Include a reduced-pressure zone backflow preventer.
- Replace the radiant heating piping. Piping for the radiant heating system is deteriorating. It should be replaced back to the boiler room in Horton Hall. The controls should also be replaced.
- Connect Greenhouse A to the boiler in Horton Hall.

Harriman Hall

Building History and Use Summary

The 43 year old Harriman Hall houses many of the College's classrooms and science labs, faculty offices, the Writing Center (HA109), the Math Lab (HA309), and the Student Art Gallery. Many courses taught by the English and Math Departments, Business Management, and Arts and Communications are held in this building.

Building Condition Summary

Built in 1963, this is one of the College's older academic buildings. A new roof coating system with a ten-year warranty was installed in September 2001. The exterior curtainwall system is composed of single-pane windows and infill panels that are poorly insulated. According to Facilities staff, water finds its way down the side of the curtainwall system and into the basement. The College should replace the curtainwall system with a more efficient building skin.

This 55,000 gross square foot, three-story building has undergone many changes in the last ten years to improve accessibility. An elevator addition was constructed on the east side of the building. This addition, in conjunction with the installation of a new wheelchair lift at the first floor stair to lecture hall HA11, a new exterior concrete ramp that provides access to the northwest portion of the first floor, and the installation of lever door hardware, has greatly improved accessibility throughout the building. While the building's interior finishes have been well maintained, they appear tired and dated and should be replaced.

Four new roof-top HVAC units and three air-handling units have been installed since 1997. Many of the building's other HVAC, electrical and plumbing system components have reached the end of their useful life, however, and should be replaced.

Building Condition Assessment

Year Constructed: 1963
Gross Square Footage: 55,000
Number of Floors: 3 stories

Building Exterior

G	Roof
F/G	Walls
F	Windows
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
G	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
E	Elevators

Mechanical/Electrical/Plumbing Issues

F	Heating/Cooling System
N/A	Chiller/Controls
PX	Plumbing System/Fixtures
F	Pumps/Motors/Compressors
FX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
FX	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
G	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The exterior north stair is beginning to deteriorate and should be monitored.

Building Site

The building is located on the north side of campus, just west of Sarah Wells. It is cut into a hill so that two stories are visible from the south, while all three stories are visible on the north side of the building.

- A new exterior concrete ramp that provides access to the northwest portion of the first floor has replaced the original wood ramp.

The following site project is recommended:

- The exterior concrete stair at the north entrance plaza is showing signs of deterioration. It should be monitored and repaired, when necessary.

Building Exterior

The exterior of the building has been well maintained, but the curtainwall system is old and poorly insulated.

- The roof was recoated with a Dow Corning silicone/polyurethane foam roof coating system in September 2001. The ten-year warranty expires in 2011.

Exterior building projects that should be addressed within the next ten years include:

- Replace the curtainwall system. The building's skin is a combination of stone and brick veneer and an aluminum curtainwall system. The single-pane operable windows are set in anodized aluminum frames. The windows and the poorly insulated infill panels are not energy efficient and occupants report problems with cold drafts. In addition, the window operators in some rooms don't function well. The system should be replaced to reduce energy costs and improve occupant comfort.
- Recoat/resurface the roof. While the roof has recently been recoated, the College should be prepared to recoat the roof after the warranty expires in 2011.

The building's windows are in poor condition and they are not energy-efficient. The College should replace the curtainwall system.

The new elevator addition can be seen at the right of the photo. Small study spaces were created on the second and third floors in the elevator lobby area.

Science labs and lecture halls should be updated.

Building Interior

- Asbestos has been removed from areas that have been renovated. Asbestos abatement is an ongoing process as asbestos reportedly remains in some floor tile and pipe joints.

In order to maintain and upgrade the existing building, the following projects are recommended:

- Renovate the science labs. The existing science lab tables and casework, although well maintained, are beginning to show signs of age. A plan should be put in place to update science labs HA105, 107, 112, 312, 314 and 316 during the next ten years.
- Transform HA313 into a smart classroom. Renovate HA313 to create a tiered smart classroom complete with new chairs and tables, a teacher's station with a PC and internet connection, a ceiling-mounted projector, TV/DVD, and a Smart Board.
- Renovate the interior of the building. Update the interior finishes and lighting throughout to improve the building's appearance.

ADA Issues

The College has completed much of the work identified in 1997 to bring the building into compliance with the NYS Building Code and ADA requirements.

- An elevator addition was constructed on the east side of the building.
- A wheelchair lift was installed at the first floor stair to lecture hall HA11.
- Accessible door hardware was installed throughout the building.
- Modifications were made to toilet rooms to make them more accessible.

The following project is recommended as an extension of the work the College has already completed.

- Install ADA compliant signage.

The original boilers are past their useful life and should be replaced within the next ten years.

New control valves, dampers and suction diffusers should be installed.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

- The four rooftop HVAC units and three smaller air-handling units located in the penthouse were replaced. The project did include work on outdoor air intakes.

HVAC projects that should be addressed during the next ten years include:

- Replace unit ventilators and exhaust fans. The unit ventilators and exhaust fans are past their useful life and should be replaced. The 2006 Capital Budget already includes a line item to replace the unit ventilators.
- Replace the boilers. The boilers are original equipment and they have past their useful life expectancy by almost 20 years. They should be replaced.
- Replace pumps and valves. The hot water distribution pumps, including hydronic accessories and valves, should be replaced.
- Ventilate the art studios. A proper exhaust system should be installed in the first floor art studios.
- Replace control valves, dampers and suction diffusers. Control valves, dampers and suction diffusers should be replaced, as needed.
- Complete the installation of DDC controls. The boiler room systems and unit ventilators should be upgraded with DDC controls.

Interior Lighting and Wiring

- The lighting in lecture hall HA111 has been upgraded.

Electrical projects that remain include:

- Install a new electrical distribution system. This Master Plan recommends the replacement of the entire electrical distribution system with one based on providing both 480/277 and 120/208 volts.
- Complete lighting system upgrades. Replace the remaining "old-technology" lighting fixtures with new energy efficient units that use T-8 fluorescent lamps and electronic ballasts using a 277 volt system.

The building's main electrical disconnect switch and main distribution panel is located directly below an 8-inch sanitary line and clean-out. If modifications are made to either of these systems, it would be prudent to separate these two non-compatible systems.

- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

As noted in the 1997 report, the building does not have a sprinkler system. No work has been completed to date on upgrading the domestic water piping in the building.

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced as needed.
- Install a backflow preventer.

Horton Hall seen from the west entry drive.

The gardens around Horton Hall provide a beautiful retreat on the campus. Flowers can even be seen blooming in February, as shown above.

Horton Hall

Building History and Use Summary

Horton Hall celebrated its 100th year in 2006. This former carriage house is one of the most attractive buildings on campus. The 24,410 gross square foot structure currently houses Facilities Department offices, science labs, a tiered lecture hall, a student/faculty lounge, and campus storage in a portion of the basement. The building is connected to the Ice House and Morrison Hall via an underground tunnel that was originally used by estate employees. Horton Hall's central location, its historic character, and beautiful garden setting make it an ideal candidate for renovation and rehabilitation.

Building Condition Summary

The exterior of the building is in good condition. In 1995 a new tile roof was installed and the stone walls were repointed. The operable wood, single-pane windows are not energy efficient, but they are in reasonable condition.

The interior of the building retains much of the original ceiling, wall and floor finishes, including 9" x 9" asbestos tiles in the science labs. The original ceramic wall tiles and plaster ceilings can be seen throughout the building. Most are in good condition. The science labs, however, are in poor condition and will require a considerable investment to bring them up to today's standards. The tiered classroom is also antiquated.

The steam boiler has been replaced since the 1997 Master Plan, as has the hot water boiler that serves Greenhouse B. However, many of the HVAC, electrical and plumbing projects identified in 1997 have not been completed.

The College plans to install a Limited Use/Limited Application Elevator (LULA) in the building to provide an accessible route to the second floor.

Building Condition Assessment

Year Constructed: 1906
Gross Square Footage: 24,410
Number of Floors: 3 stories and a basement

Building Exterior

G	Roof
GX	Walls
FX	Windows
G	Doors
G	Painting/Caulking
F/G	Steps/Ramps/Entrances
F	Plazas/Walkways

Building Interior

F/G	Floors
G	Walls
G	Ceilings
G	Doors
F	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
F	Accessible Entrances
P	Accessible Routes (Horizontal)
P	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
P	Drinking Fountains
P	Accessible Men's Rooms
P	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

FX	Heating/Cooling System
N/A	Chiller/Controls
P	Plumbing System/Fixtures
N/A	Pumps/Motors/Compressors
PX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
PX	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The east, or rear, entrance to Horton Hall.

Elegant sconces grace the buildings exterior walls.

Building Site

Horton Hall is located northeast of the Bio-Technology Building, off Grandview Avenue.

The following site work has been completed since the 1997 Master Plan:

- The pedestrian entrance on the east side of the building was repaved and a handrail was installed between the loading dock and the walkway.

Recommendations for site-related projects in the area around Horton Hall have been included in the Site and Campus Infrastructure section of this report.

Building Exterior

The exterior of the building is in good condition, although the single-pane wood windows are not energy efficient. The relatively new tile roof, repointed stone walls, copper gutters and elegant wall sconces reflect the character and dignity of this historic structure.

Building Interior

The College has made some upgrades since 1997, including:

- Moving Shipping and Receiving out of the first floor and into the former Heating Plant building. The wood stairs and platforms that were in this area have been removed and the space is now used as a student/faculty lounge.
- Accessible door hardware was installed throughout the building.

Given its current condition, the College should minimize the use of this building for academic purposes. The narrow corridors, lack of accessible toilet rooms, and antiquated science labs and tiered classroom do not provide appropriate spaces for learning. However, if the College wishes to continue to use Horton Hall for instruction, the following projects are recommended:

The science labs and tiered lecture hall should be completely renovated to provide more appropriate learning environments.

- Renovate science labs. Completely renovate labs HO102, 107, 108, 112 and 113. Install new furnishings and provide new technology to transform these spaces into smart classrooms.
- Upgrade tiered classroom HO101. The swivel, tablet-arm seating does not comfortably accommodate many of today's students. The College should consider replacing the rooms furnishings with seats and tables similar to those found in BT311.
- Renovate faculty offices. Some faculty offices are in former storage rooms which may lack proper ventilation and lighting.
- Address water infiltration issue in the basement. A portion of the basement is currently being used for storage, but only certain items can be kept in this space due to the continuing water infiltration problem. Water enters the basement via the service tunnel. (See a discussion of the tunnel in the Site and Campus Infrastructure section of this report.) Water also weeps up from around the floor in some areas. Once the water infiltration in the tunnel has been eliminated, the basement should be monitored carefully to determine whether the problem continues. If it does, a site drainage system may need to be installed around the building to eliminate the water problem.
- Create a code-compliant second means of egress from the second floor. A wooden stair with four risers provides access to the 57" high door to the fire escape on the second floor. Fire escapes are not permitted as a mean of egress. The College should build a second means of egress from the second floor when the building is renovated.

ADA Issues

- Lever door hardware was installed throughout the building.

The following projects are recommended to continue the College's ongoing accessibility improvements:

- Install an elevator. An elevator (or platform lift) should be installed to provide access to the offices and meeting spaces on the second floor.

This space is used as a faculty office and for storage.

The second means of egress from the upper floor is via a 57" high door that leads to a fire escape. The College should construct an additional, code-compliant means of egress to serve the upper floor when the building is renovated.

- Create accessible toilet rooms. Completely renovate and reconfigure the first floor toilet rooms to make them accessible. Currently there is only 19-1/4" between the wall and the doors to the toilet stalls in the women's toilet room.
- Install ADA compliant signage.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

The following projects identified in the 1997 Master Plan have been completed:

- The steam boiler was replaced.
- The hot water boiler serving Greenhouse B was replaced.

This Master Plan recommends that the following HVAC projects be addressed in the next ten years:

- Examine boiler piping. The piping for the new boiler should be examined to verify that it conforms to the manufacturer's recommendations.
- Replace the steam traps throughout the building.
- Upgrade the HVAC system. The entire HVAC system, including controls, should be upgraded to improve temperature control and ventilation throughout the building.
- Introduce outside air for improved ventilation. Outdoor air is not provided to any portion of the building other than through operable windows. A dedicated outdoor air system should be installed to supply fresh air to building occupants as required by the NYS building code.

Water can be seen seeping into the basement of Horton Hall at the base of the service tunnel door, shown above. Water infiltration also occurs at the base of the basement wall, as shown below.

Interior Lighting and Wiring

Electrical projects that should be addressed in the next ten years include:

- Installation of a new electrical distribution system. Install a new electrical distribution system throughout the building to provide both 480/277 and 120/208 volts.
- Update the lighting system. Provide a new lighting system throughout the building utilizing a 277 volt system. Upgrade the existing lighting fixtures to more energy efficient units with T-8 or compact fluorescent lamps and electronic ballasts. The existing lighting fixtures are past their useful life.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

As noted in the 1997 report, the building does not have a sprinkler system. No work has been completed to date on upgrading the domestic water piping in the building.

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced, as needed.
- Install a backflow preventer.

New windows were installed to improve energy efficiency and occupant comfort.

Hudson Hall

Building History and Use Summary

Built in 1955, Hudson Hall was the first building constructed specifically for the College on the Middletown Campus. It houses classrooms, natural history and biology labs, two small lecture halls, and faculty offices. The building is physically connected at both levels to the Bio-Tech Building.

Building Condition Summary

The exterior of this 51 year old, two-story building is in fairly good condition. New windows were installed in 1997 in an effort to improve energy efficiency and occupant comfort. The remaining curtainwall infill panels, however, are poorly insulated. The roof, recoated in 2005, carries a ten-year warranty.

The interior of the building is in poor condition. The College has installed new suspended acoustical ceilings and lighting fixtures in some areas, and improved accessibility in the building through the addition of lever door hardware and modifications to toilet rooms, but most spaces look dated and worn. The science labs, classrooms, and lecture halls are all in need of upgrades.

The HVAC system is old and inadequate. Occupants complain about the lack of temperature control and poor ventilation. New ventilation and air-conditioning systems are needed to provide code-required fresh air to building occupants. A new electrical distribution system is required, as are additional upgrades to the lighting system. The domestic water piping is also in poor condition due to oxidation of the copper pipes.

Building Condition Assessment

Year Constructed: 1955
Gross Square Footage: 15,918
Number of Floors: 2 stories; connected to the Bio-Tech Building

Building Exterior

G	Roof
F	Walls
G	Windows
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

F	Floors
F	Walls
F	Ceilings
F	Doors
F	Stairs
F	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

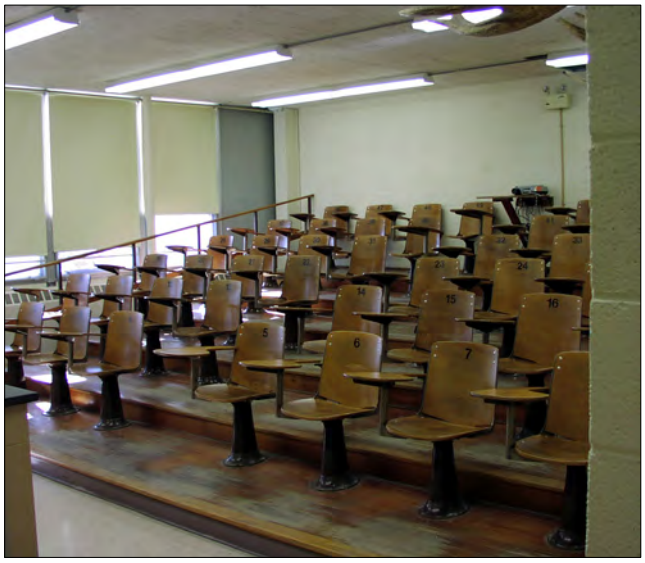
G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
P	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
N/A	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

PX	Heating/Cooling System
N/A	Chiller/Controls
F	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
PX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
F	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

All four science labs should be renovated.



Both lecture halls should be transformed into smart classrooms with improved lighting and seating. ADA compliant viewing stations should also be provided.

Modifications to the toilet rooms have made them more accessible, but aesthetic improvements are still needed.

Building Exterior

The exterior of the building is in good condition. Since 1997 the College has completed the following projects:

- New windows, installed in 1997, replaced the original deteriorating, single-pane windows. The poorly insulated curtainwall infill panels remain.
- The roof was recoated in 2005 with a BASF silicone/polyurethane foam roof system that has a ten-year warranty.

Building Interior

- New suspended acoustic ceilings were installed in some areas.

The College should consider undertaking the following projects:

- Renovate the science labs. Science labs HU101, 104, 105 and 108 are outdated and should be completely renovated with new furnishings, lighting and technology.
- Upgrade the lecture halls. Both lecture halls should be transformed into smart classrooms with up-to-date technology, improved lighting and more appropriate seats and tables. ADA compliant viewing stations should also be provided.
- Update all classrooms. The finishes, lighting and technology in all of the classrooms should be updated.
- Improve the appearance of the toilet rooms. The toilet rooms should be renovated to improve their appearance.

ADA Issues

The College has worked diligently to improve accessibility in Hudson Hall.

- Modifications were made to the toilet rooms to make them more accessible.
- Lever door hardware was installed throughout the building.

The following project is recommended:

- Install ADA compliant signage.


New boilers were recently installed.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Since the 1997 Master Plan, the following work has been completed:

- New DCC controls were installed.
- New cast iron boilers were installed.

The 1997 Master Plan noted that space heating and cooling was inconsistent and that ventilation was poor throughout the building. These issues persist. Therefore, HVAC projects that should be addressed in the next ten years include:

- Install new air-handling units.
- Install an air-conditioning and ventilation system. A new air conditioning and ventilation system should be installed. There is currently no air system in place.

Interior Lighting and Wiring

Required electrical projects include:

- Install a new electrical distribution system. This Master Plan recommends the replacement of the entire electrical distribution system to provide both 480/277 and 120/208 volts.
- Upgrade the lighting system. Replace the existing lighting system with new energy efficient lighting fixtures that use T-8 fluorescent lamps or compact fluorescent lamps and electronic ballasts and a 277 volt system. The existing fixtures are old and are not energy efficient.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

Recommended projects:

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced, as needed.
- Install a backflow preventer.

Ice House

Building History and Use Summary

Constructed in 1900 as an ice storage facility, this 9,330 square foot stone structure stands on the east edge of the main campus quad. The building currently houses the College's electrical switchgear equipment. It is connected via tunnels to Morrison and Horton Halls.

Building Condition Summary

With the exception of the windows and entry doors, the exterior of this elegant building is in good condition. A new clay tile roof was installed in 1991. An exterior stair leads to the basement of the building. There is no internal connection between the upper floor and the basement.

The electrical switchgear in the Ice House is due to be replaced, along with the campus underground electrical distribution system. As a result, the College has the unique opportunity to reclaim this historic building for some other use. As part of this Master Plan, the College should consider installing the new switchgear equipment in a different location and transforming this centrally located architectural gem into a facility that supports and enhances the life of the College community.

Building Exterior

G	Roof
G	Walls
PX	Windows
F/G	Doors
G	Painting/Caulking
N/A	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

N/A	Floors
N/A	Walls
N/A	Ceilings
N/A	Doors
N/A	Stairs
N/A	Painting

Safety/Security Issues

N/A	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
N/A	Emergency Phones

Building Condition Assessment

Year Constructed: 1900
Gross Square Footage: 9,330
Number of Floors: 1 story; tunnels to Horton and Morrison Halls

ADA Issues

P	Exterior Doors (Hardware and Clearances)
P	Accessible Entrances
P	Accessible Routes (Horizontal)
N/A	Accessible Routes (Vertical)
N/A	Interior Doors (Hardware and Clearances)
N/A	Signage
N/A	Telephones
N/A	Assistive Listening Devices
N/A	Drinking Fountains
N/A	Accessible Men's Rooms
N/A	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

N/A	Heating/Cooling System
N/A	Chiller/Controls
N/A	Plumbing System/Fixtures
N/A	Pumps/Motors/Compressors
FX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
PX	Emergency Generators
N/A	Boiler/Controls
PX	Electrical Lighting Systems
N/A	Technology/Communication
N/A	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Snow falls from the roof and piles up in front of the building's two secondary doors. The main door to the upper floor is seen on the left.

Dirt, leaves and other debris found throughout the upper floor of the building can infiltrate the transformers as there are no filters on these older units.

Building Exterior

The exterior of the building appears to be in good condition.

- In 1991 a new clay tile roof was installed and the copper gutters where repaired.

Building Interior

The interior of the building is not insulated and it is unfinished. The walls are brick and the floor is concrete. The upper floor houses the College's main switchgear equipment, transformers, and an abandoned diesel-powered emergency generator. The lead-acid battery pack for the generator is also still in the building. Dirt, leaves, and other debris were found throughout the upper floor. This is problematic as the old transformers do not have filters to prevent this material from getting inside the equipment where it could do damage. Squirrels also reportedly have found their way into the building.

There is no internal connection between the upper floor and the basement. Electrical cables run from the switchgear equipment through the floor to a junction box in the basement. From there the cables run underground in conduits to the various campus buildings. There is an ongoing problem with water infiltration in the basement that has caused extensive damage to the junction box.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

There are currently no heating, ventilation or air conditioning systems that service the building.

If the building continues to house the College's switchgear equipment, the following project should be completed:

- Replace the actuators and dampers. The fresh air dampers that control the outdoor air that is admitted to the building to cool the equipment are not operational. The linkages from the actuators were not attached. The actuators and dampers should be replaced.

The switchgear equipment is well past its useful life and should be replaced.

Water infiltration in the basement has caused the junction box to deteriorate. See the Site and Campus Infrastructure section of this report for a more detailed discussion of this problem.

Interior Lighting and Wiring

The building is lit via fluorescent fixtures that are hung from the ceiling.

Learning Resources Center

Building History and Use Summary

The 33 year old Learning Resources Center is located at the corner of South Street and East Conkling Avenue. It houses the College Library, an open computer lab, Learning Assistance Services (tutoring and developmental education), offices for Assistant Vice Presidents of the College and for SUNY New Paltz continuing education, and the new Information Commons.

Building Condition Summary

The 48,797 gross square foot Learning Resource Center has two stories and a basement. Recent renovation work on the first floor was extensive and includes the creation of a new Learning Commons with new training and computer lab space. The Circulation Desk was being enlarged, and finishes and lighting were upgraded.

On the second floor, new finishes, lighting, and furnishings have been installed. A small suite of offices for the Assistant Vice Presidents (AVPs) of the College has been created in the northeast corner of the building. ADA compliant toilet rooms have been created on both floors and lever door hardware has been installed throughout.

While a new cooling tower, chiller, and direct digital HVAC controls have been installed, many of the building's HVAC components have reached the end of their useful life and should be replaced. In addition, the electrical distribution system also needs to be replaced.

Building Condition Assessment

Year Constructed: 1973
Gross Square Footage: 48,797
Number of Floors: 2 stories and a basement

Building Exterior

F	Roof
G	Walls
G	Windows
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
E	Drinking Fountains
E	Accessible Men's Rooms
E	Accessible Women's Rooms
G	Elevators

Mechanical/Electrical/Plumbing Issues

F	Heating/Cooling System
PX	Chiller/Controls
G	Plumbing System/Fixtures
F	Pumps/Motors/Compressors
FX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
N/A	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The newly renovated stack area on the second floor.

Renovations are underway on the first floor. This is a view past the new circulation desk on the right into the future Information Commons.

Building Exterior

The exterior of the building appears to be in relatively good condition.

- The roof was recoated with a Dow Corning silicone/polyurethane foam system in 1990. The College planned to recoat the roof in late 2006.

The following work should be addressed within the next few years:

- Replace the windows. Solar heat transmitted through the single-pane windows makes rooms too hot, especially on the west side of the building. Cigarette smoke from outside reportedly filters in through the fixed windows, annoying building occupants. The windows should be replaced to improve energy efficiency and occupant comfort.

Building Interior

The College is in the process of completely renovating the building. When the renovations are compete the finishes and lighting on both floors will all be new.

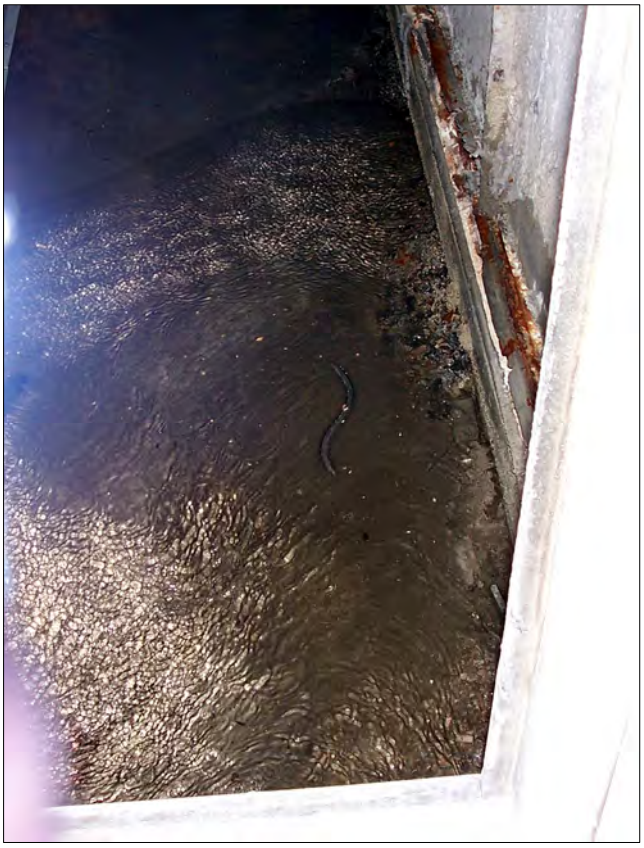
ADA Issues

The College has completed the following work to make the building more accessible:

- Fully accessible toilet rooms were created on both floors.
- Accessible water fountains were installed on both floors.
- Lever door hardware was installed throughout the building.

The following work is recommended to continue the College's ongoing accessibility improvements.

- Install ADA compliant signage.



The source of the standing water in the cooling pan of the air-handling unit should be found and eliminated. This moisture source has added to the deterioration of the building's electrical distribution system.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects identified in the 1997 Master Plan that have been completed include:

- The installation of a new cooling tower and chiller.
- Direct digital controls were installed.
- A new chiller was installed in February 2006.

Occupants report the computer lab on the first floor is often too hot due to the large number of computers in the room. In addition, the new AVP offices reportedly have insufficient ventilation. Spaces on the west side of the building, especially room 105, become uncomfortably hot in the afternoon, presumably due to thermal gain through the single-pane windows. The following HVAC-related projects are recommended:

- Upgrade the HVAC system. This upgrade should include the installation of new cooling tower pipes, circulating pumps, fin-tube radiation, convectors, cabinet heaters, and all exhaust fans. Special attention should be given to providing sufficient ventilation and air-conditioning in offices, the computer lab and the new training rooms.
- Eliminate standing water under the AHU unit. Water was found in the cooling pan of the air-handling unit (AHU). The source of this water should be investigated and any cracks found in the AHU base should be repaired. In the future when this unit is replaced, a smaller, more appropriately sized air-handling unit should be installed. The current unit appears to be over-sized.
- Minimize solar gain. The College should install new insulated windows designed to keep heat out of the building in the summer and in the building during the winter.

The new circulation counter, under construction.

Interior Lighting and Wiring

- Lighting fixtures have been replaced throughout the building.

The following projects are recommended:

- Provide a new electrical distribution system throughout the building. A new electrical distribution system that provides both 480/277 and 120/208 volts should be installed. The existing system is more than 30 years old and has been subject to a high humidity environment. In addition, modifications to the system should be made to support new HVAC equipment, as required.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

Recommended project:

- Install a backflow preventer.

Morrison Hall

Building History and Use Summary

Morrison Hall, originally the private residence of the Morrison family, was donated to the College in 1950. The building's rich interior features Tiffany light fixtures, exquisite woodwork and plaster ceilings, and C.W. Dodge ceiling murals. The former mansion currently houses administrative and academic offices. The Honors Program is located in the basement.

Building Condition Summary

This 31,330 square foot building, constructed in 1900, was fully renovated to its original splendor in 1990. When the new clay tile roof was installed, however, the original steam gutters were not duplicated. Snow and ice fall from the steeply sloped roof directly over building entrances, presenting a potential hazard to pedestrians below. A snow-melt system, possibly in conjunction with snow diverters, should be installed at strategic locations. The building's windows are original units that ideally should be refurbished with insulated glazing or replaced with historically appropriate units.

Snow and ice falling from the roof pose a potential hazard to pedestrians below.

The interior of the building is beautifully appointed and well maintained. The historical character of the mansion makes it a challenge to upgrade the HVAC and lighting systems to a level compatible with today's expectations. However, lighting upgrades such as the installation of new lamps or additional fixtures that provide appropriate lighting levels should be made in office areas to improve worker comfort and productivity.

Building Condition Assessment

Year Constructed: 1900
Gross Square Footage: 31,330
Number of Floors: 4 stories and a basement

Building Exterior

F/G	Roof
G	Walls
FX	Windows
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
G	Elevators

Mechanical/Electrical/Plumbing Issues

G	Heating/Cooling System
N/A	Chiller/Controls
PX	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
G	Electrical Systems
G	Fire Alarms/Smoke Detection
G	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
G	Electrical Lighting Systems
G	Technology/Communication
N/A	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Damage to flat roof sections has affected the ceilings below.

Gutters originally used steam to help melt snow and ice on the roof. This system was not duplicated when the new clay roof was installed.

Building Exterior

The exterior of the building is in good condition. Since 1997 the following exterior work has been completed:

- The exterior chair lift on the southeast side of the building was replaced with a concrete ramp.

Exterior building projects that should be addressed within the next ten years include:

- Repair the flat roofs and exterior ceilings. Repair the two flat roofs and install pavers to protect the roof membranes from falling snow and ice. Repair the damaged plaster ceilings below the flat roofs at the porte-cochere and rear porch.
- Add a snow-melt system to the roof. Install a snow-melt system in conjunction with snow diverters to prevent snow and ice from falling on pedestrians at building entrances.
- Replace the windows. The existing operable wood frame, single-pane, double-hung windows are not energy efficient and occupants report they are the source of cold drafts during winter months. While the cost to properly replace these windows with historic-looking units will undoubtedly be high, there may be an opportunity to pursue grants or special fundraising options to replace the windows.
- Repair the concrete ramp. Repair the spalling surface of the new exterior concrete access ramp on the east side of the building.

Building Interior

The building was renovated in 1990 and the interior remains in very good condition. Asbestos is reportedly present in basement ceilings and other isolated locations, such as pipe joints. Asbestos should be abated as areas of the building are renovated.

- Improve lighting in offices. Occupants complain that lighting is poor in the building. Additional, appropriate lighting fixtures should be installed.

ADA Issues

The following project is recommended to continue the College's ongoing accessibility improvements.

- Install ADA compliant signage.

Deteriorating cooling tower piping in the service tunnel.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects that should be addressed in the next several years include:

- Reroute cooling tower piping. The piping serving the cooling tower travels through the tunnel to Horton Hall. This piping is deteriorating due to the humid conditions in the tunnel. The deterioration is not an immediate concern but should be addressed in the next few years.

Interior Lighting and Wiring

- Inspect and upgrade the electrical distribution equipment. Enlist a manufacturer's factory technician to extensively inspect, clean, repair, and conduct checks and infrared scans of the electrical bus work on all electrical distribution equipment to assess the integrity of the insulation supports of the bus work and the insulation of the conductors.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

As noted in the 1997 Master Plan, the building's piping was not replaced due to a lack of funding when the building was renovated in 1990.

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced, as needed.
- Install a backflow preventer.

Orange Hall

Building History and Use Summary

Orange Hall was constructed in 1958. Originally the building housed the women's gymnasium and the dining hall. The former gym was renovated for business office use in 1993. The facility is now home to the Arts and Communications Department, the College's theater, Campus Safety, and administration functions such as Payroll, Human Resources, Accounting and the Controller.

Building Condition Summary

The exterior walls and a portion of the roof that was recently recoated are in good condition. However, the remainder of the roof needs to be recoated and the existing curtainwall and windows should be replaced. Occupants have requested that operable windows be installed in areas that have been converted to office space to help provide natural light and improve ventilation.

While the College has worked diligently to maintain and improve the interior of this 48 year old building, significant needs and challenges remain. Issues that should be addressed include acoustical separation problems throughout the building, insufficient ventilation and poor thermal control, inaccessible practice rooms and classroom space, inadequate office, storage, and practice space for the Arts and Communications Department, the limited size of the theater stage, and the overall tired and worn look of the building. Given the extent and complexity of these issues, this Master Plan recommends a top-to-bottom renovation of the entire building, including a complete overhaul of all building systems.

Building Condition Assessment

Year Constructed: 1958
Gross Square Footage: 47,478
Number of Floors: 2 stories

Building Exterior

F/G	Roof
G	Walls
PX	Windows/Curtainwall
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

G	Floors
G	Walls
G	Ceilings
F	Doors
F	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
F	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
G	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
G	Elevators

Mechanical/Electrical/Plumbing Issues

G	Heating/Cooling System
N/A	Chiller/Controls
F	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
FX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
PX	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
F	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

A new concrete accessibility ramp was installed at the south entrance of the building. A new site stair (below) was constructed on the west side of the building.

Building Site

Orange Hall is located at the northeast corner of the campus adjacent to the College's largest parking lot. The following site work has been completed since the 1997 Master Plan:

- A concrete accessibility ramp was installed at the south entrance (lower level) of the building.
- A new site stair was created on the east side of the building, improving access from the parking lots to the campus core.

Building Exterior

With the exception of the windows, the exterior of the building is in good condition.

- In 2005 a portion of the roof was recoated with a BASF silicone/polyurethane foam roof system when the new roof-top HVAC equipment was installed. The roof system carries a ten-year warranty.

Exterior building projects that should be addressed within the next ten years include:

- Recoat remaining portions of the roof. While water damage visible in two areas of the masonry theater walls appears to be the result of roof leaks that have been repaired, occupants report recent leaks in the theater storage area. All portions of the roof that were not recoated in 2005 were scheduled to be recoated in late 2006.
- Remove the satellite dish from the roof. The satellite dish on the roof is no longer in use and should be removed.
- Replace the existing curtainwall system and windows. Occupants report wind-blown rain seeps in at the single-pane windows. The curtainwall system and all original windows should be replaced. In order to do this, however, the Facilities Department reports that a new steel structure will be needed to support the new curtainwall system, as it will be heavier than the existing system.
- Install additional windows. Install operable windows in Payroll and Human Resources offices, and in offices located in the former gymnasium.

