



CAMPUS MASTER PLAN

STATUS REPORT & PROJECT INVENTORY

October 2017 // Briefing Document



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“We know that we must build new facilities and continue the work of previous Bucknellians in making this a special place to learn, live, teach, conduct research and to play, too, and to grow.”

PRESIDENT JOHN BRAVMAN INAUGURAL ADDRESS, 2010

EXECUTIVE SUMMARY

A VISION FOR BUCKNELL

From the first Campus Master Plan in 1932, The Larson Plan, to The Vision for Bucknell in 2008, Bucknell University has exemplified its commitment to the value of physical space in support of its educational mission. Strategic physical planning over the past decade has resulted in a campus that mirrors the University’s standing as one of the premier undergraduate institutions in the country. The facilities and green spaces on campus, along with the surrounding natural environment, have become a defining trait of the University and, in fact, a competitive advantage. Enhancing these advantages is one of the many objectives described in the Master Plan, A Vision for Bucknell (2008 Master Plan)¹. The University, in collaboration with Shepley Bullfinch Richardson & Abbott, developed a Campus Master Plan that would support the five pillars from the 2006 Plan for Bucknell (the extant Strategic Plan for the University):

- Strengthen the academic core;
- Deepen the residential learning experience;
- Enhance diversity;
- Strengthen connections with the world; and
- Secure the University’s financial future.

Bucknell University has implemented several significant capital projects since the formulation and adoption of the 2008 Master Plan. These include projects that directly support academic, social, residential, and athletic programs on campus. Four of these projects epitomize the University’s commitment to strengthening the vitality of downtown Lewisburg.

Although there have been many valuable accomplishments made since 2008, there are still considerable needs that remain. In some cases, the justification and description of outstanding needs are well developed. Others still require further articulation, evaluation, and quantification. Decisions that the University should make as it moves forward include: identifying and clarifying potential needs, prioritizing these needs, and finding the sustainable funding for future campus master planning projects (both construction and Operations & Maintenance).

INTERIM STATUS REPORT

Bucknell University retained Brailsford & Dunlavey, Inc. (B&D) in May 2016 to prepare an evaluation of projects completed since 2008, identify material

changes to the environment since 2008 and summarize anticipated unmet needs that the University should consider for implementation over the next 20 years. This interim planning process has resulted in this briefing document which will serve to inform the next iteration of campus master planning for Bucknell University.

The contents of this briefing document are founded on B&D’s review of information and data provided by the University, various facility tours, interviews with senior leadership as well as the mayor and borough manager of Lewisburg and, in the case of traffic and parking analyses, the compilation of preliminary data prepared by sub-consultant Nelson\Nygaard Associates.

ASSESSMENT

The University has made appreciable strides toward achieving the goals and objectives defined in the 2008 Master Plan. In the span of eight years, Bucknell has invested \$176 million into campus facilities and infrastructure. As a result, the University has successfully advanced its overarching mission of enhancing the undergraduate student experience. Bucknell has added 329,000 square feet on campus or in downtown Lewisburg, and it has renovated or remodeled 378,000 square feet of existing facilities. Specific space additions include: 65 faculty offices, an enhanced community center and hearth space and 448 new beds (including affinity houses). A summary of completed projects is provided in this Executive Summary, and described in further detail in the Accomplishments section of this document.

\$176 MILLION
invested into campus
facilities and infrastructure

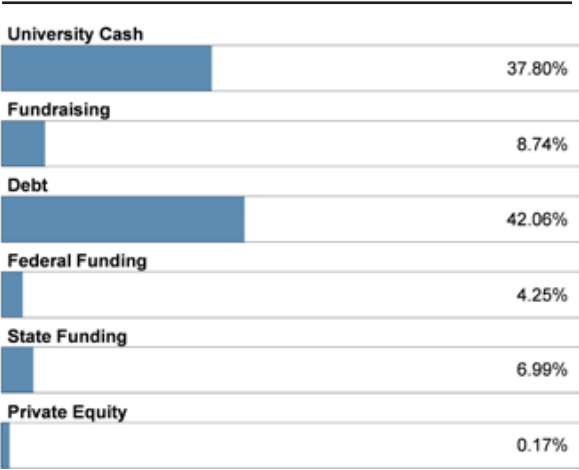
339,000 SQ. FT.
have been added on campus
or in downtown Lewisburg

379,000 SQ. FT.
of existing facilities have
been renovated or remodeled.

**65 FACULTY OFFICES
& 448 BEDS**
added (including affinity houses)

[1] The Master Plan, A Vision for Bucknell can be downloaded at: <https://www.bucknell.edu/Documents/Communication/CampusMasterPlan2008.pdf>

Funding Sources for Projects Completed (2008-2016)
As a percentage (%) of total funding



In addition to the capital projects, the University has also completed numerous planning studies in order to further define certain project requirements and budgets. Other studies may inform future decision making with regard to policy and the next iteration of the University’s planning efforts. A list of these efforts and a summary of the findings/results is provided in the Accomplishments section of this document.

Material Changes to the Environment

Along with the physical transformations on campus, there have also been several material changes to the environment. Some changes were anticipated by the 2008 Master Plan, while others were not. These unpredicted changes have impacted the implementation of the Master Plan, both positively and negatively.

Anticipated
Changed course load from 6 to 5.
Improved faculty compensation.
Launched \$500 million WE DO campaign.
Created a Campus Master Plan with major priorities <ul style="list-style-type: none">- New office, teaching and research space for additional and current faculty and students – Academic West (to house growth in faculty) and plans for Academic East (an investment in STEM).- Brought 300 students back to campus – South Campus Apartments and MacDonald Commons.

Not Anticipated
New President and senior team members recruited to Bucknell.
Higher expectations from faculty and University leadership for student experiences, faculty research and financial and physical resources.
Board meetings focused on long-term issues. <ul style="list-style-type: none">- Investment in downtown Lewisburg.- Creation and growth of the College of Management.- Increasing enrollment by 200.
Concluding the WE DO campaign in 2017.
Market crash of 2008 and subsequent recession and low return environment.
Increased financial and merit aid discount rate by peer institutions.

PLANNING FRAMEWORK

The University has developed a planning framework for future capital investments that preserve the key principles described in The Plan, while also allowing for material changes to the environment since 2008. The framework comprises categories of capital investment and guides the prioritization of future projects.

- 1. **Strategic** - Achieves goals and objectives identified in the Master Plan and/or furthers the vision of the University.
- 2. **Campus Enhancements** - Aligns with the Master Plan and/or the vision of the University, but only pursued when the preponderance of financial support is provided through fundraising.
- 3. **Infrastructure** - Addresses a critical need, but not directly articulated the Master Plan and/or the vision of the University; infrastructure projects may derive from either Strategic or Enhancement projects (e.g., new water or power lines).

Several outstanding projects have been identified, both new construction and renovation / building upgrades, that were either described by the Master Plan, altered since 2008 or conceptualized since 2008. The planning framework was applied to these outstanding needs and is summarized in this Executive Summary. More detailed descriptions of these projects are provided in the Planning Framework section of the document.

CAMPUS MASTER PLAN UPDATE

The material included in this briefing document supports the need to refine the Plan, realigning the original planning strategies with the current and future needs of the University. The campus master plan update process will include: evaluation and prioritization of the balance of recommendations from the 2008 Plan, further definition of implementable projects and land use strategies, formulation of appropriate financing structures and a plan for implementation. The next iteration of the campus master plan will guide the development of the campus for the next 20 years, while preserving the Key Goals stated in The Plan for Bucknell (2006),the Key Principles outlined in the 2008 Campus Master Plan, and the existing campus standards and guidelines relative to physical planning.

B&D has identified a series preliminary findings based on the information gathered during this interim planning process, that will inform the development of the campus master plan update. These findings are summarized below, and described in further detail in the Campus Master Plan Update section of this document:

- **Land Use** – The campus has few remaining vacant, usable and/or easily developable parcels of land. Remaining land resources will be further assessed as part of the campus master plan update process to determine feasibility of future development and to identify the highest and best use as it relates to the campus fabric.

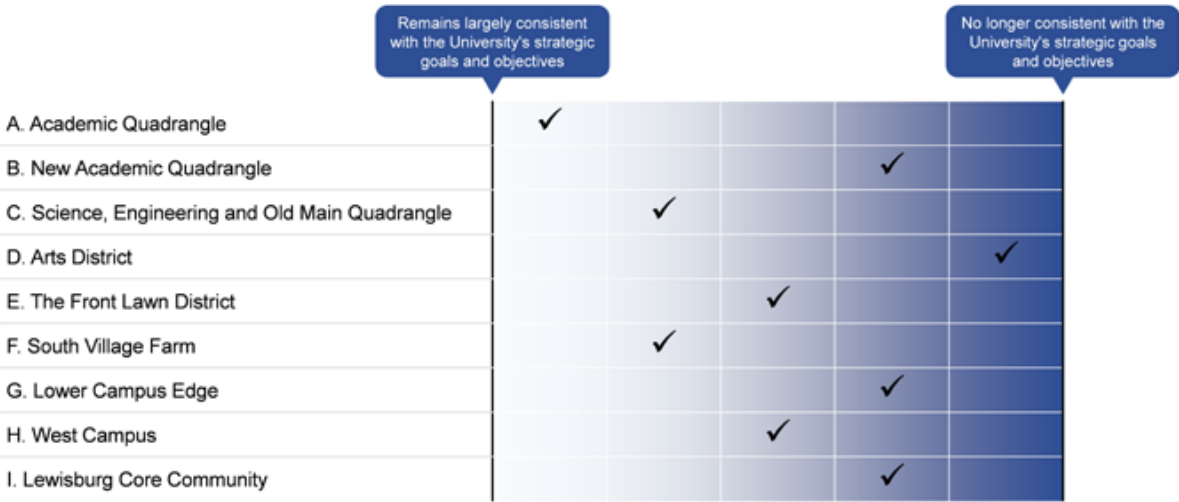
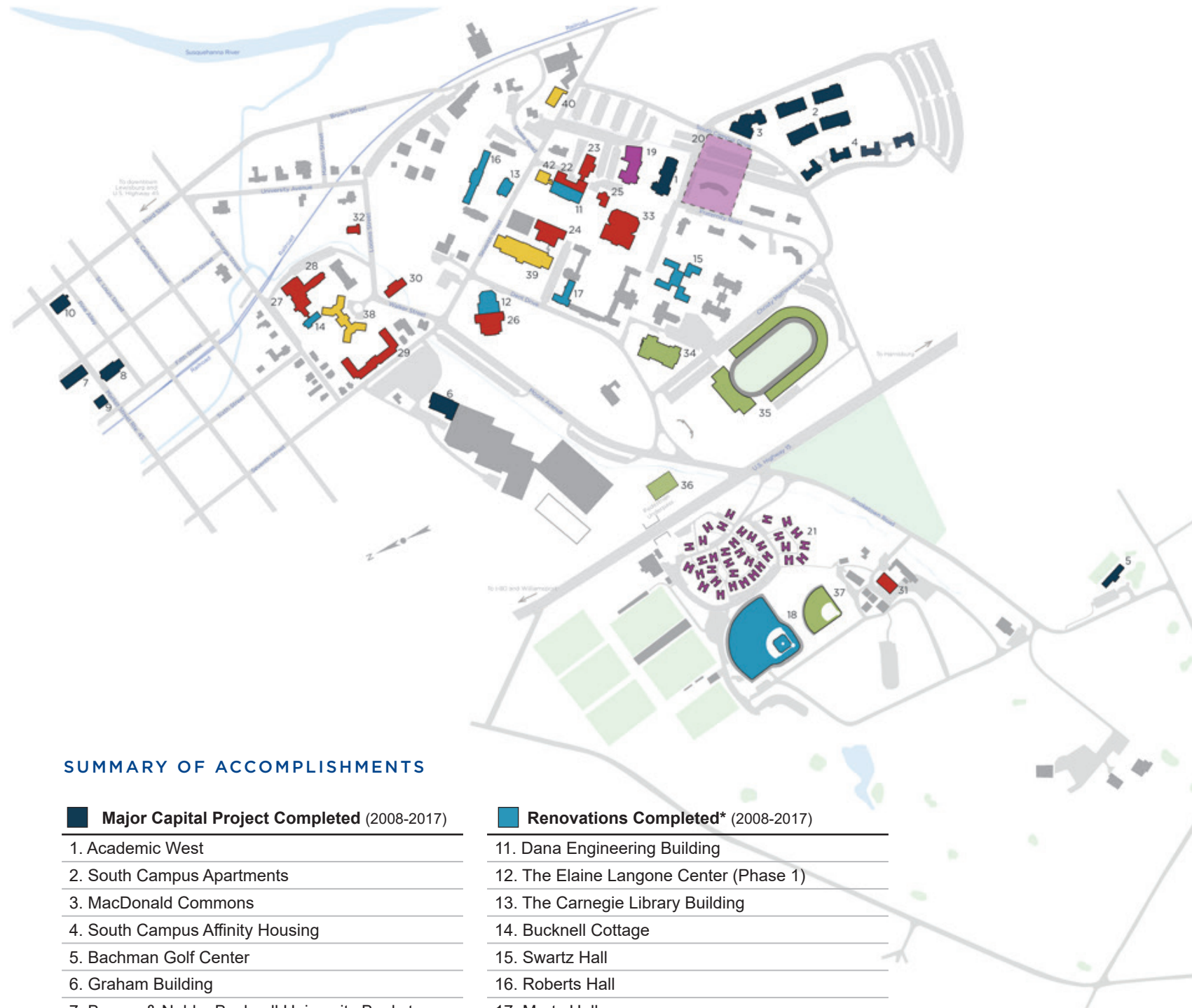


Figure 1.1 | 2008 Campus Master Plan Districts Assessment

*Themes were explored in further detail during this interim planning process in order to support the development of capital projects currently in progress. Preliminary findings from these analyses are referenced throughout this document, and elaborated on in Appendix A: Campus Housing and Appendix B: Parking & Traffic.



SUMMARY OF ACCOMPLISHMENTS

Major Capital Project Completed (2008-2017)

1. Academic West
2. South Campus Apartments
3. MacDonald Commons
4. South Campus Affinity Housing
5. Bachman Golf Center
6. Graham Building
7. Barnes & Noble, Bucknell University Bookstore
8. Campus Theatre
9. Dewitt Building (SBDC & Gallery)
10. Post Office Building, Administrative Offices

Renovations Completed* (2008-2017)

11. Dana Engineering Building
12. The Elaine Langone Center (Phase 1)
13. The Carnegie Library Building
14. Bucknell Cottage
15. Swartz Hall
16. Roberts Hall
17. Marts Hall
18. Depew & Becker Fields (Baseball & Softball)

*Only renovations / building upgrades exceeding \$1,000,000 were included in the scope of this study

SUMMARY OF THE PLANNING FRAMEWORK

Strategic: New Construction

19. **Academic East**
New construction of an academic facility for Engineering and Education
20. **College of Management and Art (site)**
New construction of an academic facility for the College of Management and new home for the art and art history departments
21. **Campus Housing**
Accommodation of enrollment growth (200) and various anticipated changes to existing housing facilities

Strategic: Renovation / Bldg. Upgrades

22. **Dana Engineering Building**
Partial renovation to accommodate program growth, dependent on Academic East
23. **Breakiron Engineering Building**
Partial renovation to accommodate program growth, dependent on Academic East
24. **Olin Science Building**
Partial renovation to accommodate program growth, dependent on Academic East
25. **Humanities Center**
Heavy renovation of Demosthenean Hall to develop new Humanities Center
26. **Elaine Langone Center (Phase 2 & 3)**
Phase 2) Bostwick Kitchen and 2nd floor renovation, Phase 3) third floor, Bison, downhill entrance renovations and addition of a 2nd elevator
- 27-29. **Larison, Harris and Smith Halls**
Modernization of interior spaces and system upgrades
30. **Art Building**
Address building infrastructure / code compliance deficiencies
31. **Art Barn**
Renovation and/or relocation to accommodate program growth
32. **Bucknell Hall**
Address building infrastructure / code compliance deficiencies

Campus Enhancements

34. **Weis Center for Performing Arts**
Renovations to existing lobby, creation of a ticket office, and reconfigure layout to improve usability of interior/exterior spaces
35. **Stadium & Team House**
Replacement/renovations to existing stadium and new construction of Team House
36. **Welcome Center**
New construction of a facility for Admissions and Financial Aid
37. **Becker & Depew Fields (Phase 2 & 3)**
New construction of grandstands, press box, concessions, and restrooms

Infrastructure

38. **Vedder Hall**
HVAC system upgrades
39. **Rooke Science Center**
HVAC system upgrades
40. **Chiller Plant**
New construction, replace existing obsolete chillers and add new units to increase chilled water production capacity to support campus growth
41. **Bucknell West Infrastructure****
Various infrastructure upgrades to support further development of Bucknell West
42. **Computer Center**
HVAC system upgrades

**Not depicted on map

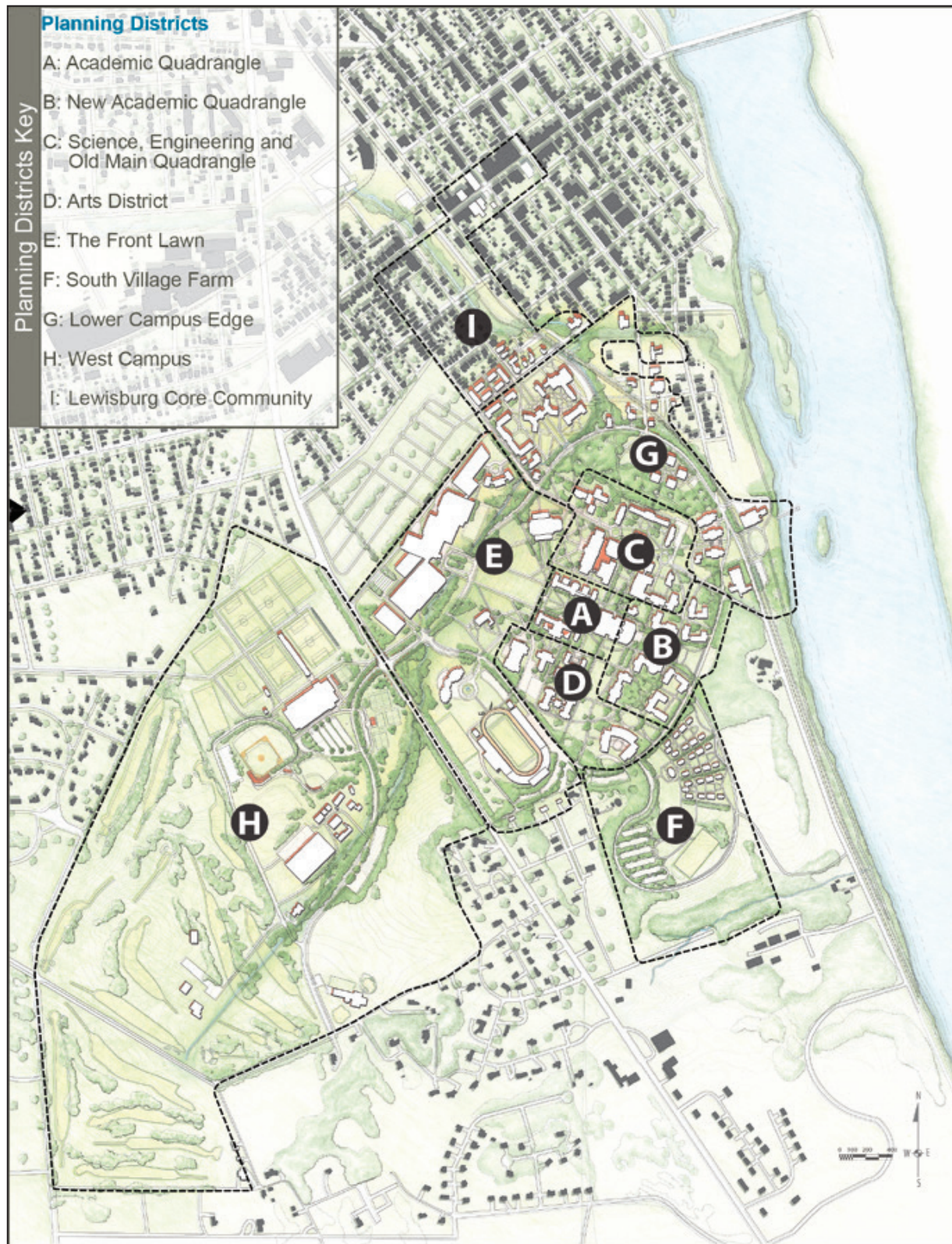


Figure 2.1 | Planning Districts, 2008 Master Plan

INTRODUCTION

In 2008, Bucknell University engaged Shepley Bullfinch Richardson & Abbott to develop a plan for the use and development of its physical spaces that resulted in the 2008 Campus Master Plan: A Vision for Bucknell. Guided by preexisting institutional strategic objectives, the recommendations of the Master Plan were formulated to ensure the continued excellence of the institution. The University set out to capitalize on its natural strengths, while also seizing opportunities for improvement. The Master Plan comprised a series of integrated planning efforts, the core components of which included a land use plan, campus plan, landscape guidelines and stormwater guidelines.

Campus districts were identified during the planning process based on the functions of existing facilities and land use opportunities. Each district includes recommendations for existing buildings or programs, proposed additions or new construction and a specific set of planning principles unique to that area of campus. The overarching goal of the districts was to create the potential for localized identities within a comprehensive institutional identity. The planning districts are depicted in Figure 2.1 and further described on the pages that follow. Additionally, a brief update is provided for each district comparing what was outlined in the Master Plan to what has been completed as of April 2017.

More detailed descriptions, projects currently in the planning process and Campus Master Plan updates can be found in the sections of this document that follow. The Campus Master Plan Update section of this document outlines the structure in which the University will continue implementing the Master Plan recommendations over the next 20 years.

"The campus plan provides a 30-year vision for the physical development of the campus required to meet the University's commitment to its academic and social mission as well as its sense of stewardship."

THE MASTER PLAN,
A VISION FOR BUCKNELL - 2008



A. ACADEMIC QUADRANGLE

2008 Master Plan Recommendation:

The original Larson Quad was identified as an all-academic area, with a focus on humanities and social sciences. Projects included renovations to Marts Hall, Freas Hall, Coleman Hall, Vaughan Literature and Bertrand Library. All administrative functions were to be moved from their locations in Marts and Freas as part of the renovations and additions to the buildings surrounding the quad. The Bertrand Library was also identified as a facility to receive a comprehensive renovation and addition to better meet the academic needs of Bucknell's students and faculty.

Status Update:

Since the Master Plan's completion, the University recognized the need to improve Bucknell's facilities for humanities and social sciences. The University has recognized an opportunity to strengthen the academic core by repurposing Demosthenean Hall (the formal name of the former DU House) to a dedicated humanities center. Additionally, the University strategically renovated Marts Hall in an effort to provide much needed administrative office space.



B. NEW ACADEMIC QUADRANGLE

2008 Master Plan Recommendation:

A new academic quad was imagined for the land east of Bertrand Library, oriented along the same axis as the Larson quad. This new academic quad would present Bucknell with an opportunity to bring together a broad cross-section of intellectual and social life, supporting evolving pedagogies and curricula. As part of the planning principles of this district, the Master Plan outlined an addition to the Bertrand Library, the new construction of two Residential Colleges, and multiple academic and administrative buildings including: a College of Management building, an Engineering / Natural Sciences / Mathematics building, a Humanities / Social Science building and an Interdisciplinary Center. Additionally, the Master Plan described the importance of maintaining view corridors to the south from Bertrand to reinforce the University's connection to the Susquehanna River and the campus' natural surroundings.

Status Update:

In the eight years since the completion of the Master Plan, Bucknell has made tremendous progress in accomplishing the initiatives in this district. In response to the Master Plan's vision of a Humanities / Social Sciences building, the University constructed Academic West which serves as an interdisciplinary academic building housing the Social Sciences. Bucknell is also in the midst of growing the district through the construction of a facility intended to house Engineering and Education named Academic East as well as a potential College of Management and Art building. While the configurations of the real buildings may differ slightly from the Master Plan's depiction, the University has maintained the vision imagined in 2008.



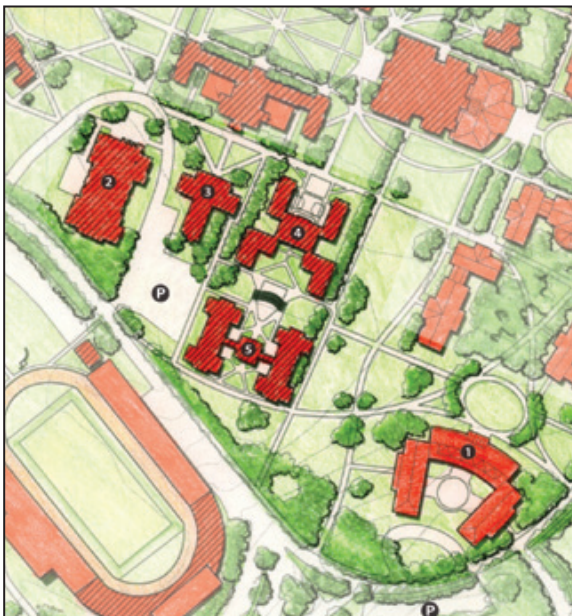
C. SCIENCE, ENGINEERING AND OLD MAIN QUADRANGLE

2008 Master Plan Recommendation:

The Master Plan envisioned this district to be a mixed-use area that integrated academic facilities for sciences, engineering and social sciences; student housing; social space; and academic services. This district was also planned to interact seamlessly with the Bertrand Library through a natural connection of the Carnegie Building. Included in the vision for this district was the upgrades of Carnegie, Dana Engineering, Olin, and the Computer Center, in addition to the repurposing of Demosthenean Hall (Delta Upsilon Building). The Master Plan also outlined additions to Breakiron, Taylor Hall and the Botany Building. The additions to Taylor and Botany were to provide a bridge between the "uphill" and "downhill" campus neighborhoods.