Accessibility improvements include the installation of two vertical lifts and a wheelchair lift, the installation of lever door hardware, and modifications to toilet rooms.

Building Interior

The College has completed many of the projects that were recommended in 1997, including:

- New ceilings and lighting fixtures were installed throughout the building.
- New theater stage lighting fixtures were installed in 1997.

Interior building issues that remain include:

- Poor acoustical separation throughout the building. Students practicing the piano can be heard in the administration area in the old gymnasium.
- Due to the size and configuration of the Arts and Communications Department main office (OR127), furnishings limit access through the room and from OR126, which is used as a classroom. A clear egress path should be maintained through this room at all times.
- In general, the finishes throughout the building look tired. The entire building could use a face lift.
- Faculty report that the plaster ceiling above the stage is deteriorating, resulting in white flakes on the stage below. This situation should be assessed and corrected.

ADA Issues

A significant amount of work has been completed to improve building accessibility and code compliance:

- Two limited use, limited application (LULA) vertical lifts have been installed. One is located in the administrative office area in the old gymnasium, and the other is located adjacent to the main building stair.
- A new wheelchair lift has been installed in the upper floor corridor outside of the theater entrance.
- Lever door hardware was installed throughout the building and panic hardware has been installed at appropriate locations.
- Modifications in toilet rooms have made them more accessible.

Music practice rooms are small and acoustical separation is poor.

Roof-top air-conditioning equipment can be seen on the roof of Orange Hall.

Improving accessibility has been a challenge due to the building's multiple levels. While vertical accessibility through the building has been significantly improved, some areas remain out of reach to disabled individuals.

- The music practice rooms, computer lab, classroom/conference room and the piano practice room located on the west side of the upper level are inaccessible due to stairs located in the corridor outside room 132. Given the width of the corridor, it would be difficult to improve access in this area.
- Occupants report that disabled individuals have difficulty opening the lower door of the new chair lift due to the slight ramp at the base of the unit.

Recommended projects:

- Install an assistive listening system in the theater. The theater is not equipped with the required assistive listening devices.
- Install ADA compliant signage. ADA compliant signage should be installed throughout the facility as part of a campus-wide signage upgrade program.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects identified in the 1997 Master Plan that have been completed include:

- New central station air-handling units were installed.
- Exhaust fans were replaced, including new fans in the dark room.
- Air conditioning was provided for the theater.
- A new DDC control system was installed.
- The air and water system was balanced.

Occupants report that it is difficult to control the temperature in the building. In addition, they complain of poor ventilation, especially in rooms 108 and 109.

The two old boilers should be replaced.

The following HVAC projects should be addressed in the next ten years:

- Install two new boilers. The two older boilers should be replaced.
- Provide air conditioning in all areas of the building. Air conditioning should be installed in all portions of the building that are not currently air conditioned.
- The copy room exhaust fan should be used. The exhaust fan in the copy room should be left on, preferably all the time and at a minimum when the space is occupied. Removing air-borne particulates is essential to maintaining acceptable indoor air quality levels.

Interior Lighting and Wiring

Electrical improvements that have been made since the 1997 Master Plan include:

- The installation of some new distribution panelboards.
- New lighting fixtures were installed in many areas of the building.

Electrical projects that remain include:

- Installation of a new electrical distribution system. This Master Plan recommends the replacement of the entire electrical distribution system with one that provides both 480/277 and 120/208 volts.
- Complete lighting system upgrades. Replace the existing lighting system with new energy efficient lighting fixtures that use T-8 fluorescent lamps or compact fluorescent lamps and electronic ballasts and a 277 volt system. Many of the existing fixtures are old and are not energy efficient.
- Update the fire alarm system.
- Install public address and master clock systems.

A backflow preventer should be installed at the boiler connection to protect the domestic cold water system.

Plumbing and Fire Protection

As noted in the 1997 report, the building does not have a sprinkler system. No work has been completed to date to upgrade the domestic water piping in the building.

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced, as needed.
- Install a backflow preventer.

Physical Education Building

Building History and Use Summary

The Physical Education Building, constructed in 1974, is one of the newest buildings on the Middletown Campus. It houses a large gymnasium that can be divided into three areas via moveable partitions, a competition-size pool, a fitness center, dance studio, locker rooms, classrooms, and faculty offices.

Building Condition Summary

The exterior of the 89,295 square foot building is in relatively good condition. A new roof was installed in 1999 and the exterior walls, while requiring some repointing, appear to be in good shape.

This Master Plan recommends the installation of a new gymnasium floor, new gym dividing partitions, and new bleachers. The suspended ceiling over the pool should be removed and new lighting fixtures and acoustic control panels should be installed. In addition, an elevator addition should be constructed to provide an accessible route between the two floors. The men's locker rooms should be renovated and made more accessible.

The HVAC system has been upgraded in the last few years, but a new, small, high-efficiency boiler is needed to reduce energy costs. Currently the large 600-Hp boiler is used during warmer months to heat the pool and provide hot water for showers, which is not an energy efficient practice. A dedicated ventilation/heating system is needed in the natatorium to control humidity. This Master Plan recommends that the College consider providing air conditioning in the gymnasium.

Building Condition Assessment

Year Constructed: 1974
Gross Square Footage: 89,295
Number of Floors: 2 stories

Building Exterior

G	Roof
G	Walls
GX	Windows
G	Doors
F	Painting/Caulking
F	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

F/G	Floors
G	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
G	Accessible Entrances
G	Accessible Routes (Horizontal)
P	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
G	Telephones
N/A	Assistive Listening Devices
G	Drinking Fountains
G	Accessible Men's Rooms
G	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

G	Heating/Cooling System
N/A	Chiller/Controls
F	Plumbing System/Fixtures
F	Pumps/Motors/Compressors
FX	Electrical Systems
FX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
G	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

Damaged site stair lighting fixtures should be replaced.

Deteriorating mortar joints should be raked and repointed to prevent further damage to the wall system.

Building Site

The Physical Education Building is located on the west side of East Conkling Street, adjacent to the College's tennis courts and softball field.

- Replace site stair lighting fixtures. The lighting fixtures in the site wall north of the main entrance stair to the upper level are broken and should be replaced.

Building Exterior

The exterior of the building is generally in good condition.

- A new roof system, installed in 1999, carries a ten-year warranty.

Exterior work that should be addressed:

- Repoint deteriorating mortar joints. Mortar joints are showing signs of deterioration at several locations around the building, particularly at the sloped sills beneath windows. All deteriorating joints should be raked and repointed to prevent further deterioration of the exterior wall system.
- Recoat/resurface the roof. The roof warranty expires in 2009. Therefore, the College should be prepared to recoat the roof within the next ten years.

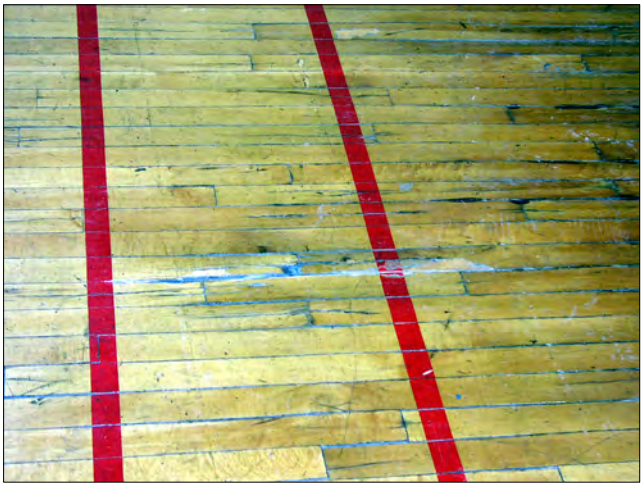
Building Interior

Since the 1997 Master Plan, the College has completed several interior projects.

- Most concealed spline ceilings were replaced with suspended acoustic tile ceilings.
- The women's locker rooms were renovated and are accessible.
- PE231 and PE232 were converted for use as a Fitness Center.

This Master Plan recommends that the College undertake the following projects:

- Replace the gymnasium floor, bleachers and partitions. The existing floor is in poor condition. Some areas are badly damaged and present a



The gymnasium floor is in poor condition. It should be replaced and new bleachers and partitions should be installed.

The suspended ceiling above the pool should be removed and the lighting fixtures should be replaced.

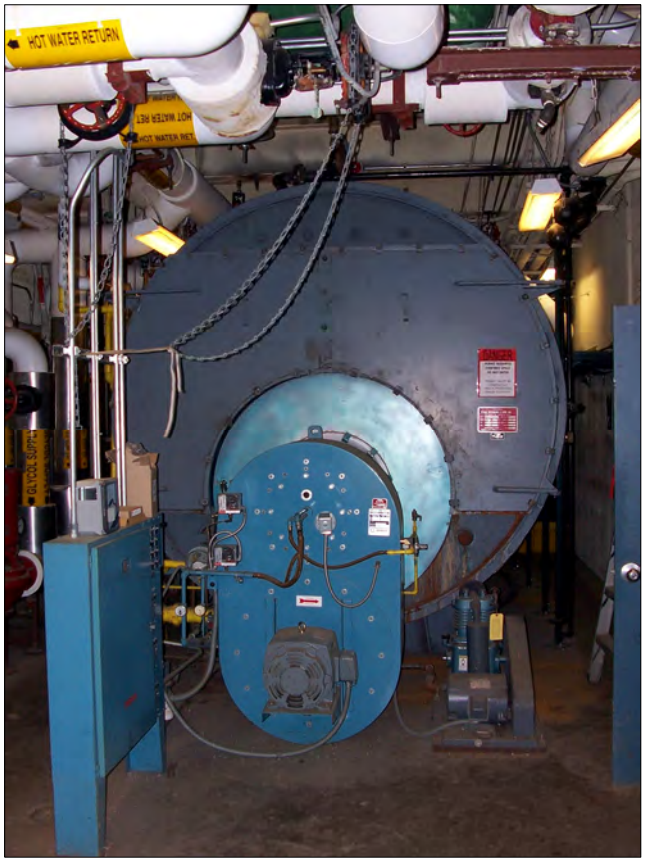
potential tripping hazard. The bleachers are in failing condition and they damage the gym floor when opened and closed. The partitions do not work properly. The flooring, bleachers and partitions should all be replaced. Faculty would like to maintain at least one solid partition in the gym. The second partition could be replaced with netting.

- Remove the suspended ceiling system and replace the lighting fixtures above the pool. The ceiling in the pool area appears to be in poor condition and should be removed to eliminate the possibility of it falling into the pool. The building framing and floor structure above should be exposed, cleaned and coated with an epoxy finish to prevent deterioration. Perforated co-polymer covered acoustic panels should be installed to control noise in the natatorium. New lighting fixtures designed for high humidity environments should be installed.
- Resurface racquetball court walls. The walls in the racquetball courts are deteriorating, depositing a powdery substance on the courts. They should be resurfaced.
- Repair damaged racquetball court floor. The floor in one of the racquetball courts was damaged when a roof top air-handling unit developed a leak. The floor should be repaired.
- Replace pool cleanout basket. Faculty reports that the pool cleanout basket is rusted in place. It should be replaced. The pool was scheduled to be regrouted during the summer of 2006.

ADA Issues

The following projects are recommended to continue the College's ongoing accessibility improvements.

- Install an elevator. There is no accessible route from the lower level to the upper level. This is especially problematic as the locker rooms are on the lower level and the gymnasium is on the upper lever. An elevator addition should be constructed to eliminate this problem.
- Renovate the men's locker rooms to make them accessible. Faculty report that the men's locker rooms are not fully accessible. Steps should be taken to make them accessible.
- Install ADA compliant signage.



A small boiler should be installed for summer use so the large 600-Hp boiler shown above does not have to be used during summer months.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects identified in the 1997 Master Plan that have been completed include:

- Air-handling units were replaced.
- Vibration from the Magic Air units was corrected.
- HVAC controls were upgraded to DDC controls.
- The air and water systems were balanced.

HVAC projects that should be addressed in the next ten years include:

- Installation of a small boiler for summer use. A gas-fired, high-efficiency boiler should be installed to handle the small load that is imposed by heating the swimming pool and providing hot water for showers. It is not cost effective to use the large 600-Hp boiler for this purpose during the summer months.
- Provide humidity control in the natatorium. Natatorium conditioning equipment designed for pool ventilation, heating and humidity control should be installed.
- Air condition the gymnasium. The gym and the adjacent room used for spinning classes are not air-conditioned. During warmer months the gym becomes uncomfortable. An attempt was made to cool the room used for spinning by cutting a hole through the wall to the air-conditioned dance studio and installing a through-wall fan. This has not been successful, as faculty report the spinning room is still overly hot. The College should consider providing air conditioning in the gym and adjoining spaces.

Interior Lighting and Wiring

There are several electrical projects that should be addressed:

- Clean/repair the electrical distribution equipment. The electrical distribution system should be inspected and cleaned. Repairs should be made, as necessary.

- Replace outdated branch circuit panelboards and distribution panelboards. Replace the existing "Lincoln Electric" branch circuit panelboards on each floor and the existing "Lincoln Electric" distribution panelboards as they are all at the end of useful life.
- Increase capacity of the electrical system. Add new branch circuit panelboards in selected areas to increase the number of pole spaces and provide capacity for future growth.
- Upgrade the lighting system Replace the existing lighting system with new energy efficient lighting fixtures that use T-8 fluorescent lamps or compact fluorescent lamps and electronic ballasts and a 277 volt system. Many of the existing fixtures are old and are not energy efficient.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

No work has been completed to date on upgrading the domestic water piping in the building. The following projects are recommended:

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced as needed.
- Install a backflow preventer.

Sarah Wells

Building History and Use Summary

Sarah Wells is located on the north side of the campus. This 11,445 square foot building is much smaller than its neighbors, Harriman and Orange Halls. Constructed in 1958 (the same year as Orange Hall), it originally contained the College Library. Currently the building houses faculty offices on the first and second floors. The basement is dedicated to the Kinder College.

Building Condition Summary

This 48 year old building is in poor condition. The roof warranty expired in 2002. The curtainwall system is in poor condition and should be replaced. The building entrances are not accessible and neither is the building interior. Interior finishes are worn and tired, and the building's HVAC, electrical and plumbing systems all need to be replaced. The building has reached the end of its useful life and will require dramatic and expensive renovation to maintain its viability for college use.

Building Exterior

F	Roof
G	Walls
P	Windows/Curtainwall
F	Doors
G	Painting/Caulking
F	Steps/Ramps/Entrances
G	Plazas/Walkways

Building Interior

F	Floors
G	Walls
F	Ceilings
G	Doors
F	Stairs
G	Painting

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
G	Emergency Phones

Building Condition Assessment

Year Constructed: 1958
Gross Square Footage: 11,445
Number of Floors: 3 stories

ADA Issues

F	Exterior Doors (Hardware and Clearances)
P	Accessible Entrances
G	Accessible Routes (Horizontal)
P	Accessible Routes (Vertical)
G	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
P	Drinking Fountains
P	Accessible Men's Rooms
P	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

PX	Heating/Cooling System
N/A	Chiller/Controls
G	Plumbing System/Fixtures
G	Pumps/Motors/Compressors
FX	Electrical Systems
PX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
F	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The College has devised a mechanism to replace damaged window operators, but the entire curtainwall system is in poor condition and should be replaced.

If the Kinder College remains in Sarah Wells, the entry should be reconfigured to provide code compliant space in front of the entry door.

Building Site

Sarah Wells is not accessible. There are steps down to the entry doors off the central quad and there is a step up at the south basement entrance that opens to a stairwell.

- Construct an accessibility ramp at the first floor entry. The creation of an entry ramp off the main quad will make the first floor more accessible. However, the entry vestibule is too shallow to meet ADA requirements and the building does not have an elevator, so the basement and second floor will remain inaccessible.

Building Exterior

With the exception of a new roof that was installed in 1992, all of the building envelope components are original. As a result, the following projects should be undertaken during the next ten years:

- Install a new curtainwall system. The curtainwall system, composed of single-glazed windows and uninsulated panels, is in poor condition and should be replaced.
- Recoat the roof. The roof warranty expired in 2002, but there are no reported problems at this time. The College plans to recoat the roof in 2007.
- Replace all entry doors. The heavy exterior doors are in poor condition and should be replaced.

Building Interior

The interior of the building is in poor condition. The finishes are worn and the building feels dark and dreary. Projects that should be addressed include:

- Repair damaged stair treads. Some of the damaged terrazzo stair treads have been replaced with concrete, but there are still areas where pieces of terrazzo nosings have broken off. These areas should be repaired.
- Eliminate the code violation at the entry to the Kinder College. There is no landing at the base of the stair that leads to the Kinder College. This is a building code violation and presents a potential hazard. If the Kinder College remains in this building, the entry should be reconfigured.

- Upgrade building finishes and lighting. The entire building is in need of a facelift. New floor, wall and ceiling finishes and lighting fixtures should be installed in conjunction with a complete renovation of the building's HVAC, electrical and plumbing systems.

ADA Issues

- The College has installed lever door hardware throughout the building.

In order to make Sarah Wells fully accessible, the following projects would need to be completed:

- Construct an entry ramp at the quad entrance. An exterior entry ramp would be required at the first floor entry doors, as previously mentioned.
- Construct an elevator addition. An elevator would need to be installed to make the basement and second floor accessible.
- Create fully accessible toilet rooms. The toilet rooms would need to be enlarged and completely renovated.
- Install ADA compliant signage.

Given the size, age, and condition of this building, the College should carefully consider whether the cost of renovating it (including replacing the building systems discussed below) is a wise investment of funds. It is the opinion of the master planning team that this building has reached the end of its useful life.

Mechanical/Electrical/Plumbing

Heating, Ventilation and Air Conditioning (HVAC)

Projects identified in the 1997 Master Plan that have been completed include:

- The installation of a gas-fired domestic water heater.
- The boiler was replaced.

In 1997, the Master Plan noted that the building's HVAC system was in need of a total upgrade as it was inefficient and required constant maintenance and repair and replacement parts were difficult and

costly to obtain. Much of this work recommended in 1997 has not been completed. HVAC projects that should be addressed in the next the near future include:

- Upgrade the entire HVAC system. This work includes replacing all system controls and installing roof-top units or other air-handling units to provide code-required outdoor air to building occupants, and rezoning the building to provide each room with thermal controls.
- Enlarge the air intake louver. It appears the boilers do not receive sufficient combustion air. A larger dedicated combustion air louver and damper, or a dedicated combustion air fan, should be installed.

The rusted cover of an electrical panel has been replaced with a piece of wood. The building's entire electrical distribution system should be replaced.

Interior Lighting and Wiring

None of the electrical improvements recommended in the 1997 Master Plan have been completed.

Electrical projects that should be addressed include:

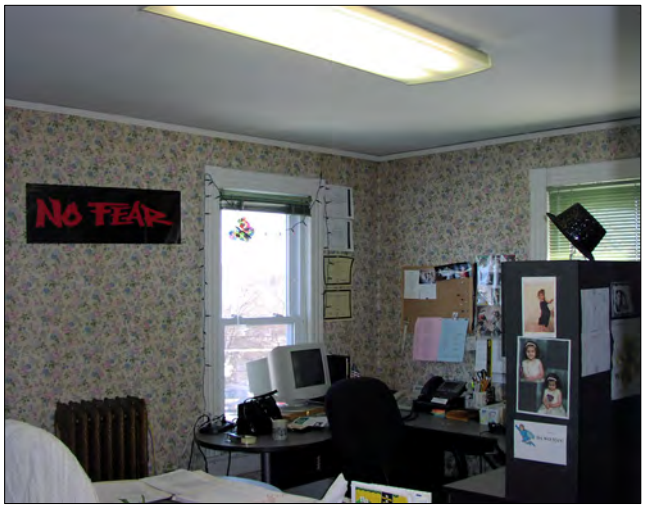
- Installation of a new electrical distribution system. This Master Plan recommends the replacement of the entire electrical distribution system to provide both 480/277 and 120/208 volts.
- Upgrade the lighting system. Replace the existing lighting system with new energy efficient lighting fixtures that use T-8 fluorescent lamps or compact fluorescent lamps and electronic ballasts and a 277 volt system. Many of the existing fixtures are old and are not energy efficient.
- Update the fire alarm system.
- Install public address and master clock systems.

Plumbing and Fire Protection

No work has been completed to date on upgrading the domestic water piping in the building. Recommended projects include:

- Replace deteriorating pipes. Oxidation of the copper and galvanized cold water piping and the galvanized drainage piping has caused many leaks in the system. Deteriorating pipes should be replaced as needed.
- Install a backflow preventer.

IT Department offices are set up in spaces such as the kitchen and former bedrooms.



The Yellow House

Building History and Use Summary

Constructed in 1945, this former home sits west of the Christine Morrison House, across Bennett Street. It currently accommodates IT Department offices. The building is sometimes referred to as the Bennett House.

Building Condition Summary

Like its neighbor the Christine Morrison House, this building was a nice residence, but its configuration does not lend itself for use as college space. The narrow corridors and doorways, steep stairs, and residential bathrooms limit accessibility. HVAC system modifications are needed to improve conditions for human occupants and the IT servers.

Additional concerns related to housing the IT Department in the Yellow House include the lack of security and the state of the electrical system, which was not designed to support the existing computer load.

If the College chooses to continue using this building, the following projects should be addressed:

- Provide necessary air conditioning for the IT servers. Provide ductless splits or other dedicated cooling for the IT servers.
- Repair/replace the sanitary system.
- Provide a dedicated outdoor air/ventilation system. The house currently does not have a ventilation system that delivers fresh air to occupied spaces, as required by the NYS Building Code.
- Provide adequate combustion air for the boiler and install a reduced-pressure zone backflow preventer.
- Update the fire alarm system.
- Install public address and master clock systems.

Building Condition Assessment

Year Constructed: 1945
Gross Square Footage: Unknown
Number of Floors: 3 stories and a basement

Building Exterior

G	Roof
G	Walls
FX	Windows
G	Doors
G	Painting/Caulking
G	Steps/Ramps/Entrances
N/A	Plazas/Walkways

Building Interior

F	Floors
F	Walls
F	Ceilings
F	Doors
P	Stairs
G	Painting

Safety/Security Issues

N/A	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
G	Intrusion Detection
N/A	Emergency Phones

ADA Issues

F	Exterior Doors (Hardware and Clearances)
P	Accessible Entrances
F	Accessible Routes (Horizontal)
N/A	Accessible Routes (Vertical)
PX	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones
N/A	Assistive Listening Devices
N/A	Drinking Fountains
P	Accessible Men's Rooms
P	Accessible Women's Rooms
N/A	Elevators

Mechanical/Electrical/Plumbing Issues

FX	Heating/Cooling System
N/A	Chiller/Controls
PX	Plumbing System/Fixtures
N/A	Pumps/Motors/Compressors
G	Electrical Systems
GX	Fire Alarms/Smoke Detection
FX	Emergency Lighting
N/A	Fire Protection
N/A	Emergency Generators
G	Boiler/Controls
FX	Electrical Lighting Systems
G	Technology/Communication
N/A	Energy Management System
N/A	Clock System

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

The HVAC Shop sits behind Horton Hall.

Miscellaneous Small Buildings

The HVAC Shop

The HVAC Shop is located in the former Carpenter Shop. Built in 1982, this 790 square foot concrete block building is located behind (east of) Horton Hall. Reportedly, the building functions well for the Facilities Department.

The Grounds Shop is located next to the Christine Morrison House.

Grounds Shop and Pole Barn

The 1,350 square foot concrete block Grounds Shop was constructed in 1950. An enclosed walkway connects the Grounds Shop to the metal Pole Barn that is used as a work shop and storage area. A small addition was added to the rear of the pole barn in 2005 to provide additional storage space. Staff report that the "cut-up" nature of the building's layout is inefficient. One larger structure would provide a more efficient work space.

The Open Storage Shed is located next the Grounds Shop.

Open Storage Shed

The open storage shed is adjacent to the Grounds Shop. It is used to house college vehicles, grounds equipment, and road salt.

Maintenance Shop

Constructed in 2000, the Maintenance Shop is located south of the Grounds Shop, just east of the Christine Morrison House. It is a simple metal building with two garage bays that serve as the home base for carpenter and building maintenance functions for the campus.

Shipping and Receiving

The Shipping and Receiving Department was moved out of Horton Hall into the former Heating Plant Building directly adjacent and connected to Horton Hall. The large chimney was removed. A portion of the basement of Horton Hall is used for Shipping & Receiving storage. However, persistent water infiltration has made some areas of the Horton Hall basement unusable for storage.

Campus Concept Plan

Introduction

This Master Plan Update for OCCC's Middletown Campus sets out ambitions goals for growth and renewal. By completing the comprehensive Facilities Condition Assessment Study, the consultants were able to document the need for major capital investments. These facilities maintenance projects are needed to improve existing conditions; maintain the site, campus infrastructure, and buildings in first-rate condition; and bring the campus into compliance with current health, safety, and accessibility requirements. During the course of the study it was determined that several buildings (Sarah Wells, Christine Morrison House, and the Yellow House) have reached the end of their useful life and are no longer appropriate for college use. This Master Plan recommends their removal to make room for new construction that is necessary to support the mission of the College.

As discussed in Section 2 of this report, additional space is needed to eliminate existing space deficits in areas such as laboratories, student activities, and student services. Even more space will be required to accommodate projected enrollment growth at the campus through 2015.

The Master Plan therefore incorporates both facilities maintenance projects to keep the site and buildings up-to-date, and master plan projects to help the College remain a relevant and vibrant institution.

Definitions

Assignable vs. Gross Square Feet

Prior to presenting the recommended Campus Master Plan building projects, it is important to understand the terms "net assignable square feet," "gross square feet," and "efficiency factor." The term "net assignable square feet" (nasf) refers to the sum of all floor or surface areas in a building that are assigned to, or available for, assignment to a department. Not all space in a building is technically eligible for assignment. Service areas, circulation, and building components, e.g., restrooms, hallways, mechanical rooms and wall thicknesses, are not included in the calculation of assignable square feet.

A building's gross square footage (gsf) includes all of these spaces, including the thicknesses of interior and exterior walls.

In order to determine the number of gross square feet required to support the projected assignable square feet for academic and support space, the total number of assignable square feet must be multiplied by an efficiency factor. By using an efficiency factor the planners ensure that sufficient space is available for circulation, building services, and building structure.

Estimated Costs

The Campus Master Plan cost estimates were developed by the consultants using their best professional judgment and knowledge of trends in the construction industry. The cost estimate for each of the master plan projects, and the individual facilities maintenance projects, includes the base construction cost plus 15% contingency to cover unforeseen conditions. The total construction cost was then escalated by 4% to adjust the estimates to the anticipated mid-point of Phase 1 (2008).

For stand-alone master plan projects, professional design fees were calculated using the schedule of fees published by the State University Construction Fund. For smaller projects and all facilities maintenance projects, 12% was added to cover professional fees. Where appropriate, costs for furniture, fixtures and equipment were also included.

An asbestos allowance of roughly $385,000 was included in the Master Plan cost estimate to cover potential abatement expenses that may occur when buildings are renovated or demolished.

In light of the recent volatility in the construction market, it was deemed wise to escalate the cost estimates for Phases 2 through 4 no further than 2008. Therefore, individual project cost estimates should be reexamined and provisions for inflation should be added to projects implemented after 2008.

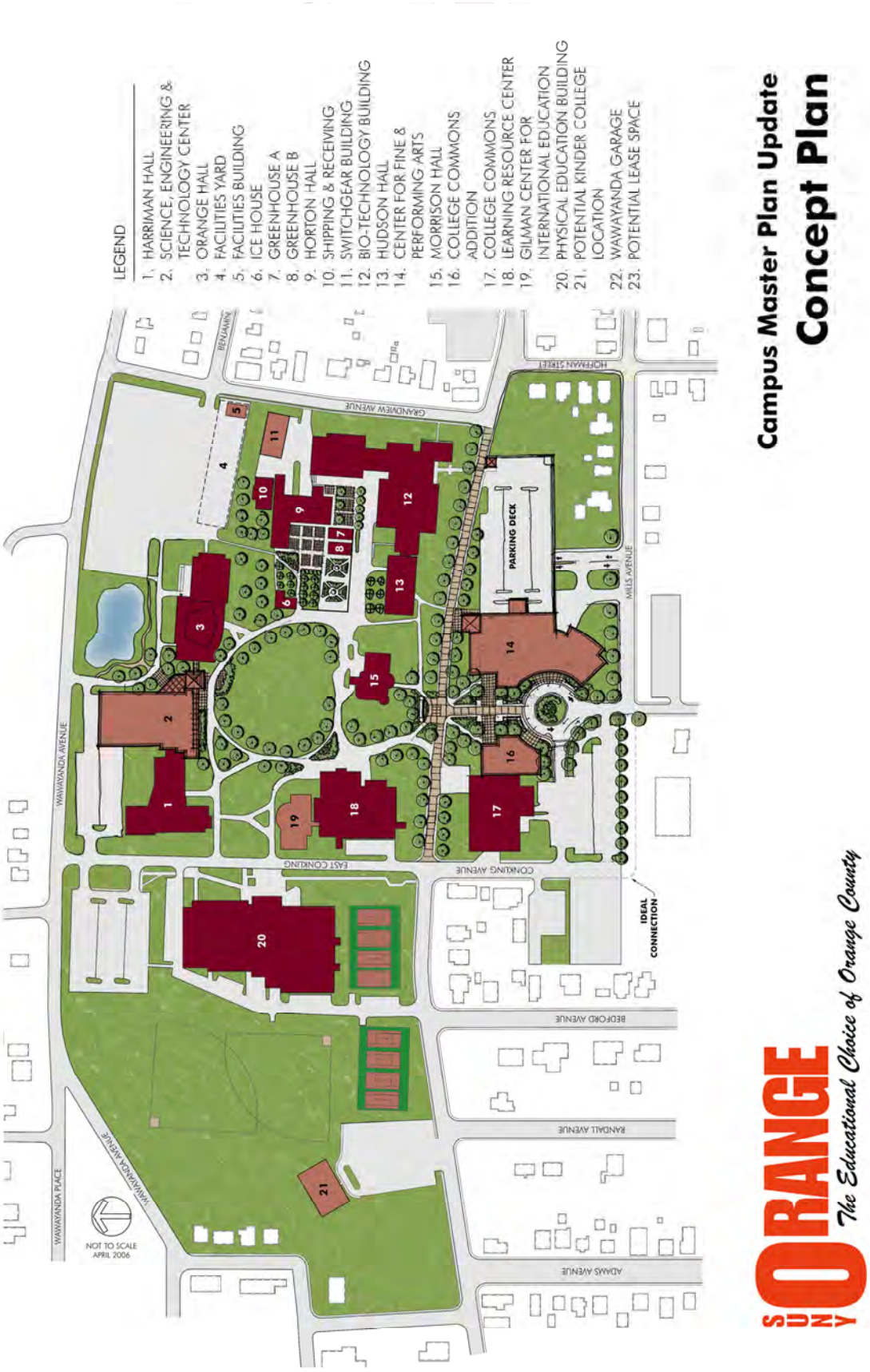
Campus Master Plan

To ensure OCCC's ability to accomplish its academic mission and accommodate projected growth at the Middletown Campus, the planning team identified projects that will support the long-term growth of the College. The concept plan on the following page illustrates the direction the College proposes to take as it grows over the next ten years and beyond.

Ten Master Plan projects were identified:

- Creation of a pedestrian friendly campus
- Construction of a new 109,000 gsf Science, Engineering & Technology Center
- Installation of a new campus-wide electrical and IT distribution systems
- Renovation of Harriman Hall
- Renovation of Hudson Hall for use as administrative space
- Construction of a 20,000 gsf addition to the College Commons and the complete renovation of the existing building
- Renovation of the Bio-Technology Building
- Renovation of Horton Hall, the Ice House, and the estate gardens for use as student activity/ student life space
- Construction of a new 111,000 gsf Center for Fine & Performing Arts
- Construction of an addition to the Learning Resources Center for the Gilman Center for International Education

The completion of these ten projects, and the facilities maintenance projects, will transform the Middletown Campus. However, it is rare for a college to be financially capable of implementing all of the projects recommended in a comprehensive master plan. Some projects can only be completed as buildings, or portions thereof, are renovated. Other projects may not rise to the level of urgency when balanced against other priorities. Therefore, the College reviewed the projects recommended by the consultants and identified those that would have the greatest benefit to the College in the next ten years. These projects are included in Phase 1 of the Master Plan Implementation. The remaining projects have been grouped into Phases 2, 3 and 4.


Campus Master Plan Update
Concept Plan
SUNY ORANGE
The Educational Choice of Orange County
LEGEND
1. HARRIMAN HALL
2. SCIENCE, ENGINEERING & TECHNOLOGY CENTER
3. ORANGE HALL
4. FACILITIES YARD
5. FACILITIES BUILDING
6. ICE HOUSE
7. GREENHOUSE A
8. GREENHOUSE B
9. HORTON HALL
10. SHIPPING & RECEIVING
11. SWITCHGEAR BUILDING
12. BIO-TECHNOLOGY BUILDING
13. HUDSON HALL
14. CENTER FOR FINE & PERFORMING ARTS
15. MORRISON HALL
16. COLLEGE COMMONS
17. COLLEGE COMMONS ADDITION
18. LEARNING RESOURCE CENTER
19. GILMAN CENTER FOR INTERNATIONAL EDUCATION
20. PHYSICAL EDUCATION BUILDING
21. POTENTIAL KINDER COLLEGE LOCATION
22. WAWAYANDA GARAGE
23. POTENTIAL LEASE SPACE
PARKING DECK
IDEAL CONNECTION
WAWAYANDA AVENUE
WAWAYANDA PLACE
EAST CONKLING
CONKLING AVENUE
BEDFORD AVENUE
RANDALL AVENUE
ADAMS AVENUE
MILLS AVENUE
HOFFMAN STREET
GRANDVIEW AVENUE
BENJAMIN
NOT TO SCALE
APRIL 2006

As funding becomes available, the College will use this Master Plan as a guide to complete the remaining implementation phases. Because a master plan is a living document, however, some projects may move from one phase to the next as college priorities change.

Surge Space

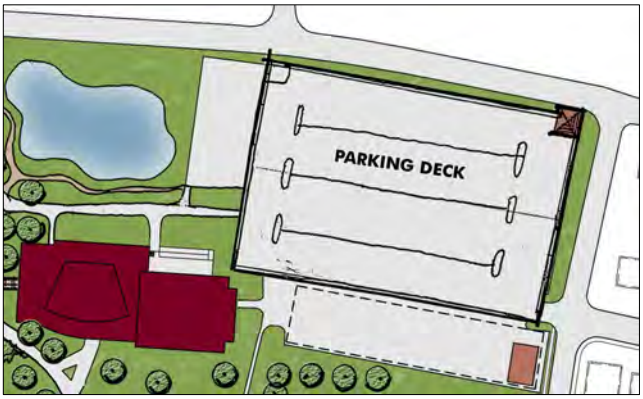
As previously discussed, there is currently a space deficit of 20,960 net assignable square feet on the Middletown Campus. By 2015 this deficit will grow to 28,283. In order to construct needed space and renovate existing facilities, it will be necessary to relocate faculty, staff and students during the various phases of the implementation process. As a result, the College will need to identify space that can be used to house these individuals until their new and/or refurbished facilities are complete. Such space is commonly referred to as surge space.

The College has several options related to surge space. Leasing facilities off-site, such as the former Empire State College building located a few blocks east of the Campus on South Street, would provide a convenient location for temporarily displaced members of the College community. There are also a few locations on campus that could be converted for surge space, such as the gallery in the old Orange Hall gym, the lounge area on the second floor of the College Commons, or potentially some classrooms in the Bio-Technology Building. As projects move forward into the design phase, appropriate surge space will need to be identified by the College and the project team. The costs for leasing and/or converting such space have not been included in the Master Plan cost estimates.

Parking

There is currently a deficit of approximately 300 parking spaces on the Middletown Campus. The reconfiguration of the Orange Hall parking lot, which was scheduled for Spring 2006, should result in the creation of additional parking spaces. However, there will continue to be a parking shortage. The need for construction staging areas, and the loss of some existing parking that will result from the construction of new buildings, will only exacerbate this problem. One of the Master Plan

projects includes the construction of a new parking deck, but this work is not included in Phase 1 as it is linked to the construction of the proposed Center for Fine & Performing Arts. The Facilities Department has done an admirable job creating additional parking spaces around the campus, but the shortage is too great and the projected shortfall too large to be solved by these efforts.



A parking deck could be constructed on the site of the existing Orange Hall parking lot.

Parking is to community colleges what residence hall beds are to four-year institutions: a necessary investment in order to attract and retain students. With this in mind, OCCC should take immediate steps to provide additional parking capacity. There are a few ways this may be accomplished. One is the construction of a parking garage on existing College land, perhaps in the current Orange Hall parking lot or north of the Physical Education Building. Another is the purchase of properties contiguous with the campus for the construction of on-grade parking, a parking deck, or a parking garage. However, considering that one on-grade parking space costs approximately $1,500, while one parking garage space costs closer to $15,000, it is always preferable to provide on-grade parking when possible. Given the cost of multi-level parking structures, the College may wish to consider constructing distant satellite parking lots, if necessary, and providing a shuttle service in lieu of the more costly parking garage alternative. A third, and perhaps interim solution while the College explores other options, would be to convert one of the existing athletic fields for on-grade parking. This is not something this Master Plan recommends, but it is one possible solution the College may wish to consider while other alternatives are pursued.

While this Master Plan proposes construction of a parking deck in Phase 4, and the reconfiguration of existing parking lots in conjunction with the construction of new buildings, the College should continue to pursue other ways of providing additional parking at the Middletown Campus.

Create a Pedestrian Friendly Campus

Reportedly, South Street is the site of several pedestrian/ vehicle accidents each year.

South Street is a busy thoroughfare that divides the Middletown Campus, positioning the College Commons and a large college parking lot on the south side of the street and the remainder of the campus to the north. Parked cars along one side of the road and the speed at which vehicles travel create a potentially dangerous situation. Each year several students are reportedly hit by cars as they cross South Street at designated crosswalks. In addition to creating an unsafe condition for pedestrians, South Street creates a physical and psychological barrier between academic and student life components of the College. It also undercuts the viability of constructing a new academic building on the land currently used for parking.

This Master Plan recommends that South Street be closed to all but emergency vehicles between East Conkling Avenue and Grandview Avenue. The road in this area should be narrowed and textured paving should be installed to create a recognizable pedestrian zone. Overhead utilities should be buried, and new trees, site lighting and banners should be installed to create one the sense of being on a college campus.

The wrought iron fence that currently runs along South Street should be removed and the existing concrete wall should be capped to create a seating wall along the pedestrian route. Sidewalks should be rerouted and plazas created to improve pedestrian circulation and to provide welcoming outside gathering spaces for the College community.

Bennett Street should be closed to through-traffic between Mills Avenue and South Street. Conkling Avenue should be extended around the south side of the College Commons so that it connects to Bennett Street, aligning with Mills Avenue.

Closing this small section of South Street would transform OCCC by creating a contiguous, pedestrian friendly campus. Additional work to improve the loop road such as removing curbs and installing textured pavement would also make the campus more accessible and attractive.

The total estimated cost for this work (in 2008 dollars) is **$1,434,500**.

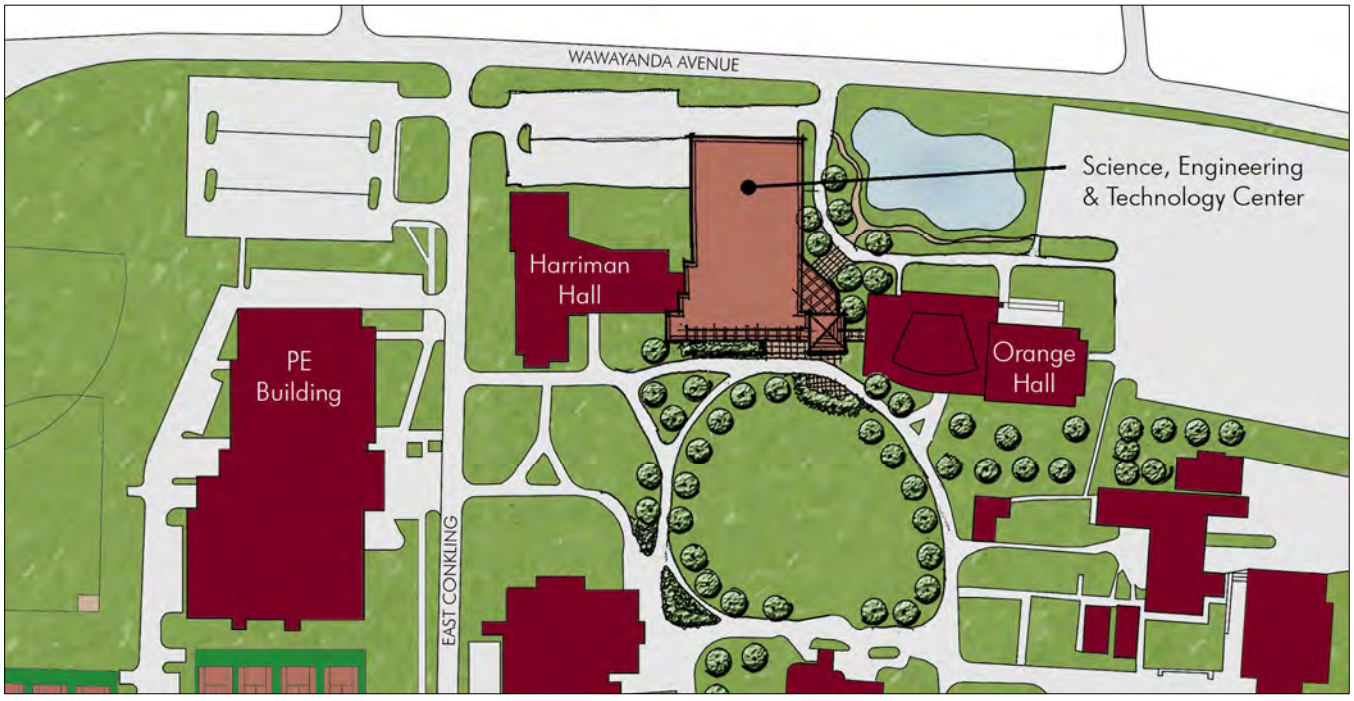
Create a Pedestrian Friendly Campus	**Cost Estimate**
Close South Street	$1,301,300
Close South Street to all but emergency vehicles. Install textured paving, trees, site lighting and banners. Create new pedestrian plazas. Relocate all site utility lines underground. Construct 12 additional curb cuts around the perimeter of the campus.	
Connect Conkling Avenue to Bennett Street	$0
Extend Conkling Avenue around the south side of the College Commons and connect it to Bennett Avenue, aligning with Mills Avenue. This project would need to be coordinated with the City of Middletown.	
SUBTOTAL	**$1,301,300**
Professional Design Fees	$133,200
ESTIMATED TOTAL PROJECT COST	**$1,434,500**

Construct a New Science, Engineering & Technology Center

As previously discussed in this report, the majority of the science laboratories on campus are outdated and in very poor condition. Even the labs in the Bio-Technology Building are in need of renovation. However, updating these labs, especially in Horton and Hudson Halls, would be extremely costly. In addition, the existing structural and infrastructure limitations of these buildings will limit what can be done to create quality instructional space. Given the number of labs that require updating, it would be more cost effective for the College to construct state-of-the-art labs in a new building and renovate the existing labs for some other less "technical" use.

Therefore, this Master Plan recommends the construction of a new 109,000 gsf Science, Engineering & Technology Center that would accommodate the following:

- Applied Technology
- Biology
- Science & Engineering
- All campus science labs
- Smart classrooms
- Computer labs
- Information Technology Department
- A small café and student lounge space
- "Sue" the mastodon



Growing departments currently scattered across the campus and in need of additional space would be consolidated in this new facility. A new building would provide space for their projected growth and also have the flexibility necessary to accommodate new technologies as they are developed.

Several small enabling projects would be required before the new Center could be constructed. The largest of these would be the demolition of Sarah Wells. Sarah Wells has reached the end of its useful life and no longer provides appropriate space for the College. The building currently houses the Kinder College and faculty offices. The Kinder College would need to be moved to a new location. At this time, the master planning team recommends that the Kinder College be moved to approximately 8,000 nasf of leased space to accommodate their needs, including room for a new toddler program. Constructing a new facility at this time would potentially delay the construction of the new Science, Engineering & Technology Center, resulting in significant increases in construction costs.

Existing classrooms in the Bio-Technology Building would be renovated to create new offices for displaced faculty. The demolition of Sarah Wells would create sufficient space to construct the new Center, which would be physically connected to Harriman Hall. A covered walkway could eventually also connect the Center with Orange Hall.

The pond located north of Orange Hall is an asset that is currently used to support course work in several science classes. This entire area would be groomed to augment the area's natural beauty and to make it a focal point for the north side of the campus. Walkways and site benches would also make it more accessible for the entire College community.

Some parking spaces would be lost due to the construction of the new Center, and the entire parking area would be needed for staging space during construction. Therefore, the College will

need to make arrangements for additional parking elsewhere to accommodate the College community during and after construction of the Center.

The total estimated cost for renovating space for new faculty offices, demolishing Sarah Wells, constructing the new Science, Engineering & Technology Center, including new furnishings and equipment, and completing all of the associated site work, is **$38,869,600**.

New Science, Engineering & Technology Center	**Cost Estimate**
Renovate Existing Classrooms in Bio-Tech	$448,600
Renovate classrooms for use as faculty office space (5,000 SF @ $75/SF).	
Demolish Sarah Wells	$133,200
Demolish Sarah Wells (excluding dump charges).	
New Science, Engineering & Technology Center	$31,287,400
Construct a new Science, Engineering & Technology Center that is connected to Harriman Hall and Orange Hall (109,000 SF @ $240/SF).	
Associated Site Work	$780,800
Site work associated with the new Science, Engineering & Technology Center (includes recreating the parking lot behind Harriman Hall and site work at the existing pond).	
SUBTOTAL	**$32,650,000**
Professional Design Fees	$2,252,000
Furnishings and Equipment	$3,967,600
ESTIMATED TOTAL PROJECT COST	**$38,869,600**

New Campus-Wide Electrical Distribution System

A significant investment is needed to replace the College's electrical infrastructure to ensure continued service and support campus growth. The existing electrical switchgear equipment has reached the end of its useful life and the existing secondary distribution system is subject to water infiltration, as described earlier in this report.

Installation of a new campus-wide electrical distribution system will involve several steps. First the existing HVAC Shop behind Horton Hall must be demolished to make room for a new 5,000 gross square foot metal building to house the new electrical switchgear equipment. The HVAC Shop will be relocated to the first floor of Orange Hall in space previously occupied by the IT Department before it moved to the new Science, Engineering & Technology Center. A new underground electrical ductbank system will be installed in a loop around the campus. The ductbank will also be able to accommodate fiber-optic, telephone, and energy management system lines that will be installed at a later date.

Once the ductbank is in place, the new switchgear equipment will be brought on-line. The existing switchgear will be removed when the Ice House, which currently houses the switchgear, is renovated.

The estimated cost for the construction of the new electrical distribution system is **$3,629,000**.

New Campus-Wide Electrical Distribution System	**Cost Estimate**
Upgrade the Campus-Wide Electrical Distribution System	$2,691,000
Construct a new electrical ductbank system.	
Demolish HVAC Shop	$17,500
Demolish the existing HVAC Shop Building (excluding dump charges).	
New Switchgear Building	$598,000
Construction of new metal building (5,000 SF @ $100/SF).	
SUBTOTAL	**$3,306,500**
Professional Design Fees	$322,500
ESTIMATED TOTAL PROJECT COST	**$3,629,000**

New Campus-Wide IT Distribution System

The existing IT distribution system, including wiring within buildings, is in need of upgrading. The installation of a new campus IT backbone is necessary to support the growing use of technology throughout the College and to provide needed flexibility for the introduction of future technologies as they are developed.

As previously mentioned, the new campus-wide underground ductbank system will be designed to accommodate telephone, fiber-optic and other types of data lines. New IT wiring systems within buildings will be installed as buildings are renovated.

The total estimated cost for the installation of a new campus-wide IT distribution system is **$1,982,000**.

New Campus-Wide IT Distribution System	**Cost Estimate**
Upgrade IT Wiring throughout the Campus	$1,794,000
SUBTOTAL	**$1,794,000**
Professional Design Fees	$188,000
ESTIMATED TOTAL PROJECT COST	**$1,982,000**

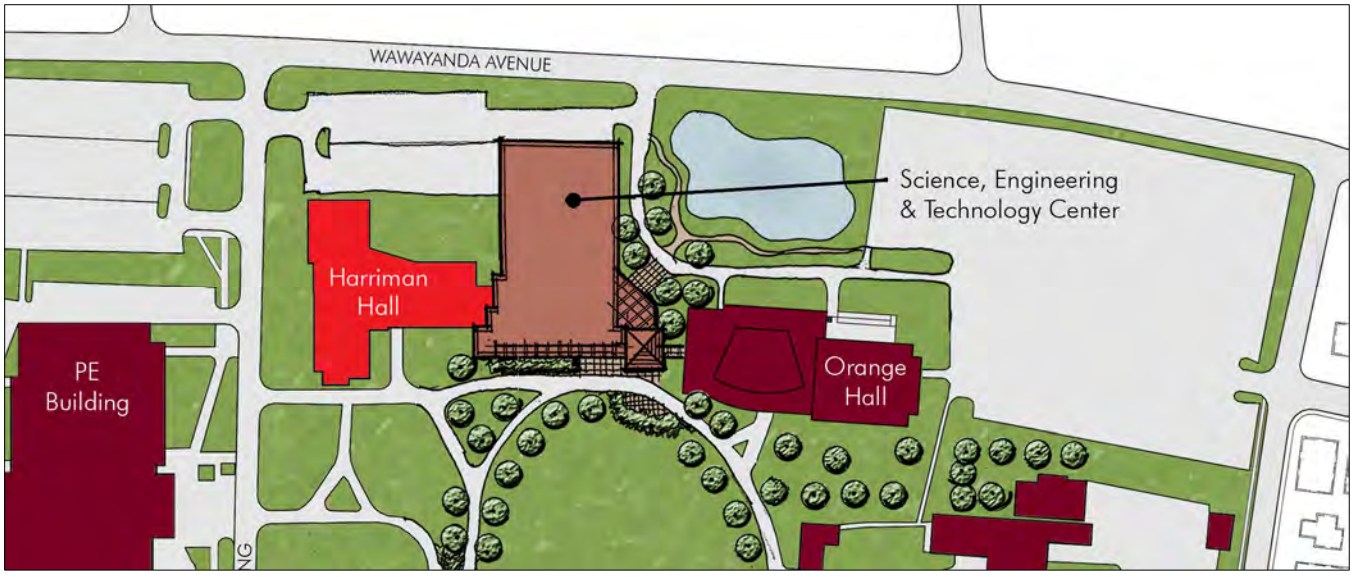
Renovation of Harriman Hall

With the Science and Engineering departments consolidated in the new Science, Engineering & Technology Center, many rooms on the third floor of Harriman Hall will be vacant. In addition, Fine Arts will be able to move into vacated space in the Bio-Technology Building, freeing up much of the first floor of Harriman Hall, as well. This will set the stage for the renovation of Harriman Hall to accommodate the expansion of business and math-related programs.

Vacated space within the building will be renovated first. Once this work is complete, occupants from non-renovated spaces within Harriman Hall will be moved into the renovated areas. Then, in turn, the newly vacated space will be renovated. This should eliminate the need for finding surge space outside of the building, although it is possible that some additional space may be required.

The total estimated cost for the renovation of Harriman Hall, including updating building finishes, mechanical, electrical and plumbing systems, and new equipment and furnishings is **$11,271,000**.

Renovation of Harriman Hall	**Cost Estimate**
Renovate Existing Building	$9,867,000
Renovate existing building (55,000 SF @ $150/SF).	
SUBTOTAL	**$9,867,000**
Professional Design Fees	$832,000
Furnishings and Equipment	$572,000
ESTIMATED TOTAL PROJECT COST	**$11,271,000**



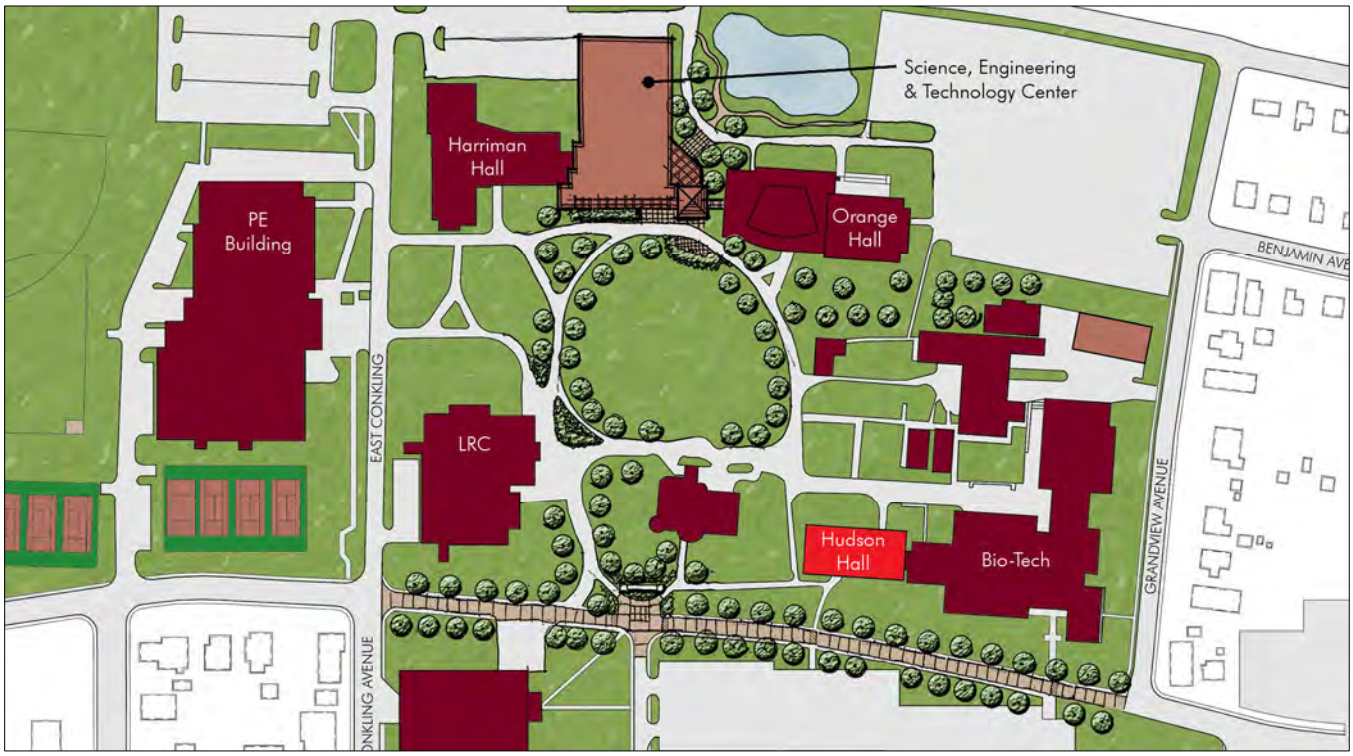
Renovation of Hudson Hall

Hudson Hall, constructed in 1955 as the first building on campus built specifically for the College, will be completely renovated. Once the laboratories and faculty offices have been moved to the new Science, Engineering & Technology Center, only the outdated classrooms and lecture hall will remain in the building.

A complete renovation of the building's interior, including mechanical, electrical and plumbing systems, will provide comfortable and useful space for administrative staff currently located in Orange Hall. The renovated building could potentially be used for surge space before the new permanent occupants are moved into the building.

The total estimated cost for the renovation of Hudson Hall, including furnishings and equipment, is **$3,822,700**.

Renovation of Hudson Hall	**Cost Estimate**
Renovate Existing Building	$3,332,100
Renovate existing building (15,920 SF @ $175/SF).	
SUBTOTAL	**$3,332,100**
Professional Design Fees	$325,000
Furnishings and Equipment	$165,600
ESTIMATED TOTAL PROJECT COST	**$3,822,700**

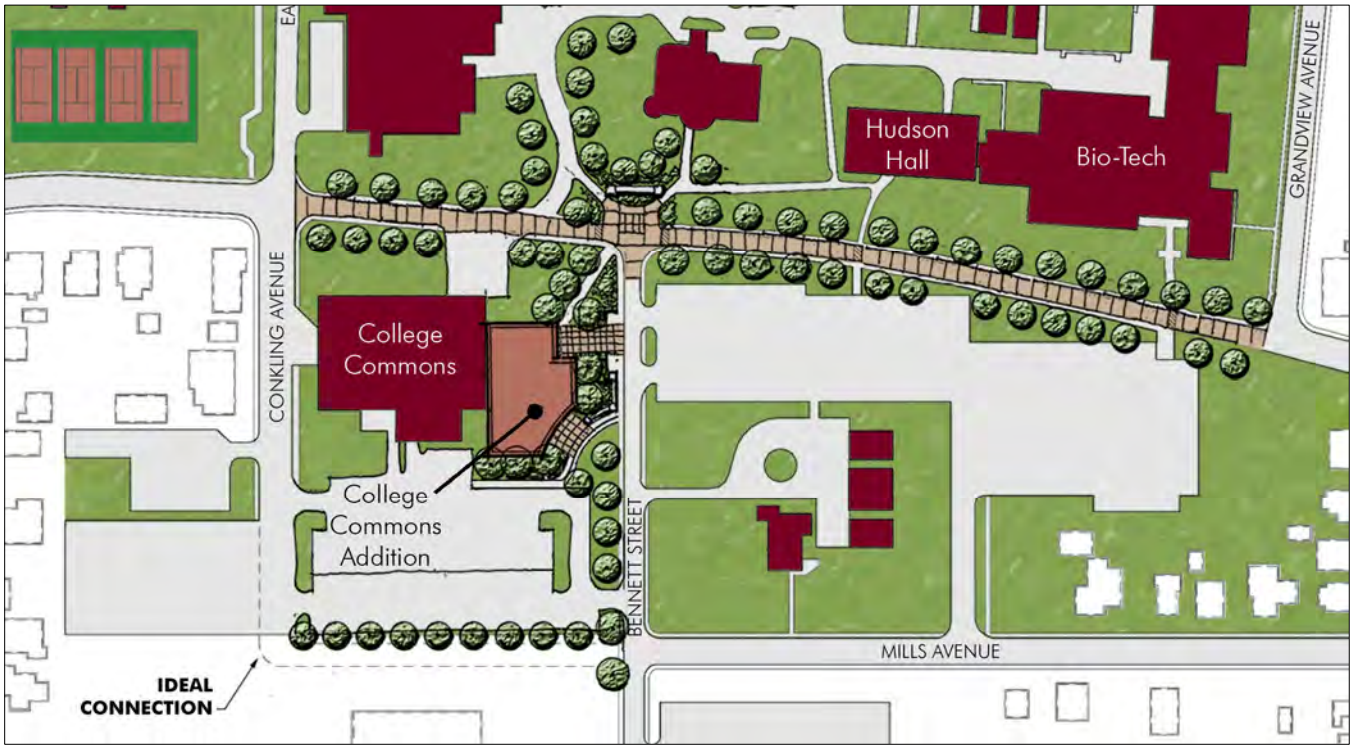


College Commons Addition and Renovation

The College Commons is home to Admissions, the Bursar, the Registrar, Financial Aid, Counseling, Student Life, Student Support Services, the College bookstore, cafeteria, the Success Center and the main student lounge. Construction of a 20,000 gross square foot addition, and the complete renovation of the building's interior, will support the creation of a new one-stop student services center to improve and stream-line the delivery of student services.

Admissions will be located on the first floor of the addition, creating a new welcome center for visitors, prospective students, and their parents. Space within the existing building will be reconfigured to improve workflow and the student experience. Administrative staff currently located in the former Orange Hall gym will be relocated to the College Commons, consolidating college departments and improving communication and efficiency.

The parking lot south of the building will also be reconfigured and exterior plazas will be constructed to create welcoming outdoor spaces for the College community and visitors to enjoy.



The Yellow House, also often referred to as Bennett House, may be used temporarily as a construction office prior to its demolition.

The total estimated cost for the addition, including demolition of the Yellow House, all associated site work, and furnishings and equipment, is **$6,239,300**. The estimated cost for renovating the existing building, including new furnishings and equipment, is **$14,518,500**.

College Commons Addition	**Cost Estimate**
Demolish Yellow House	$119,600
Demolish the Yellow House (excluding dump charges).	
New College Commons Addition	$4,784,000
Construct an addition to the College Commons (20,000 SF @ $200/SF).	
Associated Site Work	$438,700
Site work associated with the College Commons addition (includes the construction of plazas along Bennett Street and a parking lot south of the College Commons).	
SUBTOTAL	**$5,342,300**
Professional Design Fees	$481,000
Furnishings and Equipment	$416,000
ESTIMATED TOTAL PROJECT COST	**$6,239,300**

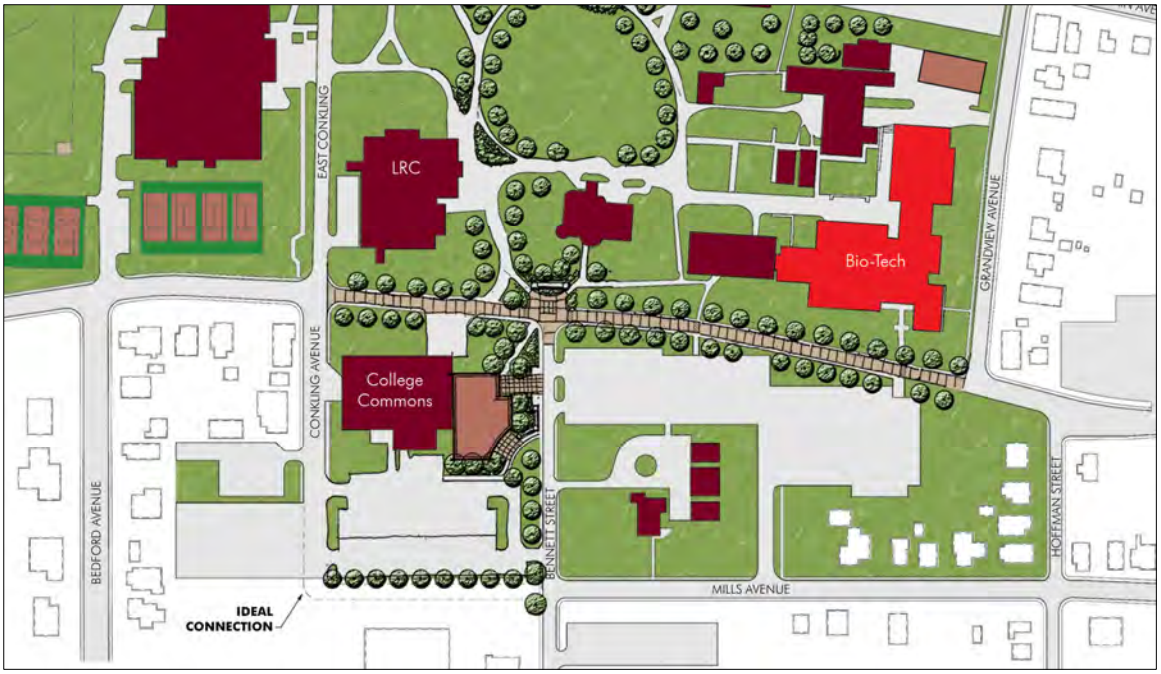
Renovation of the Existing College Commons	**Cost Estimate**
Renovate Existing Building	$12,767,600
Renovate existing building (66,720 SF @ $160/SF).	
SUBTOTAL	**$12,767,600**
Professional Design Fees	$1,057,000
Furnishings and Equipment	$693,900
ESTIMATED TOTAL PROJECT COST	**$14,518,500**

Renovation of the Bio-Technology Building

At 32 years old, the Bio-Technology Building is one of the newer structures on campus. As mentioned previously in this report, the building is in good condition but some building systems are showing signs of age. In addition, the mechanical system is in need of balancing to improve occupant comfort and the lighting system should be upgraded.

Once the new Science, Engineering & Technology Center is complete, Applied Technology, Anatomy and Physiology, and IT will have vacated their existing space in the Bio-Technology Building. This will provide much needed space for the expansion of other programs, such as Nursing and Radiological Imaging. This Master Plan recommends that the building be dedicated to professional programs and that all vacated space be renovated, including the reconfiguring of all associated HVAC ducts, supply and return grilles. The total estimated cost for this work is **$3,739,600**.

Renovation of the Bio-Technology Building	**Cost Estimate**
Renovate Vacated Spaces	$3,408,600
Upgrade of building interior and systems to provide suitable space for professional programs (38,000 SF @ $75/SF)	
SUBTOTAL	**$3,408,600**
Professional Design Fees	$331,000
ESTIMATED TOTAL PROJECT COST	**$3,739,600**



Renovation of Horton Hall, the Ice House and the Estate Gardens

Horton Hall, the Ice House, the two greenhouses, and the surrounding gardens are all part of the original Morrison Estate. Horton Hall and the Ice House are architectural gems and their location near the heart of the campus makes them ideal candidates for transformation into space that supports the life of the College community.

Horton Hall and the Ice House

Horton Hall currently houses offices for the Facilities Department, several outdated science laboratories, a lecture hall, faculty offices, and a student lounge. Once the labs and faculty offices have been moved to the new Science, Engineering & Technology Center, only the Facilities Department will remain in the building.

With the installation of the new campus-wide electrical distribution system, and the removal of the existing switchgear equipment from the Ice House, the College has the unique opportunity to reclaim this historic building for another use.

Horton Hall and the Ice House should be completely renovated to accommodate student government offices, student club space, a café, computer lab, and meeting rooms. The basement of Horton Hall would continue to be used for storage as Shipping & Receiving will remain in the adjacent former Heating Plant building.

In order to accomplish this, the Facilities Department will need to be moved to another location. Currently the department has shops in several small buildings around campus. All Facilities Department functions will be consolidated in vacated space in Orange Hall. Much of the first floor and the old gym in Orange Hall will be vacant after current occupants move to the new Science, Engineering & Technology Center and the renovated Hudson Hall. Facilities offices will be moved to vacant offices on the first floor of Orange Hall, and the HVAC shop, Grounds Shop offices, and the Maintenance Shop will be moved to the former gym. A portion of the Orange Hall parking lot will be fenced in to create a facilities yard, and the Maintenance Shop building will be moved to the east side of this area.

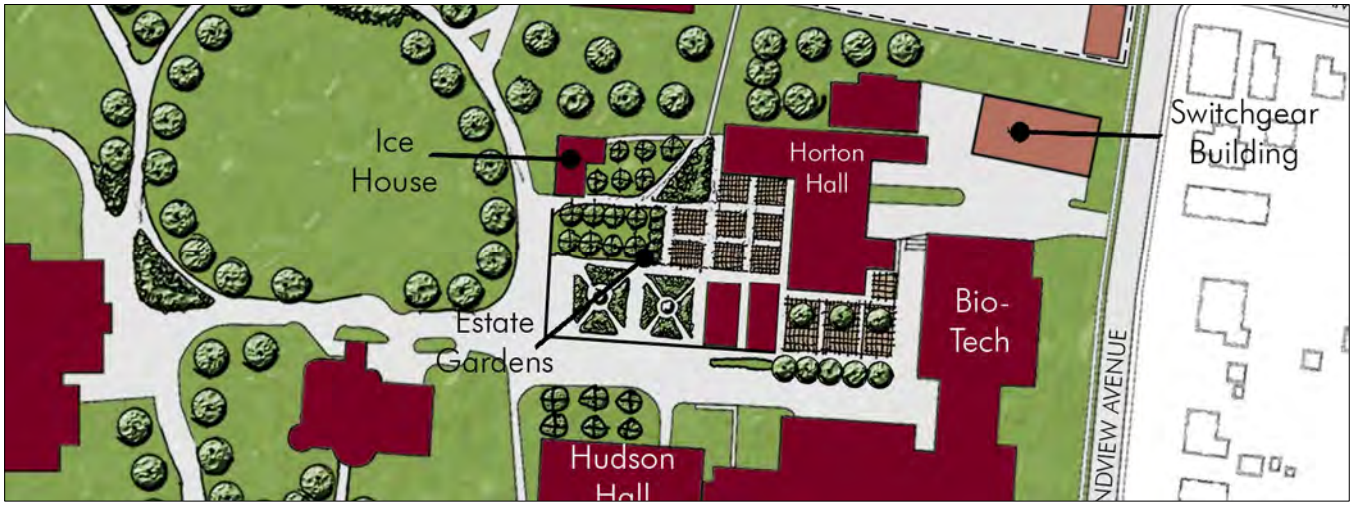
The total estimated cost to create the new facilities yard and move the Maintenance Shop building is **$54,900**. No cost estimates were prepared to renovate space within Orange Hall as it is anticipated this space will be occupied "as is."