Status Update:

This is another district that has been a focus for the University since the completion of the Master Plan. Bucknell completed comprehensive renovations of the Carnegie Building and Roberts Hall. Some infrastructure and smaller renovations have been completed, and additional renovations are planned for all other STEM-focused buildings in this district. However, there has not been much focus on the Master Plan's vision of creating a physical connection between Olin, the O'Leary Center, and the Rooke Science Center. Despite the variances from the Master Plan's depiction, the University's upgrades have reinvigorated this district.



D. ARTS DISTRICT

2008 Master Plan Recommendation

Envisioned as an Arts Complex, the Master Plan outlined the importance of connecting the existing facilities in the area to a new, comprehensive arts building. This facility was intended to house all of Bucknell's arts programs currently scattered across campus including the Samek Gallery and Art Barn programming. Additionally, the Master Plan identified opportunities to consolidate theater and dance between Coleman Hall and the proposed new building that would allow the Tustin Building to be repurposed or removed.

Status Update

This district remains in the planning stages for the University as none of the Master Plan's outlined goals have been implemented yet. However, the University has explored the feasibility of constructing a new, comprehensive arts facility. In addition to these planning studies, the University also plans to renovate the Weis Center to improve the overall experience of the facility. As part of this interim review, it was determined that the Arts Complex, which would be one of the largest buildings on campus, is now financially infeasible.



E. THE FRONT LAWN DISTRICT

2008 Master Plan Recommendation

This district was designated to include the iconic front lawn of campus and its surrounding areas including: the Kenneth Langone Athletics and Recreation Center (KLARC), the University's student center (Elaine Langone Center or ELC), the Rooke Chapel, the Christy Mathewson-Memorial Stadium, and the U.S. Route 15 campus entryway. With these existing facilities, this district is home to the majority of the University's public facilities on campus making it a vitally important district for Bucknell. The Master Plan envisioned a large investment in this district to enhance the overall aesthetic of the area. These investments included reconfiguring the US-15 entrance to allow for a new Welcome Center, a comprehensive renovation and multiple additions to the ELC, additions to Memorial Stadium, construction of a Wellness Center and Inn & Business Center, and creation of multiple parking garages.

Status Update

Bucknell understands the importance of this district, and the University has continued to invest in multiple projects in the vicinity. Most recently, the University opened the Graham Building. The building houses a state-of-the-art wrestling practice facility along with the much-needed, centrally located health and Wellness Center. While the building of the Wellness Center differs slightly from the Master Plan's vision, the new facility aligns with important initiatives described in the 2008 Master Plan. Additionally, the University has completed multiple renovations of the ELC, but the comprehensive renovation and additions as illustrated by the Master Plan have yet to be completed. As part of this interim review, it was determined that the envisioned U.S. Route 15 entrance realignment is



F. SOUTH VILLAGE FARM

2008 Master Plan Recommendation:

In 2008, Bucknell was in the process of purchasing a large parcel of land from a local private neighbor. This land was envisioned by the Master Plan to be a site for new student housing at Bucknell. As part of this village, the Master Plan outlined approximately 600 beds to be built in three phases. Included in this development was to be a village-specific community center and recreation fields / courts. New Greek housing was also envisioned to be located in the new South Village. To accommodate the additional students living on campus, surface parking was also planned at the southern portion of the farmland.

Status Update:

With a new University initiative to house more students on campus and away from downtown Lewisburg, the addition of this new housing was imperative. As such, the University added 344 apartment-style beds to its campus through the South Campus Apartment development. The development also included the construction of two new affinity houses that were immediately filled by two fraternities that were displaced when their residences were razed in order to construct Academic West. The new housing also included a community center, MacDonald Commons, with a café that provides students with an alternative dining option on the southern side of campus. While the completed layout of the housing was slightly different than illustrated in the Master Plan, the completion of the first phase of 344 beds provided the University with much-needed new housing facilities. In the years to come, the University may build additional housing facilities on the remaining open land of the site.



G. LOWER CAMPUS EDGE

2008 Master Plan Recommendation:

In an area that stretches along the base of the hill topped by Roberts Hall and north to St. George Street, the Master Plan identified the Lower Campus Edge district as an area dedicated to student housing and other secondary uses. The district encompassed many existing buildings including: Hunt Hall, Harris Hall, Larison Hall, Vedder Hall, Bucknell Hall, the Gateway Residence Center, Cooley Hall, Alumni House, and many others. The Master Plan's overarching goal for this district was to improve the existing student housing, build new student housing facilities, and better connect the University to the Susquehanna River. In order to accomplish the latter initiative, the Master Plan outlined the creation of a River Recreation Center at the current Facilities Shop location.

Status Update:

While improving the student housing experience is an important directive for the University, there has been little activity in this district as outlined by the Master Plan. Other than required renovations and upgrades, many of the existing residence halls in this district have not undergone the comprehensive renovations described by the Master Plan. Additionally, the creation of a River Recreation Center has not been advanced past the master planning stages, despite the University's recognition of the importance of connecting the campus with the Susquehanna River.



H. WEST CAMPUS

2008 Master Plan Recommendation:

Bucknell's West Campus district is considered to be a part of the University's campus, but the interruption caused by U.S. Route 15 creates the sense of two campuses. As such, the Master Plan identified the need to remove the Mods housing from Bucknell's portfolio to concentrate all of its student housing on one side of U.S. Route 15. With the removal of the Mods, the Master Plan looked at reconfiguring the multiple athletic fields on the West Campus, along with the creation of a new Recreation / Athletics Center. The addition of this new Recreation / Athletics Center was intended to allow for the renovation of the Gerhard Fieldhouse. Additionally, the Master Plan envisioned the relocation of the Animal Lab in a newly constructed vivarium facility as well as the relocation of Bucknell's ROTC program into the former Farm House.

Status Update:

Since the completion of the Master Plan, the University has focused its campus improvement efforts away from the West Campus. However, this district has not been forgotten by the University as the renovation of Depew Field has been completed, and there are plans for Becker Field and the surrounding area to receive a renovation as well, once sufficient gift funding is provided. Additionally, the Bachman Golf Center was built, which provides Bucknell with a state-of-the-art golf practice facility. Despite some improvements to the West Campus, the Mods — a popular housing choice of students — are still in use, and it is possible that these facilities will remain open for the foreseeable future.



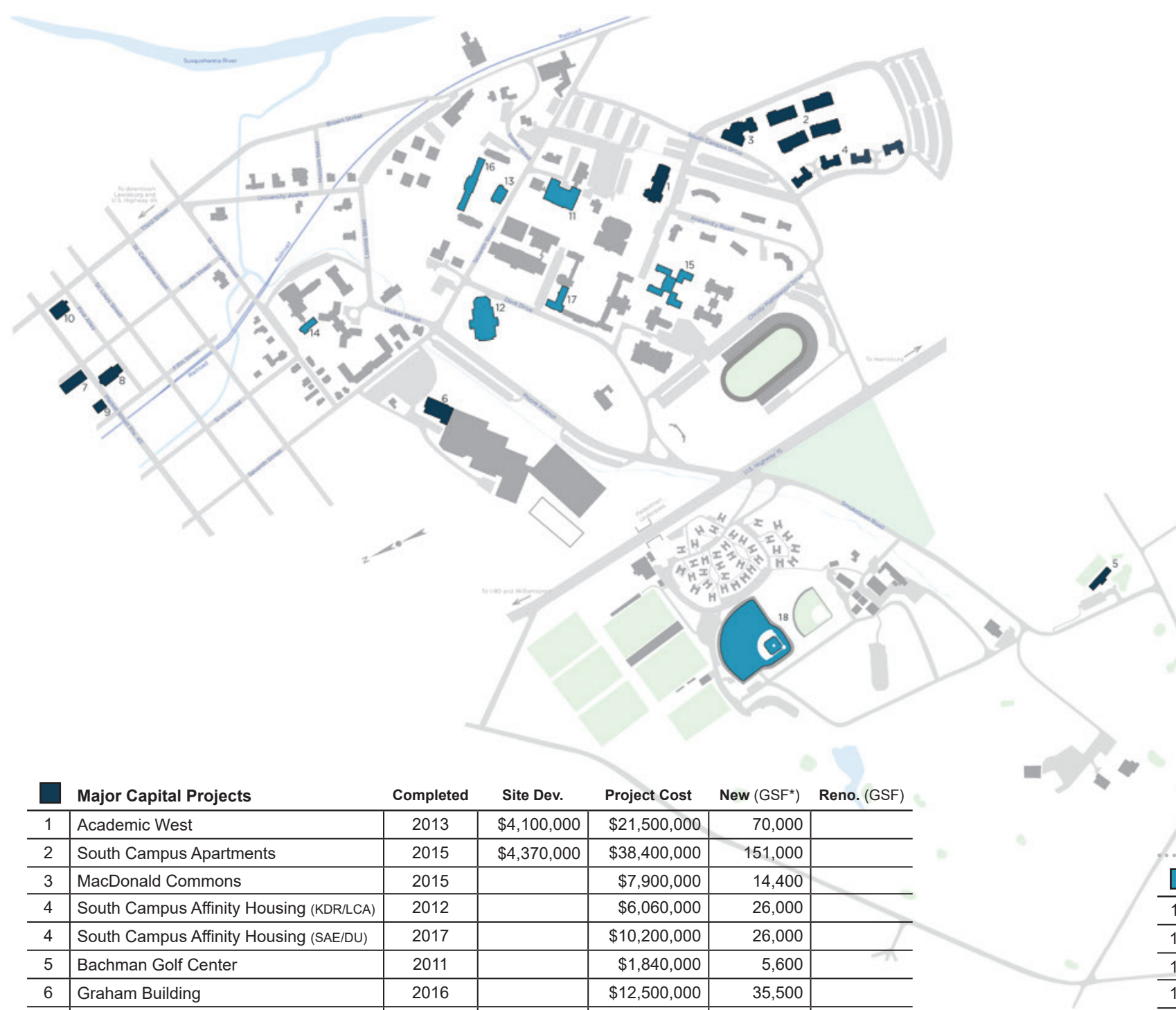
I. LEWISBURG CORE COMMUNITY

2008 Master Plan Recommendation:

Bucknell's unique relationship with downtown Lewisburg presented a tremendous opportunity that the Master Plan sought to enhance through multiple initiatives. The largest initiative envisioned by the Master Plan was the need to strengthen the University's connection to Market Street. This was to be accomplished through the integration of University facilities on and proximate to Market Street as well as creating a new student housing village that would strengthen the University's relationship with community members. Integrating University facilities into the downtown fabric was envisioned to occur through the addition of a new campus bookstore / retail space, new administrative office space, and a new gallery / performance space. These facilities would allow for downtown buildings that support both campus and community needs.

Status Update:

Identified as an important initiative, Bucknell has focused on improving its relationship with the community since the adoption of the Master Plan. As such, the University has developed and opened a new campus bookstore on Market Street (Barnes & Noble), restored the downtown Campus Theatre, and repurposed the Dewitt Building and the Lewisburg Post Office Building. Since the University's investments into the downtown community, Lewisburg has had two major retail stores relocate to just off Market Street, further demonstrating the importance of Bucknell's involvement in the community.



ACCOMPLISHMENTS

Bucknell has leaned heavily on the Master Plan to guide strategic capital investments over the past eight years. Recommendations have been prioritized by the University based on the needs of the campus community, physical conditions and functionality of existing facilities, availability of funding and opportunities to advance the Bucknell brand. The projects completed since 2008 have supported all aspects of the University, from its academic programs to its relationship with the Lewisburg community. In the span of eight years, Bucknell has invested \$176 million into campus facilities and infrastructure. As a result, the University has successfully advanced its overarching mission of enhancing the undergraduate student experience. The University has added 329,000 square feet of facilities through new construction and acquisition, including downtown, and has renovated or remodeled 378,000 square feet of existing facilities, improving the quality and functionality of buildings for Bucknell students, faculty and staff. Specific space additions include: 65 faculty offices, an enhanced community center and hearth space and 448 new beds (including affinity houses). Additionally, Bucknell's collaboration with the community to redevelop downtown Lewisburg is a successful example of a revitalization of a historic small town. Creating a vibrant downtown is critical in retaining and attracting the best students, staff and faculty. The projects described in this section achieved, or contributed to the achievement of, the following objectives defined by the Plan for Bucknell, the current strategic plan:

- ✓ Strengthen the academic core
- ✓ Deepen the residential learning experience
- ✓ Enhance diversity
- ✓ Strengthen connections with the world
- ✓ Secure the University's financial future

The following section describes the A) Major Capital Projects; B) Renovations / Building Upgrades; and C) Planning Studies & Other Initiatives completed from 2008 to April 2017. Major capital projects can be defined as investments requiring new construction or property acquisition and significant building renovation projects that exceeded a \$1 million threshold. It should be acknowledged that many smaller renovation projects as well as routine building maintenance and preventative maintenance projects below this threshold have been completed since 2008 as well, but are not highlighted in this project inventory.

Project profiles are listed in order by building function: academics, housing, student life, administrative, campus edge, and utility/infrastructure initiatives. Each profile contains a summary of the project implemented, as well as the corresponding recommendation from the 2008 Master Plan. The category of the capital investment is displayed at the top of each profile. Some implemented projects were altered slightly from the original recommendation, whereas others have been completely transformed. Implications of the alternative planning strategies are evaluated in the Campus Master Plan Update section of this document.

Since 2008 the University has conducted multiple planning studies and other planning-related initiatives, some of which have resulted in the completion of, or future completion of, Master Plan recommendations. Others have uncovered feasibility concerns with respect to project cost, existing facility conditions or site availability. Projects identified in the Master Plan that were deemed "highly unlikely" through these planning studies / initiatives are evaluated in the Campus Master Plan Update document.

Major Capital Projects		Completed	Site Dev.	Project Cost	New (GSF*)	Reno. (GSF)
1	Academic West	2013	\$4,100,000	\$21,500,000	70,000	
2	South Campus Apartments	2015	\$4,370,000	\$38,400,000	151,000	
3	MacDonald Commons	2015		\$7,900,000	14,400	
4	South Campus Affinity Housing (KDR/LCA)	2012		\$6,060,000	26,000	
4	South Campus Affinity Housing (SAE/DU)	2017		\$10,200,000	26,000	
5	Bachman Golf Center	2011		\$1,840,000	5,600	
6	Graham Building	2016		\$12,500,000	35,500	
7	Barnes & Noble, BU Bookstore	2010		\$10,000,000		29,500
8	Campus Theatre	2011		\$3,100,000		11,000
9	Dewitt Building (SBDC & Gallery)	2012		\$3,300,000		15,000
10	Post Office Building, Admin. Offices	2012		\$8,500,000		32,000
TOTALS			\$8,470,000	\$123,300,000	328,500	87,500

*GSF: Gross Square Feet

Renovations / Bldg. Upgrades		Completed	Site Dev.	Project Cost	New (GSF)	Reno. (GSF)
11	Dana Engineering Building	2016		\$5,000,000		86,480
12	The Elaine Langone Center (Phase 1)	2015		\$3,092,000		26,200
13	The Carnegie Library Building	2015		\$6,515,000		17,000
14	Bucknell Cottage	2010		\$1,960,000		12,500
15	Swartz Hall	2017		\$9,773,000		69,700
16	Roberts Hall	2016		\$14,300,000		54,000
17	Marts Hall	2015		\$1,785,000		24,600
18	Depew & Becker Fields (Baseball, Softball)	2012		\$1,889,000		
TOTALS				\$44,314,000		290,480

ACADEMIC WEST



Construction of new academic building , Bucknell Institute for Public Policy & the Field Research Teaching Lab, provided new classroom space, hearth space, a GIS Laboratory and a new home for the Social Sciences. The building also provided 65 new faculty offices to support the six-to-five course reduced teaching load and the hiring of approximately 60 new faculty members over the past several years.

Project Details	
Completed	August 2013
Scope	New Construction
Total Project Cost	\$21,500,000
Total Project Size	70,000 SF

2008 Master Plan Recommendation
The 2008 Master Plan envisioned a new Academic Quadrangle with 240,000 to 325,000 GSF that provides Bucknell with the opportunity to bring together a broad cross section of intellectual and social life, supporting evolving pedagogies and curricula. New facilities in the quad would accommodate Engineering, Natural Sciences, Math, Humanities and Social Science programs. Originally described to be a center of interdisciplinary teaching and research, the Master Plan recommended a 50,000 to 65,000 SF facility that would frame the west portion of the new Academic Quad. As part of the interdisciplinary nature of the building, it was recommended the facility provide opportunities that promote leading-edge scholarship and research that includes multiple disciplines.

Summary of Project Implemented
The opening of Academic West marked the completion of the largest construction project on campus in more than a decade. Not only did the completed facility align with the Master Plan's recommended size and location, it also followed the interdisciplinary nature in the intended building program and design. The building provides a great deal of much needed modern space for collaboration throughout its footprint, bringing students and faculty/staff from various programs under one roof. Academic West achieved LEED Silver certification, the first building on campus to do so.

SOUTH CAMPUS APARTMENTS & MACDONALD COMMONS



New construction of four residence halls, providing apartment-style living for 344 seniors and juniors. The buildings contain a suite of 21st-century sustainable design features engineered to meet or exceed LEED Silver standards. In addition to the apartment buildings, Bucknell constructed the MacDonald Commons that provides the South Campus residents a la carte dining and multipurpose event spaces. This wonderful community space is coupled with multiple outdoor basketball and sand volleyball courts.

Project Details - South Campus Apartments	
Completed	August 2015
Scope	New Construction
Total Project Cost	\$38,400,000
Total Project Size	165,000 SF

Project Details - MacDonald Commons	
Completed	August 2015
Scope	New Construction
Total Project Cost	\$7,900,000
Total Project Size	14,100 SF

Summary of Project Implemented
The completion of the South Campus Apartments Phase 1 construction in 2015 provided the campus with a state of-the-art upperclass village complete with outdoor athletic courts and a village community center with a café. The first phase of the South Campus Apartments provided approximately half of the total beds recommended for the South Campus Village in the 2008 Master Plan. The addition of new housing at this site as either replacement beds or to house enrollment increases remains a priority for the University, but may not fit on the space available.

MacDonald Commons is the first building on campus to receive LEED Gold certification, and it received the 2015 National Excellence in Construction Pyramid Award from the Associated Builders and Contractors.

2008 Master Plan Recommendation
Originally planned as a three phase process, the 2008 Master Plan recommended 600 to 700 beds to be built on the farm property adjacent to Bucknell's southern campus. A portion of the bed totals would be dedicated to the replacement of Greek houses coming offline. As part of the recommended South Village Farm, the student housing would be supplemented by athletic fields and a village community center with a café. Dedicated surface parking for the South Village Farm residents was also included.

SOUTH CAMPUS APARTMENTS, AFFINITY HOUSES



Newly developed affinity housing located on the recently acquired farm land on Bucknell’s southern portion of campus. Two, 26-bed houses were included in the South Campus Apartments development to replace beds from Lambda Chi Alpha and Kappa Delta Rho houses.

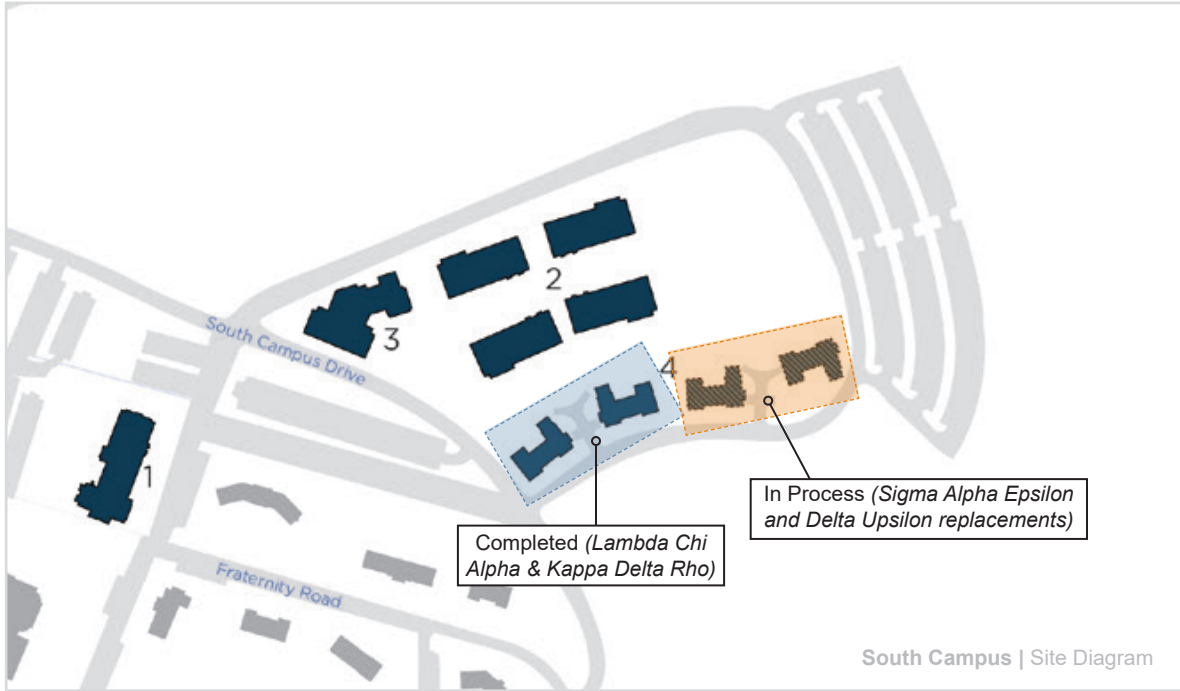
Project Details - Lambda Chi Alpha	
Completed	August 2012
Scope	New Construction
Total Project Cost	\$3,030,000
Total Project Size	13,000 SF

Project Details - Kappa Delta Rho	
Completed	August 2012
Scope	New Construction
Total Project Cost	\$3,030,000
Total Project Size	13,000 SF

2008 Master Plan Recommendation
Originally planned as a three phase process, the 2008 Master Plan recommended 600 to 700 beds to be built on the farm property adjacent to Bucknell’s southern campus. A portion of the bed totals would be dedicated to the replacement of Greek houses coming offline, specifically, Lambda Chi Alpha’s and Kappa Delta Rho’s respective houses which were located on the site for Academic West. As part of the recommended South Village Farm, the student housing would be supplemented by recreation fields and a village community center with a café. Dedicated surface parking for the South Village Farm residents was also included.

Summary of Project Implemented
Opening in August 2012 as a part of the first phase of the South Campus Residential Complex, the new LEED Silver Certified Lambda Chi Alpha and Kappa Delta Rho houses provide the University with a total of 52 replacement beds. The number of beds included in the houses align with the Master Plan’s recommendation while their locations differ slightly. The careful consideration and planning efforts of the first phase of the South Campus Apartments Projects will allow for moderate expansion onto current University-owned land without the need of purchasing more land.

SOUTH CAMPUS APARTMENTS, AFFINITY HOUSES



Project Details - Affinity House (SAE replacement)	
Anticipated Completion	August 2017
Scope	New Construction
Total Project Cost	\$5,100,000
Total Project Size	13,000 SF

Project Details - Affinity House (DU replacement)	
Anticipated Completion	August 2017
Scope	New Construction
Total Project Cost	\$5,100,000
Total Project Size	13,000 SF

Project in Process
Two additional affinity houses are currently under construction on the site adjacent to Lambda Chi Alpha and Kappa Delta Rho. Construction will be completed in August 2017. Although the specific use of these affinity houses is still under consideration, Delta Upsilon (DU) and Sigma Alpha Epsilon (SAE) fraternities have been identified as potential options.

SAE recently recolonized and DU is currently inactive on campus, but both were previously occupants of Bucknell-owned affinity houses. Since their departures, the houses have been occupied by alternate affinity groups. The University is contractually obligated to supply replacement housing for both fraternities when they repopulate. The former home to DU, Demosthenean Hall, was identified as the ideal location for the Humanities Center concept due to its central location adjacent to the Malesardi Quad. Relocating this affinity house to the South Campus site would allow for strategic use of the former DU building to strengthen the academic core of campus and Humanities as a whole.

BACHMAN GOLF CENTER



Project Details	
Completed	August 2011
Scope	New Construction
Total Project Cost	\$1,840,000
Total Project Size	5,600 SF

Located adjacent to the Bucknell Golf Course's practice range, just across Smoke-town Road from the 11th hole of the Bucknell Golf Club, the Center houses coaches' offices and locker rooms for the Bison women's and men's golf teams, a video-equipped swing diagnostic area, indoor putting green and hitting bays, and a conference room. The facility was named in honor of the lead donors, Jeb and Sally Bachman '78.

2008 Master Plan Recommendation
While the 2008 Campus Master Plan lists a Golf Center as a proposed building on the West Campus, it does not provided a detailed description or recommendation for the space.

Summary of Project Implemented
The development of the Golf Center provided the University a unique competitive edge to many of its peer golf programs. The facility is coupled with a 10,000 SF putting green and a 5,700 SF short-game practice green with bunkers. These additions to Bucknell's golf program provide attractive options to both recruit potential new team members and retain current members.



GRAHAM BUILDING



Project Details	
Completed	August 2016
Scope	New Construction
Total Project Cost	\$12,500,000
Total Project Size	35,500 SF

New construction, adjacent to Sojka Pavillion, of a wrestling training center and campus health and wellness center facility. Named in honor of lead donor and former Bison wrestler Bill Graham '62, the building serves as a resource to the entire campus.

2008 Master Plan Recommendation
As part of the long-term vision outlined by the 2008 Master Plan, a new wellness center located in close proximity to the Sojka Pavilion was envisioned. The recommended 15,000 SF to 25,000 SF facility would be adjacent to a new parking garage and Inn and Business Center. As a result, the existing (and sub-standard) Ziegler Health Center would be repurposed.

Summary of Project Implemented
While the Graham Building varies slightly from the Master Plan's vision, the inclusion of a Wellness Center as part of the wrestling program provides the University a much needed comprehensive center for health and wellness services. The first floor is the home for Bucknell Student Health, the Counseling and Student Development Center, Bucknell Nutrition, Physical Therapy, and the Be Well Program. The Graham Wrestling Center is located on the upper level. The area includes ample wrestling space featuring video-replay technology, weight room, coaches' offices, locker rooms, athletic training suite, and team study area.