Renovation of Orange Hall	Cost Estimate
New Facilities Yard	$24,000
Construct a fence for the new facilities yard.	
Relocate Maintenance Shop	$23,100
Relocate the existing Maintenance Shop Building to the new facilities yard.	
SUBTOTAL	**$47,100**
Professional Design Fees	$7,800
ESTIMATED TOTAL PROJECT COST	**$54,900**

Cost estimates for the renovation of Horton Hall and the Ice House are **$6,080,000** and **$1,553,300**, respectively.

Renovation of Horton Hall	Cost Estimate
Renovate Existing Building	$5,109,200
Renovate existing building (24,410 SF @ $175/SF).	
SUBTOTAL	**$5,109,200**
Professional Design Fees	$463,000
Furnishings and Equipment	$507,800
ESTIMATED TOTAL PROJECT COST	**$6,080,000**

Renovation of the Ice House	Cost Estimate
Eliminate Step at Entry Door	$8,300
Install handicap ramp at entry door to improve accessibility.	
Renovate Existing Building	$1,395,000
Renovate existing building (4,665 SF @ $175/SF & 4,665 SF @ $75/SF).	
SUBTOTAL	**$1,403,300**
Professional Design Fees	$150,000
ESTIMATED TOTAL PROJECT COST	**$1,553,300**



The Greenhouses and Estate Gardens

Projects to renovate the exterior and interior of both greenhouses are included in this Master Plan as facilities maintenance projects (Phase 4). However, these projects may be undertaken whenever funding becomes available. Renovation of the estate gardens has been treated as a master plan project that would ideally be completed in conjunction with the renovation of Horton Hall and the Ice House.

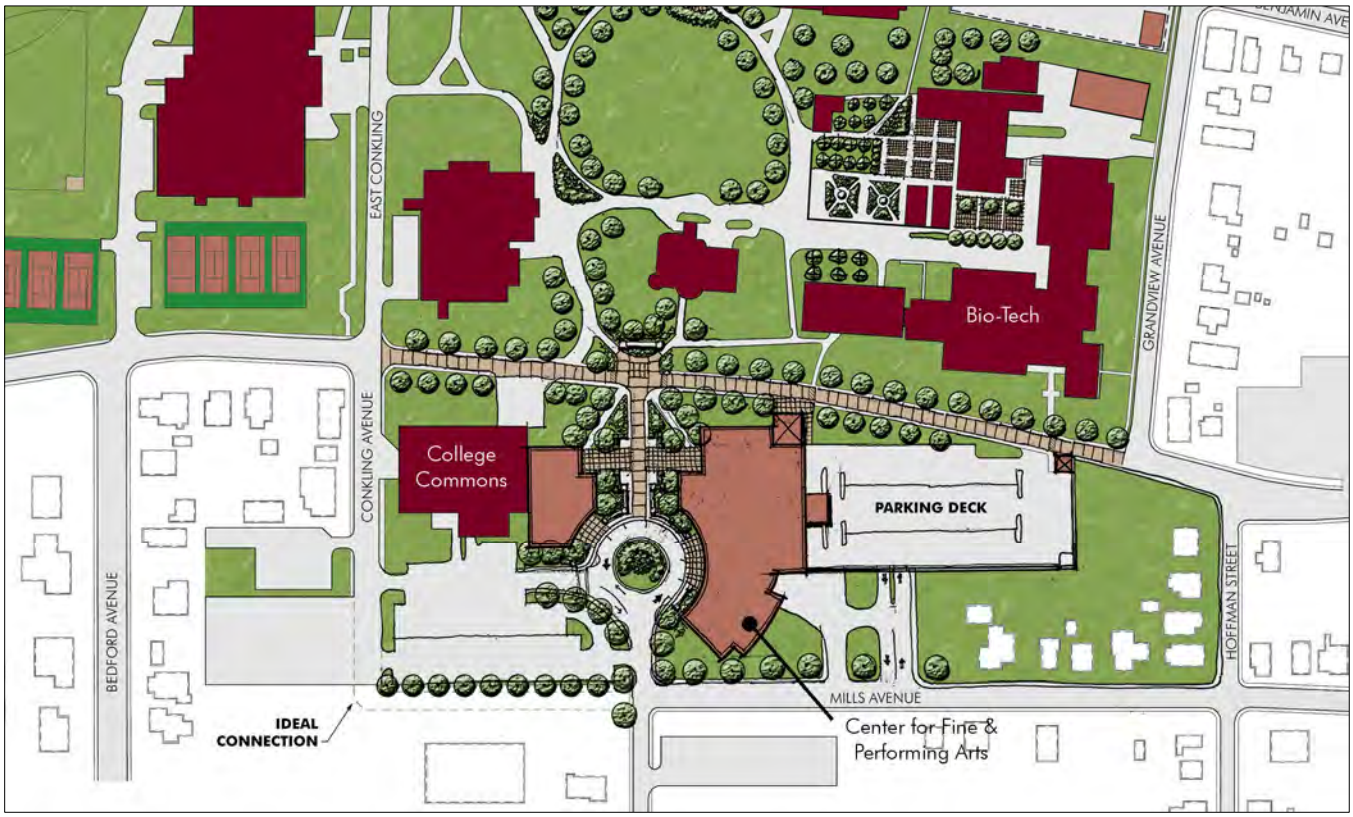
The total estimated cost to renovate the Estate Gardens is **$254,500**.

Renovation of the Estate Gardens and Plaza	**Cost Estimate**
Renovate Estate Gardens and Plaza	$225,500
Renovate the garden and plaza between Horton Hall and the Ice House, as well as the garden to the south of Horton Hall.	
SUBTOTAL	**$225,500**
Professional Design Fees	$29,000
ESTIMATED TOTAL PROJECT COST	**$254,500**

New Center for Fine & Performing Arts

The construction of a new Center for Fine & Performing Arts is the cap stone of this Master Plan. Currently located in outdated and cramped quarters in Orange Hall, the Performing Arts Department requires additional space equipped with state-of-the-art technology to be able to offer programs that prepare students for high-paying jobs in the theater and movie industries. The Fine Arts Department, displaced temporarily to the Bio-Technology Building when Harriman Hall was renovated, also require well-lit, large studio spaces and computer labs equipped with the latest in animation technology.

The Center for Fine & Performing Arts would include: a new, 700-seat theater, complete with a fly gallery, ample wings, and appropriate support spaces; a black-box theater; art studios; an art gallery; classrooms; computer labs; faculty offices; and gathering spaces. This Master Plan also proposes that the English and Foreign Languages Department be located in the new building. This would increase the visibility of the department and encourage interaction between students and faculty from several disciplines.



A parking deck would be constructed on the east side of the new building. The upper deck would be accessed from South Street, while the lower deck would be reached via Mills Avenue. An additional 185 parking spaces would be created, providing convenient access to the new performance spaces for the College and the surrounding community.

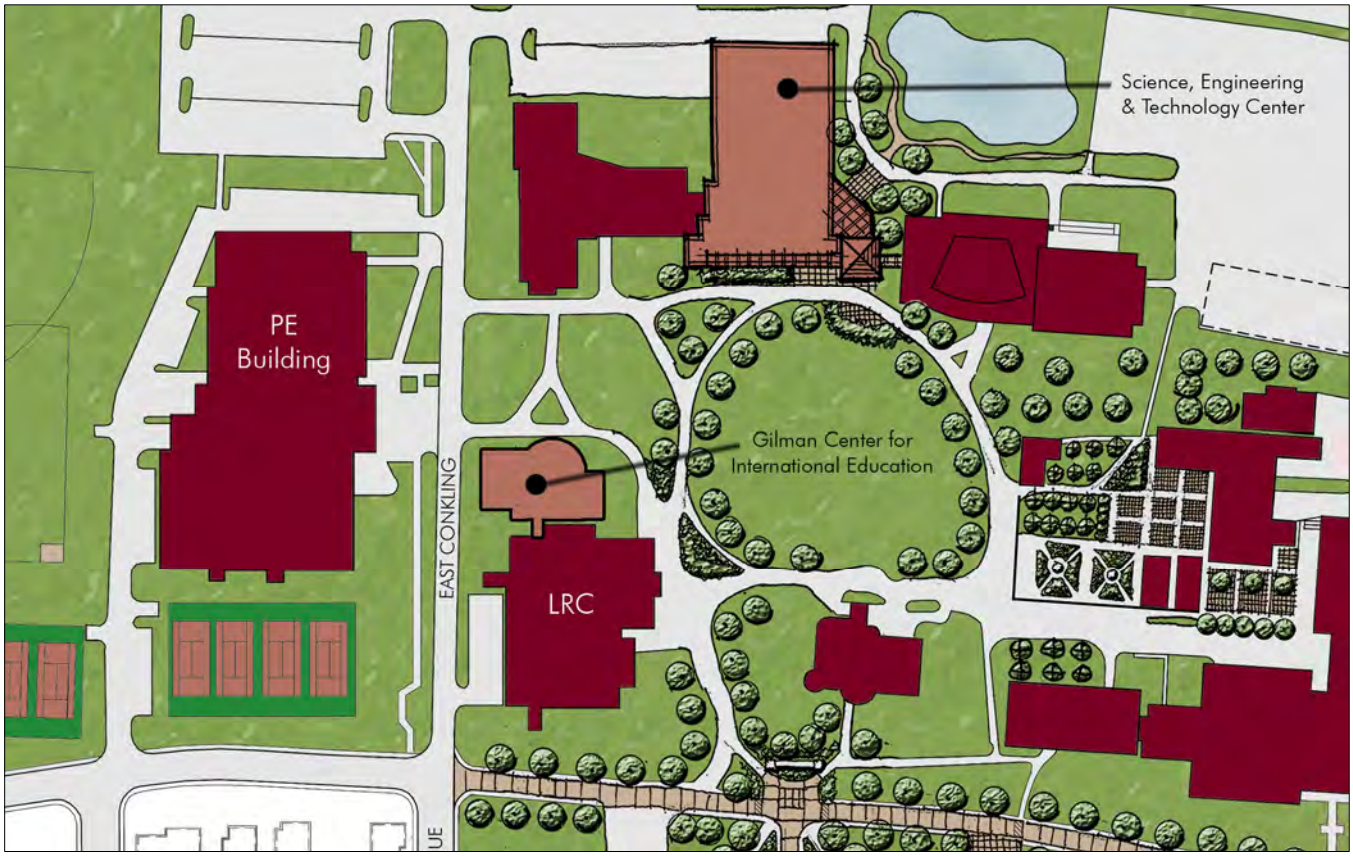
The section of Bennett Street between South Street and Mills Avenue would be reconfigured to create a circular drop-off loop serving the new College Commons addition and the Center for Fine & Performing Arts. The creation of new entry plazas and completion of the landscaping on the south side of campus will create a new "front door" for OCCC.

The total estimated cost for the construction of the Center for Fine & Performing Arts, including furnishing and equipment, the new parking deck, all associated site work, including the construction of the drop-off loop, and the demolition of the small facilities buildings and Christine Morrison House, is **$66,695,400** (in 2008 dollars).

New Center for Fine & Performing Arts	**Cost Estimate**
Demolish Small Facilities Buildings	$12,900
Demolish the Pole Barn and Grounds Shop (excluding dump charges).	
Demolish Christine Morrison House	$119,600
Demolish Christine Morrison House (excluding dump charges).	
New Center for Fine & Performing Arts	$53,102,400
Construct a Center for Fine & Performing Arts east of the College Commons (111,000 SF @ $400/SF).	
Associated Site Work	$5,420,100
Site work associated with the Center for Fine & Performing Arts (includes the construction of the parking deck, the drop-off loop, access roads, landscaping and site amenities).	
SUBTOTAL	**$58,655,000**
Professional Design Fees	$4,000,000
Furnishings and Equipment	$4,040,400
ESTIMATED TOTAL PROJECT COST	**$66,695,400**

The Gilman Center for International Education

The College developed plans for the Gilman Center for International Education even before work on this Master Plan began. A budget of **$3 million** was established. The cost of the Center to be built as an addition to the Learning Resources Center has not been included in this Master Plan, as it is anticipated that the project will be funded through donations.



Master Plan Implementation

As previously mentioned, it is rare for a college to be financially able to implement all of the projects recommended in a comprehensive master plan. Therefore, projects the College identified as having the greatest benefit in the next ten years are included in Phase 1 of the Implementation Plan. The total estimated cost for Phase 1, including 15 of the most pressing facilities maintenance projects, is **$48,217,400**.

PHASE 1	Project Total
Create a Pedestrian Friendly Campus	$1,434,500
New Science, Engineering & Technology Center	$38,869,600
New Campus-Wide Electrical Distribution System	$3,629,000
Facilities Maintenance Projects	$4,284,300
Fire Alarm System Update (Campus-wide)	
Handrails (Horton Hall)	
Cooling Tower (Bio-Tech)	
Repair Roof and Exterior Ceiling (Morrison Hall)	
Roof Snow-Melt System (Morrison Hall)	
New Boilers (Orange Hall & Physical Education Building)	
Pool Ceiling and Lighting (Physical Education Building)	
Backflow Preventors (Multiple Buildings)	
Upgrade Campus Site Drainage System	
Site Security Upgrades	
Roof Coating (Bio-Tech, Harriman, Orange & PE Buildings)	
Parking Lot Repaving	
Replace Elevator (Bio-Tech)	
Replace Main Water Distribution Lines to City System	
Classroom Technology Upgrades	
TOTAL	**$48,217,400**

The remaining Master Plan projects have been divided into three additional phases. As need and/or funding become available, some of these projects may become priorities for the College, while others may need to be modified as campus priorities change.

The total estimated cost for all four phases of the Master Plan Update, in 2008 dollars, is **$178,777,600**.

PHASE 2	Project Total
Renovation of Harriman Hall	$11,271,000
New Campus-Wide IT Distribution System	$1,982,000
Renovation of the Ice House	$1,553,300
Facilities Maintenance Projects	$3,677,000
Transform Inner Loop Road into Pedestrian-Friendly Walkway	
Allowance for Asbestos Removal	
Replace all College Commons Exterior Entry Doors	
Reroute Cooling Tower Piping (Morrison Hall)	
Replace Deteriorating Domestic Water Pipes (Morrison Hall)	
Replace Deteriorating Domestic Water Pipes (Orange Hall)	
Repoint Deteriorating Mortar Joints (PE Building)	
Replace Gymnasium Floor, Bleachers and Partitions (PE Building)	
Construct an Elevator Addition (PE Building)	
TOTAL	**$18,483,300**

PHASE 3	Project Total
College Commons Addition	$6,239,300
Renovation of the Existing College Commons	$14,518,500
Renovation of Hudson Hall	$3,822,700
Relocate Facilities Department to Orange Hall	$54,900
Renovation of Horton Hall	$6,080,000
Facilities Maintenance Projects	$262,800
Campus-Wide Allowance for Asbestos Removal	
Develop a Comprehensive, Campus-Wide Signage System	
TOTAL	**$30,978,200**

PHASE 4	Project Total
New Center for Fine & Performing Arts	$66,695,400
Renovation of the Bio-Technology Building	$3,739,600
Renovation of the Estate Gardens and Plaza	$254,500
Facilities Maintenance Projects	$10,409,200
Site & Campus Infrastructure	
Install a Campus-Wide Public Address System	
Replace the Paved Plazas North and Northwest of Bio-Tech	
Replace the Tennis Net Sleeves	
Replace the Athletic Field Score Board	
Improve Athletic Field Drainage System	
College-Wide Allowance for Asbestos Removal	
Parking Lot Repaving	
Install a Campus-Wide Master Clock Network	
Allowance to Repair/Replace Substandard Sidewalks, Site Walls and Site Stairs	
Install New and Additional Site Lighting in Parking Lots	

PHASE 4 (continued)	Project Total
Bio-Technology Building	
Install Operable Windows	
Install ADA Compliant Signage throughout building	
Install New Seats and Tables in Tiered Classrooms BT201, 203, 301,and 303	
Replace the Remaining Exhaust Fans	
Replace the Remaining Fan Coil Units	
Install New Boilers	
Commission the Building's HVAC System	
Inspect and Upgrade Electrical Distribution Equipment	
Upgrade Lighting Fixtures throughout the Building	
Greenhouses	
Restore Greenhouse A Windows and Metal Roof	
Restore Frame and Glazing System of Greenhouse B	
Replace the Radiant Heating Systems in both Greenhouses	
Connect Greenhouse A to Boiler in Horton Hall	
Upgrade Electrical Systems in both Greenhouses	
Replace the Water Distribution Systems in both Greenhouses	
Learning Resources Center	
Replace Single-Glazed Windows	
Install ADA Compliant Signage throughout the building	
Upgrade the HVAC System	
Provide a New Electrical Distribution System	
Morrison Hall	
Inspect and Upgrade the Electrical Distribution Equipment	
Install ADA Compliant Signage throughout the building	
Orange Hall	
Provide an Assistive Listening System in the Theater	
Install ADA Compliant Signage throughout the building	
Provide Air Conditioning in Remaining Areas of Orange Hall	
Install New Electrical Distribution System	
Complete Lighting System Upgrades	
Physical Education Building	
Replace Lighting Fixtures in Site Wall at Front of Building	
Resurface Racquetball Court Walls	
Repair Damaged Racquetball Floor	
Install ADA Compliant Signage throughout the building	
Renovate the Men's Locker Rooms	
Air Condition the Gymnasium	
Install New Electrical Distribution System	
Upgrade the Lighting System	
Provide Humidity Control in Natatorium	
TOTAL	**$81,098,700**

The Newburgh Campus

Introduction

As the population in Orange County and the surrounding region continues to grow over the next decade and beyond, the College will be challenged to create space fast enough to keep up with the demand.

Census Tracts for Orange County	2005	2015	2025
Traditional College-Aged Population			
15 to 19 Year Olds	29,493	30,447	32,491
20 to 24 Year Olds	25,379	31,321	30,762
Subtotal	**54,872**	**61,768**	**63,253**
Adult Learners			
25 to 29 Year Olds	21,035	30,744	32,338
30 to 34 Year Olds	20,070	27,427	33,407
35 to 39 Year Olds	25,404	22,507	31,901
40 to 44 Year Olds	29,935	20,912	27,745
Subtotal	**96,444**	**101,590**	**125,391**
Total	**151,316**	**163,358**	**188,644**
Overall Participation Rate (Median for OCCC for the last ten years)	4.26%	4.23%	4.23%
Ratio of 15 to 24 Years to Total	36.26%	37.81%	33.53%

As discussed previously, the Middletown campus is nearing capacity. At the same time, there are significant needs for renovation and renewal of existing facilities. Until surge space can be created through the construction of the new Science, Engineering & Technology Center, OCCC's main campus will continue to be in a "holding pattern." Students are already on waiting lists for the health professions that are twice as long as the number of students enrolled in the programs. Obviously, lack of space within these departments limits enrollment. However, high operational costs further limit the number of health profession slots the College can offer. One way to offset these costs is to increase enrollment in less expensive programs, but with college-wide capacity limitations, this cannot be achieved.

While the College has done an excellent job with the resources it has been given, the combined pressure for building renovation and the creation of additional space in Middletown will continue. In the near term, the ability of the College to serve the residents of Orange County may hinge on expansion elsewhere.

Extension Center vs. Branch Campus

In New York State, colleges offering off-campus instruction has grown exponentially over the last two decades and continues to grow. The State Education Department (SED) separates off-campus instruction into three categories.

Extension Site: A unit of an institution located at a place other than the institution's principal center or another degree-granting institution at which the institution does not offer any curricula leading to a certificate or degree, and at which the institution conducts no more than 15 courses for credit and has no more than 350 course registrations for credit in any academic year. No approvals from the state are required to establish an extension site.

Extension Center: A unit of an institution located at a place other than the institution's principal center or another degree-granting institution at which the institution does not offer any curricula leading to a certificate or degree, but at which the institution conducts more than 15 courses for credit and has more than 350 course registrations for credit in any academic year. Approval from the Commissioner of SED is required to establish an extension center.

Branch Campus: A unit of an institution located at a place other than the institution's principal center or another degree-granting institution at which the institution offers one or more curricula leading to a certificate or degree. Board of Regents approval and a master plan amendment is required to establish a branch campus. (It recently took Cayuga Community College 18 months to gain the state's approval to re-classify their current Fulton Extension Center as a full branch campus.)

By definition, OCCC's presence in Port Jervis is considered an Extension Site. The College's existing offerings in Newburgh qualify it as an Extension Center. Currently, students enrolled at the Center must travel to the main campus in Middletown to finish their degree requirements. The Newburgh Extension Center also offers only limited access to vital student services, such as counseling, financial aid, and tutoring. While the College offers shuttle service between the two sites, the 40-minute drive is seen as an inconvenience to some and an impediment to others, particularly given today's inflated gas prices.

Providing these services in Newburgh will help insure the success of students who might not otherwise have the means or the inclination to travel to the main campus in Middletown. And, while duplicating these services in two locations may appear to be inefficient, community colleges across the state have been creating highly successful branch campuses for over a decade. The multi-campus systems in New York are as follows:

- Cayuga Community College - Auburn and Fulton Campuses
- Erie Community College - North, South and City Campuses
- Jamestown Community College - Jamestown and Olean Campuses
- Mohawk Valley Community College - Rome and Utica Campuses
- Monroe Community College - Brighton and Damon City Campuses
- Suffolk Community College - Ammerman, West and East Campuses

Why Newburgh?

Construction of a branch campus will be the fastest way for the College to create the capacity necessary to respond to growth. Luckily, William Kaplan, a successful businessman and long-time resident of the City of Newburgh, approached the College over a year ago with a substantial gift. His family's foundation committed $10 million to the creation of an OCCC branch campus provided it is established within Newburgh City limits. Mr. Kaplan was also

instrumental in attracting the attention and eventually the investment of the State of New York in this endeavor. To date, a total of $40 million has been designated for the creation of the OCCC Newburgh Branch Campus.

Newburgh's location within the County also provides a strategic advantage. In 2005, approximately 325 students comprising 210 FTEs from Orange County attended classes at Dutchess Community College, both the main campus and the south extension center. The attraction is not that DCC South offers highly specialized programs that are not available at OCCC's Middletown Campus. In fact, the vast majority of program offerings at community colleges in New York are the same. These students take classes elsewhere because it is either more convenient in terms of geographic location or availability of parking, or in more attractive facilities with newer technology.

Much like the Middletown Campus, other community colleges in the region are nearing capacity. Both Westchester Community College and Dutchess Community College are struggling to keep up with demand.

- At Westchester, they have developed numerous extension sites in the southern end of the county. One of WCC's largest extensions, the Peekskill Extension site, is currently being expanded.
- Dutchess has handled much of its recent demand through the DCC South Extension Center, currently the largest extension center in the state. The college is also seeking further expansion within their current Wappingers Falls building.

While these extension centers are within the Newburgh service area, establishing a well-sited branch campus in the City of Newburgh will provide some relief for the large demand within the region.

A discussion of the secondary benefits of the College's expanded presence in the City of Newburgh is beyond the scope of this report. However, it is important to note that some feel it will spur revitalization of downtown Newburgh and create an enormously positive economic impact on

the City. Others suggest it will help reach an underserved population and give new hope to an impoverished neighborhood. Regardless of one's position, all agree that, first and foremost, the branch campus must be successful for the College before any secondary benefits will be realized.

Enrollment Distribution at the Proposed Branch Campus

Since the focus of most community colleges is delivering associate degree education, a large percentage of the curriculum is devoted to teaching English and Mathematics. At the current Newburgh Extension Center, an even larger percentage than is typical for a community college is devoted to these two subjects because the students require more remedial course work in these areas. At the proposed Newburgh Branch Campus, it is anticipated that remedial instruction will diminish as a proportion of the total, yet it will still represent a significantly larger component of the campus than it does at Middletown. Once again, the reason is that students entering the institution in Newburgh have typically required a significant amount of remediation in English and Mathematics.

Other student FTEs of note will be in Biology, Dental Hygiene, Diagnostic Imaging and Nursing. The College has yet to determine if the Dental Hygiene program will be relocated in its entirety from the Middletown Campus. However, Diagnostic Imaging (limited to lecture based instruction at the Newburgh Campus) will be located at both campuses. The Nursing curriculum will also be offered at both campuses, although the Newburgh program will be smaller than Middletown. It is anticipated that 64 new nursing "seats" (in contrast the table on the following page represents full time equivalents, not headcounts) will be made available at the Newburgh Campus.

A significant facility investment will be provided for Biology to support the health professions and liberal arts majors. In the last thirty years, Biology has become the core science component to a community college curriculum; it is required by the health professions and is versatile enough to apply

to most of the various transfer programs. Other core offerings will be in Accounting, Business Management and Criminal Justice.

A Center for Advanced and Convergent Technologies will be established and a home will be created for the Center for Continuing and Professional Education (CAPE) to include workforce development and corporate training initiatives. In the coming months, the College will continue to pursue potential synergies with other institutions, such as Empire State College and BOCES.

As the Newburgh Campus grows over the next ten to twenty years, the expected distribution of student FTEs is as follows:

Newburgh Campus				
Student FTE by Department (Actual Credits Taught Divided by 15)	Existing Fall 2005	Projected Fall 2015	Projected Fall 2025	Percentage
Accounting/Office Technology	13.00	20.00	28.00	115%
Applied Technology	0.00	15.00	20.00	NA
Biology	76.00	152.00	173.00	128%
Business Management	90.00	165.00	220.00	144%
Mathematics & Computer Science	97.00	190.00	205.00	111%
Science & Engineering	22.00	32.00	40.00	82%
Dental Hygiene Assistant	0.00	30.00	44.00	NA
Diagnostic Imaging	0.00	15.00	15.00	NA
Lab Technology	0.00	0.00	0.00	NA
Movement Science	12.00	20.00	35.00	192%
Nursing	0.00	50.00	50.00	NA
Occupational Therapy Assistant	0.00	0.00	0.00	NA
Physical Therapy Assistant/Massage Therapy	0.00	0.00	0.00	NA
Arts & Communication	56.00	88.00	100.00	79%
Criminal Justice	11.00	58.00	60.00	NA
Education	0.00	0.00	0.00	NA
English & Foreign Languages	119.00	205.00	240.00	102%
Social Sciences	35.00	60.00	70.00	100%
Total	531.00	1,100.00	1,300.00	145%

Space Projections

Given that the population in the county principally serviced by the College (15 to 44 year olds) is expected to increase to 165,000 by 2015, the overall enrollment at OCCC is expected to climb to 7,000. Assuming the creation of a branch campus in Newburgh, enrollment at Middletown will be modest, yet achievable considering the facilities challenges there. The College will also continue to operate its other off-campus sites. The anticipated distribution of FTEs in 2015 is as follows:

FTE Distribution

Campus or Extension	Fall 2005 Total	Fall 2015 Total
Middletown Campus	3,395.03	3,500.00
Monroe High School	24.60	25.00
Newburgh	530.67	1,063.63
Other Orange County High Schools	176.27	180.00
Port Jervis High School	18.67	20.00
Warwick High School	13.20	15.00
Total Fall FTEs	4,158.43	4,803.63
Annualized FTEs	4,300.00	4,952.20
Ratio of Fall to Annualized FTEs	97%	97%

The table on the following page represents the space requirements of the proposed Newburgh Campus based on State University Guidelines. The assessment is through 2025 based on an eventual enrollment of 1,300 FTEs. The corresponding headcount would be approximately 2,000 students. The assessment indicates a need for 127,257 net assignable square feet by 2015 expanding to 142,179 by 2025. Therefore, the gross square footage (or total building area) would be 213,791 by 2015 and 238,861 by 2025.

Newburgh Campus Space Category	2005 Existing 531 FTEs	2005 Required 531 FTEs	Current Deficit	2015 Required 1,100 FTEs	Future Deficit	2025 Required 1,300 FTEs	Future Deficit
Instructional Space	31,000 sf	21,227 sf	9,773 sf	44,000 sf	(13,000)sf	52,000 sf	(21,000)sf
Public Service	0 sf	0 sf	0 sf	0 sf	0 sf	0 sf	0 sf
Instructional Resources	500 sf	2,960 sf	(2,460)sf	2,960 sf	(2,460)sf	2,960 sf	(2,460)sf
Electronic Data Processing	800 sf	2,280 sf	(1,480)sf	2,280 sf	(1,480)sf	2,280 sf	(1,480)sf
Library	2,000 sf	3,882 sf	(1,882)sf	6,906 sf	(4,906)sf	10,094 sf	(8,094)sf
Health & Physical Education	0 sf	28,000 sf	(28,000)sf	28,000 sf	(28,000)sf	28,000 sf	(28,000)sf
Student Activity Space	2,000 sf	5,572 sf	(3,572)sf	11,550 sf	(9,550)sf	13,650 sf	(11,650)sf
Health Services	0 sf	750 sf	(750)sf	750 sf	(750)sf	750 sf	(750)sf
Assembly & Exhibition	0 sf	11,120 sf	(11,120)sf	11,120 sf	(11,120)sf	11,120 sf	(11,120)sf
Administration	6,000 sf	3,184 sf	2,816 sf	6,600 sf	(600)sf	7,800 sf	(1,800)sf
Central Services	500 sf	9,384 sf	(8,884)sf	9,384 sf	(8,884)sf	9,384 sf	(8,884)sf
Building Services	300 sf	2,651 sf	(2,351)sf	3,707 sf	(3,407)sf	4,141 sf	(3,841)sf
Total Net Area	43,100 sf	91,009 sf	(47,909)sf	127,257 sf	(84,157)sf	142,179 sf	(99,079)sf
Anticipated Gross Square Feet		152,896 sf		213,791 sf		238,861 sf	
SF/FTE	81 sf			116 sf		109 sf	

Parking

Parking spaces are to a community college what dormitory rooms are to a residential college; if they are not available, students cannot attend. SUNY's space guidelines suggest a range of 85 to 120 square feet to educate a community college student at a campus. Accommodating the student's car requires about 200 square feet. The amount of space it will take to park vehicles for an enrollment of 1,100 FTEs is substantial.

Parking convenience is another important consideration. At an average age of 28, today's OCCC student is likely to have a full-time job or family commitments or both. Because time is short, the expectation of these busy students is to park near the entrance to a building, much like they do at a shopping mall. Therefore, providing an adequate number of convenient parking spaces is paramount to the success of a campus.

The required number of parking spaces for the Newburgh Branch Campus can be calculated a number of ways.

Method 1 - Middletown as a Basis

The Middletown Campus currently accommodates 1,600 cars with a reported shortage of about 300 spaces. Grounds personnel have suggested that 1,900 spaces would adequately accommodate the current student body. Therefore, based on Middletown's current enrollment of 3,395 FTEs, the ideal amount of parking would be .57 spaces per FTE. Applying this same ratio to the 2015 projected enrollment of 1,100 in Newburgh yields a need for 627 parking spaces.

Method 2 – Accepted Standard

A conservative multiplier of .36 x the college population has been suggested based on the work of the Institute of Transportation Engineers. However, in order to be accurate, one must first convert FTEs to students. In general, enrollment at community colleges is made up of a large proportion of part-time students. Some may only be taking a single course (three credits), yet SUNY measures one FTE as 15 credit hours. It is anticipated that the Newburgh Campus will have a lower credit load per student than the overall college. Currently, the credit load for OCCC is 10.2. Therefore, a conservative assumption is that the 1,100 FTEs at the Newburgh Branch Campus will likely be made up of 1,875 students. Applying the ITE's conservative multiplier of .36, the total number of parking spaces required for students alone is 675.

The average of these two methods is 651 parking spaces. However, other factors may affect this projection. Community colleges across the nation are employing an increasing number of adjunct faculty who are responsible for a smaller number of credit hours than traditional full-time faculty members. This trend alone means there are likely to be more faculty in the future and more "coming and going" during the day than in the past. In anticipation of this, it would be wise to plan for 10% more parking than what the calculations bear.

Therefore, the parking demand for the Newburgh Campus is estimated to be 715 spaces. Approximately six acres of land is required to accommodate 715 on-grade parking spaces.

Summary of Needs

- Enrollment (531 FTEs in 2005)
  - 1,064 FTEs in 2015 (Phase I)
  - 1,308 FTEs in 2025 (Phase II)

- Program Area (75,000 gsf in 2005)
  - 215,000 gsf in 2015
  - 325,000 gsf in 2025

- Parking (+/-125 spaces in 2005)
  - 715 spaces in 2015
  - 1,170 spaces in 2025

Site Selection Process

The location of the Newburgh Branch Campus will have an impact on its success. As discussed previously, convenience is a critical ingredient for the community college student. In an effort to identify the best location, the County formed a Site Selection Committee. This committee met as a group on 8 different occasions during the course of the project. The consultants also met separately on numerous occasions with College, County, and City officials.

Site Selection Committee Members

Honorable James O'Donnell, Orange County Executive's Administrative Officer
Bill Lahey, Majority Leader, Orange County Legislature
Tony Marino, Minority Leader, Orange County Legislature
Mark S. Nash, Esq., Sr. Assistant to the County Attorney, Orange County
Gary Scrittore, Deputy Commissioner of Buildings and Grounds, Orange County
Dr. William Richards, President, OCCC
J. Daniel Bloomer, Vice President for Administration, OCCC
R. Michael Worden, Director of Facilities & Administrative Services, OCCC
Melody Festa, Academic Officer, OCCC
Paul Broadie, II, Director of Extension Centers, OCCC
Brutus Hodge, Trustee, OCCC
Nicholas J. Valentine, Mayor, City of Newburgh
Elsa Figueroa-App, Councilwoman (former), City of Newburgh
Dr. Joshua Smith, Professor of Higher Education, NYU

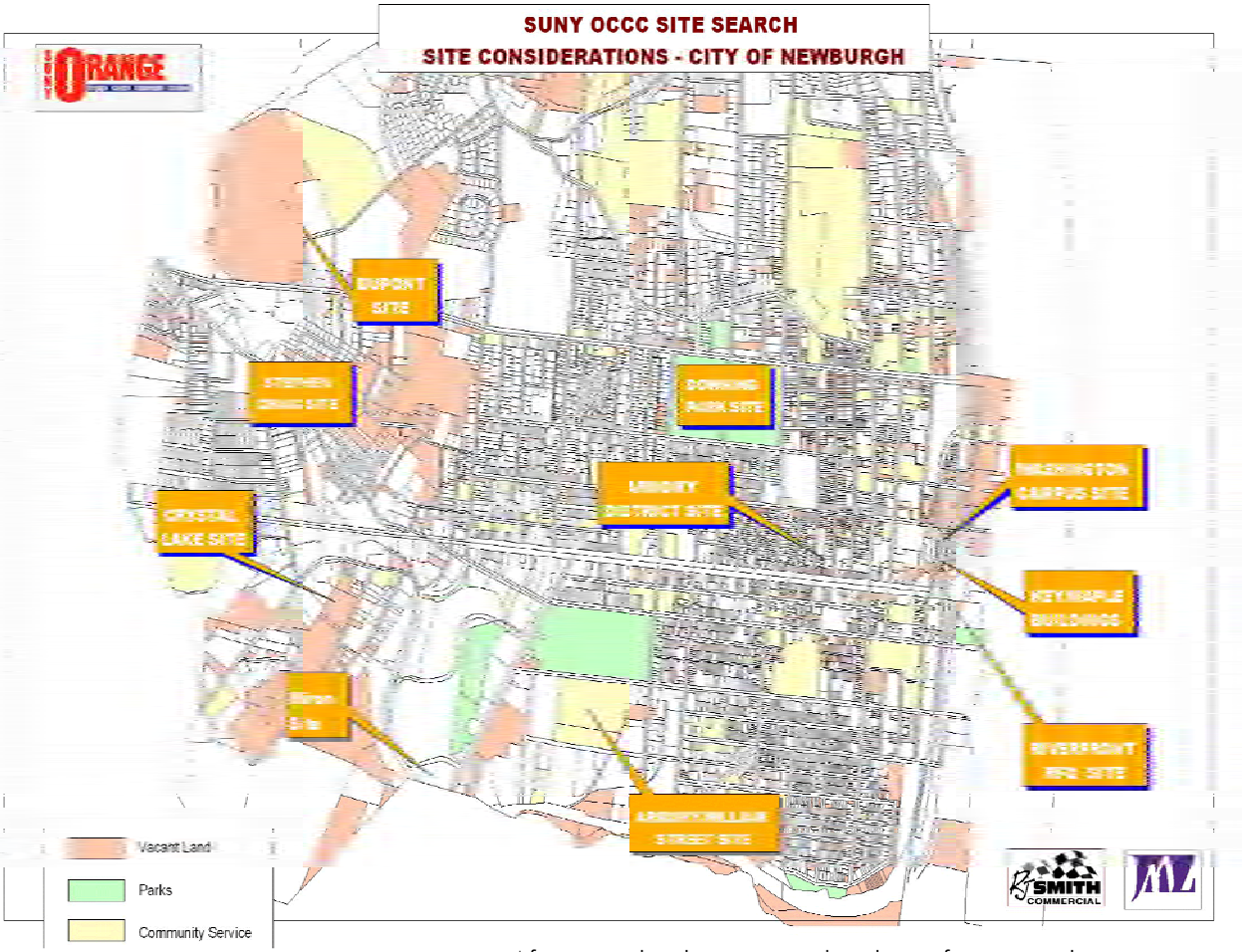
Early in the site selection process, committee members suggested then ranked the importance of specific site characteristics. The table below illustrates the agreed-upon priorities in terms of characteristics of the ideal site.

Characteristics of the Ideal Site

1. Safe location
2. Downtown location; not on the fringe of the City
3. Room for future expansion
4. Adequate space for parking
5. New building
6. Convenient access to public transportation
7. Minimize negative impact on community
8. Green space; "campus" image

With this in mind, the consultant team began to identify potential sites within the City limits. The following sites were considered by the committee:

- Key Bank Site (College's current location)
- Broadway Site
- Craig Street
- Crystal Lake
- Downing Park
- South William Street (Current Armory)
- Dupont
- Miron
- Washington Campus (near College's current site)



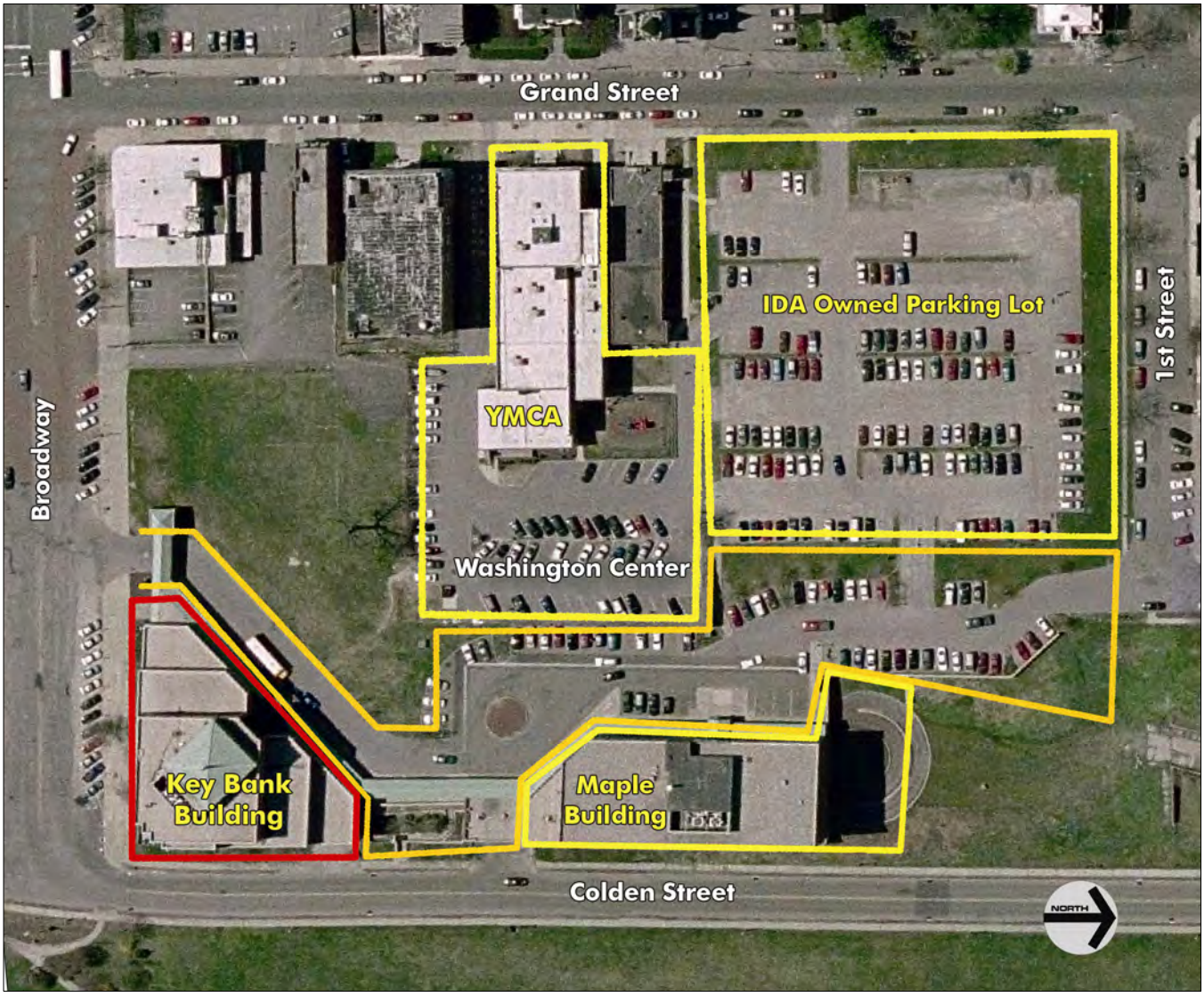
After much discussion the list of potential sites was narrowed to four, as follows:

▪ Key Bank Site	6.5 acres
▪ Washington Campus	4.3 acres
▪ Broadway Site	4.0 acres
▪ South William Street	14.0 acres

The Key Bank Site

The Existing Site

The College's current Extension Center is located in the Key Bank Building. It has proven to be a convenient location and, with lovely views of the Hudson River, is certainly an attractive site. The Center, which is located at the eastern terminus of Broadway (Newburgh's main downtown thoroughfare) at the intersection with Colden Street, currently serves approximately 1,200 students (531 FTEs). The campus overlooks the Hudson River and the hills east of Beacon, New York. One of the site's most valuable assets is the dramatic views of the Hudson River and the surrounding area.



Building Condition Assessment

Year Constructed: 1989
Gross Square Footage: 85,340

Construction Type: Steel, concrete and masonry.

Floors: 5 occupied floors, a basement and a sub-basement

Building Exterior

P	Roof
P	Walls
G	Windows
G	Doors
F	Painting/Caulking
F	Steps/Ramps/Entrances
P	Plazas/Walkways

Building Interior

F	Floors
P	Walls
G	Ceilings
G	Doors
G	Stairs
F	Painting

Custodial

P	Level of Cleanliness

Safety/Security Issues

G	Perimeter Door Control
N/A	Interior Door Control
F	Security Cameras
N/A	Intrusion Detection
N/A	Exterior Emergency Phones

ADA Issues

G	Exterior Doors (Hardware and Clearances)
F	Accessible Entrances
G	Accessible Routes (Horizontal)
G	Accessible Routes (Vertical)
F	Interior Doors (Hardware and Clearances)
G	Signage
G	Telephones/TTY Phones
G	Drinking Fountains
F	Accessible Men's Rooms
F	Accessible Women's Rooms

Mechanical/Electrical/Plumbing Issues

G	Heating/Cooling System
F	Heat Pump Terminal Units
F	Outdoor Air Distribution
F	Cooling Towers
G	Boilers
F	HVAC Control System
G	Plumbing System/Fixtures
G	Fire Protection
G	Electrical Distribution System
G	Fire Alarms/Smoke Detection
G	Emergency Lighting
G	Emergency Generators
F	Electrical Lighting System
F	Technology/Communication
G	Elevators

E Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort, and additional funding are required.
P Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.

View of the elevated YMCA Parking Lot with the Maple Building Parking Lot in the distance. Metered parking for the Key Bank Building is located at the lower left of the picture, adjacent to the concrete retaining wall.

The adjacent vacant lot, shown below, may provide an opportunity for the Campus to expand.

Land Uses

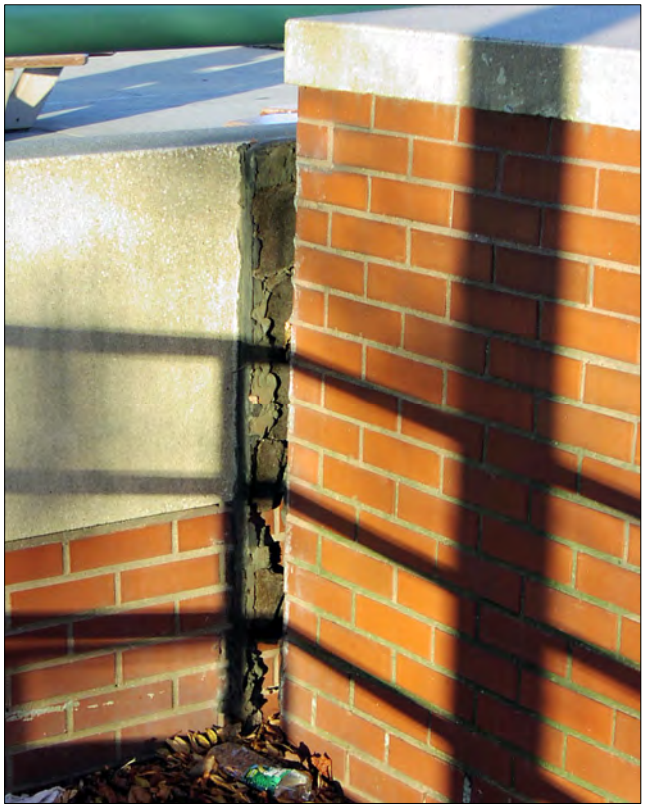
Adjacent Land Uses

Adjacent land uses vary, but most buildings are used for either commercial or institutional purposes. The Newburgh Police Department Headquarters are across Broadway to the south. Reportedly there are plans to build a courthouse on or adjacent to Police Headquarters. Directly to the west of campus, on the opposite side of the entrance drive, is a 0.75-acre vacant parcel of land. This parcel may provide an opportunity for the College to expand, but the subsurface condition is unknown and there is some evidence of slippage on the steep slope adjacent to the entry drive. The YMCA and the Maple Building parking lot are located northwest of the campus. The Maple Building, located adjacent to the Key Bank Building, houses a variety of tenants and shares the use of many of the surrounding facilities with the Newburgh Campus. The Maple Building is built over a two-level, City-owned parking garage. Directly east of the campus is Colden Street, and beyond that is a vacant parcel of land that may be developed in the future. Farther to the east is the Hudson River and associated development.

Site Characteristics

The site is relatively flat but it has been cut into a hillside that slopes steeply down towards the Hudson River. As a result, the main entrance to the Key Bank Building is approximately two stories above the service entrance on Colden Street. The first floor level of the parcels to the west is approximately ten feet above the first floor level of the Key Bank Building. The resulting elevation difference between the Campus and the Hudson produces dramatic views of the river and the hills beyond from the offices and classrooms.

Another obvious site characteristic is the close relationship between the Key Bank Building and the Maple Building. While occupied by different entities, they are linked by a driveway located on City-owned land, have the same architectural style, and are physically connected by a covered walkway.



One of the site walls appears to have settled, resulting in cracks in brick mortar joints and separation from another site wall.

Site vegetation is sparse.

Outdoor space on the intensely developed site is limited. The only leisure space on or near the campus is located to the north, on adjacent city owned land that lies between the Key Bank Building and the Maple Building. The space has two concrete benches but no other site furniture, plantings, or amenities.

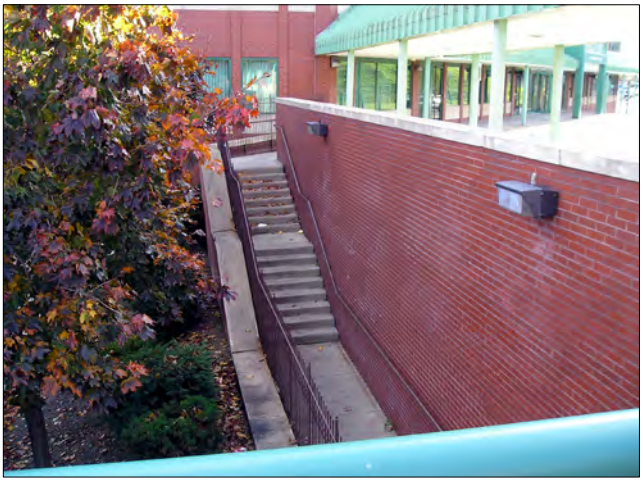
- The brick site wall that runs north/south between the two buildings, forming the west retaining wall for the stair that leads to the parking garage, is showing signs of settling. The north end of the wall has pulled several inches away from an abutting site wall and cracks can be seen in some of the mortar beds. The wall should be repointed.

Site Furniture

There is essentially no site furniture, with the exception of the two previously mentioned benches. There are no trash receptacles or ash urns under the covered walkway running along the building. There are also no bicycle racks, and it is not known if any members of the college community bicycle to the campus.

Site Vegetation

There is very little site vegetation. The strip of land along Broadway contains Maple trees with a low Juniper ground cover. The planting presented a lackluster appearance during the November site visit, and one of the Maples appears to be dead. The planted strip along Colden Street only extends to the service entrance and contains two Maple trees and some low Yews. The landscape here is also nondescript. The most heavily planted area on or near the campus is at the stairway located between the Key Bank and Maple Buildings that connects the upper campus entrance drive with the Colden Street sidewalk below. The area adjacent to the stairway is planted with trees and shrubs but does not offer a place to sit. Campus officials report that the area collects a good deal of wind-blown trash and leaves and that it is difficult to maintain.



The site stair between the Key Bank and Maple Buildings collects wind-blown trash and leaves and is difficult to maintain.

Widening the narrow main entry drive would involve reworking the entry canopy.

Hardscape

Vehicular Circulation

There are three vehicular access points to the Campus. The main entrance into the site is via a two lane private drive that enters from Broadway. Vehicles must turn into the entrance drive and negotiate a two-story open-air brick pavilion and the posts of the covered walkway that extends over the entrance drive.

Reportedly, many students enter the site from First Street in an effort to avoid traffic on Broadway.

The third access point is through the public parking garage that is entered directly from Colden Street on the east side of the building. The garage is easy to access for those familiar with its location, but first time visitors might find it difficult to locate.

- Reportedly there are no significant traffic volume or flow problems on campus, but vehicles stopping to drop off or pick up passengers at the Key Bank Building entrance block through traffic. College officials would like to see the Broadway entrance road widened, but this would be difficult without modifying the covered walkway and pavilion.

Vehicles where observed traveling at a safe speed through the site. It appears the traffic circle and the slight jog in the service drive prevent drivers from speeding.

A prominent feature of the entrance drive is a traffic circle located at one end of the municipal lot. The circle is curbed and paved with brick. It appears to be a confusing feature to some drivers, as a car was observed driving the wrong way around the circle.

The service entrance location on Colden Street is not well marked from Broadway and only becomes apparent when one drives onto Colden Street. It appears that the service entrance is difficult for large trucks to negotiate as it is located just off Colden Street, forcing trucks to use the street for backing and turning. It also appears trucks must block traffic on Colden when making deliveries.

Refuse containers located adjacent to the garage entrance are an eyesore.

The College's name should be featured more prominently on the main entry sign.

Signage should be installed to direct pedestrians to the College entrance at the Key Bank Building. Additional curb cuts should be created, especially at the main building entrance.

Campus trash receptacles are located adjacent to the garage entrance in plain view from the street, which is an eyesore.

The only vehicular signage observed on campus is located at the corner of Broadway and the main entrance drive. The most prominent feature of the sign is the Key Bank symbol. Orange County Community College lettering appears to have been added to the existing Key Bank sign and is somewhat difficult to read. There is no other signage to direct vehicles to parking or service areas and, consequently, it is difficult for drivers to tell where they are allowed to park.

- Signage should be installed to direct vehicles along the service road, to parking areas, service areas and the parking garage entry.
- A new main entry sign that prominently identifies the Campus should also be installed.

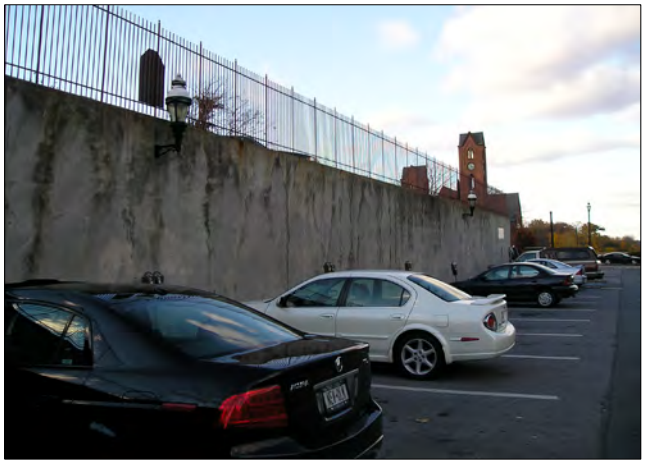
Pedestrian Circulation

The site is small, so campus pedestrian circulation is limited.

- There is no signage indicating the main entry to the College, making it difficult for first time students to determine which building houses the College. In addition, there are no marked crosswalks to indicate safe crossing points and pedestrian rights-of-way. Additional curb cuts are needed, especially at the main entry to the building.

Apparently the route used most often by members of the College community to access the YMCA parking lot is an informal foot path on the steep grass embankment of the vacant parcel to the west.

- If the College intends to continue to lease parking spaces in the YMCA lot, a site stair should be provided to improve pedestrian access.



Metered parking, limited to 2 hours, is available along the service drive.

Water damage is evident in the parking garage beneath the Maple Building.

Parking

Parking is located in three separate areas, all technically "off-site." There are approximately 75 spaces available in the City-owned parking garage beneath the Maple Building. Approximately 50 parking spaces are also available in the Maple Building surface parking lot located to the west of the Maple Building. Finally, there is limited metered parking along the entrance drive and Broadway. The campus requires more parking than is presently available and will require even more parking in the future.

There are presently approximately 1,200 students registered for classes at the Extension Center. Roughly half attend classes between 10 a.m. to 2 p.m. The remainder attend evening classes between 6 p.m. and 10 p.m. The student population on the Newburgh Campus is expected to double within the next five to ten years as the Extension Center grows into a full Branch Campus.

- The three accessible parking spaces located near the Key Bank Building's main entrance are not code compliant as they do not have adjacent loading aisles. In addition, there is no clearly marked crosswalk or curb cut to provide a direct route to the Campus entrance. The parking spaces should be re-striped and the crosswalk should be clearly marked.
- The physical condition of the surface parking areas is only fair, with significant areas showing signs of wear. The asphalt in all of the parking areas should be sealed and re-striped. Areas of deteriorating asphalt should be repaired.

As previously mentioned, 75 parking spaces are available to the College in the public parking garage located under the Maple Building. At the time of the consultant's site visit it appeared work was in progress to deal with water damage. College personnel report that security issues keep many people from taking advantage of the garage.

Damaged and heaving sidewalks and curbing should be repaired or replaced, as needed.

Sidewalks

Sidewalks and curbing related to the campus are limited to the area on the west side of the Key Bank Building. Other sidewalks and curbing in the area are either owned by the City or private parties. The on-site sidewalks and curbs range in condition from poor to fair, with the poor sections showing significant wear and deterioration. Many portions of the sidewalk are heaving at joints.

- All sidewalks and curbing should be repaired or replaced, as needed. A curb cut should be provided adjacent to the front entry of the building.

Roadways

As with the sidewalks and curbing, roadways are limited to the area immediately west of the Key Bank Building. The asphalt roadway, which is in poor to fair condition, appears to need only a top coat of asphalt to bring it to good condition. Other roadways accessed by campus users vary in condition. The remainder of the entry drive, also asphalt, is in poor to fair condition. Broadway is paved with a combination of asphalt and cobble stones, which gives it a ragged appearance. Water was observed to be seeping from an asphalt patch on the north side of Broadway between the campus entrance and Colden Street. The asphalt paved Colden Street is in fair condition.

Utility Infrastructure

Lighting

Site lights along the entrance drive, surrounding roads, and in surface parking areas are historic in theme and mounted on approximately 15-foot high poles. The poles appear to be well spaced but College officials have stated that the lights provide insufficient lighting, resulting in a potential security risk. The officials also report that the City-owned parking garage is poorly lit. Lighting under the covered walkway, at the Key Bank Building, appears to be adequate.

Safety and Security

The College community reportedly views the campus as a safe location. Four campus security officers are on duty while classes are in session. One is stationed at the security desk on the ground floor of the Key Bank Building. A second is located in the Kinder College, and a third is stationed in the parking garage. The fourth patrols the rest of the campus on foot. Areas adjacent to the site are patrolled by City of Newburgh police officers who operate out of Police Headquarters across Broadway from the campus. Key Bank operates and moniters security cameras located in various locations around the campus. Cameras mounted on the building provide partial coverage of the site. There are no blue light phones located in outdoor areas of the campus or on adjacent sites.

Security cameras mounted around the campus are monitored by Key Bank personnel.

- Additional exterior security cameras and blue light emergency phones should be installed.

Municipal Water

The campus is currently served by the City's municipal water supply. The City water source is dependent on surface runoff to reservoir storage at Lake Washington and Brown's Pond. Newburgh is permitted to draw water from New York City's Catskill Aqueduct to accommodate emergency demands. The water treatment plant operates at 4.2 million gallons per day (MGD), while having a 9.0 MGD peak capacity. The water is purified by filtration, disinfected by chlorine, and treated with fluoride prior to distribution to its 27,000 customers. The City treatment plant is located on Little Britain Road in the Town of New Windsor.

The City Water Department is responsible for the daily operations of the treatment plant, system monitoring, hydrant flushing, metering and quarterly billing, emergency repairs, and other routine maintenance work. The water supply is sampled frequently for sanitary quality to ensure compliance with federal and state standards.

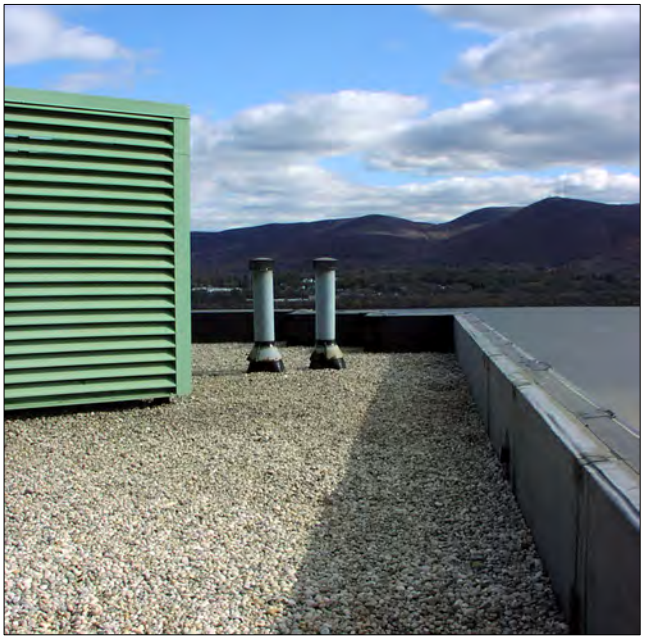
According to City records, the water distribution mains located under Broadway and Colden Streets are very old. Their exact locations, pipe sizes, and water system capacity need to be verified by the Water Department before it can be determined whether related off-site infrastructure improvements will be required to support College growth in this location. The fire protection capacity of the hydrants and the water system as a whole also need to be verified with the Water Department. Recent hydrant flow data will need to be reviewed.

Reportedly, current water pressure is adequate and the College's water demands are being met. Campus water consumption is projected to increase two-fold in the next five to ten years, in line with the expected growth in student enrollment. The City's billing rate for 2004 was $3.97 per 1,000 gallons of metered consumption.

Municipal Wastewater Treatment

The campus is currently serviced by the municipal wastewater collection system, for sanitary (domestic) wastewater and storm drainage as a combined sewer flow. The City owns the wastewater treatment plant located on Renwick Street, with contract operations by Severn-Trent Company. The wastewater plant, built in 1970, has a peak capacity of 9.0 MGD. The wastewater entering the plant is screened for grit removal, clarified by detention settling, processed through a secondary biological unit, and disinfected prior to river discharge. The Hudson River is a Class B water body.

The Public Works Department is responsible for the collection system's maintenance, emergency repairs, and planned improvements. The Water Department handles the quarterly billing to customers as part of their record keeping.



A new ballasted membrane room system will be needed and the standing-steam metal roof needs repairs.

Exterior soffits need to be repainted.

Portions of the sewer collection facilities under Broadway and Colden Streets are extremely old. Their exact locations, conduit dimensions, and wet-weather flow capacities need to be verified with the Public Works Department prior to final design of any College expansion to determine if related off-site infrastructure improvements will be required. Peak flow data at this location and the hydraulic characteristics of the trunk sewer were unavailable, but it would be essential to obtain them prior to final design of an expansion in this location.

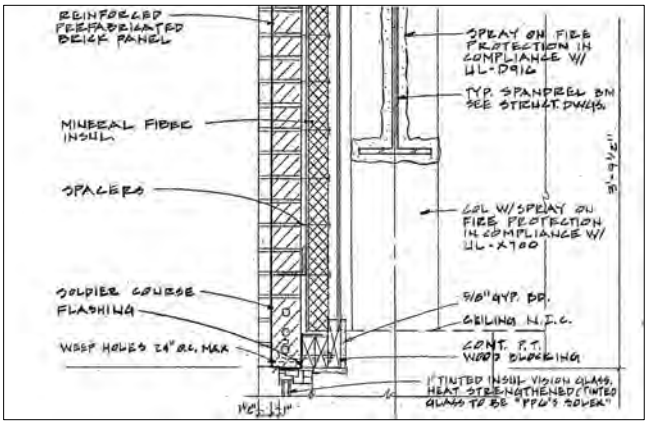
Campus officials report that current on-site stormwater and sanitary infrastructure is performing adequately. The combined sewer/storm discharge of future campus activities is projected to increase two-fold in the next five to ten years, in line with the expected growth in student enrollment.

Building Exterior

The building's exterior walls are composed of pre-cast concrete panels with brick veneer. The structure is framed with steel and masonry and the "flat" roof is covered with a ballasted, single-membrane EPDM system. A standing-seam metal roof covers the mechanical penthouse and the building's covered walkways. The windows are one-inch tinted insulated glass in anodized aluminum frames. The entry level has a clear tempered glass storefront system.

- The ballasted, single-membrane roof underwent some repairs in August 2005. Occupants report, however, that leaks continue. In addition, there are some areas of the sixteen-year old roof where water is ponding. Given the fact that recent repairs have not eliminated the leaks and that it is the original roof system, the College should anticipate the need to replace the roof within the next five years.
- The standing-seam metal roof is marked with rust spots over its entire surface. The rust should be removed and the entire metal roof system should be properly prepared and repainted.
- Paint on the exterior soffits along the front of the building is deteriorating. All of these surfaces should be scraped, properly prepared and repainted.

Interior water damage appears to be the result of improperly placed wall flashing and weep holes above windows.



Detail of the wall section from the original construction document shows intended location of weep holes.

- The seal of one of the glass panels at the entry canopy is damaged. The panel should be replaced.

Building Interior

The building's interior finishes reflect its original use as an office building. Most spaces have painted gypsum wall board partitions and suspended acoustic tile ceilings. The floors are covered with either vinyl asphalt tile or carpet, except in the entry lobby which has a combination of granite and marble floor panels.

Water damage is evident at window heads and jambs throughout the facility. Occupants report that water enters the building in these areas when there is a heavy rain event, especially if it is accompanied by wind. An examination of the construction documents and site conditions revealed that there may be an inherent detailing problem with the curtain wall assembly. It appears that the positioning of wall flashing and weep holes prevents water that has entered the wall cavity from being wicked away through the weep holes. As a result, this water is entering the building above the window assembly and damaging interior finishes. It is also possible that the mineral fiber insulation located adjacent to the prefabricated brick wall panels is absorbing water. This could lead to its deterioration and provide conditions favorable to the growth of mold, which could adversely affect indoor air quality in the building.

- It will be necessary to selectively demolish a representative interior wall area to discover exactly what is occurring within the wall cavity and to determine how this condition might best be corrected. However, it appears that the problem is ubiquitous and will probably be difficult and costly to repair.

Damaged ceiling tiles should be replaced.

Tablet-arm chairs are often inappropriate for more mature students. Seminar-style tables and chairs are more comfortable and provide more flexibility for working in groups.

- Many ceiling tiles show signs of water damage. Facilities personnel believe heat pumps above the ceiling are the source of the water leaks. However, it may be that condensate drain lines are clogged, resulting in overflowing drip pans. The drains and drip pans should be examined as part of the next heat pump maintenance cycle to ensure they are functioning properly.
- In general, the ceiling, wall and floor finishes in the common areas of the facility appear to be under-maintained. The College replaced 90% of the carpet in their areas several years ago after the building suffered a major water leak. Damaged ceiling tiles should be replaced.
- The interior partitions between rooms do not extend to the bottom of the floor deck above. As a result, sound travels from room to room through the contiguous space above the suspended acoustic tile ceiling. In addition, the sound of someone writing on a chalkboard in one room can be heard in adjacent spaces. When noise producing events are held in Assembly Room 221, the sound also travels to the floors above and below. Correcting these deficiencies would involve adding resilient channels and additional layers of gypsum wall board to all interior partitions where sound transmission is an issue, and extending the partitions up to the under side of the floor deck above. The problem of sound transmission between floors might be reduced by the installation of rigid insulation board underneath the floor deck. For the building to function properly as a classroom building, the acoustic issues must be addressed.

ADA Issues

- All of the toilet rooms are equipped with an alternate stall, with the exception of the accessible unisex toilet room on the second floor, which meets current ADA requirements. While there is sufficient maneuvering space for a wheelchair within each toilet room, all but the unisex toilet room has knob hardware on doors that are heavy and difficult to open. The doors and door hardware should be replaced. Insulation should be installed on exposed lavatory pipes and soap dispensers should be moved so they are accessible.

Lever door hardware should be installed at all exit stair doors.

- Most of the exit stair doors are equipped with knob hardware. Lever door hardware should be installed at all exit stair doors, except the exit door on the second floor that is already equipped with panic hardware.
- Areas of rescue assistance are identified at some stair exit doors, but these areas do not meet the necessary requirements to function in this capacity. In addition, they are not required under the current code because the building is fully sprinklered.

Water-source heat pumps are located above the suspended acoustic tile ceilings.

Mechanical/Electrical/Plumbing Issues

The mechanical, electrical, plumbing and fire protection systems appear to have been installed at the time of the original building construction and do not show any signs of significant revisions since that time. In general, these systems would typically have an anticipated useful life in the range of 20 to 30 years, depending on the system and the quality of maintenance. Originally constructed in 1989, the building systems have been in use for over 15 years. Although this is within the normal use of many of the systems, a number of these systems intended for commercial office use are not necessarily suitable for use in an educational facility. These systems include heating, ventilating and air-conditioning (HVAC), fresh air, and power/data distribution; lighting systems; and security.

HVAC

The HVAC system consists of a water-source heat pump system with terminal units located above the ceiling, cooling towers on the roof, and boilers located in the mechanical penthouse. The water-source heat pump units can independently provide either heating or cooling to the space based on zone conditions. This provides flexible control for a classroom environment where different rooms may have substantially different conditioning requirements. Notable characteristics of a water-source heat pump system include good temperature zone control, relatively high maintenance due to the terminal units above the ceilings, and fair energy efficiency.

- The majority of the heat pumps appear to be original to the building and are nearing the end of their anticipated 20 year useful life. Condensate pans reportedly overflow when drains clog and water damage could be seen on ceiling tiles throughout the facility. The locations of the heat pumps do not adequately serve the present layout and the proposed use for community college space. Although the heat pumps are not presently in a condition that requires replacement, many revisions will be required regarding the size, location, and distribution of the units. Therefore, the heat pumps should be replaced with new units that are properly zoned for the new space layout.

The two open cooling towers should be replaced.

- Two open cooling towers, each rated for 165 tons, provide the heat rejection needed for the heat pump loop when it's in cooling mode. These towers are located on the roof and appear to be past their useful life. Chemical feed pumps that serve the two towers appear to be adequately sized for the building. Both towers should be replaced due to their age and condition.
- Two gas-fired cast iron steam boilers provide heat for both the heat pump loop and the fresh air unit. These boilers serve the heat pump system through a shell-and-tube heat exchanger. The boilers appear to be working properly and no immediate changes are recommended.
- An air-handling unit located in the mechanical penthouse provides fresh air to the building through a supply duct located in a shaft next to the elevators. The air handling unit contains a steam coil that heats the fresh outdoor air during cold months but it is not equipped with a cooling coil. It is estimated that this unit was sized to serve approximately 325 building occupants, based on estimated square foot occupancy for an office building. Fewer square feet are needed per occupant for classroom occupancy, however, so the number of anticipated occupants will be significantly higher than 325. After the final building program is complete, it is anticipated that this unit will require replacement due to an increase in fresh air requirements. If this occurs, a refrigerant coil should be added to cool and dehumidify the outdoor air during warmer months. The distribution on each floor should also be revised so fresh air is delivered to within five feet of each heat pump.
- The HVAC control system does not meet current building code requirements. Two thermostats are installed in most rooms, one for set back and one for occupied use. If the heat pumps are replaced, a new control system should be installed.
- The kitchen is served by a grease exhaust system that is exhausted at the mechanical penthouse level. No revisions are anticipated for this system.