BARNES & NOBLE, BUCKNELL UNIVERSITY BOOKSTORE



Project Details	
Completed	August 2010
Scope	Acquisition & Heavy Reno.
Total Project Cost	\$10,000,000
Total Project Size	29,500 SF



Acquisition and restoration of a facility, previously the C. Dreisbach's Sons Hardware Store, located on the northwest corner of Fourth and Market streets preserved the building's historical character and community value, while also accommodating the needs of Bucknell's Bookstore. The project was a collaborative effort among the university, the Borough of Lewisburg and Barnes & Noble.

2008 Master Plan Recommendation

In an effort to strengthen the University's connection with Market Street and create a more active downtown environment, a bookstore/retail facility was considered a key anchor of the Master Plan's Lewisburg Core Community opportunities.

Summary of Project Implemented

Through a partnership with Barnes & Noble, the University was not only able to relocate its bookstore to create needed community space in the Langone Center but also establish a University-related anchor property at the heart of downtown Lewisburg. The building now houses a large inventory of books, magazines, sportswear and a Starbucks café. The project was a collaborative effort among the university, the Borough of Lewisburg and Barnes & Noble.

CAMPUS THEATRE



Project Details	
Completed	August 2011
Scope	Heavy Renovation
Total Project Cost	\$3,100,000
Total Project Size	11,000 SF



Although Bucknell University assisted The Campus Theatre, Ltd., a non-project organization, in purchasing the building in 2006, the partnership was expanded in 2011 when the theatre renovation plans were adopted. Renovations included restoration of original art deco-style murals, installation of an improved projection and sound system, new air-conditioning and heating systems and refurbished seating. The goal of the partnership, and the project, was to ensure the continued vitality of the community asset for generations to come. Commonwealth grants helped finance the project.

2008 Master Plan Recommendation

While not specifically included as a recommendation in the 2008 Master Plan, the idea contributes to the Lewisburg Core Community Initiative by providing additional University-related space to invigorate downtown.

Summary of Project Implemented

The renovation of The Campus Theatre provides yet another way to connect the University and the community through active programming. The University's involvement in the facility's restoration safeguards against an important downtown facility from failing to thrive.

DEWITT BUILDING (SMALL BUSINESS DEVELOPMENT CENTER & SAMEK DOWNTOWN GALLERY)



Project Details	
Completed	March 2012
Scope	Acquisition & Heavy Reno.
Total Project Cost	\$3,300,000
Total Project Size	15,000 SF

Acquisition and rehabilitation of 416 Market St. led to the first floor spaces being available for commercial tenant leasees, while the remodeled second and third floors became flexible office incubator space. The facility was brought up to standards for code compliance and technical systems were upgraded. The Small Business Development Center (SBDC) and Samek Downtown Gallery are located in the building.

2008 Master Plan Recommendation

The 2008 Master Plan called for the inclusion of gallery and performance space in the heart of downtown Lewisburg as part of the Lewisburg Core Community Initiative. The space was recommended to be housed in a 25,000 to 30,000 SF facility in anticipation of including the entire Bucknell University Art Gallery.

Summary of Project Implemented

The inclusion of the Samek Downtown Gallery and SBDC provides an opportunity for the interaction between University students, faculty, and staff with community members in a unique atmosphere. The SBDC also has allowed students and local entrepreneurs to explore potential business ventures. The Bucknell University Entrepreneurs Incubator (BUEI) is also located within the SBDC. While the Samek Art Museum remains on campus, the Downtown Gallery provides the University with additional gallery space in close proximity to campus.



Dewitt Building | BUEI

POST OFFICE BUILDING, ADMINISTRATIVE OFFICES



Project Details	
Completed	Spring 2012
Scope	Acquisition & Heavy Reno.
Total Project Cost	\$8,500,000
Total Project Size	32,000 SF

Bucknell renovated and acquired the 82-year-old Post Office Building, located on Market Street and home to the U.S. Postal Service (USPS). The University repurposed the upper floors into office space into approximately 65 university administrative offices, providing necessary upgrades to the ground floor. The USPS has continued to occupy the ground floor as a tenant of the university-owned building.

2008 Master Plan Recommendation

At the time of the master plan's creation, there was an identified need for more administrative spaces. A recommendation for a 45,000 SF facility in downtown Lewisburg was developed to address the demand for office space as well as better integrate the University with the downtown community.

Summary of Project Implemented

The renovated Post Office Building provided the University with a slightly smaller space than the recommendation, but it offers the campus much needed office space. Since the 2008 Master Plan and the opening of the renovated Post Office Building, the demand for office space has only increased. Thus, the University may need to consider providing new administration space that aligns closer to the Master Plan's recommendation.



RENOVATIONS / BUILDING UPGRADES

Bucknell University prides itself on the high quality facilities available across its campus. Thanks, in large part, to the University's attentiveness to updating and renovating its current building portfolio, Bucknell is able to maintain the functionality and attractiveness of many relatively old buildings. As such, the University routinely completes strategic updates and renovations to facilities as different needs or initiatives are identified. In an effort to highlight a portion of the renovation efforts undertaken by the University, the following pages detail completed projects that were considered to be major renovations/upgrades due to project costs surpassing the \$1 million

STRATEGIC

threshold.
DANA ENGINEERING BUILDING

Completed: August 2016
Total Project Cost: \$5,000,000
Total Project Size: 86,480 SF

During the summers of 2015 and 2016, The Charles A. Dana Engineering Building underwent significant upgrades to its heating, ventilation, and air conditioning systems, and most of the windows were replaced. The entire facility was updated to include the latest mechanical system technology and to improve air flow throughout the building. The original facility's construction was completed in 1940, and it has undergone multiple renovations and additions over the years. This most recent upgrade will provide its visitors a much needed improvement in the air and temperature quality in the building.

THE ELAINE LANGONE CENTER (PHASE 1)

Completed: 2008-2015
Total Project Cost: \$3,092,000
Total Project Size: 26,200 SF

Over the period of six years, The Elaine Langone Center (ELC) underwent multiple significant renovations throughout the building. These projects are now collectively referred to as "Phase 1". The following spaces were included in the renovations during that time period:

- Terrace Room / Gallery Theater: *completed in 2008 and cost \$933,000*
- Center Room: *completed in 2010 and cost \$184,000*
- Ground Floor Hearth Space: *completed in 2010 and cost \$751,000*
- Ground Floor IEA offices: *completed in 2012 and cost \$625,000*
- Second Floor Walls Lounge: *completed in 2014 and cost \$300,000*
- 241 and 246 Rooms: *completed in 2015 and cost \$299,000*

The 2008 Master Plan called for an extensive renovation and addition to the ELC, but that has proven to be difficult in the years since the Master Plan's completion as the facility is the University's student center and is considered by many to be an important anchor on campus. Incremental renovations are planned for the 45-year-old facility over the next few years to continue to update the facility for Bucknell's student population. These remaining projects, currently called Phases 2 and 3, may be executed in smaller or different groupings. The total cost of Phases 2 and 3 will be in excess of \$20 million.

THE CARNEGIE LIBRARY BUILDING

Completed: March 2015
Total Project Cost: \$6,515,000
Total Project Size: 17,000 SF

Built in 1905 under a grant from Andrew Carnegie, The Carnegie Library Building (Carnegie) is one of the older facilities on campus. Originally designed as the University's library, the recent renovation completely overhauled many of the building's spaces to provide a beautiful and now heavily utilized study space. Additionally, the LEED Certified building is home to multiple student resource offices. The renovation aligns well with the 2008 Master

Plan as it called for the restoration and development of a major social hearth space at Carnegie.
BUCKNELL COTTAGE

Completed: August 2010
Total Project Cost: \$1,960,000
Total Project Size: 12,500 SF

Bucknell Cottage was built in 1889 and had been renovated and remodeled several times. Prior to 2010, the most recent renovation took place in 1995. This current renovation addressed building deficiencies with respect to exterior envelope, interior finishes, code compliance and technical systems. The exterior envelope improvements were a major part of the project and included the repair and restoration of all building elements, including the foundation, drainage system, brick façade, windows and shingles.

New resilient flooring was installed in student rooms, and the existing plaster was patched and painted. Several of the double-occupancy rooms were divided in two single-occupancy rooms. Two appointment rooms and all bathrooms were remodeled to meet code compliance for ADA. Bathrooms received new fixtures and finishes. HVAC and plumbing systems were upgraded. All asbestos was removed from the building.

SWARTZ HALL

Completed: 2007-2017
Total Project Cost: \$9,773,000
Total Project Size: 69,700 SF

Swartz Hall was built in 1954 and has undergone multiple renovations during its lifespan. Most recently, Swartz Hall was completely renovated in multiple phases that began in 2007 and will finish in August 2017. Included in the renovation were:

- The building's C and D Wings totaling \$7,000,000
- The building's A and B Wings totaling \$2,267,000 plus an additional \$375,000 for window replacement
- The building's patio deck totaling \$130,000.

These renovations were not outlined in the 2008 Master Plan, but they provide the building's 366 residents with a much-needed updated living facility.

ROBERTS HALL (OLD MAIN COLLEGE)

Completed: August 2016
Total Project Cost: \$14,300,000
Total Project Size: 54,000 SF

Rebuilt in 1937 after suffering fire damage, Roberts Hall was originally called Old Main College. The facility has undergone many moderate renovations during its lifespan, however the extensive renovation that finished in August 2016 completely altered the building's interior. The renovation is anticipated to be LEED certified and included adding central air conditioning, elevator and ADA accessibility upgrades, correcting significant structural deficiencies, rebuilding and improving the building envelope, and improving many other life safety system upgrades. Perhaps most importantly, the comprehensive renovation reconfigured Roberts' traditional double rooms into suite-style units with a private bathroom and shower. The building now provides housing for 136 students in two-, three-, and four-person suites. Roberts Hall now also includes Bucknell's first residence-based apartment for a faculty couple.

MARTS HALL

Completed: August 2015
Total Project Cost: \$1,785,000
Total Project Size: 24,600 SF

Built in 1960, Marts Hall is home to administrative offices as well as academic departments. The recent renovation completed in 2015 included updating and reconfiguring many different office spaces throughout the building and upgrading building systems. The renovations to accommodate administrative office space is in contrast to the vision included in the 2008 Master Plan. The Plan called for a potential addition and removal of administrative spaces in Marts and Freas Hall. However, due to increasing demand for administrative spaces across campus, the recent Marts renovation was considered necessary to provide some of the needed space.

STRATEGIC & INFRASTRUCTURE

DEPEW AND BECKER FIELDS

Completed: 2012 (three phases)
Total Project Cost: \$1,889,000
Total Project Size: N/A

Bucknell's baseball field, Depew Field, and softball field, Becker Field, both underwent substantial renovations that were completed in 2012. Depew Field was converted from a natural grass playing surface to a state-of-the-art Field Turf system. Additionally, both fields received dugout upgrades as well as the completion of Memorial Plaza – a communal entrance to the fields. The 2008 Master Plan outlined the need to relocate both fields to allow for an expansion of Bucknell's West Campus. A key component of the Master Plan vision for Bucknell West required relocating the Route 15 and Smoketown Road intersection. When that was determined to be infeasible, the vision for Bucknell West was adjusted to include redevelopment of Depew and Becker Fields at their current location. These projects did provide a much needed upgrade for Bucknell's baseball and softball teams. The upgrades will continue in the near future as the University is in the process of raising funds to complete the project,

Before and After Comparison of Select Renovation Projects:



Before Renovation | Carnegie Library



After Renovation | Carnegie Library



Before Renovation | ELC, Basement



After Renovation | ELC, Basement

PLANNING STUDIES AND OTHER INITIATIVES

With the completion of the 2008 Campus Master Plan, five institutional priorities were identified. They were: Academic West, Academic East, Housing, Library and Art. Further planning was completed on these focus areas. As the need was identified, additional studies were initiated to investigate feasibility and potential of other projects. The following highlights the planning initiatives completed since 2008.

Student Housing Master Plan, 2009

The University should offer appropriate housing types for each student level. Faculty and Staff involvement should be better incorporated into residential programming for first- and second-year residents.

New Arts Building Study, 2010

The ideal structure would comprise a comprehensive facility that includes all aspects of Bucknell's Art program, but which excluded several other programs suggested in the 2008 Master Plan. The general location of Arts Complex envisioned in 2008 Master Plan is still acceptable. The University has attempted to obtain gift funding, but has been unsuccessful to date..

Academic West Design, 2011

The design of Academic West allowed 10 academic departments in the Social Sciences and several interdisciplinary centers to co-locate. Additionally, the more open and airy layout with ample hearth space provides many opportunities for casual collaboration throughout the building footprint. The building also provide 65 new faculty offices which were required to support the transition in teaching course load from 6 to 5 classes per faculty member.

Bertrand Library Programming & Concept Design Study, 2013

The addition to Bertrand Library proposed by the 2008 Master Plan is not financially feasible and may not have an ideal physical impact on campus. Estimated costs exceed \$75 million.

Utility Master Plan, 2009

With every facility upgrade, there will be a corresponding cost to upgrade the utilities infrastructure to supply the building. A new Cogeneration Plant and Chiller Plant will be required for the campus' expansions. Utilizing on-campus wind power and geothermal was determined to be infeasible. Solar power is a possibility, but the University should explore grant funding options as solar power was determined to require a large financial commitment. Portions of this plan have been implemented and planning has begun for the next phase of Chiller Plant expansion.

Christy Mathewson Precinct Master Plan, 2013

Proposed renovations to Christy Mathewson Stadium would greatly enhance the facility for fans and teams alike. The first phase of improvements would include a new Team House at the open end of the stadium. This project will be heavily dependent on gift funding, but at some point, the University may be faced with a possible condemnation of at least part of the existing structures.

Landscape Improvement Plan, 2013

This Plan provided a more detailed review of landscape issues including the health of the campus flora and recommendations to improve both species health and overall soil conditions. Recommended projects to improve the overall campus aesthetic while improving the landscape health were also considered.

School of Management – Space Programming (AECOM), 2014

Through the planning and programming process, the consultants developed an ambitious vision for the future of Bucknell's future College of Management. It was anticipated that the building would house a variety of learning spaces that accommodate evolving teaching and learning styles. Additionally, there will be interactive classrooms and computer lab space. Finally, the building should act as an inviting and accessible facility for students, faculty and staff to engage with each other throughout the course of the day.

Weis Center Study, 2015

Proposed updates would reinvigorate the Weis Center at a relatively low cost. The University is currently waiting on gift funding to move forward with the project.

COM | ART Collaborative – Viability Study (Nelson, The Different Shop), 2016

These studies analyzed the possible integration of the College of Management and the Art program into one facility. The studies identified the importance of communal gathering spaces throughout the project as well as the need for program-specific dedicated classrooms and group work spaces.



PLANNING FRAMEWORK

Over the coming years, the University will continue its efforts to achieve the goals and objectives identified in the 2008 Master Plan. The University has developed a planning framework for future capital investments that preserves the key principles described in the plan while also accommodating the material changes to the environment since 2008. This tool guides the prioritization of capital projects, values investments that further Bucknell’s mission, recognizes the capacity of existing buildings, facilitates growth and encourages value-added synergies. The framework comprises the following categories of capital investments:

Strategic	Achieves goals and objectives identified in the Master Plan and/or furthers the vision of the University.
Campus Enhancements	Aligns with the Master Plan and/or the vision of the University, but only pursued when the preponderance of financial support is provided through fundraising.
Infrastructure	Addresses a critical need, but not directly articulated in the Master Plan and/or the vision of the University; infrastructure projects may derive from either Strategic or Enhancement projects (e.g., new water or power lines).

The University has identified several outstanding projects, including both new construction and renovation/building upgrades, that will further the goals and objectives of the University, the 2008 Master Plan and the strategic Plan for Bucknell. Projects were either described by the Master Plan, altered since 2008 or conceptualized since 2008. The planning framework was applied to the outstanding projects and organized as below.

Strategic: New Construction	Campus Enhancements
19 Academic East	34 Weis Center for Performing Arts
20 College of Management & Art (potential site)	35 Stadium & Team House
21 Campus Housing	36 Welcome Center
	37 Becker & Depew Fields (Phase 2 & 3)
Strategic: Renovations / Bldg. Upgrades	Infrastructure
22 Dana Engineering Building	38 Vedder Hall
23 Breakiron Engineering Building	39 Rooke Science Center
24 Olin Science Building	40 Chiller Plant
25 Humanities Center	41 Bucknell West Infrastructure*
26 Elaine Langone Center (Phase 2 & 3)	42 Computer Center
27 Larison Hall	
28 Harris Hall	
29 Smith Hall	
30 Art Building	
31 Art Barn	
32 Bucknell Hall	
33 Bertrand Library	

*Not depicted on map

Summaries of the planning concepts developed to date are provided in this section. It should be noted that the information describes the conceptualized capital projects as of April 2017. Projects are at various stages within the planning process and will continue to evolve.

ACADEMIC EAST (ENGINEERING & EDUCATION)

Project Status:	Design Development	Project Budget:	\$38,000,000
Scope:	New Construction	Fundraised To Date:	\$9,200,000
Targeted Completion:	August 2019	Site Selected (Y/N):	Yes
Program Size:	76,124 GSF	Board Approval (Y/N):	No

Background

The 2008 campus Master Plan recommended several changes to the Science, Engineering and Old Main Quad-range district. The overarching program goal was to create a science and engineering quad that would be a mixed-use zone, with academic facilities for the sciences, engineering, social sciences, student housing, social space and academic support space. The foundation of the plan was a new 50,000–65,000 gross-square-foot facility for Engineering, Natural Sciences and Mathematics within the new Academic Quad. Construction of this new facility would allow existing buildings in the vicinity (Dana, Olin and the Computer Center) to be renewed and/or re-purposed.

Project Evolution

Academic East has transitioned from its inception as a STEM-only building (2008) to a mixed-use facility that brings Engineering and Education under one roof. These two programs were strategically paired to satisfy the space needs of multiple academic departments, support interdisciplinary programs and strengthen the academic core of campus within the social sciences and STEM programs. The proposed location in the “New Academic Quad” welcomes important synergistic relationships between Breakiron Engineering, Academic West and Bertrand Library.

The collaborative approach also supports a building theme — Human Health and Well Being — that reinforces academic and research goals. Consistent with the University’s sustainability goals, as well as the building’s theme, Academic East will aim for a LEED Gold, United States Green Building Council (USGBC) rating. Academic East will be home to cutting-edge research spaces, new spaces for laboratory instruction and 34 faculty and staff offices. The facility addresses critical needs for laboratory teaching and faculty research space for engineering in particular, and it enables renovations and creation of new laboratory teaching and research spaces across STEM fields broadly. In addition, several existing facilities and academic programs will benefit from Academic East (see Figure 4.2, Conceptual Project Phasing Plan). Olin will be renovated into a unified science and mathematics building with much needed seminar and meeting space for the departments of Mathematics and Physics. Engineering labs and rooms in Dana and Breakiron will be renovated to create modern teaching spaces and expand and restructure research space.

Authorization for the completion of design development was approved during the October 2016 Board of Trustees meeting. With the schematic design phase at 100% completion, Academic East has a strong foundation with respect to program, building/site design and building systems. The project architect, Stantec, does not anticipate significant changes to the final schematic design during the next phase of the planning process. Design development will include detailed reviews of the model program by key stakeholders, such as the newly appointed Dean of the College of Engineering, and further exploration of add/deduct design changes.



Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

Summary of Needs

The original space census and occupancy assumptions for the Academic East concept were revisited in the summer of 2013. Upon further analysis of the Chemistry, Biology, Physics, Animal Behavior and Neuroscience programs, it became clear that significant changes to the original program were needed. All departments felt strongly that moving a small portion of a department to a new building would cause more difficulty than it would solve. These departments requested the ability to improve or grow in place — to revise and update laboratory spaces, to improve the animal facilities by Route 15, and to allow Mathematics and Physics to expand within Olin by moving Education to Academic East. A target space allocation for Education in Academic East was drafted based upon their current space usage in Olin plus 1,000 square feet to accommodate expanding scholarly needs.

Academic East will provide much-needed research space for engineering faculty, increasing such space from the current average of 100 square feet per faculty member to 300 square feet per faculty member. (Though the increase is significant, it still falls short of the 500-square-feet target identified in the 2008 Campus Master Plan.) New engineering instructional laboratories, both for projects and for course-related work, will bring student facilities up to 50 square feet per student and allow for greater safety in labs as well as room for ongoing senior design and similar projects. Twenty engineering faculty, including in the Biomedical Engineering Department, which was created with no new space provided in Dana, plus staff and several graduate students will move into offices in the new building, relieving existing office space pressures.

This additional space, in concert with renovated engineering labs and rooms in Olin, Dana and Breakiron, brings the active, personalized, hands-on education for which Bucknell is known into the next century for engineering and the natural sciences, while opening new horizons for continued excellence in faculty scholarship and undergraduate research.

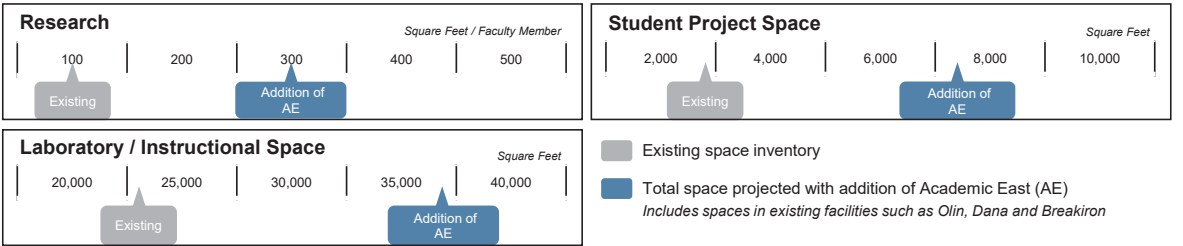


Figure 4.1 | Summary of Existing Inventory vs. Projected Space

Next Step: Complete the design development phase of the planning process and seek Board of Trustees’ approval to complete the design and for construction authorization in April 2017.

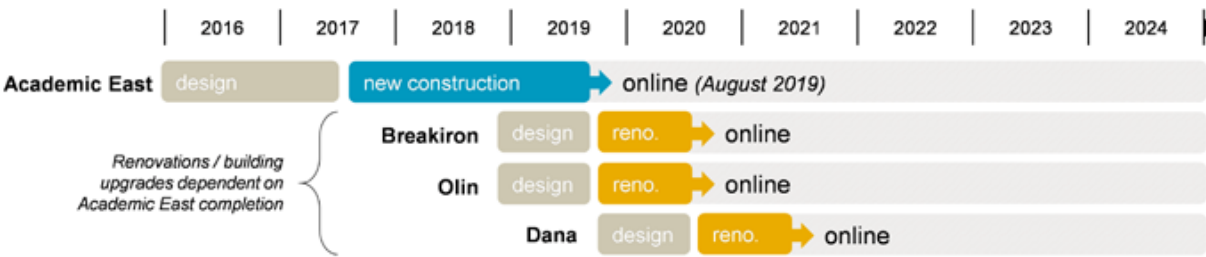


Figure 4.2 Conceptual Project Phasing Plan

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

COLLEGE OF MANAGEMENT AND ART

Project Status:	Feasibility Programming	Project Budget:	\$35,000,000
Scope:	New Construction	Fundraised To Date:	\$4,200,000
Program Size:	62,000 GSF	Site Selected (Y/N):	No
Targeted Completion:	August 2020	Board Approval (Y/N):	No

School of Management:

Background

The 2008 Master Plan recommended new construction of a 50,000–65,000 gross-square-foot Management facility on the site behind Breakiron Engineering as part of the New Academic Quadrangle district. The facility was sized in anticipation of the transition from the School of Management (SOM) to the College of Management (COM).

Over the past eight years, the University has worked with several technical consultants to further define the goals and objectives of the COM with respect to programming, design, sustainability and cost management. The 2014 School of Management Study Brief, by AECOM Strategy+, identified the following objectives to be met in a new building: offer a wider variety of spaces, increase choices for faculty and students, introduce modularity of sizes, and upgrade space standards.

Summary of Needs

SOM is currently housed in Taylor Hall, the University’s oldest building. The program has transformed over time, increasing faculty headcount and organizing into four majors. The existing building is undersized for the number of students and classes. The square footage has been maximized to the greatest extent possible — even the faculty lounge was cannibalized for classroom space. Evolving pedagogical models have driven the need for a range of spaces that support alternative learning styles. Although some ad hoc modifications have been made, such as creating a Management 101 interactive classroom, Taylor has limited flexibility to accommodate changes to the functionality or capacity of existing spaces. SOM also lacks overall visibility to the campus community in its current location. The building, both internally and externally, does not appropriately reflect the significant accomplishments of the program, its students or its alumni.

In addition to existing space deficiencies, the transition from SOM to COM includes incremental growth of the program. Effective July 2017, the College of Management will begin gradually increasing enrollment. The long-term growth strategy is a total increase of 200 COM students by 2025, initially requiring an additional five to seven faculty members and several administrative staff members.

Art / Art History:

Background

Significant changes for the art & art history department were described in the Arts District section of the 2008 Master Plan. Recommendations included new construction of a 90,000–120,000 gross-square-foot Arts Complex, complemented by an arts walk connecting the new facility with the Weis Center for the Performing Arts, Weis Music Building and the Harvey M. Powers Theatre in Coleman Hall. The major new academic facility would house art, art history, the Stadler Center, the Bucknell Press, the Theatre & Dance department, a black box theatre and the Samek Art Gallery. The proposed location, southeast of McDonnell Hall, would strategically co-locate programs in adjacent existing facilities, creating a centralized location on campus for the arts.