- The exhaust system that serves the toilet rooms does not appear to adequately ventilate the spaces. This system should be revised to provide adequate exhaust in each toilet room.

Plumbing/Fire Protection

The plumbing and fire protection systems generally have a longer useful life than many of the other systems within a building. The systems in the Key Bank Building were found to be in satisfactory condition. The most notable concern is that the building occupancy will increase when the Extension Center becomes a Branch Campus. Because of this increased occupancy, there will be insufficient toilet fixtures throughout the building to properly serve the occupants.

- The number of plumbing fixtures was adequate for the original occupancy of the building. There is a men's and women's room on each floor with either two or three fixtures in each room. There is a fully-accessible unisex toilet on the second floor. The number of fixtures appears to be deficient for the anticipated student population. Therefore, the number of fixtures should be increased and fully-accessible fixtures should be installed in each toilet room.
- The flush valves in the building are an older style and use significantly more water than the current code allows. In addition, the lavatory faucets are not metered. If the toilet rooms are renovated, the fixtures should be replaced with water saving flush and lavatory valves.
- Water pressure in the building appears to be adequate. Sanitary and storm drainage also appears adequate. There have reportedly been leaks from the sanitary plumbing serving the water closets. Any damaged plumbing should be repaired or replaced during renovations. No other revisions are anticipated at this time.
- Each toilet area has a small electric water heater that serves the toilet core on that floor. These appear to be adequate. No changes are anticipated. There is a gas-fired water heater serving the kitchen that also appears to be adequate and no revisions are anticipated.

- The building is fully sprinkled and there is a standpipe system in the stair wells. A fire pump serves these systems. The sprinkler system will need to be revised in rooms that are renovated. No other changes are anticipated.

Electrical

Power distribution systems generally have a longer life than many of the other electrical systems. The building's system is generally in good condition, requiring only some slight improvements in the distribution of panels in order to serve the heavier demand of classrooms. Lighting systems are typically more likely to show their age, and for the new occupancy it is recommended that the lighting system be upgraded to improve efficiency, occupant control, and classroom lighting distribution. Fire alarm, security, and data systems are unique to an educational environment and will require upgrades to meet the anticipated requirements.

Access to electrical panels should not be blocked by stored items.

Power Systems

The 17 year old 480/277 volt, 2,000 ampere, three-phase, 4-wire electrical system is in good condition. The system is capable of providing approximately 15.6 watts/square feet. It does not appear that an increase in service capacity or equipment is needed at this time.

- Each floor has 480/277 volt and 208/120 volt panelboards to support lighting and 120 volt power needs. Some spares are available, but may not be available in the quantities needed to support large-scale expansion. The addition of 208/120 volt panelboards on each floor to support conversion to a full branch campus should be anticipated.
- The building code requires that electrical panels be accessible at all times. Stored items currently blocking panel access should be removed.

Lighting Systems

- Interior lighting is predominately 2x4 lay-in troffer fixtures with egg-crate louvers. This lighting is not energy efficient. The lighting system should be replaced in classrooms and all areas that are renovated.

- Exterior lighting is also inadequate and, as a result, access and parking areas are dimly lit. It is recommended that the College upgrade and increase the number of exterior lighting fixtures to provide improved security.

Fire Alarm

The existing fire alarm system provides limited automatic detection coverage and horn/strobe indication throughout the building. It is anticipated that the floor plan will be substantially revised based on a new program.

- The College should anticipate the need for significant changes to the system when the building is renovated.

Technology/Communication

The existing telephone and data distribution systems are limited in their capability to serve as intra-campus communication.

- The replacement of these systems to support conversion to a full Branch Campus should be anticipated.

Safety and Security

The existing security system appears to be adequate in the building, but exterior areas do not have adequate camera or emergency blue light phone coverage.

- It is recommended that the camera and blue light phone coverage be expanded in exterior areas.

Master Clock/Public Address Systems

Presently, there is no master clock or public address system in the building.

- New systems should be installed, as required, to support the needs of the Branch Campus.

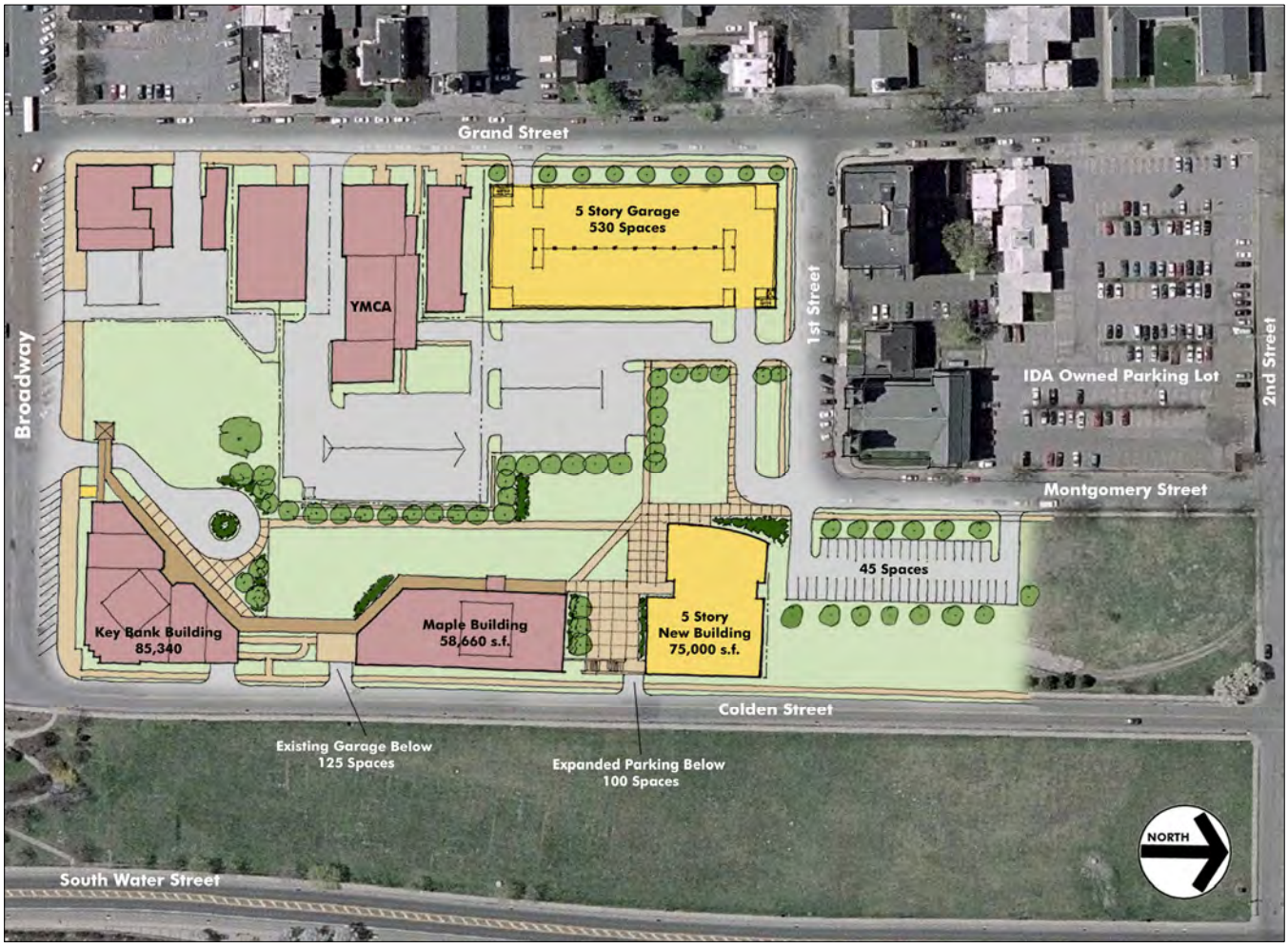
If the College were to permanently occupy the Key Bank Building, these facilities projects would be required. It is assumed that the Maple Building, constructed at the same time, would need similar renovation to make it suitable for College use.

Proposed Concept Plans

The Key Bank and Maple Buildings yield 144,000 gross square feet (gsf), which is 71,000 gsf short of the required program area for the first phase of the branch campus. Therefore, the consultants studied three options for providing the necessary space. All use the full 6.5 available acres and require a five-story parking garage on the IDA-owned parking lot to the west in order to satisfy the projected demand for parking.

Option 1

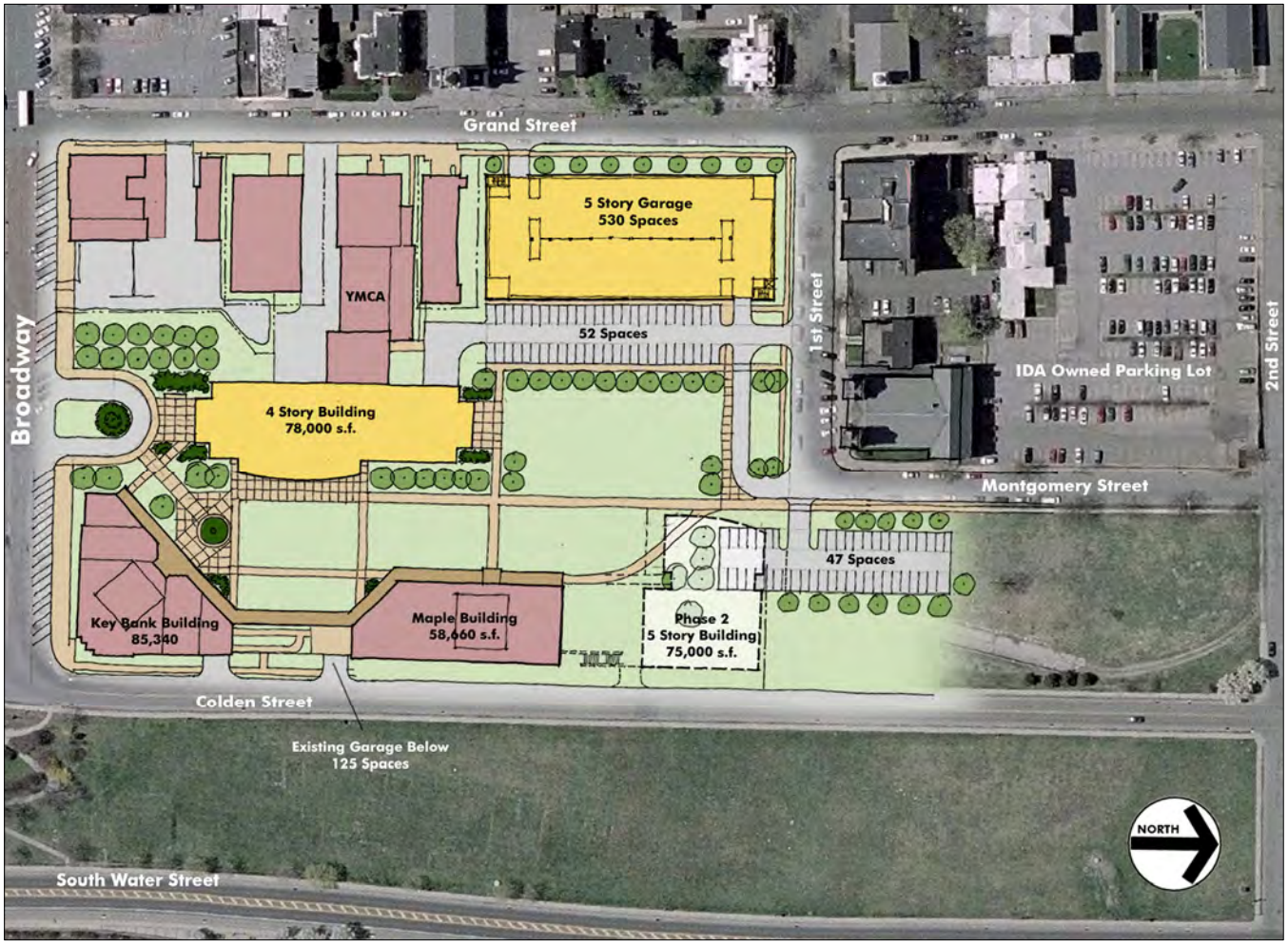
The first option assumed re-use of the Key and Maple Buildings, but no use of the old YMCA building. However, the existing thru-lane from Broadway to the north would be severed and replaced with a modest drop-off circle and campus green. In order to achieve the additional square footage, a new five-story, 75,000 gsf building would be constructed on the small parcel to the north of the Maple Building with a connecting plaza much like the existing one between the Key and Maple Buildings. Phase 2 expansion would be limited to either the City-owned (RFQ) property to the north or the remaining area of the IDA parcel.



Key Bank Site: Option 1

Option 2

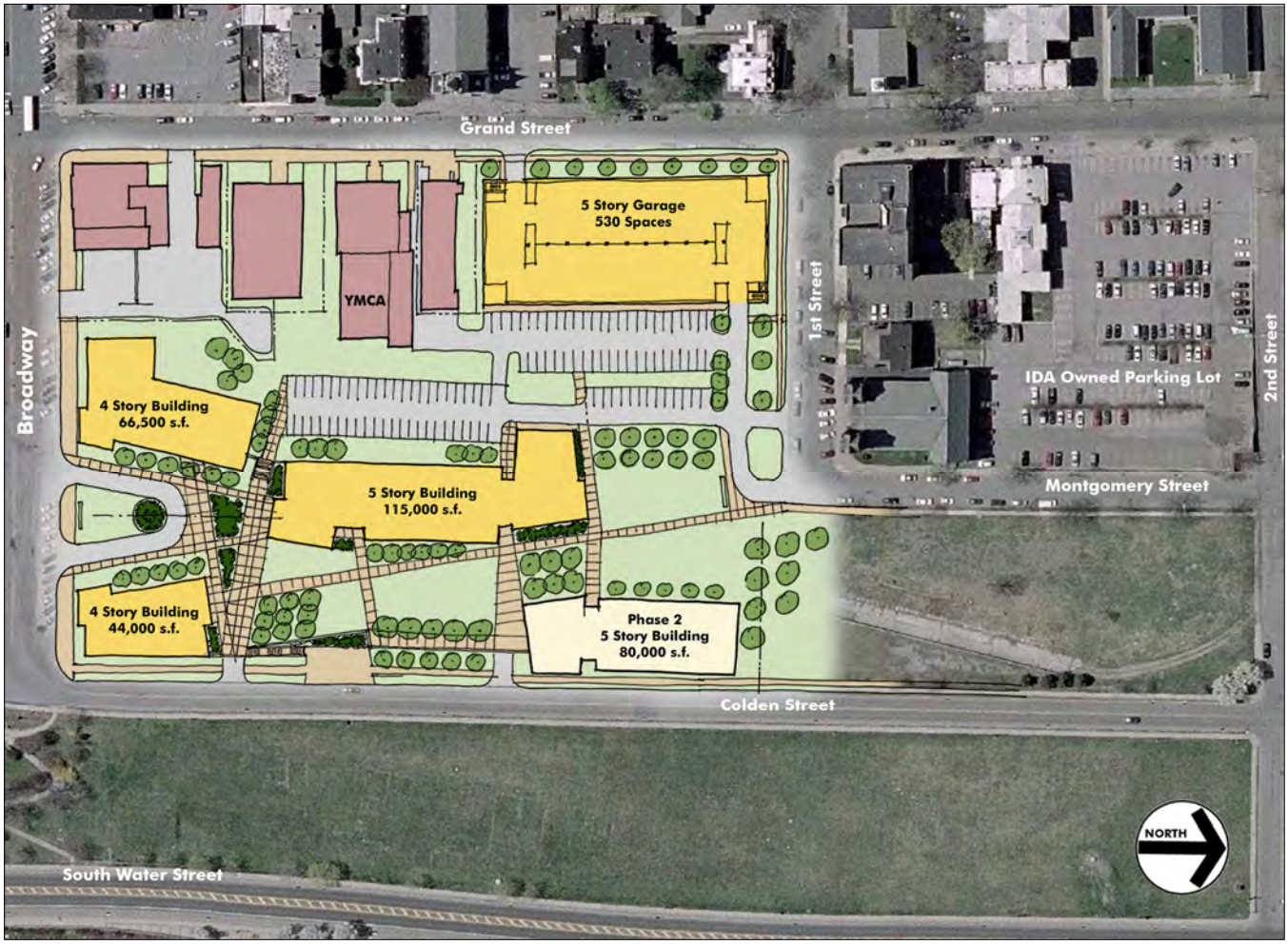
The second option explored the use of the YMCA property to create a four-story, 78,000 gsf building nestled into the existing hillside west of the Key and Maple Buildings. This option took advantage of the plaza between the two existing buildings as an organizing element for the new building. Again, the thru-lane would be eliminated and replaced with a campus green. However, an entrance to the new building would face Broadway and the existing brick canopy attached to the Key Bank Building would be removed. Locating the building in the hillside preserves the small parcel to the north for future expansion (75,000 gsf) without use of the City's RFQ properties.



Key Bank Site: Option 2

Option 3

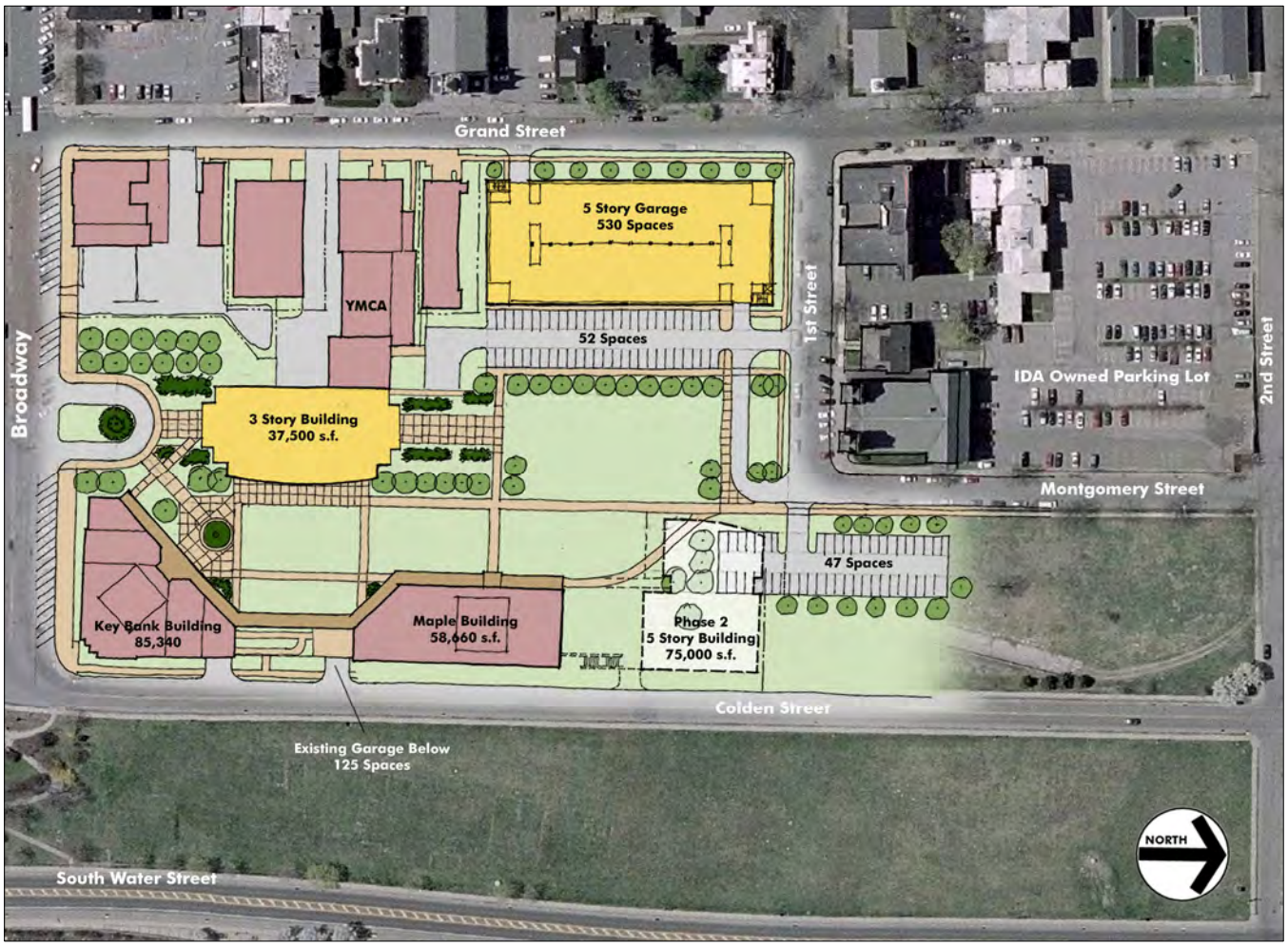
The third option was much more aggressive in assuming the Key and Maple Buildings were demolished. While this would present the opportunity to re-think this site and gain maximum square footage for the College in new buildings designed for their purpose, it would surely prove to be cost prohibitive.



Key Bank Site: Option 3

Selected Concept Plan

The committee selected Option 2. However, after the committee met, the consultants further explored the use of the former YMCA building. If it is renovated and made suitable for College use, it could satisfy some portion of the College's needs, thus reducing the overall amount of space that would have to be constructed in the new building. Assuming a modest renovation of the YMCA building, the total area of new construction was reduced from 78,000 to 37,500 gsf.



Key Bank Site: Selected Concept Plan

Estimate of Probable Cost

The total cost for this option was estimated to be $98,213,000. However, on May 8, 2006, the buildings' owners dropped the site acquisition cost by $10 million as a charitable donation to the College, bringing the estimated project cost down to **$88,213,000**.

Key Bank Site (Selected Concept Plan)	
Renovated Key Bank Building (85,340 s.f.)	$9,865,000
Renovated Maple Building (58,660 s.f.)	7,835,000
New 3-Story Building (37,500 s.f.)	9,988,000
New 5-Story Parking Garage (520 spaces)	9,275,000
Renovated YMCA Building	4,125,000
Sitework	1,675,000
Total Construction	**$42,763,000**
Contingencies/Fees	17,650,000
Furniture, Fixtures and Equipment	10,750,000
Subtotal Project Cost	**$71,163,000**
Site Acquisition Costs (Est.)	27,050,000
Total Project Cost	**$98,213,000**
* May, 8 2006: Building Cost Reduction of $10 million	
Total Project Cost	**$88,213,000**

Perhaps the location of the College's current Extension Center is the right place for the future branch campus, but with significant facilities issues, the existing Key, Maple and YMCA buildings may not yield the best results for the College even after substantial renovation. The Key and Maple Buildings were designed for tenant offices, not for educational use. While the overall layouts could be changed, the location of the lobbies, elevators and stairs cannot. This detracts from the spatial efficiency of the buildings. Furthermore, none of the buildings were constructed to today's energy codes; exterior walls and roofs are not well insulated. Over time, the operating costs for these renovated buildings could be greater than with new buildings. With this in mind, the consultant team set out to explore the potential for new construction in the same general area of the city.

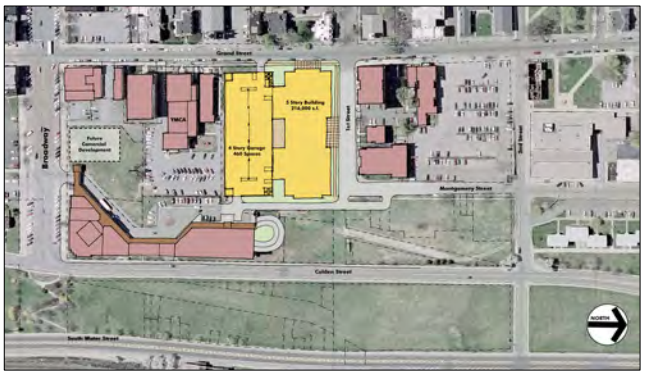
Washington Campus

Existing Site

The City of Newburgh currently owns several vacant parcels to the north of the Maple Building. A branch campus in this location would allow the College to make good use of the large IDA-owned parking lot on Grand Street, while still benefiting from the convenient location and stunning views of the Hudson River. Combined with the small, privately owned lot just north of the Maple Building, the total available acreage is approximately 4.3.

Washington Campus: Existing Site

However, the City's parcels are part of a larger 30-acre proposed development plan. When the parcels were first identified as a potential location for the branch campus, the City was in the process of selecting a developer for the entire 30 acres. The consultant team had no direct contact with the developers, but the City was concerned that they would not look favorably on giving up three acres for the College's use. Nonetheless, the committee decided to explore the Washington Campus as a



Washington Campus: Option 1

Washington Campus: Option 2

Washington Campus: Option 3

Washington Campus: Option 4

potential site. The consultants developed several options that took advantage of proximity to nearby public amenities such as churches, public library, and associated parking lots.

Proposed Concept Plans

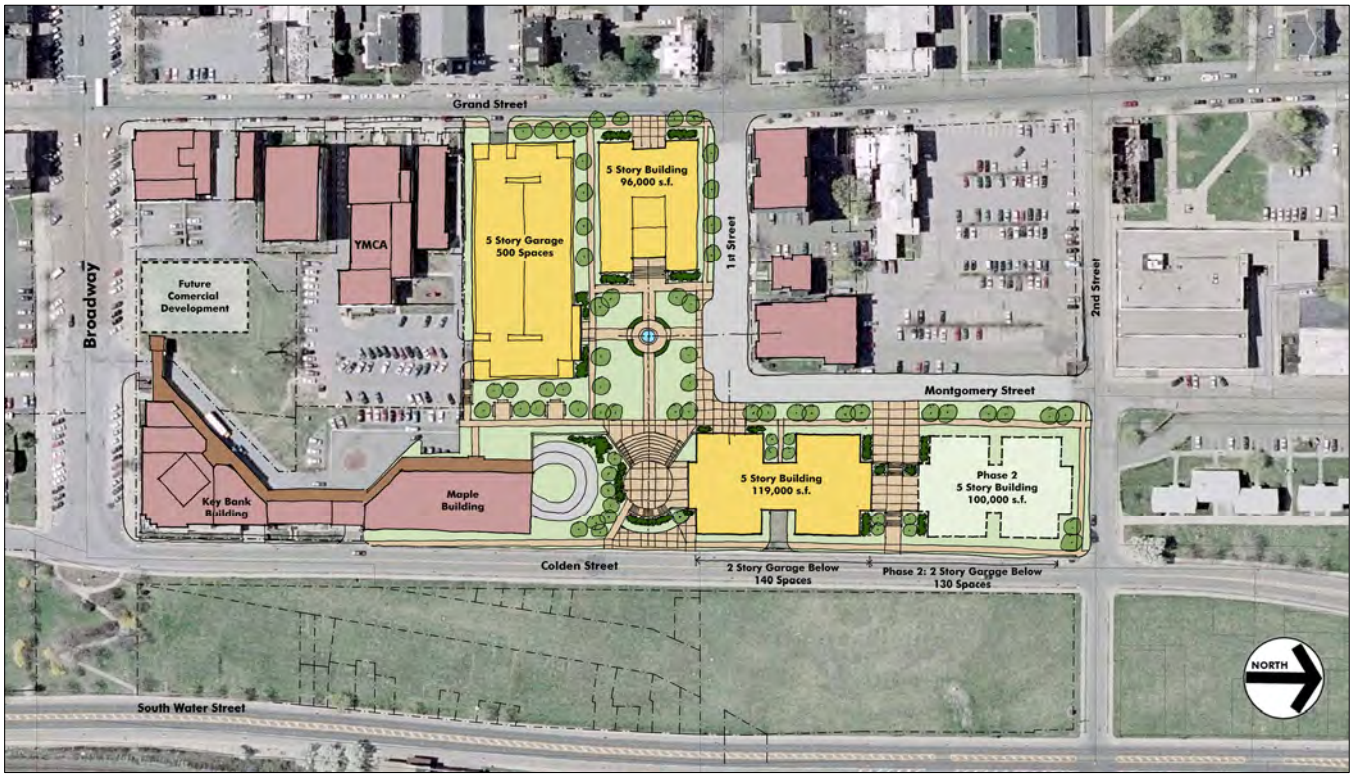
The first scheme used none of the City's RFQ properties. The other schemes used progressively more, culminating with Option 5, which used the entire section of land directly north of the Maple Building. The overwhelming majority of the Committee expressed a preference for a combination of Options 4 and 5, where the new parking garage is perpendicular on the IDA lot and an amphitheater with a view of the river is constructed between the Maple Building and the new building to the north. However, the City continued to be concerned about using any of their RFQ properties.

Washington Campus: Option 5

Washington Campus: Selected Concept Plan

Selected Concept Plan

The Preferred Option (6) is a combination of Options 4 and 5. A pedestrian quad with views of the river is created between the existing church, the new college building and the proposed parking garage. The amphitheater could potentially connect to the City's new waterfront development.



Estimate of Probable Cost

Washington Campus (Selected Concept Plan)	
New 5-Story Building (96,000 s.f.)	$25,180,000
New 5-Story Building with 2-Story Garage (119,000 s.f.)	33,875,000
New 5-Story Parking Garage (500 spaces)	8,750,000
Sitework	1,560,000
Total Construction	**$69,365,000**
Contingencies/Fees	28,595,000
Furniture, Fixtures and Equipment	10,750,000
Subtotal Project Cost	**$108,710,000**
Site Acquisition Costs	1,500,000
Total Project Cost	**$110,210,000**

The Broadway Site

During the course of the site selection process (and previously in newspaper articles), this site has been referred to as the Armory District site. However, when the committee selected the active Armory located on South William Street as a potential location for the branch campus, the consultants renamed the Armory "District" site to the Broadway Site to avoid confusion. The City strongly believes that the Broadway Site provides the best opportunity for economic impact.

General Description

The Broadway Site is located approximately four blocks west of the College's existing campus on Broadway. The site comprises almost one half of the block bounded by Broadway, Johnston Street, First Street, and Lander Street. Almost all the structures that occupied the site have been demolished, and the site was littered with construction debris during the site visit. Only one three-story brick structure remains on Johnston Street.

Land Uses

Adjacent Land Uses

Buildings ranging in height from one to three and one-half stories surround the site. Most of the adjacent structures on Broadway are commercial buildings, though there is a DMV office located across Lander Street and an Armory located directly across Broadway. The commercial buildings range in quality; some are boarded up and others are deteriorating. Adjoining uses on Johnston, Lander, and First Street appear to be mainly low-rise residential with some small commercial uses mixed in. Almost all of the structures on the surrounding streets are deteriorating and there is a noticeable buildup of trash and debris surrounding some structures.

Aerial photo of the Broadway Site prior to building demolition. The sole building currently remaining on the site is located in the upper left hand corner of the yellow box that indicates the limits of the originally proposed site.

It is assumed that the College's projected needs will lead to the construction of buildings that will have to be larger in scale than the nearby structures, which appear incongruous with their surroundings.

Site Characteristics

There are no outstanding natural features or vegetation on the site. Site topography is relatively level, with a slight slope from the northwest to the southeast.

Views from the site are of the surrounding one-, two- and three-story structures. The river and distant hills may be visible from the upper floors of a multi-story building.

Hardscape

Vehicular Circulation

On-site vehicular circulation is not an issue as the site is not large enough for an internal roadway system. A new building of sufficient size to accommodate the College's needs would cover the majority of the site.

Pedestrian Circulation

Pedestrian circulation within the proposed site would be convenient and accessible, as the site is compact. Circulation offsite presents new opportunities and challenges. The College community would have easier access to commercial buildings on Broadway, including restaurants and shops, but people from outside the College community would also have easier access to College facilities. However, current and prospective students, faculty, and staff may have to overcome significant negative perceptions about the safety of this site before finding it a desirable location for study or work.

Parking

Currently, angled parking is available on Broadway and parallel parking is available on Johnston and Lander Streets. Parking capacity is limited on the surrounding streets. The site is also too small to accommodate sufficient surface parking to meet the needs of the College. As a result, a multilevel parking garage will likely be needed to accommodate the College's parking demand.

Roads and Sidewalks

The quality of the roads, sidewalks, and curbs around the site vary greatly. Broadway's road surface is in good condition, but the sidewalks and curbs are badly deteriorated. Lander and Johnston Streets are in fair to good condition. The sidewalks and curbs on Johnston Street are also in good condition, while on Lander Street they are in poor condition. The nearby DMV site has new curbs and sidewalks.

Utility Infrastructure

Safety and Security

The Broadway Site is located in the heart of downtown Newburgh and, therefore, sees significantly more foot and vehicular traffic than the present campus. As a result, there is greater potential for vehicular/pedestrian conflict in this location than in the campus's present location. Broadway is a heavily traveled four lane road, and Johnston and Lander Streets are moderately well used two-lane, urban residential streets.

The College may also experience more non-OCCC pedestrian traffic on the campus. Many pedestrians were observed passing by the site on Broadway, and both Johnston and Lander Streets had sporadic foot traffic. Because it is an urban residential area, people tend to loiter in front of their homes and on street corners. This could lead to the perception that the area around this site is unsafe.