In 2009, Bucknell retained an architecture firm, Gund Partnership (Gund), to further explore the Arts Complex recommendation and prepare schematic design concepts for an implementable project. Gund proposed a 27,710 assignable-square-foot program, located on the site of Summit House. The program include ample instructional space, academic hearth spaces and faculty and staff support spaces for drawing, printmaking, painting, 3D/ sculpture work, photography, film studies, the Center for Interdisciplinary Arts and art galleries. Gund downsized the 2008 recommendation by excluding certain program elements such as the black box theatre and dance studios. Although the proposed space program and design concepts achieve the goals and objectives identified by the art and art history departments, the University has been unsuccessful to date in raising funds for a new arts facility.

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

Summary of Needs

The department of art & art history has evolved dramatically during the past 20 years, both in size and the variety of program offerings. The shift to the digital age has increased the popularity of courses such as digital photography, graphic design and production. Consequently, existing facilities housing art and art history were outgrown and/or no longer provide adequate support for the department’s programmatic needs. The department is also decentralized, occupying space in the Art Building and Art Barn.

The Art Building faces many challenges with respect to physical conditions. Major building deficiencies include lack of ADA compliance and its location within a floodplain (approximately 30 percent of the building’s square footage is unusable). Over the past few years, Bucknell has identified the Art Building as a lead priority. Further technical analysis is required to determine the structural and financial feasibility of renovating / repurposing the facility.

Project Evolution

During the past year, the University has identified an opportunity to address the needs of both the COM and art programs by developing a collaborative approach to a new facility. Review of the academic programs demonstrated a substantial amount of collaborative and synergistic programs. The proposed combination of management and art into a single facility offers a number of exciting and distinctive opportunities to enhance these and other interdisciplinary programs.

A College of Management and Art/Art History building will:

- Strengthen existing cross-disciplinary programs and create opportunities for new programs;
- Capitalize on space programming efficiencies through shared or multifunctional spaces;
- Address long standing space and infrastructure deficiencies;
- As suggested by the 2008 Master Plan, create another major academic hub on campus; and
- Establish a more robust fundraising platform.

This unique collaborative program approach was a topic of discussion during the October 2016 Board of Trustees Meeting. University leadership received the concept well and approved further exploration of the project’s feasibility. On October 24, 2016, Bucknell issued Request for Proposals (RFP) for architecture and engineering (A/E) services to evaluate and validate the feasibility study conducted by Nelson, dated September 28, 2015. The existing model program, building and site design concepts will continue to evolve throughout this initial phase of the project development process. The A/E contract was awarded to Cannon Design in early January 2017. A Steering Committee, comprising Bucknell faculty and staff members from various academic and administrative departments, has been assembled to guide the design and construction processes. The feasibility and program validation study for the College of Management and Art project has been completed, and will be presented at the April 2017 Board of Trustees meeting.

Next Step:

Seek Board of Trustees’ approval for site selection and the authorization to begin schematic design.

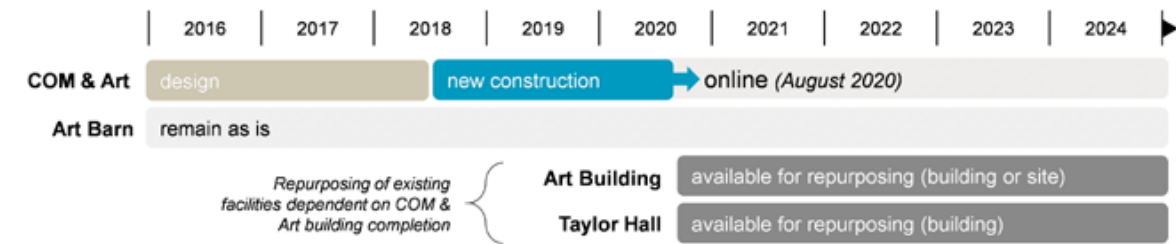


Figure 4.3 | Conceptual Project Phasing Plan

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

CAMPUS HOUSING

Project Status:	Project Definition	Project Budget:	-
Scope:	New Construction	Fundraised To Date:	-
Program Size:	-	Site Selected (Y/N):	No
Targeted Completion:	August 2021	Board Approval (Y/N):	No

Background

The 2008 Master Plan recommendations for the “South Village Farms” district included a three-phase plan for the construction of new student housing. The residential neighborhood comprised 600-700 beds, a community center, café and outdoor fields. Since 2008, a percentage of the district plan has been implemented (see project profile, pg. 11). However, the plan was originally intended to serve as replacement housing for the bed capacity carried by the Bucknell West Mods. South Campus Apartments (344 beds) were leveraged to increase on-campus housing capacity and reduce the allowance of students living off-campus from approximately 500 to approximately 200. This shift in housing policy sparked the need for a refined approach to student housing.

Bucknell engaged Brailsford & Dunlavey in 2008 to develop a Student Housing Strategic Plan to identify a targeted new reality and define implementable projects within the Master Plan recommendations. A summary of the objectives described in the plan, along with a current status update, is provided below.

Student Housing Strategic Plan Objectives (2008)	Status (2017)
Refine the housing inventory through new construction, renovation and repurposing to create progressively independent living environment	Multiple housing renovations / building upgrades have been completed or are currently in the project pipeline.
Provide appropriate on-campus housing for all but 200 students by the 2013-14 academic year	Alternate plan adopted to achieve targeted on-campus bed capacity – Bucknell West remained online, partial implementation of South Campus housing program.
Replace Bucknell West and return all students to the east side of Route 15	No action – further analysis required to determine the feasibility of this plan
Relocate the upper-campus fraternity houses, themed housing, affinity housing and a satellite dining facility on the farm area	No action – further analysis required to determine the feasibility of this plan
Develop model for residential colleges	Plan developed but not pursued

Summary of Needs

The targeted on-campus bed capacity identified in the Student Housing Strategic Plan was 3,450 beds, based on enrollment trends and policy relative to off-campus housing. Alternative projects, subsequent planning initiatives and shifts in strategic thinking have transformed the current space needs of the campus from those described in 2008. Additionally, a strategic initiative to gradually increase enrollment, as part of the University’s College of Management growth, will drive student housing demand higher than Bucknell’s current total bed capacity. Figure 4.4 depicts the projected enrollment growth for the COM, in contrast to the current beds available both on campus and including the off-campus properties.

The University continues to follow the 2008 Plan, renovating and improving existing facilities within the on-campus housing portfolio. Larison, Harris and Smith Halls are earmarked for renovation in 2020, 2022 and 2025 respectively. As a result, the number of on-campus beds is anticipated to be reduced by approximately 60 beds total from renovations alone. With increasing enrollment and decreasing bed capacity, there will be a steady decline in the percentage of students that can be accommodated in campus housing.

The Bucknell West Apartments (“Mods”) were originally designed as temporary housing, but have remained on-line since 1972. Having far exceeded their useful life, the facilities have significant deferred maintenance needs. In addition to the physical conditions of the facilities, Bucknell West’s location is a major concern for the Univer-

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

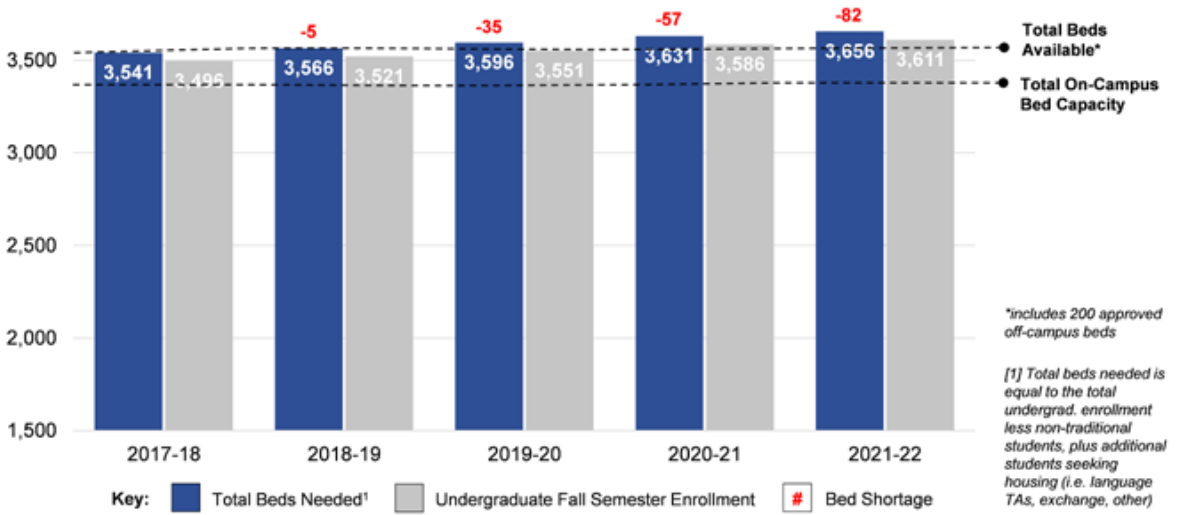


Figure 4.4 | Enrollment Growth & On-Campus Housing Analysis | Source: Bed model (2016.09.14 Update)

sity. The residential neighborhood is located across Route 15, which is not proximate to the core of campus, nor easily accessible for pedestrians. As described in the 2008 Plan and the Student Housing Strategic Plan, it is the University’s intention to eventually repurpose this site for an alternate use and relocate its bed capacity (269) elsewhere on campus. The feasibility and timing of this transition has not yet been determined.

Although an adjusted targeted on-campus bed capacity has not yet been defined, the University will need to develop a housing accommodation strategies for approximately 700 beds to plan for:

- The incremental increase of enrollment beginning in 2017, resulting in 200 additional students by Fall 2025;
- The potential changes to the off-campus housing policy, currently allowing 200 students to live in approved off-campus properties;
- The anticipated bed loss from renovations of existing halls; and
- The potential repurposing of Bucknell West for non-residential functions.

Project Evolution

These planning strategies will offer on- and/or off-campus housing solutions that support anticipated enrollment growth, leverage existing assets, maximize revenue and achieve the objectives of the University. To reconcile the expected shortage of beds on campus, future planning strategies will consider these three components of change:

1. Policy – Board decisions with respect to new development and quantity of students allowed to live off-campus.
2. Inventory – Bed loss associated with maintaining and/or repurposing existing halls.
3. Demand – Higher demand associated with newly constructed units.

University leadership was engaged in a discussion about the future of campus housing during the October 2016 Board of Trustees meeting. Trustees outlined a series of questions and concerns relative to the several campus housing accommodation strategies currently being considered. Appendix B: Campus Housing Assessment was prepared in response to these questions and concerns, and is intended to support University leadership as the housing accommodation strategies are further evaluated.

A follow-up discussion at the February 2017 Board of Trustees meeting resulted in a directive to develop a housing accommodation plan that focuses on strategies that do not require major financial support from the University (i.e. leverage existing off-campus market, alternative financing methods) to address the immediate need for student housing resulting from the College of Management enrollment growth.

Next Step: Gain consensus among University leadership on a strategic approach to campus housing. Develop an actionable plan that provides 200 additional student beds by Fall 2021.

Note: The information provided above describes the conceptualized capital project as of April 2017 Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

HUMANITIES CENTER (DEMOSTHENEAN HALL)

Background

Recommendations for the New Academic Quad in the 2008 Master Plan focused on supporting the development of an interdisciplinary living-learning theme. In addition to new facilities for the College of Management (COM) and Engineering / Natural Sciences / Mathematics, the district plan proposed 15,000–30,000 gross square feet dedicated to Humanities and Social Sciences. The district plan has been largely embraced by the University since 2008, as evidenced by the completion of Academic West and significant strides in the planning of Academic East, a COM facility and a Humanities Center.

Project Evolution

Conversations regarding the state of the Humanities have been ongoing on campus since before the Master Planning process. The Humanities Council was informally created in 2012 and a proposed Humanities Center received institutional approval in Fall 2015. The council completed several surveys in which students expressed their dissatisfaction with the current social and collaborative work spaces available to them, and desire for places that had an inclusive, academic feel, achieved through natural lighting and the presence of books and inspiring artwork along with comfortable seating, where they can integrate social and intellectual life free of the hierarchies among faculty, staff and students.

Faculty expressed similar space concerns and identified needs for (a) collaborative, flexible and welcoming spaces for events of varying degrees of formality, as well as for casual conversations; (b) spaces to display student work; (c) temporary office space for faculty fellows, postdocs and faculty on sabbatical; and (d) a kitchen to aid in food-related coursework or events.

Demosthenean Hall, which formerly housed the Delta Upsilon fraternity and is in use as an affinity house, was identified as the ideal location for the Humanities Center due to its central location next to the library and Male-sardi Quadrangle, near the Humanities departments. Renovations to the existing facility will need to address building deficiencies with respect to code compliance for accessibility.

Project Summary

The Humanities Center project design team, led by Celli-Flynn Brennan Architects & Planners, completed the design in March 2017. The proposed project requires renovation of existing spaces, as well as an addition on the east side of the facility. The scope includes:

- Necessary upgrades required to bring the building into accessibility (ADA) code compliance;
- Modification of the building exterior, bringing the main entrance to the northeast side of the building facing the Science Quad;
- Repurposing of the south portico entrance of the building as a deck and emergency exit;
- A Great Room on the first floor accommodating a 40-50 person banquet layout or a 100-person lecture layout;
- A Digital Humanities Center space in the basement, Humanities faculty offices and the Griot Institute for Africana Studies on the second floor, and Bucknell Press on the third floor;
- Ample support spaces throughout the building, such as conference rooms, student study and collaboration areas; and
- A green roof terrace.

Next Step: Award the construction contract.

ELAINE LANGONE CENTER (PHASE 2 & 3)

Despite already undergoing numerous renovations in previous years, the Elaine Langone Center (ELC) requires many additional functional and aesthetic renovations, with the earliest planned to start in the summer of 2018. The latest updates, which have already been deferred twice, are considered to be the second phase of the ELC’s renovation and upgrade plan and are expected to be completed in January 2019. The planned \$14 million renovation will focus on updating the second floor of the facility and the uphill entrance. The interior renovations will focus on reconfiguring numerous office and administrative spaces to improve usability and replacing building systems. This project also includes renovations and reconfigurations to the kitchen, replacing all kitchen equip-

ment and improving food production workflow, which is critical as the student population grows. Furthermore, there are two separately funded projects to replace the building’s electrical infrastructure and to create an exterior plaza near the uphill entrance. To minimize service disruption, these projects will occur concurrently with the phase 2 renovations.

The phase 3 renovation has not undergone detailed planning, but it is envisioned to include renovations of the Bison café, improvements to the downhill entrance, modernizing and expanding the post office, renovating the ground floor bathrooms, the addition of a second elevator and a renovation of the entire third floor.

While many of the previous and planned renovations of the ELC have had significant impact on the facility, these upgrades differ from the 2008 Master Plan’s vision. The plan outlined the complete renovation and upgrade of the ELC along with multiple additions. The overall need for the ELC identified by the Master Plan was to create a more student-centered facility. This vision should continue to inform additional planning of upgrades and renovations as the ELC should be one of the main buildings of student activity on Bucknell’s campus.

BREAKIRON ENGINEERING BUILDING, OLIN SCIENCE BUILDING, AND DANA ENGINEERING BUILDING

The opening of Academic East will allow for the renovations and upgrades of Breakiron, Olin, and Dana. As part of these upgrades, the buildings will be designed to allow for additional engineering labs and dedicated office and hearth spaces. In addition to meeting the identified space needs of the campus, the renovations will also focus on improving the current wayfinding issues present in Olin.

While the conceptual timeline for Academic East identifies a potential August 2019 opening, the timelines of the renovations of these three buildings has not been decided. However, it currently is assumed that the renovations to Dana, Breakiron, and Olin will commence shortly after Academic East opens.

LARISON HALL, SMITH HALL, AND HARRIS HALL

Many of Bucknell’s residence halls have undergone significant upgrades or renovations over the years, with Roberts Hall being the most recently completed. The University plans to continue to upgrade its housing through multiple renovations of Larison, Smith, Harris and Vedder Halls. The renovations of these buildings will include significant upgrades of systems and finishes throughout. The Larison renovation would include the repurposing of the existing dining facility and must occur after the ELC phase 2 renovation. While these projects are not mutually dependent, the commencement of each will begin after the completion of another. A portion of Smith Hall’s renovation is planned to be completed in the summers of 2017 and 2018 and will be followed by the start of Larison’s renovation.

The 2008 Master Plan does not outline these renovations, but they are vital to maintain the integrity of each facility as they continue to age.

BERTRAND LIBRARY

In 2012 the University engaged architecture firm Bohlin Cywinski Jackson to conduct a Programming & Concept Design Study of Bertrand Library. The Study provides an analysis of existing conditions, defines the programmatic needs of the library tenants and identifies renovation/expansion concepts for both the site and building. The resultant project proposal included a large building addition and renovations to the remainder of the building. This project has been shelved due to the prohibitive cost.

Recognizing that Bertrand Library lies at the heart of the campus and is centrally located between the “New” and “Old” academic quads, a project to build a footbridge toward the south (over the depressed garden area) is under consideration. This would create a new entrance to Bertrand from the New Academic Quad and is envisioned to occur concurrent with the construction of Academic East. Additionally, it is recognized that Bertrand has aging infrastructure, with most dating to the last major renovation in 1983. While not currently a critical need, it is recommended that the university begin planning for a multi-phased renovation of this building to start within the next 5-10 years.

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

STADIUM AND TEAMHOUSE

The 2008 Master Plan recommended multiple new buildings or additions to existing facilities in the Front Lawn district of campus, including a 30,000–50,000 gross-square-foot addition/renovation to Christy Mathewson Memorial Stadium. Proposed renovations and additions would address structural issues with the existing facility, as well as upgrade the locker rooms and press box. Although no physical changes to the stadium have been completed to date, in 2012 the University engaged architecture firms McMillan Pazdan Smith and BCWH Architects to develop a comprehensive Precinct Master Plan for the stadium.

After conducting physical conditions and programmatic assessments of the existing facility, the design team developed an implementable multi-phased approach to the stadium renovations/upgrades. Suggested projects were grouped into the following phases: Team House, South Colonnade, Press Box and West Stands, and Stadium Enhancements. Findings identified in the Precinct Plan and the corresponding recommendations are summarized in the table below.

Findings	Precinct Plan Recommendations
Seating structures (concrete tiers) are in poor condition, are not repairable in any cost-effective way and do not offer optimum lines of sight to the fields.	Full replacement of the concrete seating area with new accessible spectator facilities with improved sight lines, as well as a new press box with suite level areas – increasing stadium capacity to over 10,000
Spaces under the seating for locker rooms and spectator facilities are structurally sound, but are functionally inadequate and do not offer the quality environment necessary to support the growth and development of athletic programs.	Provide new and expanded athletic team spaces: 1) New team housing – athletic training and meeting spaces, locker rooms for football, men’s and women’s lacrosse 2) Event Day locker rooms for men’s and women’s track and field under the east and west grandstands
Mechanical and electrical systems within the buildings are generally in need of full replacement.	Provide all new systems, compliant with current codes and connected to the university utility infrastructure (controls, safety, technology, etc.)

The proposed renovated facility will:

- Address the outdoor sports facility needs of the athletic program, particularly football, men’s and women’s lacrosse and track and field;
- Provide new and expanded athletic team spaces;
- Improve the game-day fan experience and conveniences;
- Provide the University with a high-quality, on-campus venue for outdoor events, and
- Improve safety for users of the stadium by eliminating seating structures that are in poor structural condition.

WELCOME CENTER

The 2008 Master Plan recommended the construction of a new 40,000–50,000 gross-square-foot facility to house a Welcome Center, the Admissions Office and an Alumni Center. The strategic location of the proposed facility, at the U.S. Route 15 entrance, anchored the creation of a comprehensive entry experience. The suggested realignment of U.S. Route 15 contributed greatly to the accessibility of this site, but has subsequently been deemed “highly unlikely” for the University to pursue.

Consistent with the Master Plan’s recommendation, the creation of a Welcome Center is still a capital project of interest for Bucknell. The facility would strengthen campus recruitment efforts, bring Bucknell in line with peer/aspirational institutions and establish a sense of arrival to campus. Future planning for a Welcome Center building will need to consider alternative sites or facilities that have available parking in close proximity and are visible from the main campus entrance(s).

Strategic adjacencies of a Welcome Center to be considered include Admissions, Financial Aid and Alumni Relations. If co-located under one roof, the programmatic needs of each department would need to be accommodated.

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.

BECKER AND DEPEW FIELDS

Campus Enhancements

The original renovation project for the Bucknell West athletics fields was modified due to funding constraints and divided into implementable projects/phases. Phase 1 of the renovation has been partially completed, which included turfing Depew Field (baseball), upgrades to both fields’ dugouts, site work and the completion of the Memorial Plaza. The remainder of phase 1 includes converting Becker Field (softball) from a natural grass playing surface to a modern field-turf system.

Implementation of phase 2 will add grandstands and press boxes to the complex. Phase 3 would complete the renovations, adding lighting, bathrooms and a concessions stand.

Infrastructure

The cost of developing the Bucknell West athletics fields has been significantly impacted by the lack of utility infrastructure in the area. Further development of this area would require strategic investment in infrastructure, such as roads and utilities.

NEW CHILLER PLANT

In 2009, Bucknell retained Greenman-Pedersen, Inc. to prepare a Utility Master Plan that evaluated the existing utility infrastructure and distribution to proposed building and campus expansions. The overarching purpose of the study was to provide recommendations that addressed necessary growth of the campus infrastructure to meet the needs of the proposed planning strategies. Recommendations for each “phase” of the campus expansion relative to the steam and chilled-water utilities are described below.

Phase 1 – Build three new academic buildings

Extend existing steam and chilled-water utilities to new buildings, with provisions to back feed steam, condensate and chilled-water systems from future utility lines.

Phase 2 – Build half of the new residence hall complex

Extend existing steam and chilled-water utilities to new buildings and mains near existing cogeneration plant and new central chilled-water capacity. A geothermal system can be implemented as an alternative to extending chilled-water lines to the residence halls.

Phase 3 – Build remaining academic buildings, balance of the residence halls and library space

Extend existing steam and chilled-water utilities to new buildings. Provide tie-in to underground steam and chilled-water systems installed in phases 1 and 2. Additional capacity in the existing chilled-water plant may be required.

Phase 4 – Build new cogeneration and chiller plants

Build new cogeneration plant and new chilled water plant and electrical substation. Include an absorption chiller plant as part of the cogeneration plant to provide steam load for the cogeneration plant during the summer months. Connect to existing main campus electrical, steam and chilled waters systems installed during the previous phases.

Although the phases analyzed in the 2009 Utility Master Plan were not implemented as originally anticipated, many of the capital projects described above have since been completed.

Many of the outstanding Master Plan projects have been altered or have implications not foreseen in 2009, such as the increase in enrollment by 200 students. Also, changes to environmental regulations have necessitated decommissioning some of the existing chiller capacity earlier than anticipated. As a result, the campus is already operating below the desired N+1 redundancy level. A new chiller plant is required as soon as possible in order to minimize risk to the campus and to support potential development of major capital projects, including Academic East and the COM building.

The parking lot (#43) adjacent to the Publications, Print & Mail Production Center has been identified as the probable location for the new chiller plant. A rough cost estimate for this project is \$4.8 million.

Note: The information provided above describes the conceptualized capital project as of April 2017. Projects in the pipeline are at various stages within the planning process, and will continue to evolve throughout the planning and implementation phases of the project.



“[W]e look to the Master Plan to provide Bucknell with a vision for the campus for the next 75 years, and that allows this special place to remain the pride of all of us who love this institution.”

SUSAN J. CRAWFORD '69 | CHAIR OF THE BOARD DURING 2008 PLANNING PROCESS

CAMPUS MASTER PLAN UPDATE

PURPOSE

The material included in this briefing document suggests the need to refine the Campus Master Plan, realigning the original planning strategies with the current and future needs of the University. It is an opportunity time for the University and its planning team to develop the next iteration of its Campus Master Plan to guide the future development of the campus for the next 20 years and to accommodate its space needs in support of Bucknell's strategic plan.

The planning process will evaluate potential projects in the context of the University's strategic goals and the Key Principles of the 2008 Plan. Planning concepts will be prioritized appropriately within the established Planning Framework and folded into a long-term implementable plan. The update will revisit the Land Use Plan developed as part of the 2008 Campus Master Plan, determine the most appropriate land use strategies moving forward, and allocate construction and renovation program funds to their highest and best use. Various project delivery methods will be evaluated and recommended, assuring feasibility of the plan with respect to budget and timeline.

GOALS & PRINCIPLES

The B&D planning team and the University leadership confirmed the fundamental goals and principles defined in the 2008 Master Plan and consider them appropriate to carry forward into the next stage of master planning updates, as follows:

Key Goals (as stated in The Plan for Bucknell, 2006)

- Strengthen the academic core
- Deepen the residential learning experience
- Enhance diversity
- Strengthen connections with the world
- Secure the University's financial future

Key Principles

- Be a pedestrian-friendly campus focused on students, faculty and student-faculty interaction.
- Use existing space purposefully and thoughtfully.
- Reflect the Larson Plan by tying new construction into a sense of place with an emphasis on stewardship and an abiding respect for the environment.
- Be open to its natural neighbors – East Buffalo Township, Lewisburg and the Susquehanna River – and remove obstacles to seamless integration.

- Commit to sound, reasonable, sustainable and financially practical environmental planning policies.
- Integrate Bucknell West into the core mission of the University.
- Maintain or enhance academic facilities, student housing, extracurricular environments and support areas to promote integrated living and learning experiences.
- Integrate the planned and natural environments more fully with one another and The Plan for Bucknell.
- Encourage development in the corridor between the campus and Lewisburg's Market Street and along Market Street itself.
- Seek financial partners and use the entire scope of University resources to accomplish these goals.

PRELIMINARY FINDINGS

Several components of the master plan update process were addressed during this interim planning phase in order to provide a comprehensive analysis of the changes to the environment since 2008, as well as a summary of the current unmet needs on campus. Supported by the Bucknell Project Committee, B&D conducted multiple stakeholder interviews, toured campus facilities and reviewed existing materials relative to campus planning initiatives. Interviews conducted from June 2016 to April 2017 covered the following topics: student housing, campus dining, Academic East, College of Management and portions of the Arts/Art History Programs, College of Arts & Sciences, parking and transportation, athletics and recreation, library and information technology, communications, admissions and downtown Lewisburg.