Municipal Water and Wastewater Treatment

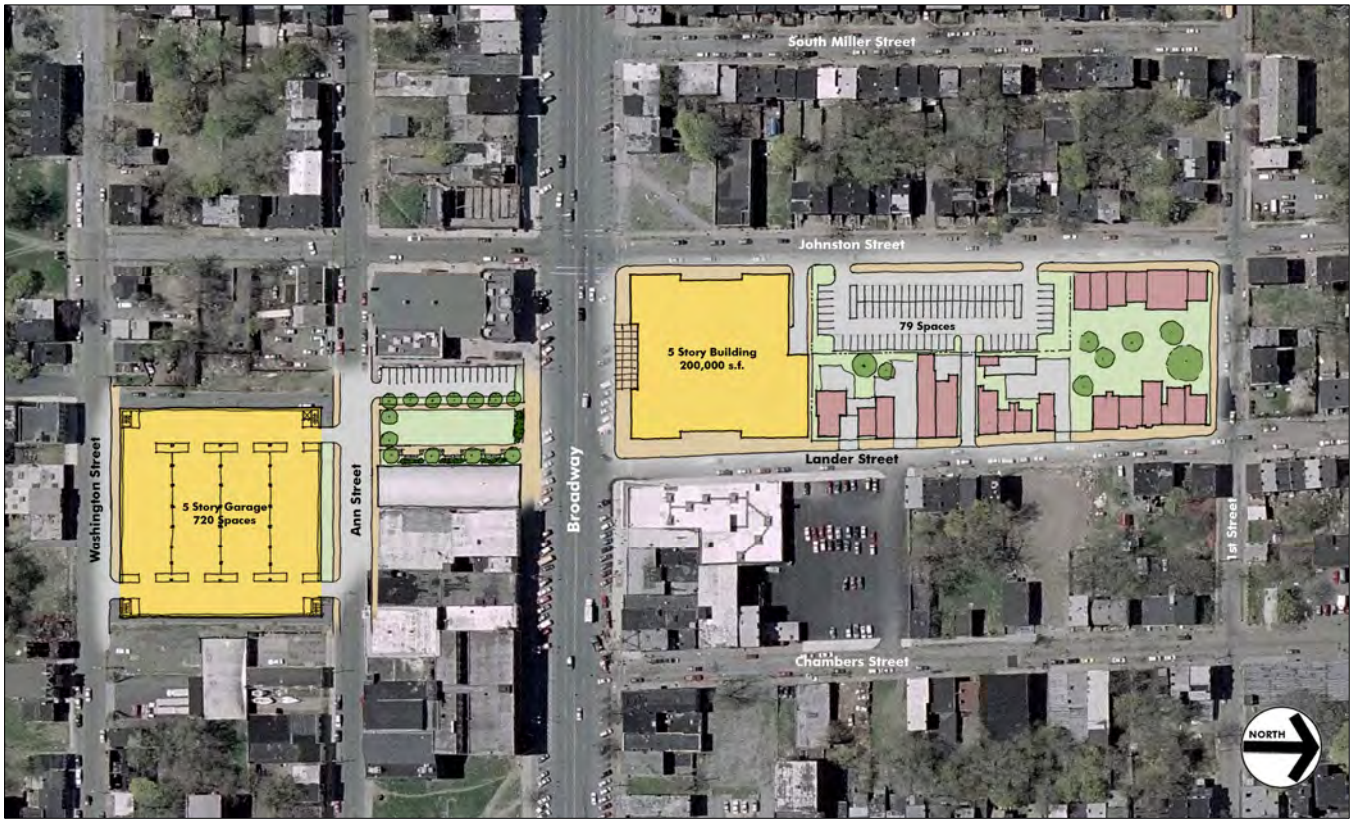
It is assumed that the site's utility services are comparable to those at the College's current location. Therefore, further field data will be needed to fully assess the scope of off-site improvements that might be necessary at this location. This site is conveniently located for connections to City infrastructure systems. However, the existing water mains under Lander and First Streets are "local" branch mains and may be deficient compared to those under Broadway. As a result, multiple connections may be required to satisfy the campus' needs.

Proposed Concept Plans

Initially, only two options were presented for this site. Like the Key Bank site, both options assumed the construction of a large parking garage. The difficulty is that even if the City-owned lot to the north were added to the site area, there is not enough room for buildings and parking. Therefore, the consultants showed the parking garage on the opposite side of Broadway on an existing City-owned parking lot on Ann Street. While a green space or park-like setting could be created to link the parking garage to Broadway, it would require students to cross the busy four-lane commercial district road. This was seen by the College as an unworkable situation, given the problems they have had in the past with students crossing residential South Street on the Middletown Campus.

Option 1

The first option assumed use of only the ¾-acre developer-owned parcel. In order to yield the required 215,000 gsf, the entire site would have to be covered by the building. The 40,000 gsf footprint would necessitate a 5-story building, which is not in keeping with the scale of the neighborhood. This scheme would not provide the College with the collegial, green setting they want and would make getting natural light to the core of the building somewhat challenging. Furthermore, expansion space would be extremely limited unless additional properties could be obtained in the future.

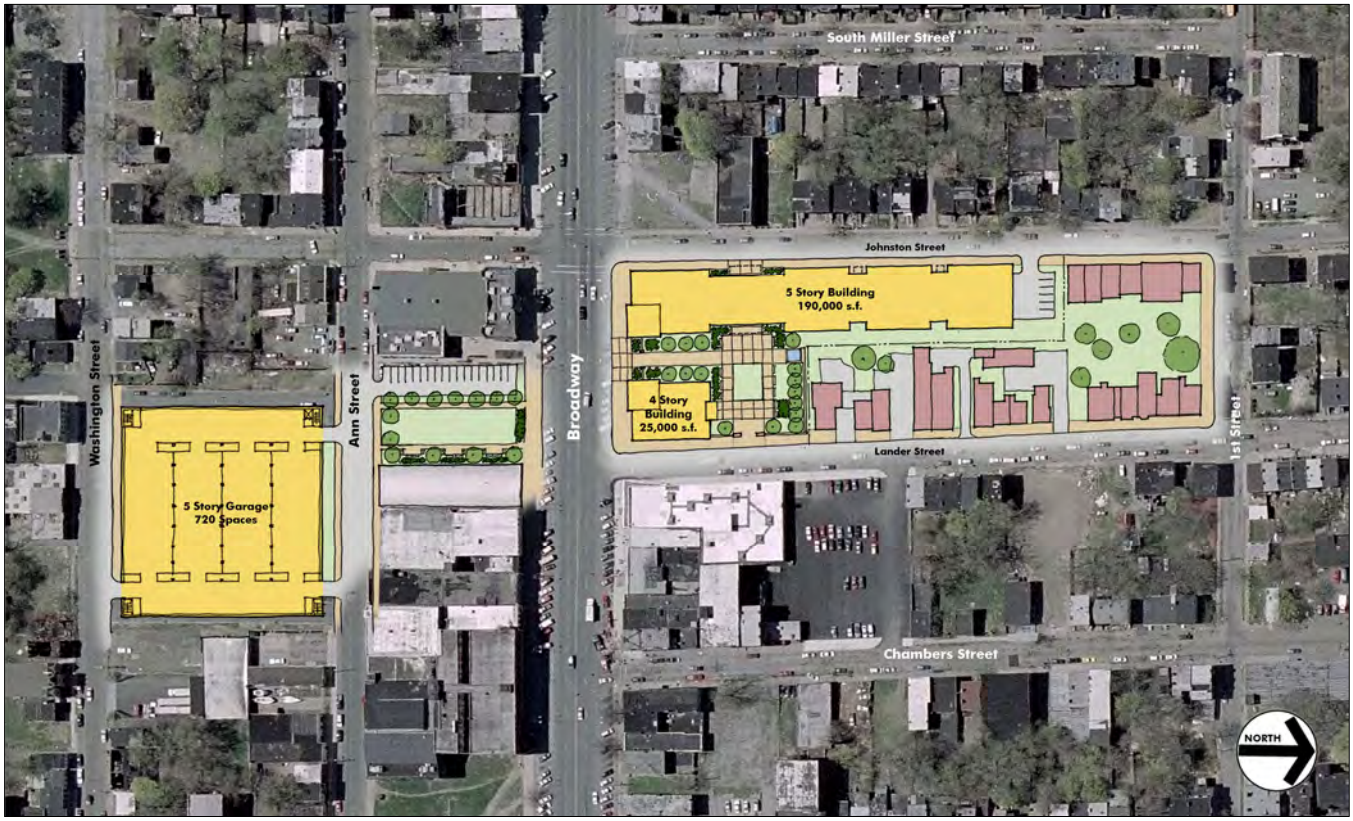


Broadway Site: Option 1

(Eventually eliminated as an option for the site.)

Option 2

The second option assumed the use of the small parcel and the narrow City-owned lot to the north. This would allow the program to be split into two buildings – a smaller scale building on the corner of Lander and Broadway, perhaps for Admissions/Student Services; and another long, narrow five-story building to the west primarily for academic space. This option would create a more attractive appearance on Broadway and could include a campus core (plaza or garden) that is more collegial. However, the height of the five-story building would still be out of scale with its surroundings, and future expansion would again be limited to additional adjacent residential properties.



Broadway Site: Option 2

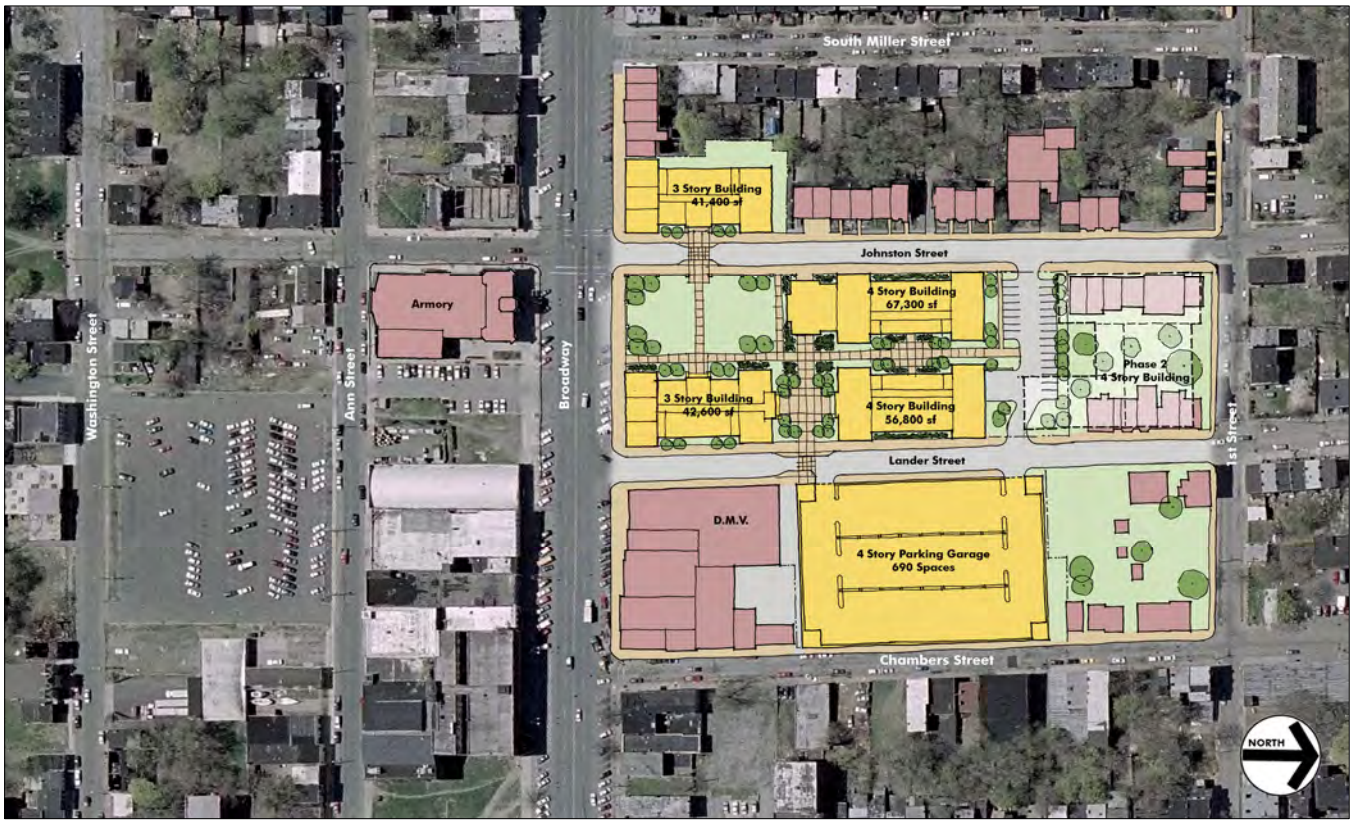
(Eventually renamed Option 1.)

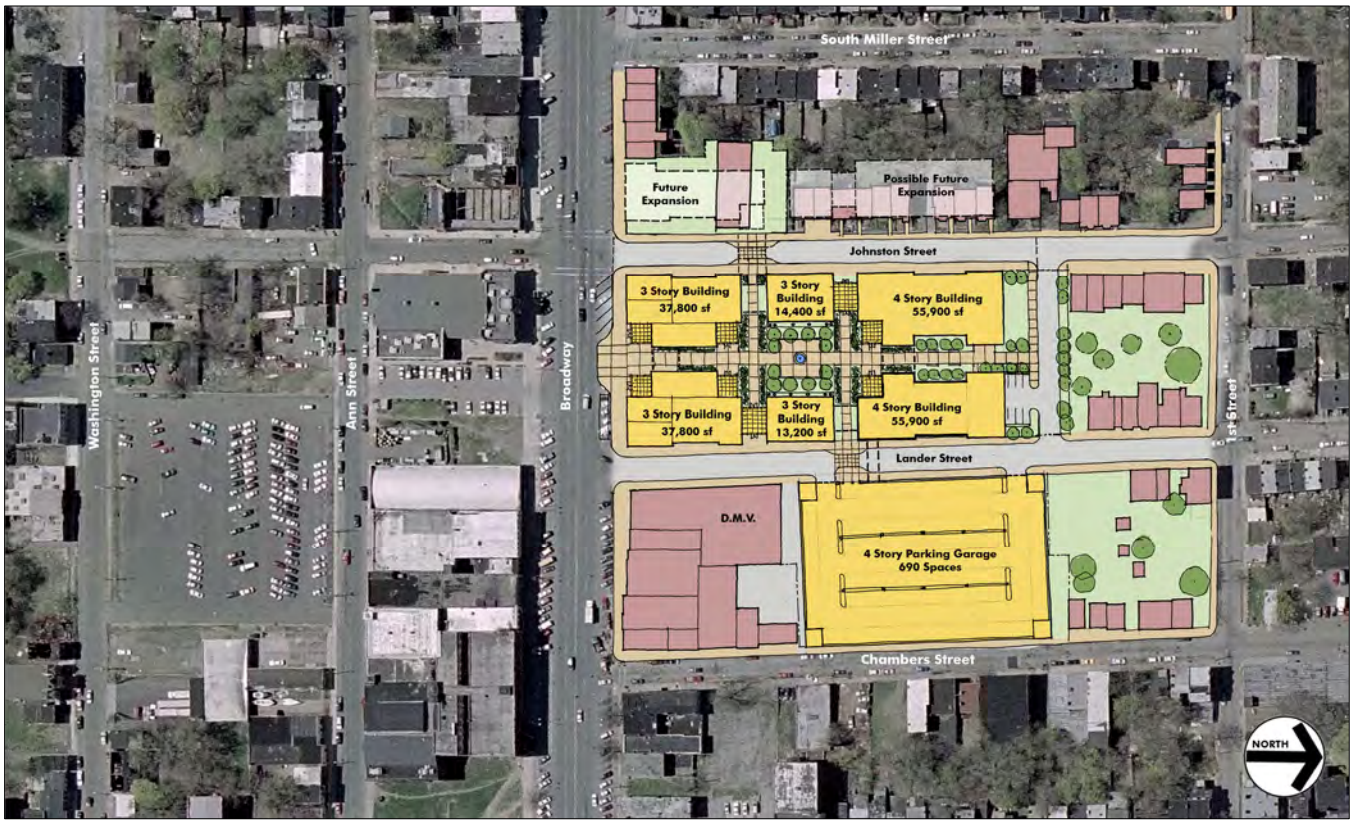
City officials pointed out that additional properties, such as the parcel on the corner of Broadway and Johnson, could be obtained to allow a more generous and attractive solution.

Some committee members asked about adaptive re-use of adjacent properties to satisfy the College's program. However, as part of the ideal site characteristics exercise, the committee had expressed a strong preference for a new building(s). There was also a heightened concern about not displacing City residents. In fact, the committee added the criteria of "minimizing impact on community" to the list of ideal site characteristics. If the committee decides to forgo some of the high ranking criteria, this site could certainly be re-evaluated in a more aggressive manner.

The committee initially selected Option 2 for this site. However, in the months following the committee meeting, more and more parcels in this area became available. Therefore, the consultants went "back to the drawing board" to explore if the additional acreage would be beneficial to the College. Two more options (3 and 4) were then developed and presented to the County and the College. Each option included construction of a parking garage on the north side of Broadway. Option 4 was preferred.

Broadway Site: Option 3 (Eventually eliminated as an option for the site.)





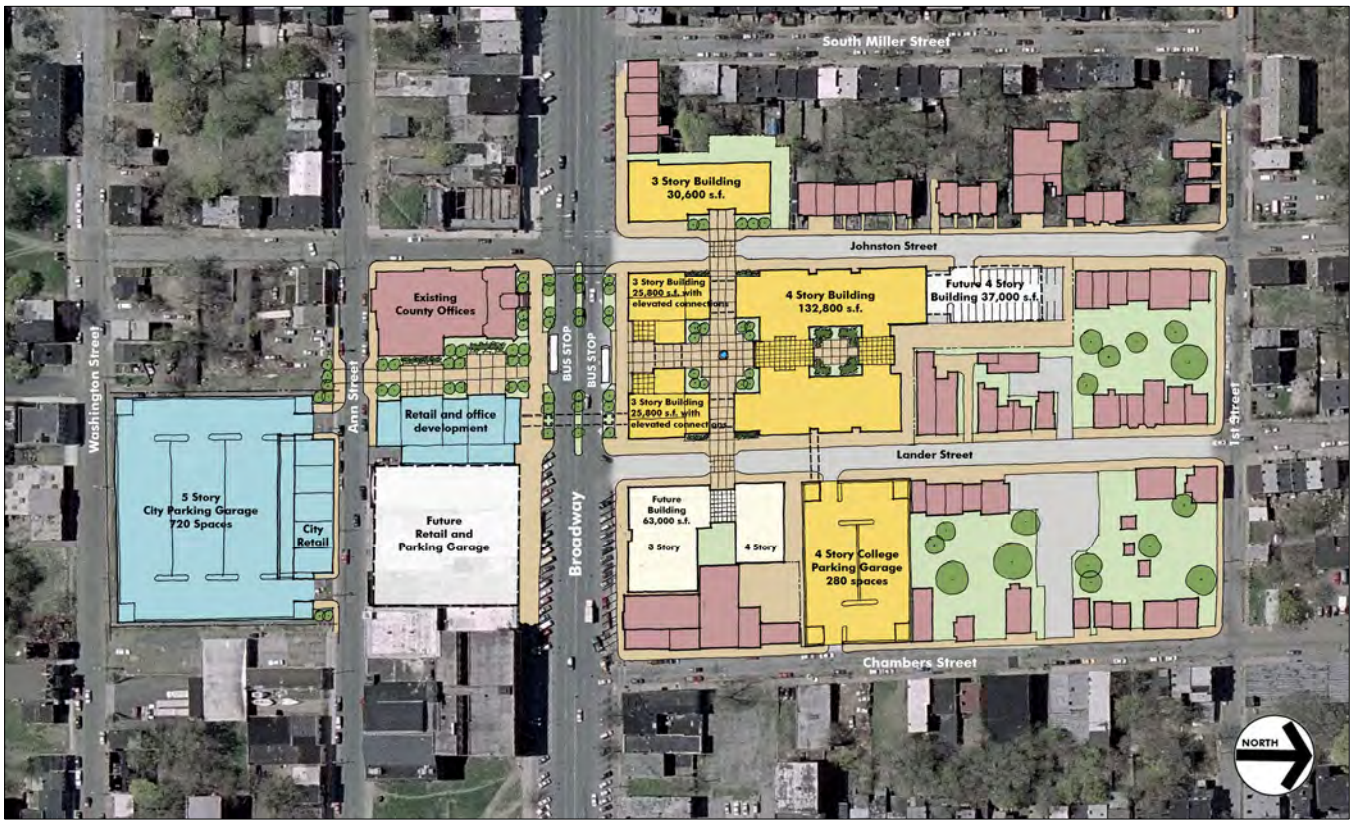
Broadway Site: Option 4
(Eventually renamed Option 2.)

In early April, the consultants met with representatives of the City of Newburgh to present preferred Option 4. The City had concerns about the location of the parking garage and the limited potential for retail development on Broadway. They were willing to fund the construction of the parking garage in the previous location (Ann Street), but not behind the County DMV. However, for safety reasons, the College found it unworkable to have their primary parking across Broadway. An elevated bridge over Broadway constructed by the City was seen as a reasonable compromise.

Selected Concept Plan

A final site concept plan was then developed, stretching the College's presence out along Broadway. The proposed parking garage behind the County DMV building was reduced to 280 spaces dedicated for College use. This garage should be adequate to accommodate evening students who may be most concerned about walking from the proposed Ann Street garage constructed by the City. Phase II development could take

advantage of the site currently occupied by the County DMV if these functions were to be relocated. A new infill building on the opposite side of Broadway would allow the DMV to be contiguous with other County offices in the former Armory.



Broadway Site: Option 5 – Selected Concept Plan
(Eventually renamed Option 3.)

Note: Options 1 and 3 were eventually rejected by the Selection Committee. As a result, options 2, 4 and 5 were renumbered to 1, 2 and 3, respectively. This was done to avoid confusion when the three options for this site were presented to the College's Board of Trustees and the Orange County Legislature in early May 2006.

Estimate of Probable Cost

Broadway Site (Selected Concept Plan)	
New 3- & 4-Story Building Complex (184,400 s.f.)	$55,439,000
New 3-Story Building (30,600 s.f.)	7,970,000
New 4-Story Parking Garage (280 spaces)	4,900,000
Sitework	1,565,000
Total Construction	**$69,874,000**
Contingencies/Fees	28,803,000
Furniture, Fixtures and Equipment	10,750,000
Subtotal Project Cost	**$109,427,000**
Site Acquisition Costs *	3,600,000
Total Project Cost	**$113,027,000**

* Estimated Fair Market Value per assessment roles + 50% for anticipated escalation

The Armory, as seen from South William Street.

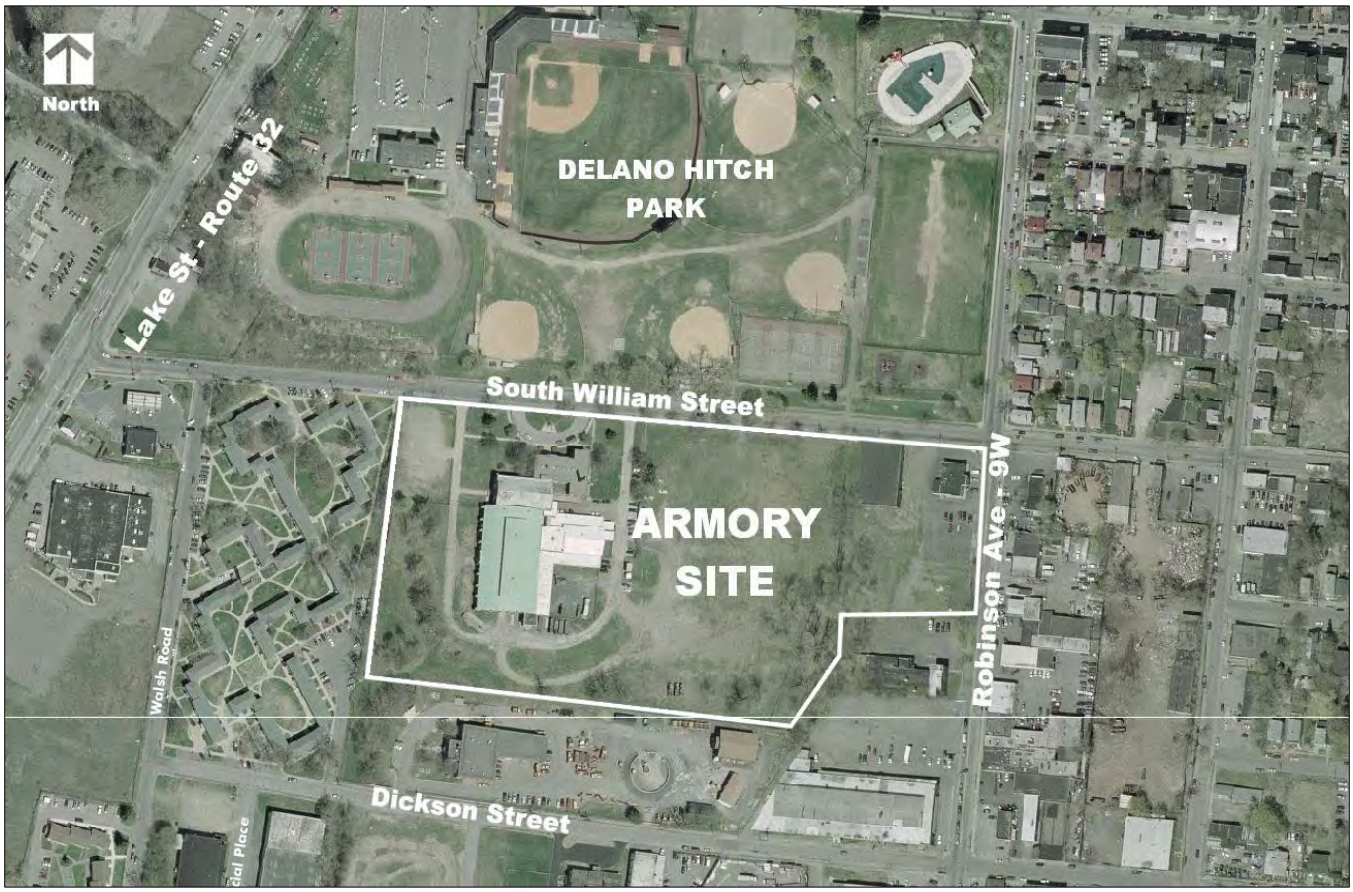
South William Street Armory

The final site selected for the study is the South William Street Armory. Constructed in 1932, the facility originally housed a cavalry unit of the New York National Guard. The building is still used by the Guard, but the cavalry drill shed's original dirt floor is now concrete to support its current function as a vehicle staging area. The BRAC Commission Report indicates the Armory will be decommissioned, but the exact base closure date is uncertain at this time.

Adjacent Land Uses

Land uses in the immediate vicinity of the Armory site are varied. Delano-Hitch Recreation Park, directly across the street to the north, occupies the entire block bonded by South William Street, 9W, Lake Street, and Washington Street. The park contains a baseball stadium, football field, softball fields, basketball courts, tennis courts, a track, a tot lot, and a playground. An old railroad bed runs along the eastern boundary of the site.

The South William Street Armory Site



Building Exterior

P	Roof
P	Walls
P	Windows
F	Doors
P	Painting/Caulking
F	Steps/Ramps/Entrances
F/G	Plazas/Walkways

Building Interior

F	Floors
P	Walls
G	Ceilings
G	Doors
G	Stairs
G	Painting

Custodial

G	Level of Cleanliness

Safety/Security Issues

N/A	Perimeter Door Control
N/A	Interior Door Control
N/A	Security Cameras
N/A	Intrusion Detection
N/A	Exterior Emergency Phones

Building Condition Assessment

Year Constructed: 1932
Gross Square Footage: 60,407

Construction Type: Varies: structural steel frame clad with brick curtain walls and stone trim; masonry bearing walls.

Floors: Varies with building section (basement with 2 stories to single story on grade).

ADA Issues

F	Exterior Doors (Hardware and Clearances)
P	Accessible Entrances
P	Accessible Routes (Horizontal)
P	Accessible Routes (Vertical)
P	Interior Doors (Hardware and Clearances)
P	Signage
N/A	Telephones/TTY Phones
G	Drinking Fountains
P	Accessible Men's Rooms
P	Accessible Women's Rooms

Mechanical/Electrical/Plumbing Issues

P	Heating/Cooling System
N/A	Heat Pump Terminal Units
N/A	Outdoor Air Distribution
N/A	Cooling Towers
P	Boilers
N/A	HVAC Control System
P	Plumbing System/Fixtures
G	Fire Protection
P	Electrical Distribution System
F	Fire Alarms/Smoke Detection
F	Emergency Lighting
N/A	Emergency Generators
P	Electrical Lighting System
N/A	Technology/Communication
N/A	Elevators

E	Excellent – Conditions generally at "like new" level; exemplary maintenance and appropriate funding required to maintain this level.
G	Good – Conditions generally at an acceptable level. Routine maintenance effort and appropriate funding required to maintain this level.
F	Fair – Conditions at a minimally acceptable level. Improvements, involving greater than routine maintenance effort and additional funding required.
P	Poor – Conditions below minimally acceptable levels. Conditions require substantial capital, repair and M&O funding, and/or considerable maintenance effort to be improved.
X	In addition to the condition code (E, G, F or P), this denotes element/system of original design/construction, is of vintage age and has or is approaching the end of its normal life expectancy. Improvements may be required in the near future.
N/A	Not applicable.

View west on Dickson Street.

The barrel-vaulted drill shed has an interesting structure, but the configuration of the building does not lend itself to conversion for college use.

Commercial buildings occupy land to the east along 9W. Of the four buildings on the west side of 9W between South William and Dickson Street, three appear to be vacant and two of them are dilapidated. The fourth building, located at the corner of Dickson and 9W, contains a liquor store, a nightclub, and a printing business. Several of these parcels are available and would be advantageous to include with the Armory site.

The area south of the site, occupied by a DPW maintenance facility, houses stored road work equipment, and salt and sand storage barns. Dickson Avenue is lined with commercial and warehouse facilities. A public housing complex is located at the western boundary of the site. The complex looks relatively new and well-maintained.

Site Characteristics

The Armory building complex occupies roughly one-third of the site and is situated on the western half of the parcel. The complex is sited on a level area that rests above most of the remainder of the site. On the eastern half of the parcel is a large, open, relatively flat field that is used for parking large vehicles. The area to the west and southwest of the drill shed has relatively steep slopes that continue for approximately 60 feet to the west where the land then levels off. Reportedly coal ash was used for fill in the area off the southwestern corner of the drill shed where the slope is now eroding.

Site vegetation consists mainly of scattered trees and open turf areas with very few shrubs. The main concentration of trees is near the administration and gymnasium buildings and along the sloped area west/southwest of the drill shed. There are scattered fruiting/flowering trees and a number of significant shade trees on the site. The most notable view is to the southwest where a low mountain range looms in the distance. The site is reportedly free of contamination. All asbestos has been removed from the building and there are no PCBs or underground tanks on-site.

South William Street

Water infiltration in basement below the ramp is resulting in deterioration of the concrete structure.

Hardscape

Vehicular Access

South William Street is approximately 36-feet wide with room for parallel parking. The heavily used asphalt road surface is in fair condition. South William Street connects to 9W to the east, and Lake Street to the west. Route 9W is a main thoroughfare that bisects the city, connecting to Route 84. Lake Street is a well-traveled street with commercial development that connects to Route 17K to the north. Vehicular access to the loop road that circles the Armory building is controlled by chain link gates that are located at the north side of the building, off South William Street. A circular asphalt drive with parallel parking spaces is located at the front (north side) of the Armory.

Vehicular Circulation

The access drive and the loop road that circles the building are in poor condition. The asphalt and concrete has deteriorated and the roadways are pitted with large ruts and pot holes. Gravel drives provide access to the large, open, level field located on the east side of the Armory Building.

The ramp to the lower level of the building cannot be used by anything heavier than a pick-up truck, according to maintenance personnel. The concrete ceiling structure of the basement below the ramp (originally the coal storage room) is showing signs of deterioration due to water infiltration. Evidently, asphalt sealer on the parking area above has deteriorated, permitting water to enter the basement during periods of heavy rain.

Pedestrian Circulation

Pedestrian circulation is limited to a few concrete sidewalks in the vicinity of the Administration building. Most are in fair condition. An eight-foot height chain link fence limits access along the south, east, and west sides of the property. Fencing also limits partial access from the north.

Site Utilities

Natural gas is available for this site. An enlarged gas service was installed when the boilers were converted from oil to gas. Two oil-water separators are located on site. One is outside the south entrance of the drill shed and the other is across from the entrance to the vehicle maintenance area. A two-bay loading dock is located on the south side of the drill shed.

A very large (reportedly 20" minimum) domestic water pipe serving the City of Newburgh crosses through the site. A large gate valve, located in a pit behind the building, closes off the flow in this pipe. Domestic water is available from this pipe to fire hydrants and the building. The pressure of the water in the main is reportedly low, approximately 30-40 pounds. This pressure may not be adequate to serve the flush valves if a new multi-story building were constructed. There are four hydrants on site; two on the east side of the building and two to the west. All the hydrants were installed within the last six years. The hydrants and water service are on the same line.

A combined storm and sanitary sewer connected to the City system serves the site. The sanitary/storm drain reportedly follows the access road around the site, entering and exiting via the connections at South William Street. There are reportedly three house traps. A sanitary line connecting the Administration Building to one of the traps was recently repaired.

Utility power exists curb-side (South William Street) and appears to be three-phase, possibly 4.16 kV, which would be an acceptable voltage level to supply the future campus.

Telecommunications trunk lines and CATV cables exist curb-side at this location. New site power, telecommunications and CATV infrastructure with facilities to support these systems would be required on this site to support a full branch campus.

Efflorescence, the result roof leaks, is visible on the brick walls of the drill shed above, and the gym shown below.

Steps in the front entry hallway are but one building element limiting building accessibility.

Building Exterior

The Armory is a sprawling brick complex consisting of a two-story, flat-roofed administration building; a one and one-half story, gable-roofed gymnasium; a large, barrel-vaulted vehicle staging area (formerly the cavalry drill shed); and the stable wing that serves as vehicle maintenance and storage space. The maintenance staff has worked diligently to maintain the facility, but time and limited funding have taken their toll on the exterior and interior of the building. The building's exterior walls are reportedly uninsulated. Water infiltration from roof leaks and deteriorating clerestory windows is evident from the extensive efflorescence visible on classroom, gym, and drill shed brick walls. A new roof over the drill shed reduced the amount of water entering the space, but rain continues to enter through the clerestory windows. The building's windows are composed of single-pane glass units. Extensive and costly work would be required to improve the condition and energy efficiency of the building envelope.

Building Interior

The building's interior, utilitarian in appearance, is built like a bunker. The concrete floor plates and masonry walls make it difficult to update building systems, so most upgrades (lighting fixtures, electrical wiring, and pipes) are surface mounted. Flooring finishes, original to the building, are worn, as are toilet room and shower fixtures.

The configuration of the building does not lend itself to conversion for college use. The rooms in the Administrative section of the building are small and the corridors are too narrow for a college building. While the drill shed's elegant steel structure is interesting, the space is not conducive to academic use.

ADA Issues

There is no elevator. Stairs in the entry hallway and throughout the building make the facility inaccessible. Toilet rooms are not designed to accommodate individuals in wheelchairs and doors are primarily fitted with knob hardware. Signage is not ADA compliant.

The two fire-tube boilers would need to be replaced if the building was to remain in use.

Gravity exhaust opening, located in some of the toilet rooms, would need to be replaced with exhaust fans.