B&D has identified a series of preliminary findings based on the information gathered during this process. These findings are summarized below and are intended to inform the campus master plan update.

Land Use

Bucknell University's physical borders have expanded significantly since its origination in 1846. The campus has been densified and University-owned property has become seamlessly integrated with the surrounding community. This exponential growth exemplifies Bucknell's ongoing commitment to providing physical spaces that reflect and support the academic achievements of the University and its entire campus community. Guided by the 1932 and 2008 master plans, the University has leveraged its land resources well to deliver these physical spaces. Today, the campus has few remaining vacant, usable and/or easily developable parcels of land. Figure 5.1 highlights these areas of campus identified as potential development sites. These sites will be further assessed as part of campus master plan update process to determine feasibility of future development and to identify the highest and best use as it relates to the existing campus fabric.

Planning Agenda

As described in the Planning Framework section of this document, there are several capital projects currently underway, at various stages of the project development process. Existing master plan recommendations, as well as strategies developed during the update, will be impacted by the formulation and implementation of these projects/plans. This dynamic landscape will present both opportunities and constraints for the campus master plan update. The following themes have emerged as the driving forces for the next iteration of the master plan:

- 1.Academic buildings
- 2.Campus housing
- 3.Parking, traffic and pedestrian pathways

Site ID	Description	Occupied	Vacant	University-owned	Strategic Acquisition
1	South Campus, Expansion		●	●	
2	South Campus, Water Tower		●	●	
3	Fraternity Road (inside academic core)	●		Partially	Partially
4	South Campus Drive (outside academic core)		●		●
5	Southeast Corner	●		●	
6	7 th Street Corridor	●		Partially	Partially
7	7 th Street Parking Lot	●		●	
8	Bucknell West	●		●	
9	Tree Farm		●	●	
10	Campus Lane	●		Partially	Partially

Figure 5.1 | Development Opportunities (Refer to District Plans for additional detail)



Figure 5.2 | Campus Development Potential

DISTRICT PLANS

The 2008 Master Plan identified nine planning districts, each with discrete land uses and program objectives described by a District Plan. Since 2008, several programmatic and new construction initiatives have occurred on campus, with varying adherence to the Master Plan. Some districts have developed in a manner consistent with their District Plan, while others have experienced development, or a lack of development, that deviates from the 2008 Master Plan.

The following is a brief summary of the evolution of each district since 2008. Each district summary reviews the status of the District Plan, project initiatives

in the district that have been completed since 2008, project initiatives in the district that are currently in planning, and any projects that were considered in the 2008 District Plan but are no longer contemplated by Bucknell. Unless otherwise stated below, all planning principles, including land use and building size, use, scale and character, ... should be considered to be consistent with the 2008 Master Plan. Finally, it is important to note that districts that have evolved in a way that is inconsistent with the 2008 Master Plan will need re-evaluation prior to Bucknell proceeding with future initiatives in those areas.



Figure 5.3 | Original 2008 Campus Master Plan Illustration

A. New Academic Quadrangle



District Plan Status

- Land and building uses in this district remain consistent with the intent of the 2008 Master Plan, and no anticipated changes to the planning principles described in the District A Plan are currently contemplated.
- The planning principles of the original District A Plan remain relevant and may be referenced to guide future development in this district.

Project Initiatives Completed Since 2008

- Renovations to Marts Hall.

Project Initiatives Currently in Planning

- None.

Projects No Longer Contemplated

- Additions to Vaughan Literature, Marts Hall, and Coleman Hall.

Note: Bertrand Library is illustrated in both District A and District B Plans. The District B Plan summary contains additional information regarding the status of Bertrand Library.

B. New Academic Quad



District Plan Status

- Land and building uses in this district remain consistent with the intent of the 2008 Master Plan, and no anticipated changes to the planning principles described in the District B Plan are currently contemplated.
- There have been changes in facility programming elements described in the 2008 Master Plan, which are outlined under “Projects No Longer Contemplated”.
- The planning principles of the original District A Plan remain relevant and may be referenced to guide future development in this district.

Project Initiatives Completed Since 2008

- Academic West – constructed.
- New surface parking – constructed along the south portion of the district.

Project Initiatives Currently in Planning

- Academic East.
- Hildreth-Mirza Hall (Humanities Center) – in construction and anticipated for completion Spring 2018
- The site for the new College of Management and portions of the Art/Art History Programs moved from being adjacent to Academic East to the 2008 site reserved for the previously contemplated Residential College.

Projects No Longer Contemplated

- Residential College.
- Underground parking.
- Bertrand Library addition – while the expansion of the library is no longer contemplated, there are still plans to connect Bertrand to the new Academic Quadrangle.

District B Plan Status Update



1	Academic East
2	College of Management and portions of the Arts/Art History Programs
3	Potential new quad accommodating usable outdoor green space and building uses to be determined.

Updated planning concepts for the District B Plan are under consideration and include Academic East as well as the College of Management and portions of Art/Art History Building. Uses in this district may include academic buildings, residence halls, enhanced usable outdoor recreational green space, student activities and other student support spaces. The specific uses will be established based on future needs as they emerge and are defined through subsequent planning and programming. The District Plan has been expanded to include the site for the previously proposed Arts Complex, as depicted in the illustration above.

C. Science, Engineering and Old Main



District Plan Status

- Land and building uses in this district remain consistent with the intent of the 2008 Master Plan, and no anticipated changes to the planning principles described in the District C Plan are currently contemplated.
- The planning principles of the original District C Plan remain relevant and may be referenced to guide future development in this district.

Project Initiatives Completed Since 2008

- Carnegie Library Renovations.
- Roberts Hall Renovations.

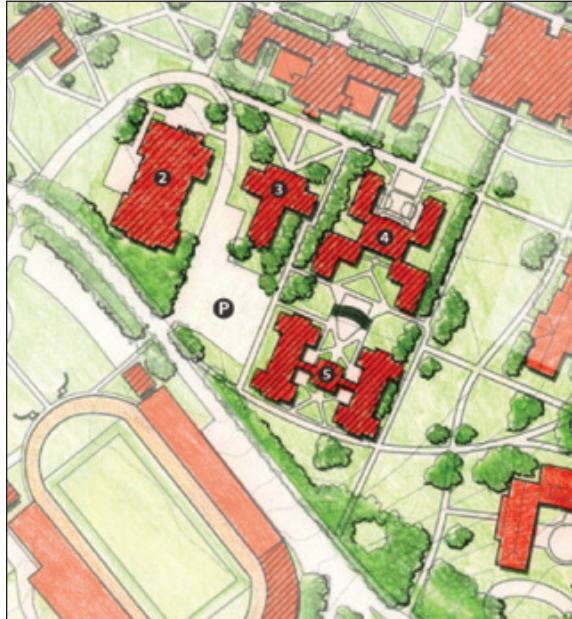
Project Initiatives Currently in Planning

- None.

Projects No Longer Contemplated

- None.

D. Arts District



District Plan Status

- Land and building uses in this district remain consistent with the intent of the 2008 Master Plan.
- No anticipated changes in the planning principles described in the District D Plan are currently contemplated, with the exception of the Arts Complex, which is no longer contemplated. The District B updated illustration shows the changes under consideration for this area.
- The planning principles of the original District D Plan remain relevant and may be referenced to guide future development in this district.

Project Initiatives Completed Since 2008

- Swartz Hall Renovations.

Project Initiatives Currently in Planning

- None.

Projects No Longer Contemplated

- New Arts Complex.

District D Plan Status Update

Updated planning concepts for portions of the District D Plan are under consideration. Refer to the District B Plan for information with respect to anticipated changes in districts B and D.

E. Front Lawn District



District Plan Status

- Although the campus structure envisioned for this district by the 2008 Master Plan remains appropriate to guide the future development of the district, numerous projects reflected in the plan are either no longer anticipated or have been developed at some variance with the plan.
- The Welcome / Admissions / Alumni Center will remain as a project under consideration but is not anticipated to be located as shown in the 2008 Master Plan. Further analysis is needed to determine an appropriate alternative location.
- The stadium improvements outlined in the 2008 Master Plan and the Graham Building / Wellness Center referenced below are consistent with the building and land use principles described by the 2008 plan.

Project Initiatives Completed Since 2008

- The Graham Building / Wellness Center was developed in the general location shown in the 2008 Master Plan, but was built without the previously anticipated parking structure.
- Elaine Langone Center (Phase 1) renovations.

Project Initiatives Currently in Planning

- ELC Phase 2 renovations.

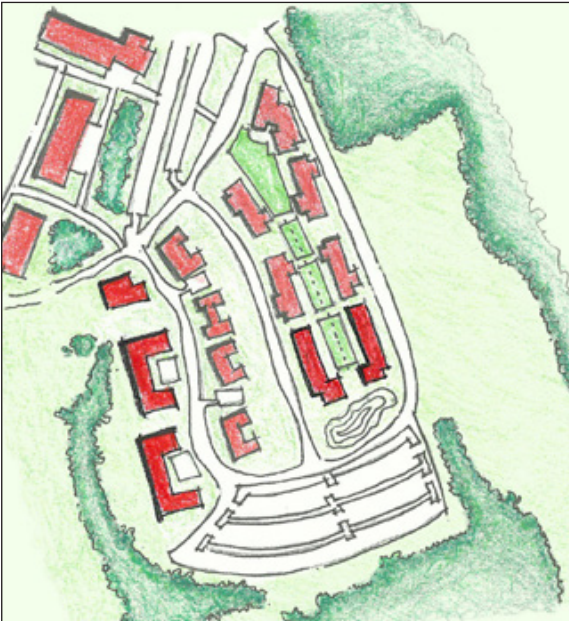
Projects No Longer Contemplated

- Inn and Business Center.
- Parking Decks.
- College of Management and portions of the Arts/ Art History Programs (location changed – see Planning District B).
- ELC addition – decision to renovate w/out expanding the current facility.

F. South Village Farm



District F Plan Status Update



District Plan Status

- There have been several projects completed or in construction in this district since the 2008 Master Plan.
- The Planning Principles described in the 2008 Master Plan with respect to land use remain unchanged. The design concept for the clustered student residences described by the 2008 Master Plan have, however, been modified by the design of the South Campus Apartment development. See the District F Plan Update, which illustrates the potential of future student residential development.

Project Initiatives Completed Since 2008

- South Campus Apartments (344 beds).
- MacDonald Commons.
- Affinity Houses – 4 completed (104 beds).
- Surface Parking Lots.

Project Initiatives Currently in Planning

- Refer to District F Plan Status Update for potential projects initiatives under consideration.

Projects No Longer Contemplated

- None.

Updated planning concepts for District F Plan are under consideration and include the potential development of additional student residences south of the existing South Campus Apartments. These two buildings would have a combined capacity of between approximately 220 and 360 beds. Actual capacity will depend on the unit type mix which will be determined by future programming and planning. Together with the existing apartments (344 beds) and affinity houses (104 beds), this district would accommodate a capacity of 600 – 700 beds, which is consistent with the 2008 Master Plan. In addition, there remains the potential of developing additional capacity west of the affinity houses. Further geotechnical / soil mechanics investigation would be needed to determine the capacity of development in this area.

G. Lower Campus Edge



District Plan Status

- The building and land uses in District G are anticipated to change significantly from the 2008 Master Plan.
- Current building and land uses under consideration include administrative, campus support (back of the house) functions or academic spaces.
- A chiller plant project is anticipated to be located on 7th Street next to the PPM Production Center.
- The residential and recreation uses outlined in the 2008 Master Plan are anticipated to be located in other districts as described on the other district plan updates.
- This district plan will require further updating to determine appropriate project uses, sizes and locations prior to the implementation of other contemplated projects.
- Planning Principles described in the 2008 Master Plan with respect to landscape concepts remain appropriate.

Project Initiatives Completed Since 2008

- None.

Project Initiatives Currently in Planning

- Student housing along St. George Street is under review.
- Chiller Plant Expansion.

Projects No Longer Contemplated

- Student Apartments south of Gateway Apartments
- River Recreation Center.

H. West Campus



District Plan Status

- The District H Plan will require updating to accommodate potential changes.
- The building and land uses anticipated for this district are expected to remain generally consistent with the 2008 Master Plan; however, locations and configurations may vary considerably to accommodate future needs.
- Demolition and replacement of the Mods student housing buildings are required in advance of the development of future facilities in the area north of Smoketown Lane.
- District vehicular and infrastructure plans will require updating in advance of further physical planning and implementation of projects in this district. The Route 15 intersection reconfiguration anticipated by the 2008 Master Plan is not planned to be executed. Site utility and infrastructure needs will need to be defined as part of this district's plan update.

Project Initiatives Completed Since 2008

- Bachman Golf Center.
- Becker/Depew Field Improvements Phase 1.
 - Turf at baseball field.
 - Dugouts at both baseball and softball fields.

Project Initiatives Currently in Planning

- Becker/Depew Field Improvements Phase 2.
 - Grandstands, press box.

Projects No Longer Contemplated

- Re-aligning the Route 15 intersection and re-routing Smoketown Lane.

I. Lewisburg Core Community



District Plan Status

- Land and building uses remain consistent with the intent of the 2008 Master Plan, and no anticipated changes in the planning principles described in the District I Plan are contemplated.
- District I Plan is consistent with the planning concepts described by the 2004 Lewisburg Neighborhood Plan. The Neighborhood Plan was formulated by the Borough to establish a framework for the redevelopment of the area between Market Street and the Bucknell campus and bounded by 7th Street and Bull Run.
- The planning principles of the original District I Plan remain relevant and may be referenced to guide future development in this district.

Project Initiatives Completed Since 2008

- Bookstore – Barnes & Noble.
- Campus Theater Renovation.
- Dewitt Building Repurposing.
- Lewisburg Post Office Repurposing.

Project Initiatives Currently in Planning

- A detailed plan for District I is being prepared to define more specific student housing development opportunities. The portion of the district under consideration includes land parcels bounded by St. George Street on the south, St. Louis Street on the north, 6th Street on the east and 7th Street on the west. The updated plan for this district may include parcels south of St. George Street. The results of the updated plan will be documented in a separate report.

Projects No Longer Contemplated

- None.

KEY CONSIDERATION

The Campus Master Plan Update focuses on the University's strategic facilities priorities and any district modifications resulting from projects within the remaining planning horizon of the 2008 Master Plan. Subsequent planning updates are anticipated to accommodate other priorities as they emerge.

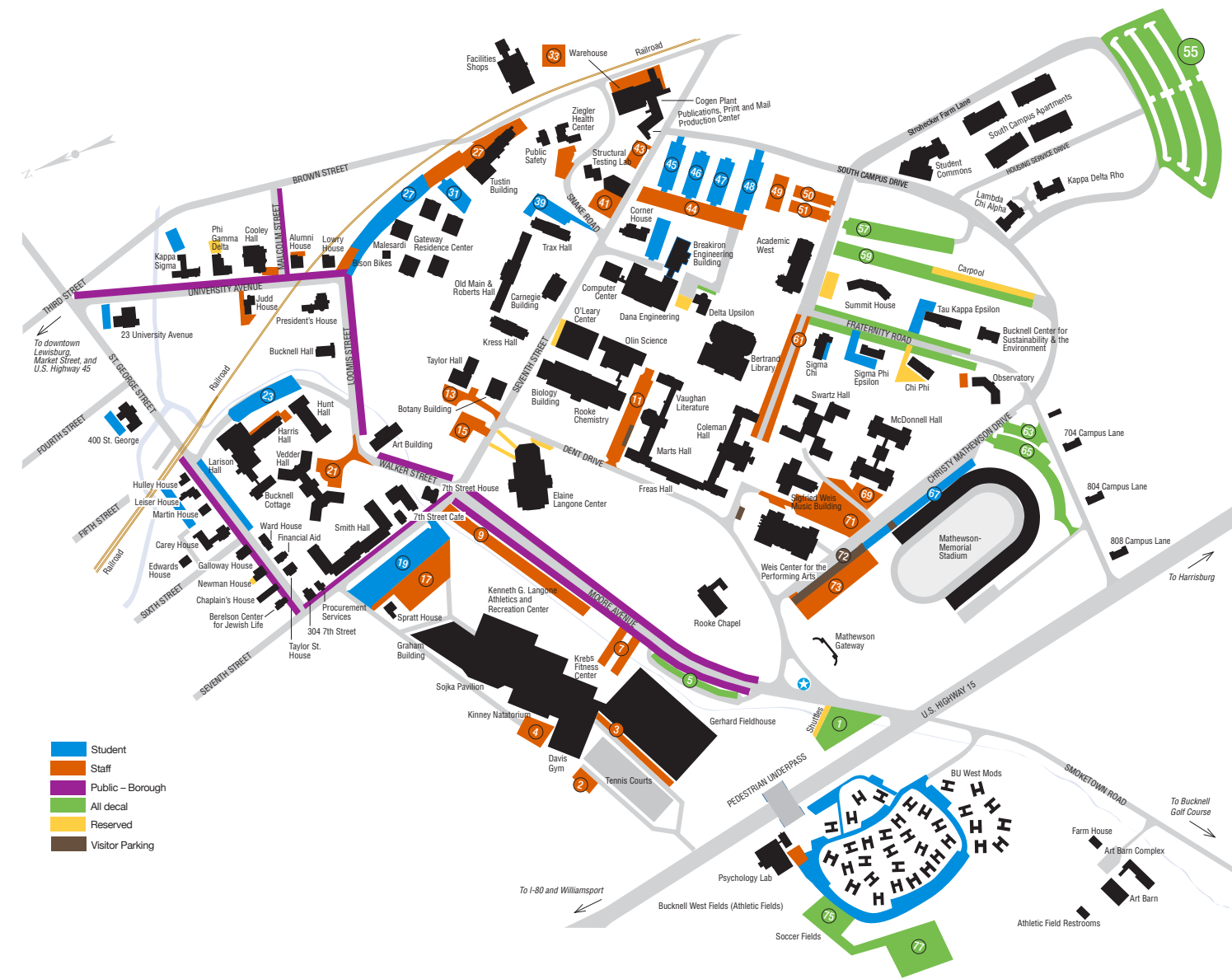


Figure 6.1 | Campus-wide Parking Utilization

APPENDIX A: EXECUTIVE SUMMARY

A parking and traffic assessment of the Bucknell campus was prepared in conjunction with this Campus Master Plan Briefing Document. This introduction is a summary of parking needs outlined in the full parking assessment prepared by NelsonNygaard, parking and traffic professionals. The parking assessment was based on data and information provided by the University and physical observations by NelsonNygaard made on one representative day in September 2016. Parking utilization and traffic patterns may vary throughout the academic year.

NelsonNygaard’s analysis is included following this summary and discusses event day impacts, wayfinding and Sustainable Transportation / Transportation Demand Management (TDM) Programs. This introduction examines:

- Existing Conditions - Current parking needs and existing capacities of all of the parking resources on campus
- Impacts of Campus Development Completed Since 2008 Master Plan - Impacts on parking needs that resulted from campus development since 2008
- Anticipated Impacts of Current and Future Planning Initiatives - Parking requirements that may result from new initiatives that are planned but not yet realized

EXISTING CONDITIONS

Parking Capacity

As of fall 2017, the University reports approximately 3,457 parking spaces located in 85 areas, of which 3,048 are in University-owned lots and 409 are on Borough of Lewisburg and East Buffalo Township streets, within what would be considered the Bucknell University campus. (Note that parking counts by NelsonNygaard in September 2016 equaled 3,518 and are reflected accordingly in their report that follows.) Parking is currently regulated by several permit categories: Student, Staff, Public-Borough, what is known as “All Decal” available to any campus affiliate, Reserved and Visitor. Parking is currently free to faculty, staff, and visitors, and students pay \$100 per year or \$65 per semester for a permit.

Parking Utilization

The overall campus parking space utilization during the periods of the representative day, exclusive of special event needs, are summarized below;

- Highest utilization period (10:00 am to 3:00 pm)
 - 2,300 - 2,400 spaces utilized
 - 900 - 950 spaces unused
 - Approximately 66% - 70% utilization
- Other periods
 - 850 to 1,700 spaces utilized
 - 1,800 – 2,650 spaces unused
 - Approximately 25% - 50% utilization

Although optimum parking utilization patterns vary from one university campus to another, maximum utilization typically ranges between 80% – 90%. This would imply that Bucknell has a surplus of parking of approximately 30% - 34% at peak periods. There are, however, other factors to consider.

Other Considerations

There are numerous considerations, in addition to capacity, that affect the adequacy of parking resources. These include:

- Distance from parking to desired destinations (For the purposes of this analysis, the academic core/ Bertrand Library is considered the desired destination.)
- Topography
- Pedestrian accessibility and barriers (e.g. Route 15)
- Safety and security
- Availability of parking near desired destinations
- Clarity of signage directing drivers to parking lots
- Parking policy and demand management
 - Permit pricing
 - Enforcement

Parking Demand and Supply Balance

While the campus has adequate overall parking capacity, some of the large capacity parking lots are remote from the academic core and, hence, not where the campus constituents want or need them.

The map below illustrates highly utilized parking lots at the campus core and underutilized parking lots between 1,000 and 2,400 feet from the Bertrand Library. Approximate walking distances and time durations are

shown in the table below. The analysis represents the 1:00 pm period on the representative day that Nelson-Nygaard made their on-campus analysis.

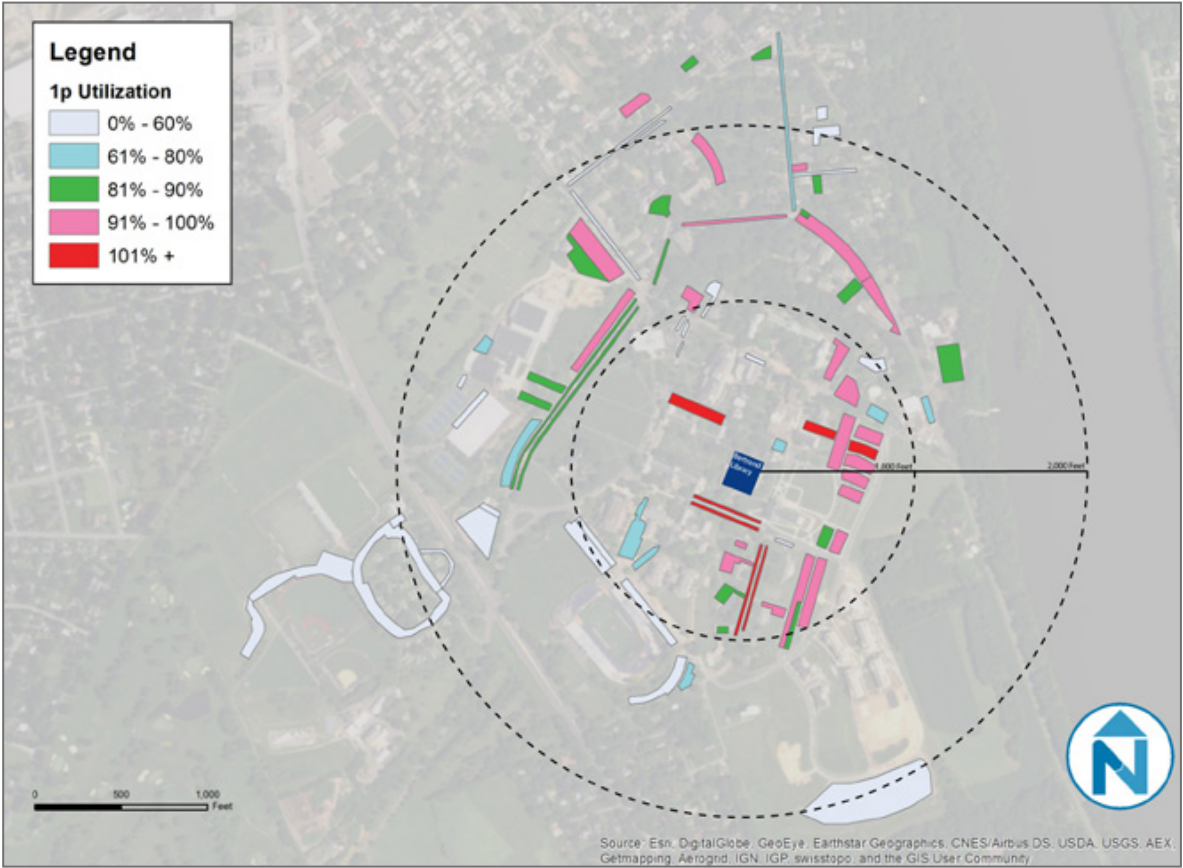


Figure 6.2 | Bucknell University Parking Utilization at 1 pm

Underutilized lots include:

- Bucknell West
- South Campus
- Route 15 Entry
- Christy Mathewson Drive

The table below summarizes the capacities, distances, walking times, and other considerations that influence the desirability and utilization of underutilized parking areas:

Location/Name	Capacity	Approx. Distance in feet, to Academic Core (Bertrand Library)	Approx. Walking Time to Academic Core (Bertrand Library), Assume 20 min/mile	Significant Topographic Changes	Other Considerations	Notes
Bucknell West						
Moss	164	2,400	9	Yes	Rt 15 Crossing	145 Designated as Student Spaces
Lots 75, 77	151	3,100	12	Yes	Rt 15 Crossing	All Decal
South Campus						
	355	2,200	8	No		
Route 15 Entry						
	63	1,700	7	Yes		Plus Shuttle Bus and University Vehicle Parking
Christy Mathewson Drive						
Lots 63, 65	91	1,400	5	Modest		
Lot 67	52	1,800	7	Modest		Mostly Student
Lot 72	33	1,200	5	Modest		Visitor
Lot 73	73	1,200	5	Modest		Staff

IMPACTS OF CAMPUS DEVELOPMENT COMPLETED SINCE 2008 MASTER PLAN

The various development initiatives completed since the formulation of the 2008 Master Plan are outlined in other sections of this Campus Master Plan Briefing Document. Those that most significantly affected the demand and location requirements for parking include:

- South Campus Apartments and Affinity Houses
- Graham Building
- Academic West
- Bachman Golf Center
- Becker/Depew Field Improvements Phase 1

ANTICIPATED IMPACTS OF CURRENT AND FUTURE PLANNED INITIATIVES

The various planning initiatives anticipated to be completed during the planning horizon of this Campus Master Plan Update are outlined in other sections of the Campus Master Plan Briefing Document. Those that most significantly affect the demand capacity and location requirements for parking include:

Additional Parking Demand

- The opening of the College of Management and Art/Art History Building is expected to allow for increased student enrollment as well as new faculty and staff members, resulting in demand for approximately 170 new parking spaces.
 - 200 students
 - Assumptions:
 - The 200 students would ultimately be spread across each class/year (50 students per class).
 - First-year students would not be permitted to bring cars to campus
 - 1:1 ratio of students to cars
 - 150 spaces needed to accommodate student enrollment growth
 - 10 to 20 faculty / staff
 - Assumptions:
 - 1:1 ratio of faculty / staff to cars
 - 20 (approximately) needed to accommodate faculty / staff growth
- Parking impacts for other future initiatives anticipated by the 2008 Master Plan and other planning initiatives will be calculated when the programs for the related projects become defined. Projects known at the time of this writing that may impact parking needs include:

- Elaine Langone Center (ELC Phase 2) renovations – Convenience parking, delivery and service requirements will be determined by the formulation of a separate plan for the ELC.
 - Campus Edge Development (6th / 7th Street Corridor) - A detailed plan for is being prepared to define more specific student housing development opportunities. The results of the updated plan will be determine parking requirements for this area.
 - Becker/Depew Field Improvements Phase 2
- Actual parking requirements will be influenced by the Borough of Lewisburg and East Buffalo Township zoning process for any new or expanded buildings.