Mechanical/Electrical/Plumbing Issues

The mechanical, electrical, plumbing and fire protection systems appear to have been installed during the original construction, although some system components have been upgraded since that time. In general, these systems would typically have an anticipated useful life in the range of 20 to 30 years, depending on the system and the quality of maintenance. This building has been in use for over 70 years and most systems are beyond their normal lifetimes. As expected, most are in very poor condition. This is due to age and also, reportedly, due to the lack of available funding for maintenance over the past several decades.

Mechanical

- Two fire-tube boilers, installed in 1969, generate low pressure steam to heat the building. They were converted from oil to gas in 2001. Both boilers, inefficient and past their useful life, should be replaced. If the building is retained for college use, condensing hot water boilers should be considered.
- A 70 year old low pressure steam system heats the building, but not adequately. Although portions of the system have been replaced over the years, it is past its useful life. A major overhaul is required, including the replacement of all steam traps and deteriorating pipes. In general, steam is more difficult to control than hot water. The steam system should be replaced with a hot water heating system if the building is to remain.
- There is no central cooling system for the building, although window air conditioners serve selected spaces. A central cooling system would be required in the facility for occupant comfort.
- A large exhaust fan ventilates the vehicle storage area. A grease exhaust fan serves the basement kitchen area. Toilet rooms either have no exhaust or have a gravity exhaust system. Exhaust fans should be installed in all toilet rooms and janitor closets in accordance with current building codes.
- The building does not have a ventilation system to introduce fresh outdoor air into occupied spaces. Operable windows on the upper floors

Water service entrance.

A new natural gas-fired domestic water heater was installed in 2001.

should satisfy the need for fresh air during milder weather, but not during winter months. Occupied basement areas, however, receive no fresh air. A central air-handling unit and ductwork would be required to bring in conditioned outdoor air to all occupied spaces if the College occupied this building.

Plumbing

- The roof drains combine with the sanitary system prior to exiting the building. This may violate local ordinances. A separate storm system may need to be installed to five feet outside the building.
- Portions of this 70 year old sanitary system located below the basement slab have collapsed and have been replaced. The entire system beneath the slab is suspect. The entire below-slab system out to the connection to the sewer in the street would need to be replaced.
- Portions of the sanitary system above the slab have been replaced, mainly as the result of renovations. No apparent problems were noted. However, due to the age of the above slab sanitary system and the anticipated increased use, the entire sanitary system should be replaced.
- The venting system should also be replaced.
- The roof drains are deteriorating. Some have failed resulting in leaks into the building. The entire storm system, including roof drains, should be replaced.
- The existing domestic cold water service appears to be original. It is split between domestic water and fire protection. A new double-check valve was installed on the domestic system in the last few years. An RPZ backflow preventor installed on the make-up water to the steam system. Occasional leaks from the domestic piping system have been reported. Some of these leaks were due to pipes located in exterior walls that froze due to the lack of insulation. These leaks have been repaired. The entire system is should be replaced.
- A natural gas-fired domestic water heater, installed in 2001, serves the building. A domestic hot water recirculation pump is installed on the water heater. The extent of this

Existing toilet fixtures, including urinals, would need to be replaced with low flow fixtures.

The building fire protection system consists of hose stations fed from the domestic water service.

The building's transformers are old and in poor condition.

recirculation system in the building was not apparent. The domestic hot water system is also old and deteriorating. It should be replaced.

- All of the urinals, water closets, and lavatories in the toilet rooms are old but appear to be operable. The flush valves are not low flow 1.6 gallons per flush valves required by today's codes. If the College intends to use this facility, all of the toilet fixtures should be replaced with low flow units.

Fire Protection

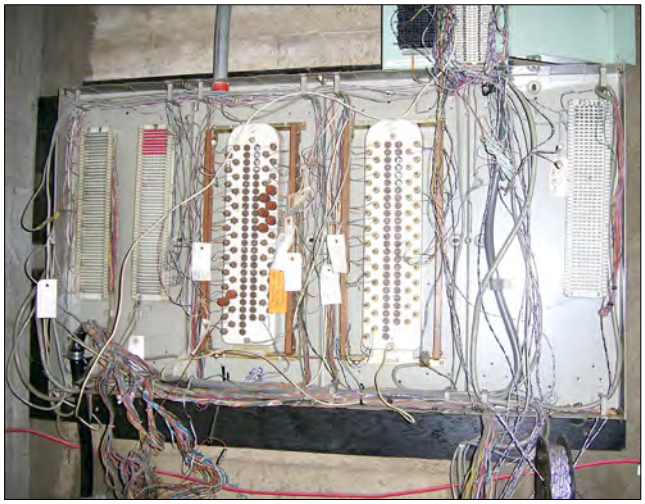
- The fire protection system consists of hose stations fed from the domestic water service. They are reportedly tested twice a year and appear to be functioning properly. However, any changes to the system should take into account the low pressure in the water service.

Electrical

- The existing building electrical service is a 208/120 volt, 600-ampere, three-phase, 4-wire system. It is over 40-years old and in poor condition. The building distribution system's electric panels, disconnect switches, and transformers are original equipment, with the exception of one branch circuit panelboard that was replaced approximately 5-6 years ago. A new electrical building service and distribution system capable of supplying the College's requirements would need to be installed.

Lighting Systems

- Interior lighting is a mixture of fluorescent surface-mounted fixtures, and incandescent and HID fixtures. The only units that are relatively new are located on the second floor. The entire lighting system should be replaced.
- Exterior lighting is inadequate; access and parking areas are dimly lit. Additional and upgraded site lighting fixtures to improve security around the building would be required for College use.



The existing telephone and data distribution system would need to be replaced.

Fire Alarm

- The existing fire alarm system provides limited automatic detection coverage and horn/strobe indication. A new, code-compliant alarm system would be required if the building was converted to College use.

Technology/Communication

- The existing telephone and data distribution systems have limited capabilities. A new telephone/data system would be required to support a full branch campus.

Safety and Security

- The existing security system appears to be limited. Exterior areas do not have camera or blue-light emergency phone coverage. Cameras and emergency phone should be installed around the building, and the existing security system should be expanded within the building.

Summary

While the building and site are reportedly free of contamination, the Master Planning team concluded that the existing building offers little to the College in terms of useful space. The value of the site is in the relatively flat 12-acres of conveniently located land that would lend itself well to the construction of a new, modern campus with ample on-site parking.

Selected Concept Plan

The concept plan below illustrates the advantage of the substantial acreage of this site. A more sylvan campus is created with three-story buildings arranged around a traditional quad. Multiple vehicular entrances/exits to adjacent streets will help alleviate traffic congestion at peak times. Phase I parking (720 on-grade spaces) is easily accommodated.

South William Street Armory Site: Selected Concept Plan

Estimate of Probable Cost

South William Street Site (Selected Concept Plan)	
New 3-Story Buildings (216,000 s.f.)	$56,343,000
Sitework & Building Demolition	2,440,000
Total Construction	**$58,783,000**
Contingencies/Fees	24,250,000
Furniture, Fixtures and Equipment	10,750,000
Subtotal Project Cost	**$93,783,000**
Site Acquisition Costs	0
Total Project Cost	**$93,783,000**

Final Site Selection

At the time of this draft report, a final site for the Newburgh Branch Campus was not yet selected by Orange County. Once this occurs, the consultant team will prepare more detailed drawings of the selected site and the buildings, and a more refined construction cost estimate will be developed. The information will then be added to this report in its final version. The additional information will include:

- Concept Plan
- Building Image
- Description of Building Systems
- Estimate of Probable Cost
- Proposed Project Schedule

What if We Do Nothing?

With a successful extension center in Newburgh and substantial facilities needs at the Middletown Campus, some might say that OCCC doesn't need a branch campus at all. The College could continue to operate for some time even if no further investment is made in its facilities. However, doing nothing to create capacity to accommodate the growing population and to address facilities obsolescence will actually cost Orange County residents more and more over time.

Impact of Doing Nothing

The College currently invests about $1 million per year in facilities maintenance projects, but there have been no sizable renovation or new construction projects at the Middletown Campus in several decades. While they have done an excellent job of maintaining their facilities with the minimum investment afforded to them, facilities have further declined since 1997 when the College's last master plan was prepared. With an aging infrastructure, the cost for renewal grows exponentially over time. It is now critically important to invest in the Middletown Campus.

While facilities decline over time without investment, construction costs increase. National and international events have had a significant impact on the recently volatile construction market. This unprecedented rate of escalation means that the $35 million estimated costs identified in the College's 1997 Master Plan is now close to $50 million based on April 2006 *Engineering News Record*. In keeping with the estimating strategy used in this report, the required investment will grow to $53 million by 2008. Waiting longer to upgrade facilities in Middletown and to construct a branch campus in Newburgh will certainly translate to higher costs.

The regional population is growing at a much faster rate than other areas of the state. As discussed previously in this report, this growth is projected to continue. Similarly, the pressure to create capacity at OCCC in response to this growth will not subside.

In fact, the demand will be even greater when combined with the pressure to update older facilities. As illustrated in the concept plan for the Middletown Campus, there is not enough capacity to accommodate the College's projected growth in enrollment. If capacity is not created through expansion in Newburgh, Orange County residents will be forced to look elsewhere for their education. This would likely have a dramatic affect on chargebacks to other counties.

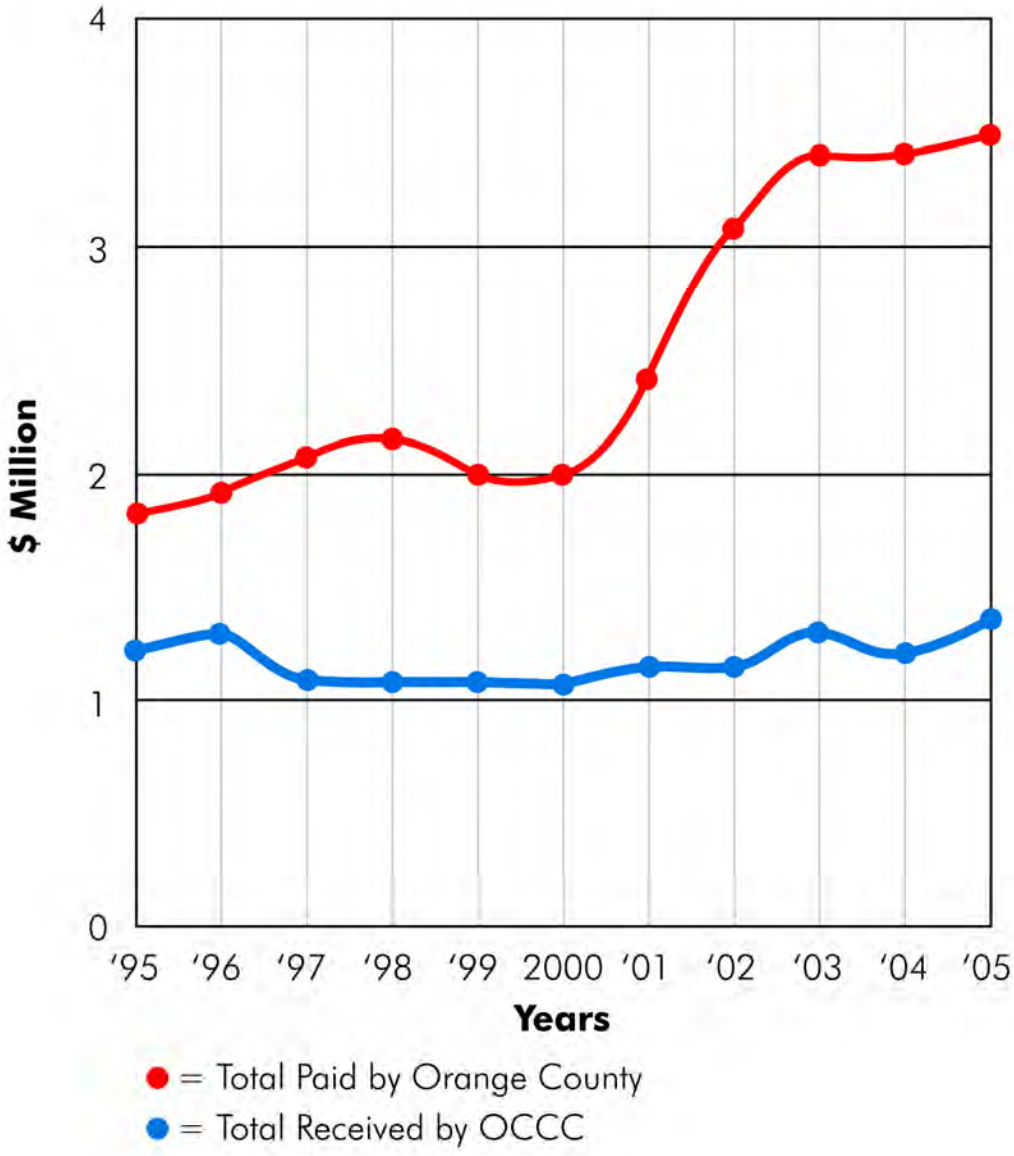
Chargebacks: Extension Center vs. Branch Campus

Chargebacks are incurred by Orange County when its residents attend community colleges in other counties. Similarly, chargebacks are received by OCCC when students from other counties enroll here. Chargeback requirements and the formulas used by the community colleges to determine their rate are dictated by the state. Each year the state approves and publishes the chargeback rates for each of the community colleges. For the 2005-2006 academic year, the chargeback rates are as follows:

Community College	Approved Operating Chargeback Rate Per FTE	Approved Capital Chargeback Rate Per FTE
Adirondack	$1,740	$300
Broome	1,960	300
Cayuga County	1,490	300
Clinton	1,830	300
Columbia-Greene	4,250	300
Corning	2,345	300
Dutchess	1,650	300
Erie	1,160	300
Fashion Institute of Technology	7,180	300
Finger Lakes	1,900	300
Fulton Montgomery	1,880	300
Genesee	640	300
Herkimer County	1,710	300
Hudson Valley	1,360	300
Jamestown	1,970	300
Jefferson	1,430	300
Hohawk Valley	2,070	300
Monroe	1,200	300
Nassau	3,220	300
Niagara County	2,340	300
North Country	2,880	300
Onondaga	1,460	300
Orange County	3,460	300
Rockland	3,030	300
Schenectady County	1,190	300
Suffolk County	2,220	300
Sullivan County	4,330	300
Tompkins-Cortland	2,000	300
Ulster County	2,860	300
Westchester	2,810	300

Every year for the past decade, the amount of chargebacks paid by Orange County for students attending community colleges other than OCCC (expenses) has exceeded the amount taken in for out-of-county students who attend OCCC (revenue). In fact, a look at the ten-year history for Orange County shows that expenses have increased by 94% while revenue has increased by only 17%.

Chargeback History



It is clear that Orange County has been experiencing far more out-migration of students than in-migration. It is also helpful to understand which out-of-county community colleges are being attended by Orange County residents.

With the projected increase in the population over the next decade, a continuation of this trend and the resulting chargebacks could have a significant impact on Orange County's budget. Therefore, the consultants set out to explore two scenarios:

- What would happen to chargebacks if the Newburgh Extension Center stays "as is?"
- What would happen to chargebacks if a Newburgh Branch Campus is created?

Both scenarios assume that by 2015 enrollment at the Middletown Campus will grow modestly from the current 3,395 FTEs to the projected 3,500 FTEs and that the College will accomplish the projects set out in the first phase of master implementation at that campus.

Since there is no certainty about what Dutchess or Putnam may do in terms of creating facilities to respond to demand, both scenarios assume the eventual existence of a Dutchess/Putnam branch campus. Therefore, these scenarios are considered conservative rather than aggressive.

Chargeback Scenario 1 – Extension Center

In this scenario, capacity in Newburgh would remain unchanged; enrollment would be held constant at 521 FTEs from now until 2015. With limited capacity at Middletown and no additional capacity in Newburgh, more Orange County residents will be forced to travel to out-of-county community colleges, resulting in a larger amount of chargeback expenses paid by Orange County. At the same time, there will be less space available at OCCC to accommodate students from other counties, thus further decreasing the revenue generated by chargebacks. Therefore, the chargeback situation will be dramatically worse in 2015 than it is today.

Chargebacks & In/Out 0f County Community College Attendance *(All Dollars are 2005 Dollars)*					
Category	2005	2015 - Do Nothing*	2015 Well Sited Newburgh Campus*	2025 - Do Nothing*	2025 Well Sited Newburgh Campus*
Residents Headcount Attending the College	6,441	6,890	7,490	6,890	8,306
Student Headcount Going Out-of-County	1,418	2,159	1,364	2,651	1,620
Student FTEs Going Out-of-County	*967*	*1,536*	*907*	1,754	1,132
Student Headcount Attributable to DCC, RCC, SCC, UCC & WCC	1,076	1,772	977	2,260	1,228
Student FTEs Attributable to DCC, RCC, SCC, UCC & WCC	688	1,217	587	1,424	802
Chargebacks Attributable to DCC, RCC, SCC, UCC & WCC *(2005 Dollars)*	$2,524,280	$3,558,918	$2,067,187	$4,064,300	$2,805,484
Total Chargebacks *(2005 Dollars)*	$3,455,880	$4,610,186	$3,118,455	$5,151,510	$3,892,256
Percentage of Total Chargebacks Attributable to DCC, RCC, SCC, UCC & WCC	73%	77%	66%	79%	72%
Student FTEs from Out of County Students Attending OCCC	390	340	467	300	500
Chargebacks from Other Counties *(2005 Dollars)*	$1,450,800	$1,264,800	$1,737,240	$1,116,000	$1,860,000
Revenue minus Expense	($2,005,080)	($3,345,386)	($1,381,215)	($4,035,510)	($2,032,256)

*Assumes the eventual existence of a Dutchess / Putnam Branch Campus that will cap the long term potential of the Newburgh Branch Campus and exacerbate the out migration if Orange County does nothing.

Chargeback Scenario 2 – Branch Campus

In Scenario 2, capacity in Newburgh would be greatly increased through the construction of a branch campus. Enrollment would increase from the current 531 FTEs to the projected 1,100 FTEs. This additional capacity will help retain Orange County residents and reduce chargeback expenses. At the same time, the introduction of health-related programs in Newburgh (particularly nursing) and the ability for students to complete their degree requirements in one location are expected to attract more out-of-county students to OCCC, thus increasing the chargeback revenue to the College.

Of course, a branch campus in Newburgh will not completely eliminate chargeback expenses. Orange County residents will continue to attend community colleges other than OCCC for a number of reasons, all of which have been considered in the two chargeback scenarios.

- Half of the community colleges in the state offer student housing, and the balance are seriously considering it. This allows students in search of a more traditional college experience the option of attending a community college further from home.
- Students will continue to be attracted to other community colleges for specialized programs, such as culinary arts, not offered by OCCC. The Fashion Institute of Technology, the "community college" with the highest chargeback rate, is a good example of a specialized curriculum that OCCC could not consider offering.
- Geography plays a significant role in a student's decision of which community college to attend. A branch campus in Newburgh may be more convenient for Orange County residents currently attending Dutchess Community College's Southern Extension Center or Westchester Community College's Peekskill Center. It may also attract a few more students who live in other counties, but it will have little effect on the number of Orange County residents that attend Rockland Community College to the south.

Chargeback Analysis

By looking at the revenue-to-expenses line of each of the two scenarios, it is clear to see that "doing nothing" (Scenario 1) will be financially worse in terms of chargebacks than investing in the branch campus (Scenario 2). The branch campus will effectively allow Orange County to avoid the loss of roughly $1.96 million per year. However, as shown by the cost estimates for each of the potential sites, construction of a branch campus will require a substantial investment – a minimum of $90 million.

Assuming the County fully supports the construction of a branch campus in the City of Newburgh, the County would bond $50 million - the portion of the project not covered by the State of New York and the donor. However, the donor's contribution will not be available in one lump sum; it will be provided over time and will be used to lower the bond payments. Therefore, it will be necessary for the County to bond $60 million, rather than $50 million.

Since this amount will not be bonded until much later in this process, a conservative bonding rate of 4.65% provided by the County Finance department was used for the purposes of this analysis. The expected term is 30 years, which has been the practice for large capital projects to more closely match the expected lifespan of the resulting investment. At a rate of 4.65%, the yearly payment on a $60 million, 30 year bond would be $3,748,762.* Comparing this to the amount of chargebacks that will be avoided if a branch campus is constructed, the net impact to Orange County is about $1.78 million per year for a $90 million asset that will serve its residents for decades.

Chargebacks-to-Bond Cost Analysis

Yearly Payment on a $60 million, 30-year Bond @ 4.65%	$3,748,762
Less Chargeback Deficit Avoided by Construction of Branch Campus	-1,964,170
Total Yearly Cost of Bond	$1,784,592

* Although it is not recommended, a reduced term of 15 years would result in a yearly payment of $5.64 million and a savings of $28 million in interest over the 30 year scenario.

Keeping in mind that the payment of chargebacks to other counties is required by the state when Orange County residents enroll elsewhere, the question then becomes: Does Orange County want to build a campus here or fund the construction of one in another county? The economic benefits of a community college are well documented. They are an effective way to help keep young people here; build a skilled workforce; attract companies to the area; and contribute to the overall quality of life. Investment in the community college is the right thing to do for the future of Orange County.

The Middletown Campus is graced with an abundance of beautiful plantings and gardens.

The Sustainable Campus

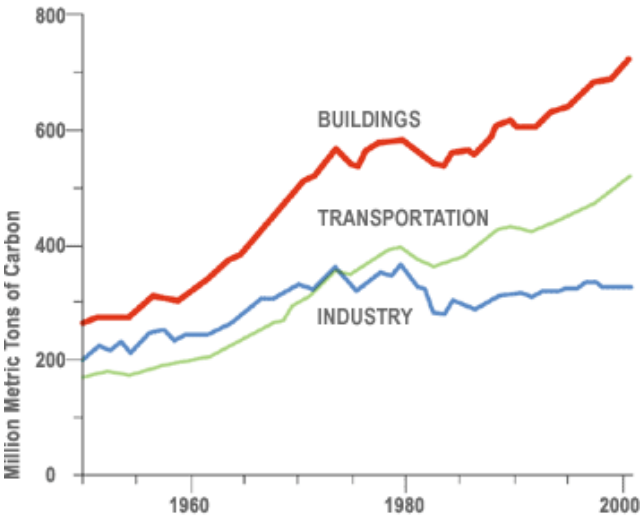
"A green campus is one that integrates environmental knowledge into all relevant disciplines, improves environmental studies course offerings, provides opportunities for students to study campus and local environmental problems, conducts environmental audits of its practices, institutes environmentally responsible purchasing policies, reduces campus waste, maximizes energy efficiency, makes environmental sustainability a top priority in land-use, transportation, and building planning, establishes a student environmental center, and supports students who seek environmentally responsible careers."

Blueprint for a Green Campus: The Campus Earth Summit, Initiatives for Higher Education, January 1995.

Introduction

The vision described above in *Blueprint for a Green Campus* may sound a bit daunting, but a growing public awareness of environmental issues and human health concerns is influencing the way many universities and colleges make decisions. To date there are over 300 university presidents and chancellors in over 40 countries (94 in the United States) who have signed the Talloires Declaration. Composed in 1990 at an international conference in Talloires, France, this document is an official statement made by university administrators of a commitment to environmental sustainability in higher education. It is a ten-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations and outreach at colleges and universities. (For additional information visit www.ulsf.org.)

As noted in the University of Buffalo's *UB High Performance Building Guidelines*, "Recent trends in campus master planning support sustainable development features, with the creation of walkable campuses, locating facilities near public or university transit, boosting bicycle use, clean-fueled vehicles, and more on-campus housing." In addition, campus programs encouraging energy and water conservation, recycling and waste reduction,



U.S. CO2 Emissions by Sector
Source: U.S. Energy Information Administration statistics.

sustainable buildings and grounds practices, and green purchasing decisions, to name a few, are being implemented on campuses all over the country.

Green Buildings

Buildings are one of the most enduring of human artifacts. As such, the decisions made during their design and construction have long-term effects on future occupants, as well as on society at large. According to the United States Green Building Council (USGBC), building construction accounts for:

- 40% of all raw materials use globally
- 36% total U.S. primary energy use
- 136 million tons of construction and demolition waste in the U.S., annually
- 12% of all potable water in the U.S.
- 30% of total U.S. greenhouse gas emittance

Given these staggering numbers, the best approach to green campus planning is one that:

- Reduces resource consumption of energy, materials, water and land
- Reduces the production and release of greenhouse gas emissions, ozone-depleting substances, solid and liquid waste
- Improves indoor environmental quality (air, thermal, lighting and acoustics)

Colleges and universities are in an ideal position to demonstrate environmental leadership by developing responsible resource management practices. *"Higher education has the power to lead in this endeavor by exercising its role in training future leaders, teachers and other professionals and in producing wisdom needed to face the challenges of an increasingly complex world…A transformative educational experience will be essential in creating the shift in thinking, values and action necessary for a healthy, just and environmentally sustainable society."*[1]

[1] "Education for Sustainability", Second Nature, 2004. www.secondnature.org.

Executive Order 111

Former New York Governor George Pataki issued Executive Order No. 111 (E.O. 111) on June 10, 2001, "…directing state agencies and other affected entities to be more energy efficient and environmentally aware." E.O. 111 requires all State agencies, including all four-year colleges in the SUNY system, to achieve a 35% reduction in energy consumption in buildings they own, lease, or operate by 2010 relative to 1990 levels. While the application of Executive Order 111 to community colleges is still being debated, compliance would have a number of benefits for the campus. Advantages would include lower energy costs and improved indoor air quality. The Executive Order establishes energy performance objectives in five areas:

- Existing buildings: "State agencies and other affected entities shall strive to meet the ENERGY STAR® building criteria for energy performance and indoor environmental quality in their existing buildings to the maximum extent practicable."

- New buildings and substantial renovations of existing buildings: "In the design, construction, operation and maintenance of new buildings, State agencies and other affected entities shall, to the maximum extent practicable, follow guidelines for the construction of `Green Buildings,´ including…the U.S. Green Building Council's LEED™ rating system. Effective immediately, State agencies and other affected entities engaged in the construction of new buildings shall achieve at least a 20 percent improvement in energy performance relative to levels required by the State's Energy Conservation Construction Code, as amended. For substantial renovation of existing buildings, State agencies and other affected entities shall achieve at least a ten percent improvement. State agencies and other affected entities shall incorporate energy-efficient criteria consistent with ENERGY STAR® and any other energy efficiency levels as may be designated by NYSERDA into all specifications developed for new construction and renovation."

- **Purchase of power from renewable sources:** "State agencies and other affected entities with responsibility for purchasing energy shall increase their purchase of energy generated from the following technologies: wind, solar thermal, photovoltaics, sustainable managed biomass, tidal, geothermal, methane waste and fuel cells. These entities shall seek to purchase sufficient quantities of energy from these technologies so that 10 percent of the overall annual electric energy requirements of buildings owned, leased or operated by State agencies and other affected entities will be met through these technologies by 2005, increasing to 20 percent by 2010."

- **Procurement of energy-efficient products:** "State agencies and other affected entities shall select ENERGY STAR® energy-efficient products when acquiring new energy-using products or replacing existing equipment."

- **Procurement of Alternative-Fuel Vehicles:** "State agencies and other affected entities shall procure increasing percentages of alternative-fuel vehicles, including hybrid-electric vehicles, as part of their annual vehicle acquisition plans. By 2005, at least 50 percent of new light-duty vehicles acquired by each agency and affected entity shall be alternative-fueled vehicles, and by 2010, 100 percent of all new light-duty vehicles shall be alternative-fueled vehicles with the exception of specialty, police or emergency vehicles as designated by DOB."

The U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED™) Rating System

The LEED™ Rating System was developed and is maintained by the U.S. Green Building Council. One of the goals of the rating system is to "accelerate the adoption of green building practices, technologies, policies and standards." LEED™ version 2.2 is current, with version 3.0 scheduled for release in 2008. LEED™ "is a voluntary, consensus-based building rating system. It evaluates environmental performance from a whole building

perspective over a building's life cycle, providing a definitive standard for what constitutes a green building. LEED™ is a self-assessing system for rating new and existing commercial, institutional and high-rise residential buildings."

Points are earned for satisfying criteria in five categories: sustainable sites (14 points possible); water efficiency (5 points possible); energy and atmosphere (17 points possible); materials and resources (13 points possible); and indoor environmental quality (15 points possible). Up to 5 innovation points may also be earned. Different levels of certification are awarded based on the total points earned:

- LEED™ Certified 26-32 points
- LEED™ Certified Silver Level 33-38 points
- LEED™ Certified Gold Level 39-51 points
- LEED™ Certified Platinum Level 52+ points

Leading the Charge

Many schools around the country have discovered that practical conservation projects can save millions of dollars. The National Wildlife Federation (NWF) collected data related to cost-saving conservation initiatives at public and private post-secondary institutions across the United States. The study addressed issues of energy and water conservation, materials re-use and redistribution, transportation, and recycling and management of hazardous chemicals. Annual cost savings per project varied from slightly more than $1,000 to a staggering $9 million. Five examples of the environmental impacts of these initiatives and their associated annual financial returns are detailed below[1].

The State University of New York - Buffalo (UB) saved over **$9 million** in one year with a variety of creative energy-saving strategies, and in the process prevented 63.4 million pounds of emissions of carbon dioxide, 140,000 pounds of sulfur dioxide and 214,000 pounds of nitrous oxide. Since UB implemented their energy conservation program in the late 1970s, the estimated cumulative energy conservation dollar savings is over $60 million.

[1] "Green Investment, Green Return: Executive Summary," National Wildlife Federation Web Site, downloaded October 8, 2004.

Cornell University saved over **$3 million** by "getting faculty, staff and students out of the car," and wound up saving 417,000 gallons of gas and preventing the emissions of 6.7 million pounds of carbon dioxide. They achieved these savings through a combination of incentives. The University instituted a six-tiered parking permit system with a maximum yearly fee of $670 for a parking space in the core of campus and provided fare subsidies to employees using mass transit.

Columbia University saved **$235,000** in addition to 80,000 hundred cubic feet of water by installing new toilets and water fixtures.

The University of Colorado in Boulder recycled 9,880 tons of paper and other materials for a savings of **$107,000**.

The **University of South Carolina** replaced 250 computer monitors (CRTs) with new flat screen LCD monitors to reduce energy use. The projected annual savings from reduced electrical consumption is $8,000. The projected *annual* savings if the entire campus was switched from CRT to LCD monitors is $325,500 - $976,000, depending on daily usage. This doesn't take into account the reduction in thermal gain that would reduce the need for cooling in computer labs, thus the actual energy savings would be even greater.

It is clear that, in addition to the enormous potential for long-term savings in natural resource capital, a green campus plan can save an institution money in the short-term, as well. If the above resource and financial savings were multiplied across the nation's institutions of higher learning, the potential for savings could be in the billions. Achieving these types of savings doesn't happen overnight, but colleges and universities can start on the path to environmental sensitivity and action by taking one small step at a time.

A "Green" Master Plan for OCCC

Encouraging environmental literacy has been an integral part of the planning team's thinking from the onset of the master planning process. The College has already been working toward a more sustainable campus by adopting a building policy that emphasizes green practices and through the implementation of several important programs.

Recycling Program: The College currently recycles aluminum, plastic, cardboard, newspaper, and metal. All plastic utensils and plastic foam containers used in the dining hall are also recycled. The College tried to implement a program to recycle plain paper, but there are currently no vendors in the area that recycle office paper.

Energy Efficiency Program: Occupancy sensors have been installed in many areas and some lighting fixtures have been upgraded through the replacement of T-12 lamps with T-8 lamps and electronic ballasts. These practices should be continued throughout the campus.

Integrated Pest Management (IPM) Program: The College employs an IPM program to minimize applications of pesticides and herbicides through the careful choice and location of plants, natural insect and disease control, and ongoing monitoring.

In addition to the steps OCCC has already taken, there are some basic "green" strategies that the College should consider implementing.

Water Efficiency

- Install a drainage system that collects storm water from the roof and the site so it can be used to irrigate the campus.
- Install low-flow plumbing fixtures and waterless urinals (if permitted by local codes and perhaps on a small scale at first to determine if they're appropriate for the campus).
- Install water meters at each building to help manage water use.

Energy Conservation and Efficiency

- Consider the installation of gas meters at each building to help manage energy use.
- Install energy-efficient motors and carbon-dioxide sensors for the operation of HVAC equipment.
- Install light occupancy sensors to turn off lights when spaces are not in use.
- Consider alternate energy sources to heat and cool buildings, such as geothermal systems and solar energy to preheat domestic hot water.
- When they become available, consider the use of hydrogen fuel cells.

Transportation

- Provide preferred parking spots for faculty and staff that carpool.
- Charge for parking on campus.
- Provide discounted public bus passes to members of the College community and use alternate fuel campus vehicles.

College Business-Related Strategies

- Greening of campus consumption and disposal habits by purchasing environmentally responsible products.
- Charge a per sheet fee for all "public" computer labs to encourage paper conservation (if campus uses a flat computing fee).

Operations and Maintenance

- Environmental impacts associated with the acquisition, production, and distribution of campus utilities should be minimized.
- Reduce greenhouse gas emissions through the purchase of green energy.

Student Life

- Orient students, faculty and staff to campus environmental programs and goals. (This is the biggest opportunity missed by colleges according to Princeton Survey Research Associates/National Wildlife Federation Survey "National Report Card on Environmental Performance and Sustainability in Higher Education.")

Food

- Purchase locally grown food to reduce transportation costs, ensure freshness, and to support the local economy.

Curriculum

- Integrate environmental knowledge into all relevant disciplines by incorporating environmental principles into the curriculum. Provide opportunities for students to study campus and local environmental problems as part of their course work.
- Advance "microscaling efforts" for experiments in labs to reduce the use and storage of chemicals.

Building-Related Issues

- When HVAC systems are upgraded or replaced, install humidity controls to help eliminate excess moisture in buildings to minimize the potential for mold growth.
- Use high-quality, durable materials.
- Maximize the use of products with a high recycled content; specifications should call for at least 5% recycled content in materials and furnishings, including carpet, furniture and flooring.
- Specify materials harvested locally; give preference to locally produced materials with low embodied energy content to reduce the energy used to produce and transport materials.
- Try to use recyclable assemblies and products.
- Limit construction debris; look for opportunities for reuse of resources.
- Eliminate the use of materials that pollute or are toxic during manufacture, use or reuse, or require toxic materials for maintenance.
- Look for rapidly renewable resources.

Summary

Planning a green campus requires taking a holistic approach to ensure long-term sustainability. Issues such as capital cost, long-term financial payback, organizational culture, building codes, and facilities and maintenance capabilities must all be examined by the College and the planning team when green campus strategies are developed.