Potential Parking Capacity Loss

As the campus continues to implement the planning principles expressed by the 2008 Master Plan, this Campus Master Plan and other related initiatives, existing parking areas may be repositioned to accommodate campus pedestrian circulation, open green space, and new or expanded buildings. The impacts of these initiatives will be determined during the planning phases of the various projects and may result in parking capacity loss.

The first such initiative will be the construction of the new College of Management and Art/Art History Building. Although the design for this new building is not complete, based on current concepts, the building may extend from the current Summit House site into the parking lot to the south, resulting in the loss of approximately 40 – 60 spaces.

Demand / Capacity Assessment Summary

Below is a summary outlining current parking capacity, potential loss of parking resources, and anticipated increased demand resulting from the College of Management and Art/Art History Building. Overall, the University has a sufficient number of parking spaces on campus to accommodate the increased demand.

Existing Parking Capacity	3,457
Potential Capacity Loss (College of Management and Art/Art History construction)	(60)
Net Anticipated Capacity	3,397
Current Peak Demand	2,383
Anticipated Demand Increase (College of Management and Art)	
Students	150
Faculty and Staff	20
Anticipated New Demand	2,553
Anticipated Surplus	844

Summary

Bucknell University has sufficient parking capacity to accommodate current and anticipated parking demand. Parking lots in or near the academic core are highly utilized, while lots at the perimeter are underutilized. This is a common dynamic on many university campuses around the country. Although the University does not have a parking capacity deficit, it does have several policy and management challenges.

Recommended strategies to mitigate this dynamic include:

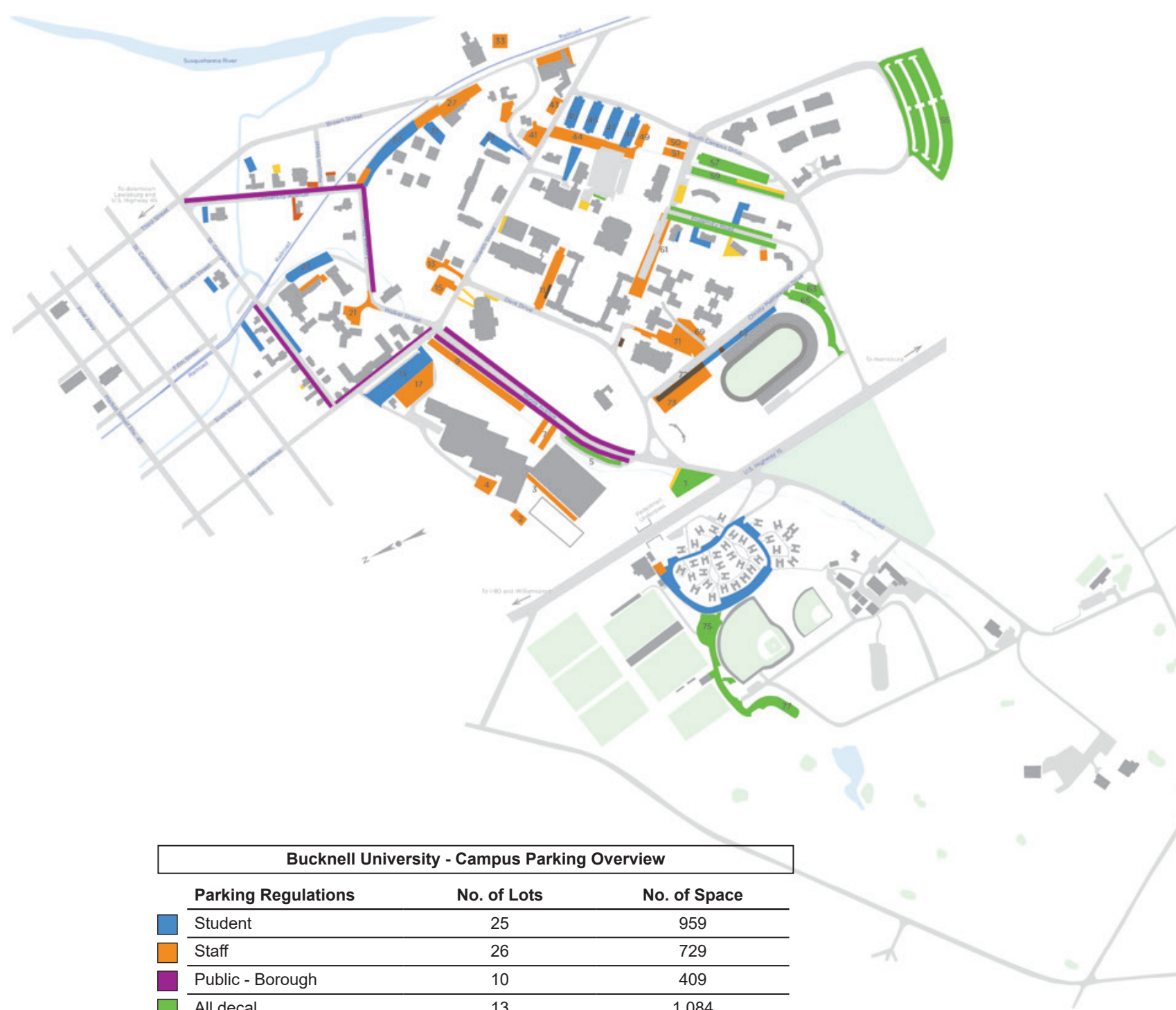
- Modifying parking policies, pricing and enforcement protocol
- Consolidating parking into fewer, easier-to-manage locations
- Providing adequate wayfinding signage to make underutilized parking lots easier to find, especially for visitors
- Reducing the inclination of students living in Bucknell West (Mods) from driving to the academic core by enhancing the Route 15 pedestrian crossing, making the pedestrian path more convenient and safer

Constructing a parking garage is not a recommended strategy. In NelsonNygaard's experience, parking structures on campuses in similar contexts are most

parking in surface lots, even if they have to walk further to their destinations.

Other long term strategies that may be effective in accommodating parking demand in the long term include: Sustainable Transportation Management Planning and improved wayfinding as described in the following report by NelsonNygaard.Parking and traffic management strategies will continue to be evaluated as the Campus Master Plan Update continues to evolve.

often underutilized because people tend to prefer



Bucknell University - Campus Parking Overview		
Parking Regulations	No. of Lots	No. of Space
Student	25	959
Staff	26	729
Public - Borough	10	409
All decal	13	1,084
Reserved*	10	290
Visitor	1	47
Total	85	3,518

*Reserved includes: Special, ADA, Service and 15-minute

PARKING & TRAFFIC ASSESSMENT

Based on Nelson\Nygaard Consulting Associates, Inc. Analysis, October 2016

2008 MASTER PLAN REVIEW

The 2008 Campus Master Plan prioritizes pedestrian access to the campus for students, faculty and staff, further supporting faculty-student engagement at Bucknell. The Plan outlines the following specific tasks associated with this goal:

- Remove parking from the academic core and relocate it to the perimeter of campus
- Reduce conflicts between vehicles and pedestrians, encourage the pedestrian experience of campus, and address service and accessibility needs through a coherent circulation plan
- Pedestrian and cycling pathways that connect to downtown and the river: extend the circulation plan to connect to the local region beyond the campus

It is noted that “the campus plan is knit together with a system of circulation characterized by the relative importance of pedestrians, bicycles and vehicles, in that order.” This emphasis includes a hierarchy of pathways for pedestrians including a variety of materials, patterns and widths to reflect the landscape zone and local area. The Plan includes similar efforts to improve bike lanes as well as connections to downtown Lewisburg.

With respect to vehicles, the plan minimizes the impact of cars/traffic on the campus and encourages vehicle movements to the campus, as opposed to through the campus. Additionally, the Plan identifies opportunities to improve the intersection of Moore Avenue and Route 15, including a realignment of Moore Avenue to improve flow and safety. It is recommended that parking move to the periphery of campus in order to emphasize the pedestrian elements near the campus core.

CHANGES SINCE 2008

The University continues to prioritize pedestrian access on its campus since the 2008 Master Plan’s conclusion. As the campus evolves and expands its built environment, Bucknell deliberately focuses on improving the pedestrian experience around the expansion and other areas on campus. Specifically, the University dedicated its resources to improving pedestrian safety and accessibility through the following projects:

- With the development of South Campus Apartments, parking was added at the perimeter of campus, aligning with the Plan’s recommendations.

- Lighting was improved at and in the pedestrian tunnel under U.S. Route 15 that connects West Campus with the main campus.
- Tree and lighting locations were reviewed, coordinated, and modified to improve visibility and pedestrian safety along Moore Avenue. This essential interior road on campus experiences both high vehicular and pedestrian traffic; thus pedestrian safety and experiences need to be carefully monitored.
- A lighted sidewalk was installed along Stadium Drive in addition to the removal of “head-in” parking along the street. In an effort to control vehicular traffic, a raised crosswalk, connecting the stadium and McDonnell Hall and other campus facilities, was installed.
- A lighted pedestrian path was installed from McDonnell Hall to the southern (“upper”) stadium parking lots adjacent to Fraternity Road. Since both lots are designated as “All Decal,” this was an important feature to add for individuals walking to and from their vehicles and campus facilities.
- In an attempt to improve the West Campus, a lighted pedestrian path was installed from Bucknell West Housing to the Art Barn.
- The University included Emergency Call Stations for each newly installed pedestrian path.

While the University made great strides in improving its pedestrian experience on campus, multiple recommendations from the 2008 Master Plan have yet to be completed or were found to be infeasible. For instance, the proposed realignment of the U.S. Route 15 intersection with Moore Avenue (and Smoketown Road) was determined to be highly unlikely due to costs and other state requirements. Consequently, the University focused its attention on improving the pedestrian tunnel as well as discouraging pedestrian traffic on U.S. Route 15 with appropriate signage. Additionally, the University continues to work with the Borough of Lewisburg on improving connections with campus through improved pedestrian pathways as well as the potential of dedicated bicycle lanes.

Wayfinding

Most signs are oriented to drivers and lack a consistent font, color and size, and do not reflect the Bucknell brand. There are few physical maps available on the campus. Conversely, parking signage is abundant — designating signs for each lot with a consistent look. However, parking signs may in fact be difficult to read by drivers due to height and inconsistent placement. Signage that directs vehicular traffic to additional/overflow parking areas should be prioritized.

Street Network

Based on field observations and the input of stakeholders on campus, including the Facilities, Card Services & Student Transit, and Parking Offices — as well as meetings with the borough manager and the mayor of Lewisburg — high-level findings were made. Most notably, all parties suggested that Moore Avenue has traffic flow and safety issues — especially at the 7th Street intersection.

Bicycle and Pedestrian Infrastructure, Amenities and Connectivity

The campus pedestrian facilities do not currently connect all of the desired destinations on campus safely due to inconsistent sidewalks and crosswalks, as well as a tunnel under Route 15 that is not ideally located. The Buffalo Valley Rail Trail comes close to campus, but it is not yet connected. It is also difficult to cross Route 15. There are currently no painted or separated on-street bicycle lanes. There were no sheltered bike parking areas or bicycle repair stations identified.

Campus Transit Options

The Bucknell Shuttle currently provides transit between campus, downtown Lewisburg and multiple off-campus retail stores, including Walmart and Weis Markets. There is one vehicle that makes a loop between campus and the bookstore hourly on a regular schedule. The University also contracts out shuttle services in the evenings (to Lewisburg) and for academic break periods (to airports and the train station in Harrisburg). Students can also schedule transportation to these locations at other times using an online platform.

Bucknell also provides a five-car Zipcar lot, allows students to coordinate shared travel with a manual or online Rideboard, provides staff and student groups shared vehicles from the campus “car pool,” and has a campus bikeshare program called “Bison Bikes.”

Sustainable Transportation / Transportation Demand Management (TDM) Programs

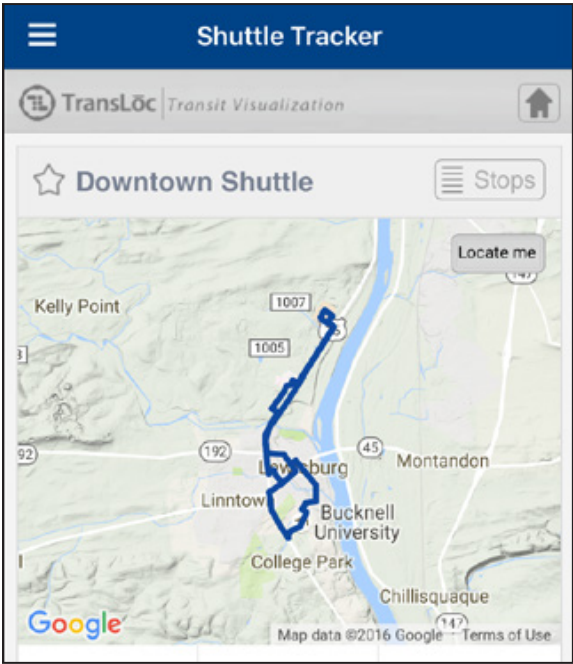
Transportation Demand Management is commonly used on college, corporate and hospital campuses to incentivize alternatives to driving and thus mitigate demand for parking. Programs offer 1) benefits to those who do not use a vehicle to commute to and from

campus or 2) incentives for those driving to change their current travel means from driving alone to carpooling, teleworking (working from home), walking, biking or using some form of alternative transit such as the shuttle.

BENCHMARKING

A benchmarking analysis was conducted to provide additional perspective on parking systems, policies, programs and amenities at select peer institutions. Peer institutions were selected based on type of institution, size of enrollment and campus location. A summary of findings is provided in Figure 6.6.

The highlighted line items represent programs that all of the peers considered for this comparison provide that Bucknell does not currently offer. There are also opportunities listed, such as Parking Cash-out and Vanpools, which do not currently exist on any of the four campuses. Bucknell could become a leader among its peers by proof of concept for these programs. Dartmouth College saw a 7% decrease in the percentage of its staff driving alone to campus when they put a parking cash-out program (they called it a “Pay-Not-To-Park” program) in place. The program allowed employees to either pay \$6-\$10 per month to park on campus or receive \$15-\$30 per month in cash if they chose not to drive alone to campus. Dartmouth discontinued this program when its parking office was eliminated altogether due to budget cuts, but as of this writing, it is actively considering reinstating it.



Bucknell Downtown Shuttle | Mobile Application

	Bucknell University	Colby College	Middlebury College	Dartmouth College
Staff Population	1,220	721	1,321	4,584
Student Population	3,624	1,850	2,495	6,300
Cost of Annual Student Parking Permit	\$100	\$0	\$100	\$175
Cost of Annual Staff Parking Permit	\$0	\$0	\$0	\$50-384
Sheltered and Secure Bicycle Parking	No	Yes	Yes	Yes
Shower Facilities & Lockers for Bike Commuters	No	Yes	Yes	Yes
Parking Cash-Out	No	No	No	No
Universal Transit Pass Program	No	No	No	Yes
Vanpools	No	No	No	Yes
Campus Shuttle	Yes	No	No	Yes
Staff Carpool and Ride Matching	No	Yes	Yes	Yes
Emergency Ride Home Program	No	No	Yes	Yes
Carsharing	Yes	Yes	Yes	Yes
Bikesharing	Yes	Yes	Yes	Yes
Staff Drive-Alone Rate	69%	71%	54%	68%
Pedestrian Plan	No	No	No	Yes

Figure 6.6 Summary of Benchmarking Analysis

SCENARIO MODELING

Base Scenario

Under this scenario, Bucknell University would maintain similar levels of enrollment and employment in the coming years. At the time of this writing, the University planned on the expansion of its student enrollment by approximately 200 students. Despite these plans, this scenario was developed to inform the University of its current conditions and the impact it could have on future years.

If enrollment were to remain flat, existing parking policies would be maintained, as would parking facilities. Existing parking supply would provide more than sufficient levels of parking on the campus. Even if some of the smaller parking facilities were removed or repurposed, no additional parking facilities would

be required, though management and efficiency improvements could still be implemented to reduce the misperception that there is not enough parking.

Enrollment Expansion Scenario

Should Bucknell’s student enrollment rise, as is expected in near future, either due to higher matriculation rates or an intended expansion of the student body, the University should be able to absorb the additional parking demand without the expansion of parking facilities — up to a point. Should all else hold equal (i.e., inventory, policies, parking habits, etc.), the existing parking would likely still possess excess capacity.

With regard to the planned increase in enrollment, the expansion would not happen immediately but instead would occur gradually over a short period of time or more until the student population met its intended

Bucknell Source <https://stars.aashe.org/institutions/bucknell-university-pa/report/2014-09-16/OP/transportation/OP-21/>
Colby Source <https://stars.aashe.org/institutions/colby-college-me/report/2014-12-12/>
Middlebury Source <https://stars.aashe.org/institutions/middlebury-college-vt/report/2014-05-01/>
Dartmouth Source dartmouth.edu; 2009 Transportation Survey; 2012 Hanover Pedestrian and Bicycle Master Plan

size, allowing the University to monitor and gauge the effects of the enrollment boost on parking demand across the campus. Thus changes could be made to the parking policies, and facility expansions could be provided if necessary. That said, the campus has a functional capacity that could easily incorporate several hundred more vehicles without leading to a parking crunch.

Campus Expansion Scenarios

If Bucknell pursues an expansion of new academic and residential buildings upon the campus as expected, many of the likely areas to build upon include existing parking facilities. Should the school choose to build upon these lots, there is sufficient capacity existing in the parking supply to absorb the loss of parking, assuming that no more than 600 spaces are removed and no additional students or employees are added to the campus.

Enrollment & Campus Expansion Scenario

Using the scenarios above as a reference, the coordinated expansion of the built campus and the increased affiliate rolls would likely have a noted impact on the parking balance between supply and demand. During the next several years, the University will increase its total student enrollment by approximately 200. Based on current driving patterns and rates, Bucknell's parking inventory could incorporate an additional 200 student vehicles as well as 50 more faculty and staff vehicles, and the campus would still remain well within the capacity of the existing parking system.

In addition to the expansion of campus affiliates, new buildings would likely be built upon existing parking facilities. Accepting the above addition of 250 new affiliates, and assuming that each of these new affiliates would drive to Bucknell, there would be a peak demand of 2,633 cars as compared to the existing peak of 2,383. Provided that a parking system's demand should ideally not exceed 90% of supply, then this projected demand would need to be served by a minimum of 2,925 parking spaces (2,633 / 0.9 = 2,925). For reference, there are 3,534 parking spaces today in Bucknell's parking inventory, or nearly 600 more spaces than would be required under this future demand scenario.

In summary, Bucknell could likely add 250 new affiliates and manage the loss of several hundred parking spaces, accommodating new campus expansions without building additional parking. Provided the deliberative and slow process of expanding the campus population, any perceived negative impacts could be mitigated through management and programmatic solutions described in more detail in the Benchmarking and Analysis sections.

ANALYSIS

Based on analysis of a typical day, Bucknell's campus parking occupancy peaks at 72%, which is well below the optimal rate of 90%. Therefore, the perception of parking scarcity on campus is a consequence of the location of available parking spaces, not the actual availability.

The existing system has an excess capacity equal to 18% of the total parking supply (approximately 630 spaces). If this excess supply were to be absorbed due to campus expansion or increased demand, the remaining parking supply would still provide sufficient parking at today's level of demand. Given a reduction in parking supply, no negative impact should be felt by Bucknell's students, faculty or staff as long as the appropriate mix of mitigating policies and programs are implemented simultaneously. However, the underutilized parking lots that would be leveraged to absorb demand are located at the periphery of campus (see Figure 6.7). It is recommended that subsequent planning efforts further assess this dynamic and define realistic expectations, with respect to utilization and restrictions, given the distance from the campus core.

Support for alternate modes of transportation is also critical to the future success of Bucknell's driving and parking system. Members of the Bucknell community regularly use sidewalks, bike racks, wayfinding and other infrastructure and amenities as part of their daily movements on campus. Parking cannot be considered in the absence of these other elements, and vice versa.

Transportation Demand Management (TDM) measures are highlighted in the benchmarking analysis as a potential guide for how to mitigate the demand for parking and promote an efficient, balanced and sustainable transportation system. On Bucknell's campus, it is especially relevant to provide viable alternatives to driving and parking as a significant segment of the campus population - all first-year students - is not allowed to bring cars to campus.

The prescribed path to a balanced transportation system that addresses these concerns, prioritizes safety and assures that the current supply of parking remains adequate will be developed during the next phases of the master planning process. Recommendations will include the expansion of existing or addition of new TDM programs such as those employed by Bucknell's peers, the creation of a campus Pedestrian Plan that provides the necessary guidance to improving pedestrian safety and connectivity, support for future bike infrastructure and the development of a system in which students "park once" on campus in zoned parking.



APPENDIX B: CAMPUS HOUSING ASSESMENT

University leadership was engaged in a discussion about the future of campus housing during the October 2016 Board of Trustees meeting. Trustees outlined a series of questions and concerns relative to the several campus housing accommodation strategies currently being considered. This supplemental document was prepared in response to these questions and concerns and is intended to support University leadership as the housing accommodation strategies are further evaluated.

The questions and concerns raised during the October 2016 Board of Trustees meeting are categorized and summarized in the table below. The material included in this document provides data points that address these topics.

Industry Trends

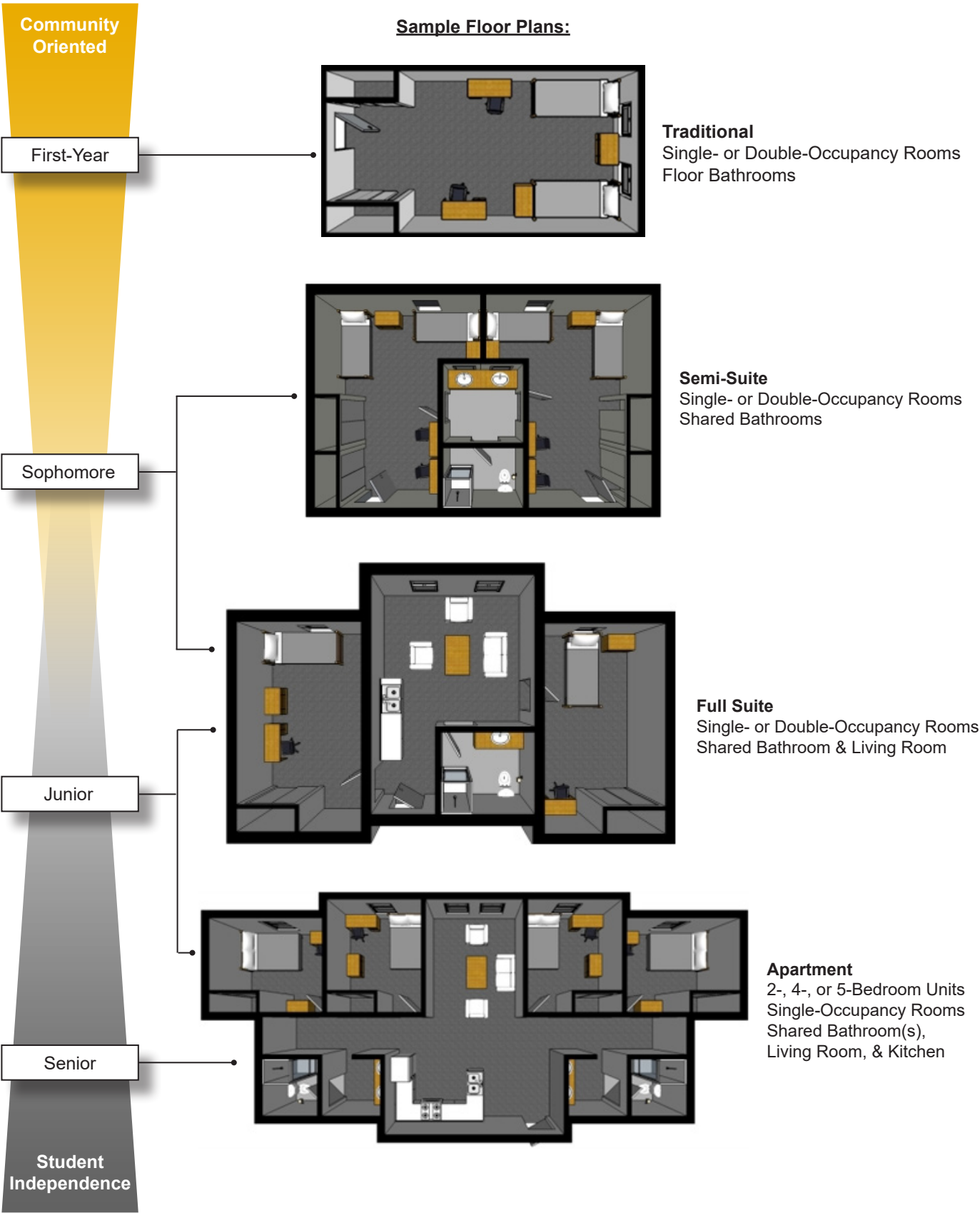
Housing development continuum
Alternate unit typologies
Parent perspective on off-campus living
Alumni perspective on off-campus living
Alternative development / financing strategies (public-private partnerships)

Market Context

On-campus inventory analysis (unit-typology, capacity, occupancy)
Off-campus housing availability
Rent/fees
Lewisburg market assessment
7th Street Corridor – detailed area assessment
Room selection process
Behavioral considerations for off-campus lottery
Physical conditions of student-occupied properties off-campus
Peer institutions analysis
Student preferences

Housing Accommodation Strategies

Impact of increasing / decreasing off-campus population
Impact of increasing on-campus population
Impact of eliminating off-campus housing as an option
On-campus development potential



Building Community Within the Residential Experience
Examples of spaces typically programmed for each common area are provided below.

- Floor common:**
- Lounge
 - Group work/meeting space
 - 4-person individual study room
 - Recycling/trash room

- Building common (ground floor or basement level):**
- Reception/control desk
 - Resident Director's office
 - Entertainment/game room
 - Multipurpose room
 - Lounge
 - Meeting room(s)
 - Phone/Skype room
 - Community kitchen
 - Laundry room
 - Vending area

- Neighborhood common:**
- Lobby lounge
 - Mail service center
 - Café/convenience store
 - Art/creation space
 - Music practice space
 - Meeting rooms
 - Group work/study rooms
 - Lounge
 - Computer lab/printing center
 - Fitness center
 - Seminar rooms



Example of Common Space on Bucknell's Campus



South Campus Apartments | Square One Studio, building common

Below is a summary of some of the current challenges being faced industry-wide that either directly or indirectly impact student housing:



Institutional-Level

- Pressure to recruit and matriculate students
- Admissions process is more competitive than ever
- Increased budget and financial pressure
- Many competing priorities on campus:
 - Academics
 - Student Life
 - Auxiliaries
- Significant pressure to reduce the total cost of tuition



Housing/Residential Life

- Aging Housing Assets
 - Significant deferred maintenance
 - Functionally obsolete
 - Increased operating costs
- Pressure for residence life to contribute to University operations
- Increased Need for Special Accommodations
 - Students with disabilities
 - Service animals
- Residence Life Focus
 - Renewed Focus on First-Year Experience
 - Development of Second-Year Experience
- Programming
 - Integration of Co- and Extra-Curricular Programming
 - Professional, Leadership & Life-Long Skills



Changing Student Preferences

- Unit-type Preferences
 - Suite-style accommodations
 - Single-occupancy units
- Increased University Competition
 - Housing for recruitment purposes
- Increased Off-Campus Competition
 - Purpose-built student housing
 - Amenity driven
 - Student-friendly leasing policies



Parents' Perspective: Off-Campus Housing

Source: [Should My College Student Live Off Campus?](#)
Vicki Nelson - Founder, College Parent Central

Advantages of living off campus:

- **Cost** – One of the first reasons students often cite for moving off campus is to save money. Depending on the school and the surrounding area, sharing rent with several roommates, and doing your own cooking, can cost less than room and board in a residence hall.
- **Get out of the dorm** – College residence halls have their own advantages and disadvantages. Two of the advantages may be proximity to classes and the social atmosphere. However, that social atmosphere may also be one of the primary disadvantages to living in a dorm. Students often find that there is little privacy and a lot of noise – and sometimes nonsense. Your student may want to get away from the noise, distractions, partying and constant dealing with other students.
- **Responsibility** – Living in an apartment, paying rent, paying utility bills, commuting to campus and doing his own cooking and cleaning will help your student develop responsibility.
- **Rental history** – Once your student has lived in her first apartment, she will begin to develop a rental history. This may be helpful to her when she is looking for her second apartment, perhaps after she graduates. Of course, your student will need to be careful that her rental history is a good history.
- **Year-round housing** – If your student is planning to take summer classes, work at school or stay at college during breaks or over the summer, having an apartment will make that easier. College residence halls often close over major college vacations, and summer housing may or may not be available if your student is not enrolled in classes.
- **Diversity** – Students who live in apartments off campus often have non-student neighbors. Your student may find himself living near working professionals, young couples, families with children, or elderly retirees. This will give your student the opportunity to interact with, and get to know better, many different types of people.

Disadvantages to living off campus:

- **Cost** – Your student may assume that living off campus will cost less than living in the residence hall. That may be true. However, it is possible that the costs may be similar – or that it may cost more to live off campus. It is important that your student have a realistic picture. He will need to factor in not only his portion of rent, but any initial deposit, first and last month's rent, cost of food, cost of utilities if they are not included in rent, cable, internet, furniture and appliances, laundry costs, cleaning costs, and transportation to and from campus. Be sure that your student has the entire picture before making a decision.
- **Getting out of the dorm** – Your student may be looking forward to the increased privacy and quiet of an apartment. These are important factors. She should also consider, however, that living in a campus residence hall often makes it easier for students to stay connected to other students and to campus life. Your student may need to work harder to stay engaged with the college once she lives off campus.
- **Responsibility** – Having your own apartment comes with increased responsibility. Your student will be responsible for a lease, for paying bills, for doing his own cooking and cleaning, and for dealing with any roommate issues without the aid of a residence assistant or residence director.
- **Year-round housing** – Most apartment rentals are year-round. If your student will not be at school in the summer, she will be responsible for paying the rent on an empty apartment or for finding someone to sublet the apartment for those months.
- **Diversity** – Your student's neighbors may or may not be other college students. He will need to remember that non-college neighbors may be less tolerant of some "college" behaviors. He will need to be careful about late-night noise, parties, etc.
- **Roommates** – Most college students cannot afford to pay the entire rent on an apartment. This means that your student will need to find roommates to share her apartment. She will need to make careful choices. Often good friends do not make ideal roommates. Once a student commits to sharing an apartment, it is difficult to make a change. Unlike dorm roommates, who can be changed, your student will be committed to her roommates for the length of the lease.
- **Transportation** – Your student will need to be able to get to and from campus. If he has a car, he will need to consider parking – both on campus and at the apartment. If he does not have a car, he will need to consider whether the apartment is a reasonable walking distance or whether public transportation is available. He will also need to check about the availability of public transportation at irregular hours in case he is attending an evening event on campus.



Alumni Attachment

Source: [Great Jobs Great Lives. The 2014 Gallup-Purdue Index Report](#)
Gallup and Purdue University

Introduction (pg. 5 of Gallup Report)
Gallup’s research across hundreds of organizations in many industries shows that fully engaged customers buy more, stay with you longer, and are more profitable than average customers — in good economic times and in bad. The Gallup-Purdue Index measures graduates’ current emotional attachment to their alma mater by adapting Gallup’s research on customer engagement to assess graduates’ perceptions of their colleges both in retrospect to their undergraduate experiences and their views as current alumni.

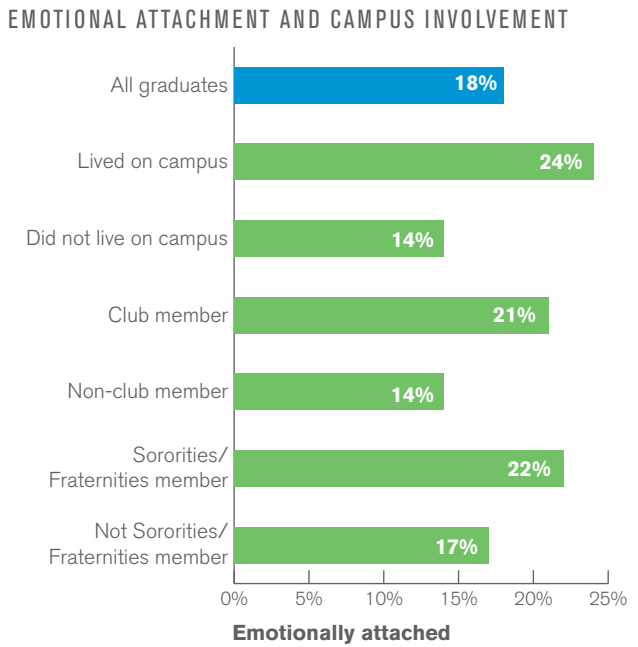
Because students spend a significant amount of resources preparing for life outside of college, it is crucial to gauge whether the experiences they had in college have promoted a well-lived life. This includes if they perceive that the college was a great fit for them, having professors who cared and made learning exciting, and, most importantly, feeling that their school prepared them well for life outside of college. The Gallup-Purdue Index will uncover which college experiences and perceptions are related to greater gains in the workplace and in well-being.

- Executive Summary (pg. 7 of Gallup Report)**
Alumni Attachment to Alma Mater Findings:
- Graduates who felt “supported” during their time in college are six times more likely to be emotionally attached to their alma mater.
 - Overall, only 29% of college graduates “strongly agree” that college prepared them well for life outside of college, but agreement raises the odds of graduates’ attachment nearly nine times.
 - Twenty-nine percent of graduates who are attached to their alma mater are thriving in well-being, versus 4% who are actively unattached to their colleges.

Alumni Attachment - Additional Institutional Variables: Time, Involvement on Campus Relates to Attachment (pg. 18-19 of Gallup Report)
The time that graduates spent on campus as undergraduates and how involved they were relates to their current emotional attachment to their school. For example, more graduates who attended the same college until graduation are emotionally attached to their school (20%) than those who transferred from a two-year (16%) or four-year college or university (13%). And more graduates who lived on their college’s campus (24%) are attached than those who spent no time living on campus (14%).

Alumni who participated in school clubs or fraternities or sororities exhibit higher attachment. Twenty-one percent of graduates who say they were members of clubs on campus (about 56% of all graduates surveyed) are emotionally attached to their schools, compared with 14% who say they were not members of these clubs. Twenty-two percent of those who were in sororities or fraternities (16% of all graduates claimed membership) are attached, compared with 17% who were not members of sororities or fraternities.

The well-being of emotionally attached college graduates is much higher than that of actively unattached graduates. Twenty-nine percent of attached college graduates are thriving in all five elements of well-being, whereas just 4% of actively unattached college graduates are thriving in all five elements of well-being.



Public-Private Partnerships (P3)

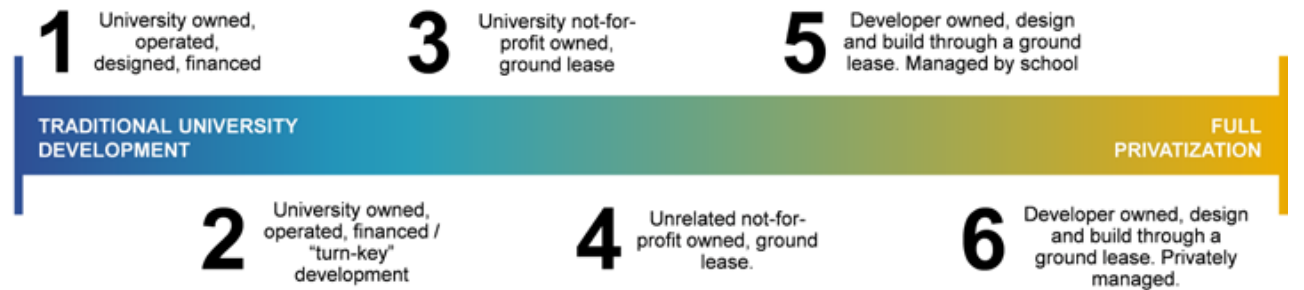
Reasons why universities pursue P3s:

- Avoid cumbersome procurement
- Avoid institutional/system/state construction standards
- Development and management expertise
- Land assemblage
- Debt capacity/inability to finance
- Reduce balance sheet liability and mandatory reserve fund
- Financially focused development (1.2 debt coverage ratio)
- Financial return to university (ground lease revenue/excess cash flow)
- Faster delivery (time = money)
- Risk transfer (upfront costs, budget, and schedule)

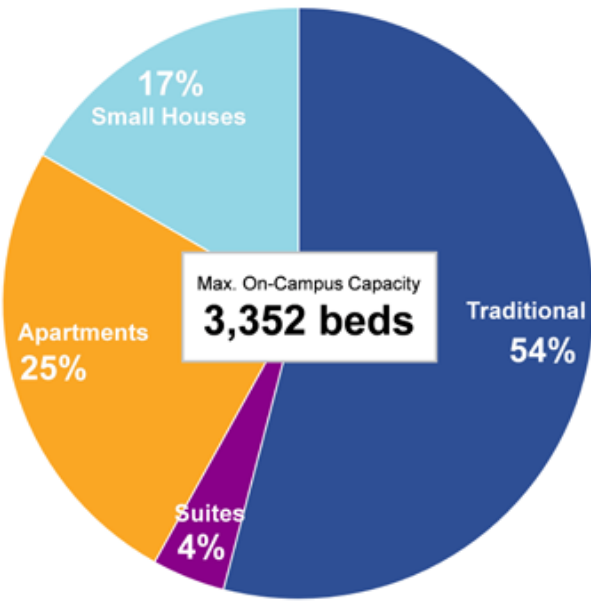
Reasons why universities do not pursue P3s:

- Few university/state construction standards
- No procurement concerns
- Cheaper cost of capital
- Better access to the capital markets
- Additional project costs
- Concerned about control
- In-house development expertise
- In-house management expertise
- University owns the land
- Impact on existing housing operation
- Off balance sheet, but still on credit

Development Scenarios:	University	Affiliated	Private Developer
Description	University financed with tax-exempt bonds	<ul style="list-style-type: none">• University partners with associated 501(c)3 organization• Affiliated or unaffiliated foundation	<ul style="list-style-type: none">• Ground lease with developer• No other university involvement• Financing requirements may require a master lease agreement• Capital stock could include > than 50% equity
Cost of Capital	Lowest	Middle	Highest
Speed of Delivery	Slowest	Closer to private developer	Fastest
University Control Program, Operations, Tenants, etc.	Greatest	Need for control; manage the developer	Least
University Risk Delivery, Financing, Lease-up, etc.	Greatest exposure	Some exposure	Least exposure

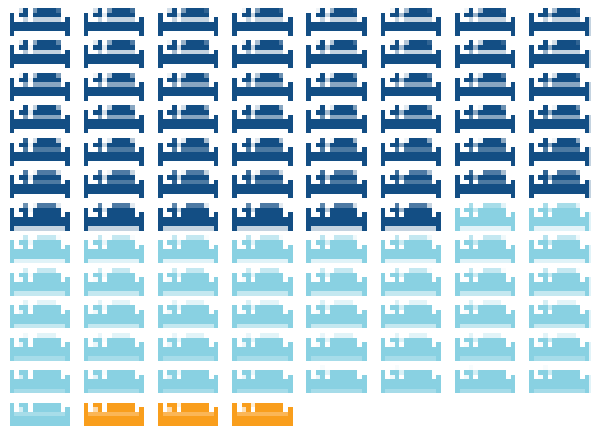


On-Campus Housing Inventory by Unit Type



Traditional	1,841
Suites	136
Apartment	861
Small Houses	566

On-Campus Housing Inventory by Room Type



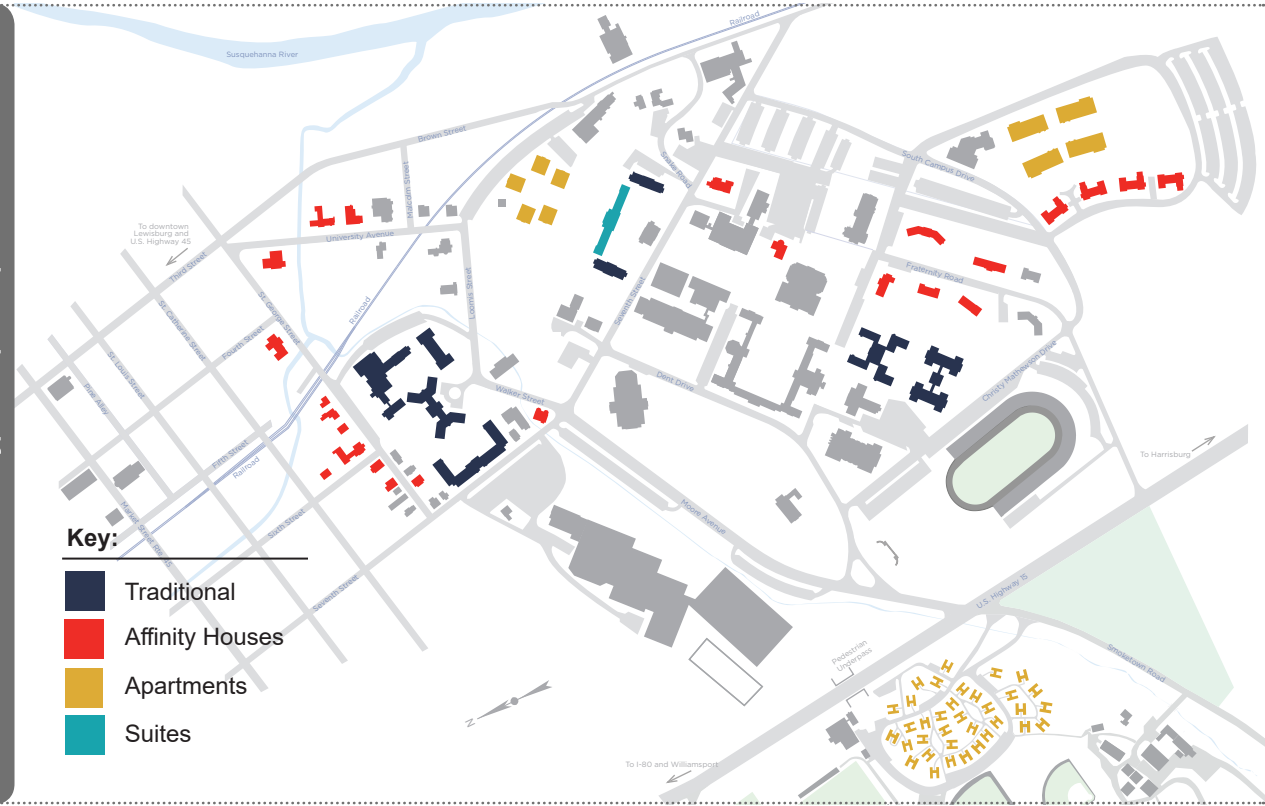
Single-occupancy rooms	53.7%
Double-occupancy rooms	43.3%
Triple-occupancy rooms	2.7%
Quad-occupancy rooms	<1.0%

On-Campus Housing Inventory Detail

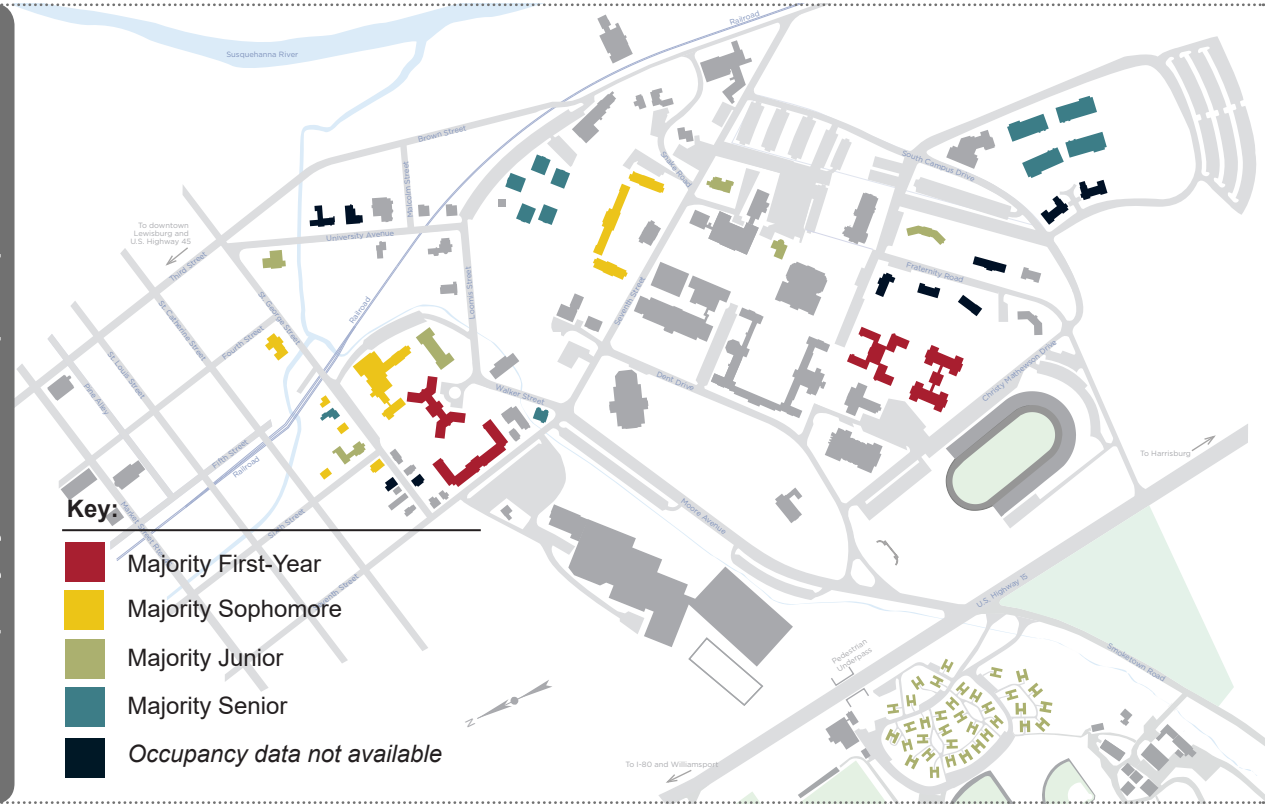
Name	Unit Type	Capacity
Bucknell West	Apt.	269
Gateways	Apt.	256
Harris Hall	Trad.	114
Hunt Hall	Trad.	130
Kress Hall	Trad.	110
Larison Hall	Trad	138
McDonnell Hall	Trad.	288
Roberts Hall	Suite	136
Smith Hall	Trad.	276
South Campus Apartments	Apt.	336
Swartz Hall	Trad.	307
Trax Hall	Trad.	122
Vedder Hall	Trad.	356
400 St. George Street	House	41
620 St. George Street	House	15
Carey House	House	33
Corner House	House	30
Demosthenean Hall (DU)	House	33
Edwards House	House	21
Galloway House	House	12
Hulley House	House	15
Leiser House	House	17
Martin House	House	10
Seventh Street House	House	10
Summitt House	House	19
Taylor Street House	House	15
23 University Avenue	House	29
Kappa Delta Rho (KDR)	House	26
Kappa Sigma (KS)	House	33
Lambda Chi Alpha (LCA)	House	26
Sigma Chi (SC)	House	20
Sigma Phi Epsilon (SPE)	House	23
Tau Kappa Epsilon (TKE)	House	24
Chi Phi (CP)*	House	30
Phi Gamma Delta (Figl)*	House	32

*not owned by Bucknell University

1. Unit Type Campus Map



2. Occupancy By Class Year Campus Map (Fall 2015 Data)



Note: All data reference above reflects the campus housing inventory for the 2016-17 academic year.

On-Campus Room Rates (per semester)

Room Type	2015-16 Rates		2016-17 Rates		% Inc. (Dec.)
	w/ AC	w/o AC	w/ AC	w/o AC	
Single	\$3,911.00	\$3,725.00	\$4,052.00	\$3,859.00	3.5%
Double	\$3,725.00	\$3,538.50	\$3,859.00	\$3,666.00	3.5%
Triple	\$2,980.00	\$2,793.50	\$3,087.00	\$2,894.50	3.5%
Quad	\$2,980.00	\$2,793.50	\$3,087.00		3.5%
Gateway Single	\$4,097.50		\$4,245.00		3.5%
Gateway Double	\$3,911.00		\$4,052.00		3.5%
South Campus Apartments	\$4,283.50		\$4,438.00		3.5%
Bucknell West Double	\$3,911.00	\$3,725.00	\$4,052.00	\$3,859.00	3.5%
Apartment - Triple	\$3,725.00		\$3,859.00		3.5%
Apartment - Quad		\$3,725.00			
Sorority Single	\$4,097.50		\$4,245.00		3.5%
Sorority Double	\$3,911.00		\$4,052.00		3.5%
Sorority Quad	\$3,166.00		\$3,280.00		3.5%
University-Owned Fraternity Single	\$4,171.75	\$4,097.00	\$4,322.00	\$4,245.00	3.5%
University-Owned Fraternity Double	\$3,985.52	\$3,911.02		\$4,052.00	
University-Owned Fraternity Triple	\$3,054.32	\$2,979.83			
To be assigned (HDAN)	\$3,911.00		\$4,052.00		3.5%
System-wide average	\$3,738.82	\$3,476.48	\$3,905.86	\$3,762.58	

On- and Off-Campus Rate Comparison

Apartment-Style On-Campus Housing	2016-17 Rates	
	w/ AC	w/o AC
Gateway Single	\$4,245.00	
Gateway Double	\$4,052.00	
South Campus Apartments	\$4,438.00	
Bucknell West Double	\$4,052.00	\$3,859.00
Apartment - Triple	\$3,859.00	
University-Owned Fraternity Single	\$4,322.00	\$4,245.00
University-Owned Fraternity Double	\$4,052.00	
Average - semester	\$4,161.33	\$4,052.00
Average - academic year	\$8,322.66	\$8,104.00

Approved Off-Campus Properties	Rent*
Average cost of lease (12-mos.)	\$23,473.00
Average cost of lease per student (12-mos.)	\$7,686.00

*Rental rates shown do not include cost of utilities

University Policy & Application Process

All undergraduate students are required to live on campus in a University-owned facility or University-related fraternity housing, unless formal approval to reside off campus or commute from home (with a parent or guardian in residence) is granted. Non-traditional-age students may live in a home or privately-owned rental unit. As of Fall 2016, there are less than 100 non-traditional full-time students enrolled at the University.

The off-campus housing option is limited to rising seniors. Only 200 students total are approved to live off-campus each year - approximately 100 men and 100 women. The application process begins in October, when students complete an online form consisting of a brief application, a short quiz and an information waiver. The conduct record of each applicant is then reviewed by the University. Housing Services notifies students via email that initial permission to live off campus has been granted. Selected students must formally accept and confirm the approval, as well as comply with all next steps identified in the approval email (i.e. attend the Approval Information Session, provide Housing Services with hard copies of the fully executed lease).

Property Approval Process

Lewisburg Borough requires that all rental housing be inspected every year and instituted an Ordinance that restricts capacity within each address to no more than three non-related individuals.

All inspections for Lewisburg are done by CK-COG, the Central Keystone Council of Governments. This is an organization of municipalities that work together to administer the inspection process and enforcement of the construction code, utilizing the 2015 International Property Maintenance Code.

In addition, rental properties for approved Bucknell students must also comply with these supplemental standards:

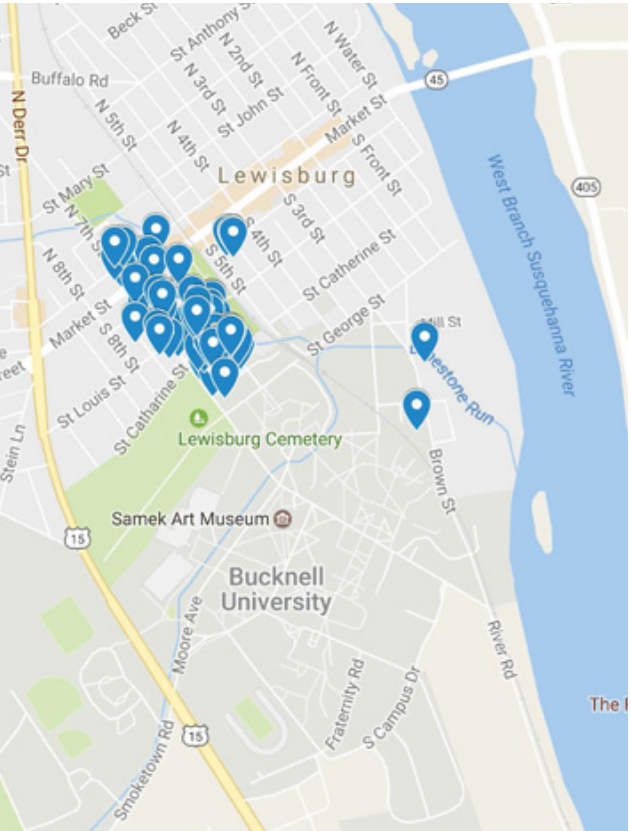
- All smoke detectors must be interconnected, without disconnect switches and with back-up batteries.
- Carbon monoxide detectors shall be installed in each level of all units if a fuel-burning appliance is in the building.
- All receptacles serving countertop surfaces in kitchens and all receptacles in bathrooms and basements must have ground fault circuit interrupter (GFCI) protection.

Bucknell University receives the list of inspected and approved rental properties eligible for student rental the first week of September.

Status Report

As of January 2017, there are a total of 83 off-campus units approved by the University. These units provide a total capacity of 260 beds, although the off-campus housing option is limited to 200 seniors. All properties are located within a 0.5 mile radius of the campus core. Approved properties are comprised of 2- to 7-bedroom units. There is a 3-person per residency rule in place for each address, however a few houses are allotted for more residents. The current maximum occupancy of an off-campus unit is four students.

The average annual off-campus rent per student is \$7,686, not including utilities. The average room rate for on-campus housing is approximately \$8,213 per academic year, which does include utilities. It should be noted that all student residing on campus are required to purchase a meal plan each semester, whereas off-campus non-residents students are not subject to this requirement. First-year students are required to be on the Anytime Access plan (\$2,469/semester). The minimum board plan option available is a declining balance plan of \$700/semester.



Map of all approved off-campus properties (as of Jan. 2017)

Key: Above benchmarking average Below benchmarking average

Demographics & Admissions	Institution	Total Enrollment	Undergraduate Enrollment	Acceptance Rate (%)	Yield (%)
	Bucknell University	3,625	3,569	25%	35%
	Colgate University	2,861	2,853	27%	32%
	College of the Holy Cross	2,916	2,916	37%	30%
	Dartmouth College	6,350	4,307	11%	50%
	Davidson College	1,784	1,784	20%	47%
	Furman University	2,884	2,731	64%	21%
	Lafayette College	2,403	2,403	30%	30%
	Lehigh University	7,054	5,075	30%	32%
	Middlebury College	2,558	2,542	17%	38%
	Trinity College	2,350	2,255	33%	25%
	University of Richmond	3,552	2,990	31%	26%
	Villanova University	10,728	6,994	48%	22%
	Wake Forest University	7,837	4,871	29%	33%
	College of William & Mary	8,484	6,301	34%	29%
	Average	4,751	3,694	32%	32%

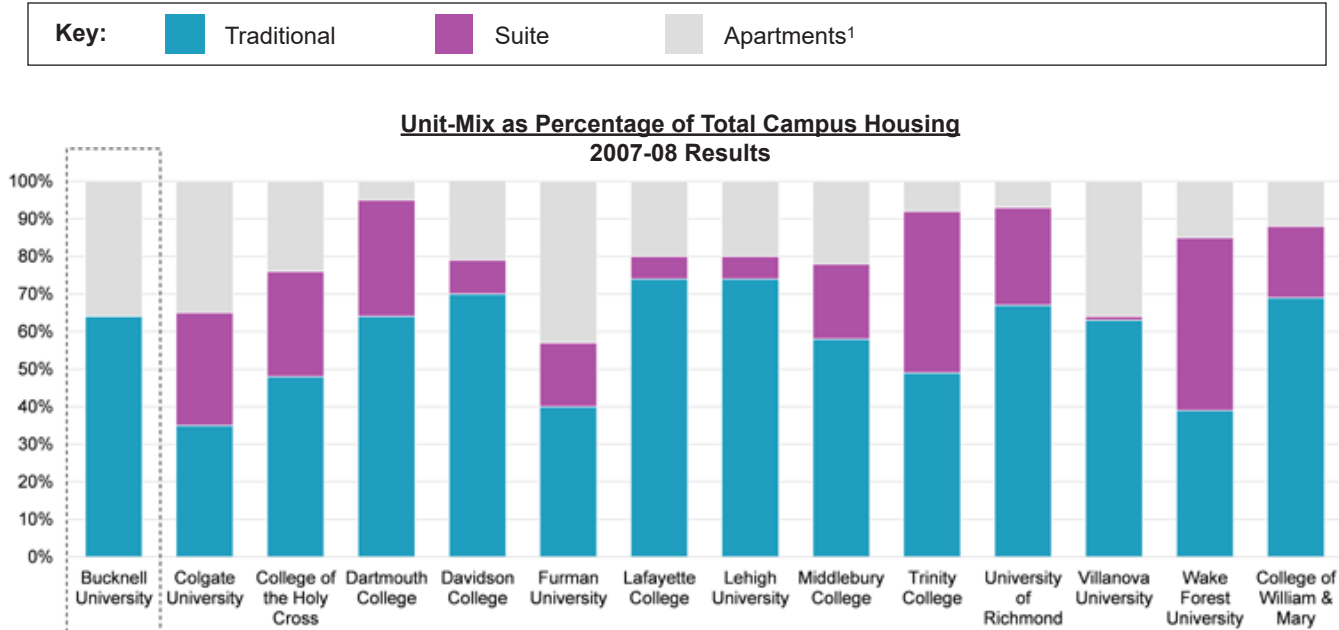
Source: 2015-16 Common Data Sets and University Websites

Tuition & Fees	Institution	Tuition	Room	Board	Total (incl. fees)
	Bucknell University	\$51,676	\$7,718	\$4,938	\$64,616
	Colgate University	\$51,635	\$6,310	\$6,765	\$65,030
	College of the Holy Cross	\$48,295	\$7,135	\$6,090	\$62,165
	Dartmouth College	\$49,998	\$8,886	\$5,850	\$66,174
	Davidson College	\$47,897	\$6,895	\$6,652	\$61,923
	Furman University	\$46,784	\$6,924	\$5,454	\$59,542
	Lafayette College	\$48,450	\$8,950	\$5,520	\$63,335
	Lehigh University	\$47,920	\$7,320	\$5,370	\$61,010
	Middlebury College	\$49,648	\$14,629		\$64,332
	Trinity College	\$50,350	\$8,900	\$4,780	\$66,440
	University of Richmond	\$49,420	\$5,260	\$6,200	\$60,880
	Villanova University	\$48,610	\$6,973	\$6,120	\$62,373
	Wake Forest University	\$48,746	\$8,750	\$5,998	\$64,056
	College of William & Mary	\$15,674	\$11,382		\$32,616
	Average	\$46,417	\$8,304	\$5,891	\$61,035

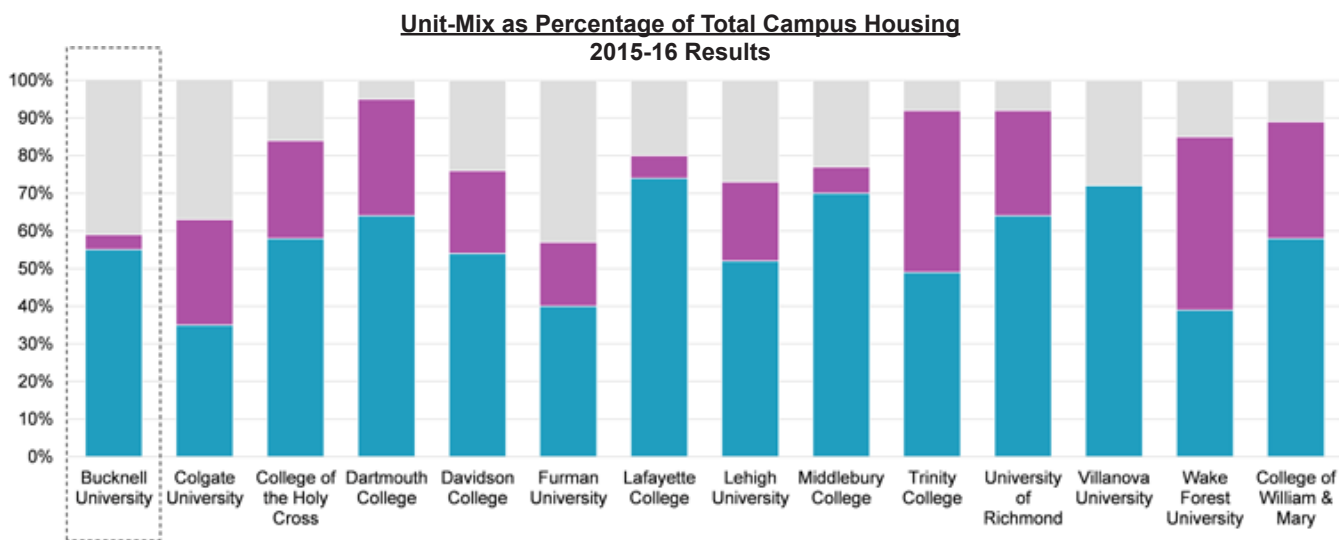
Key: Above benchmarking average Below benchmarking average

Housing Program	Institution	Campus Hsg. Inventory	Undergrad. Hsg. Capacity	First-Year Live-On Req.
	Bucknell University	3,352	94%	Yes
	Colgate University	2,423	85%	Yes
	College of the Holy Cross	2,515	86%	Yes
	Dartmouth College	3,155	73%	Yes
	Davidson College	1,740	97%	Yes
	Furman University	2,981	109%	Yes
	Lafayette College	2,106	88%	Yes
	Lehigh University	2,445	48%	Yes
	Middlebury College	2,227	88%	Yes
	Trinity College	2,030	90%	Yes
	University of Richmond	2,223	74%	Yes
	Villanova University	4,362	74%	Yes
	Wake Forest University	3,132	64%	Yes
	College of William & Mary	4,225	76%	Yes
	Average	2,736	81%	-

Source: 2015-16 Common Data Sets and University Websites



Source: 2007-08 Common Data Sets and University Websites

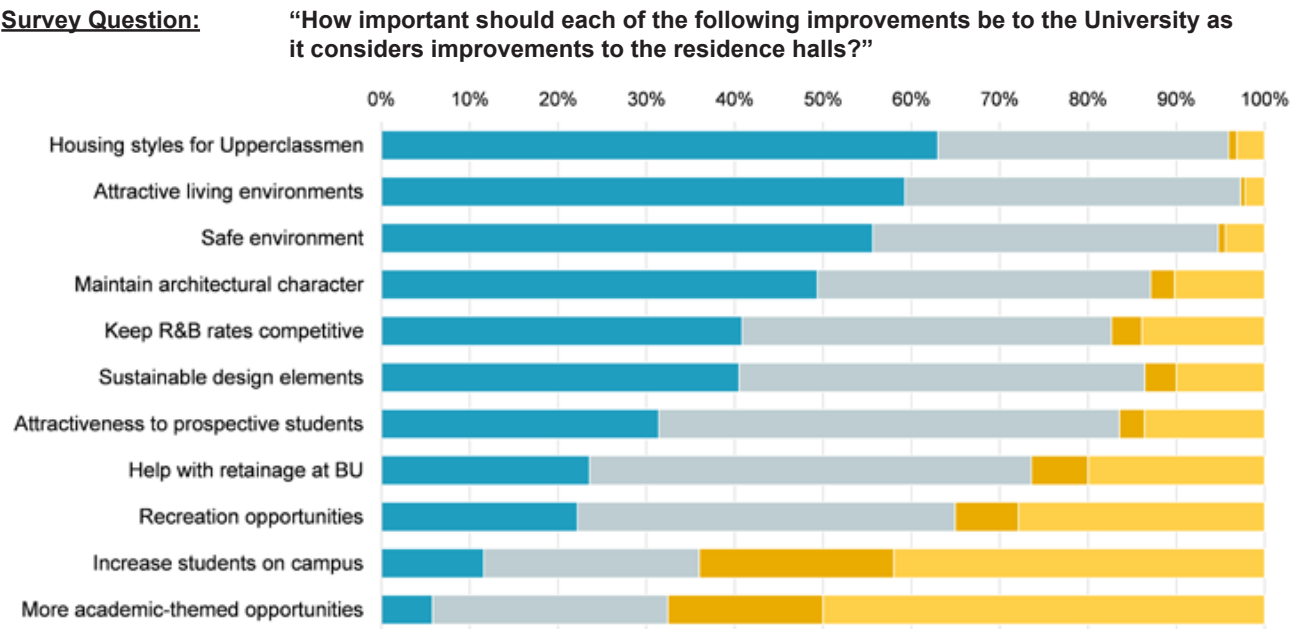
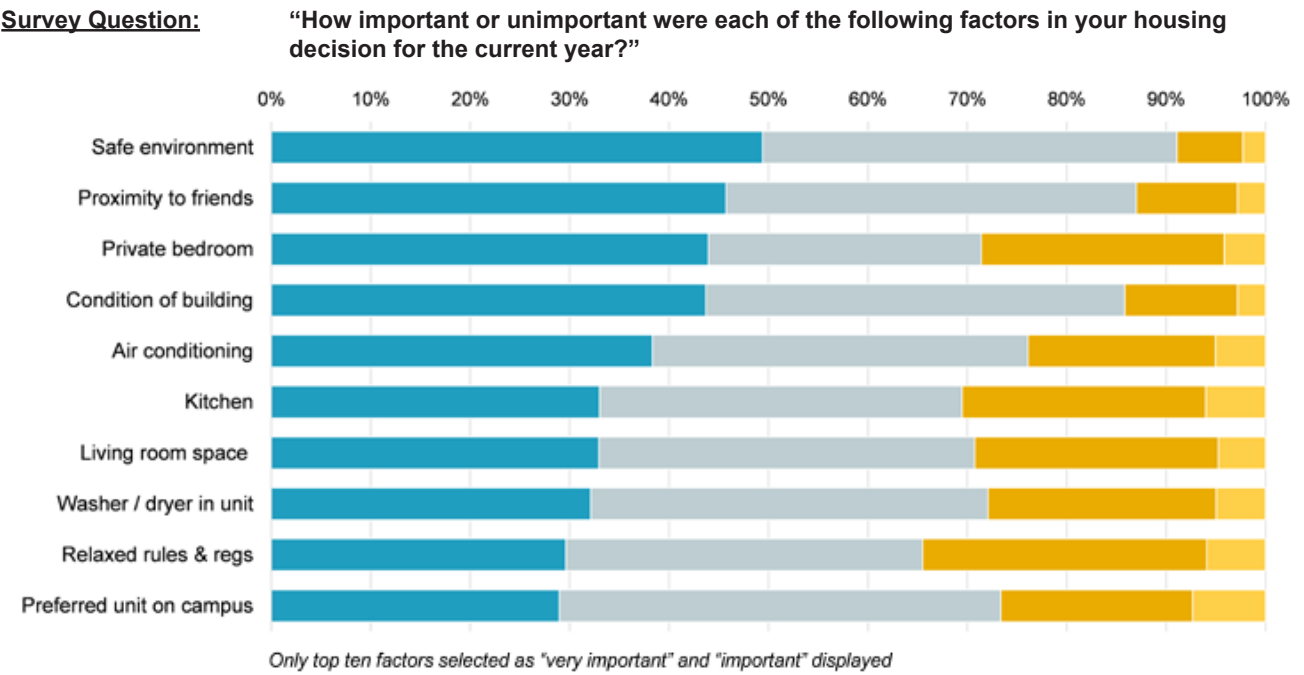


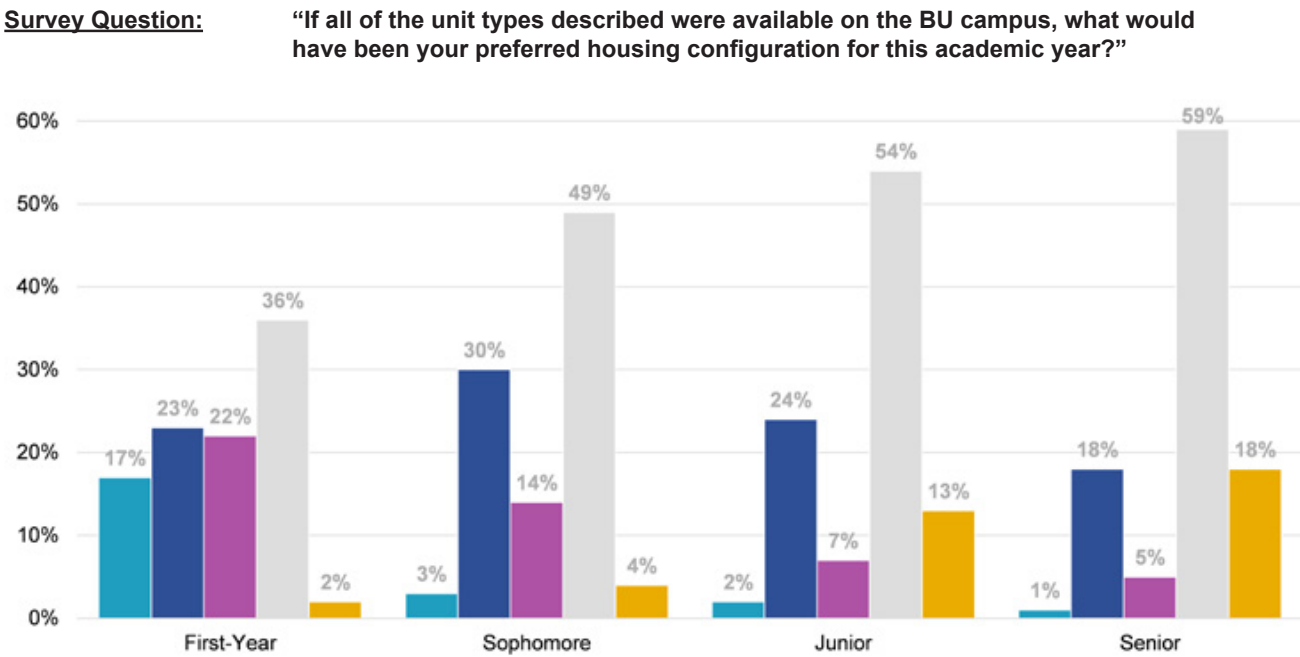
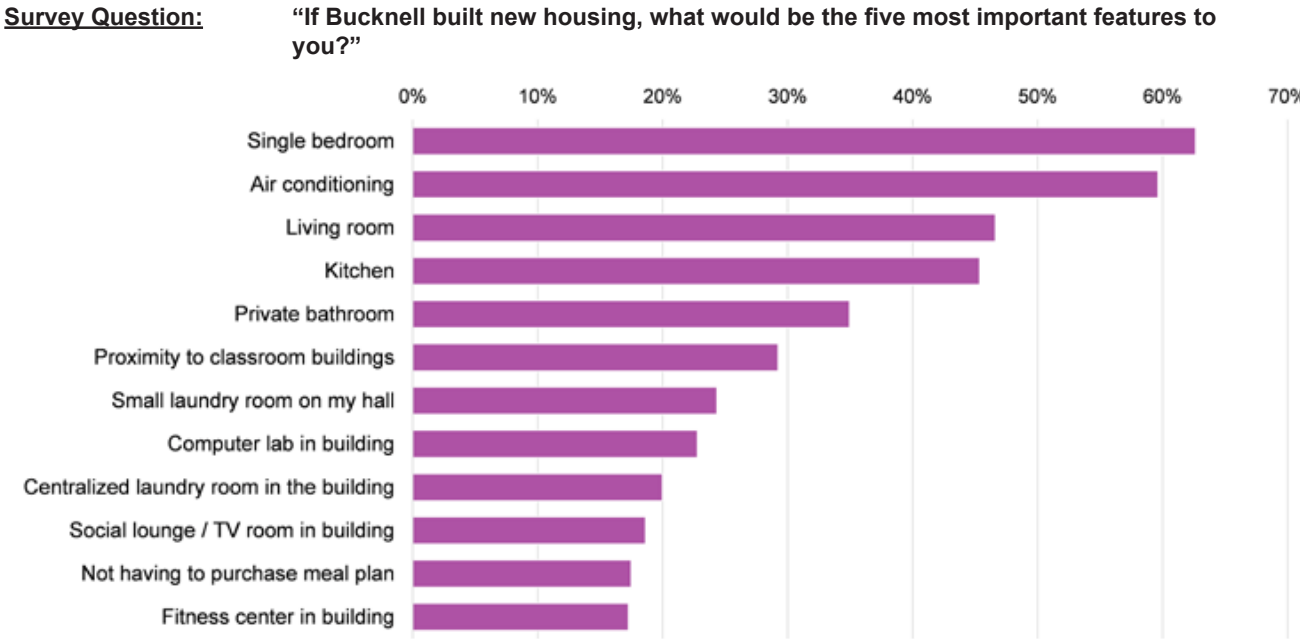
Source: 2015-16 Common Data Sets and University Websites
*2015-16 updates not available for: Furman, Lafayette, Trinity, Wake Forest

Summary of Changes (2008-2016)	2008		2016	
	Average	Bucknell	Average	Bucknell
Traditional	58%	64%	56%	55%
Suite	22%	0%	24%	4%
Apartments	21%	36%	20%	43%

[1] Apartment totals for Bucknell include small houses (affinity housing).

As part of the development of the 2008 Student Housing Strategic Plan, B&D conducted a campus-wide survey to determine students' demand, preferences and price sensitivity with respect to on- and off-campus housing. The figures below reflect the results of that survey. This information is included with intention of providing perspective from the 2008 planning process, as well as a frame of reference for the 2016 MyVoice survey results.





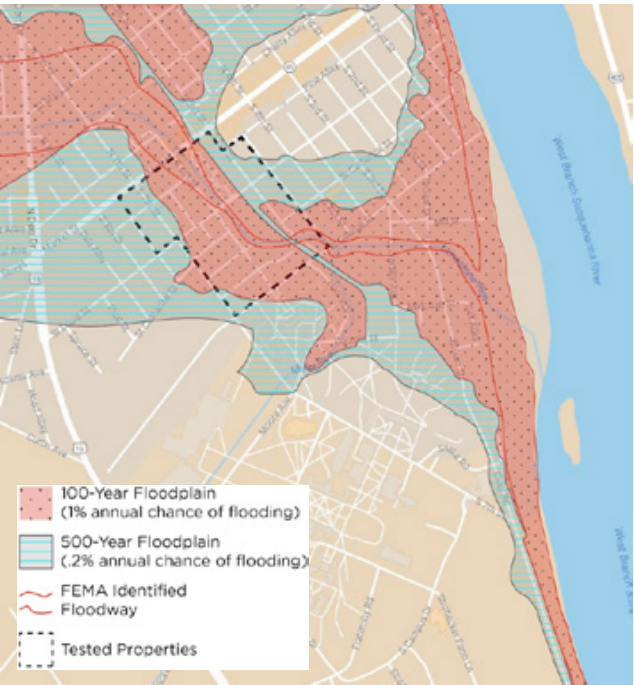
- Summary of Analysis:**
- Analysis of 15 Lewisburg blocks adjacent to Bucknell’s campus
 - Market Street
 - St. George Street
 - Strawberry Ave. + 5th Street
 - Hawn Alley + 7th Street
 - 81 Properties sold since the beginning of 2010
 - Average property sale price in 2005: \$117,063
 - Average property sale price in 2015: \$225,147
 - Approximate tax obligations range by block and parcel
 - Much of Downtown Lewisburg is a part of the 100-year or 500-year floodplain
 - Multiple zoning requirements exist from Market Street to St. George Street



Quantity of Bucknell-owned properties in the block

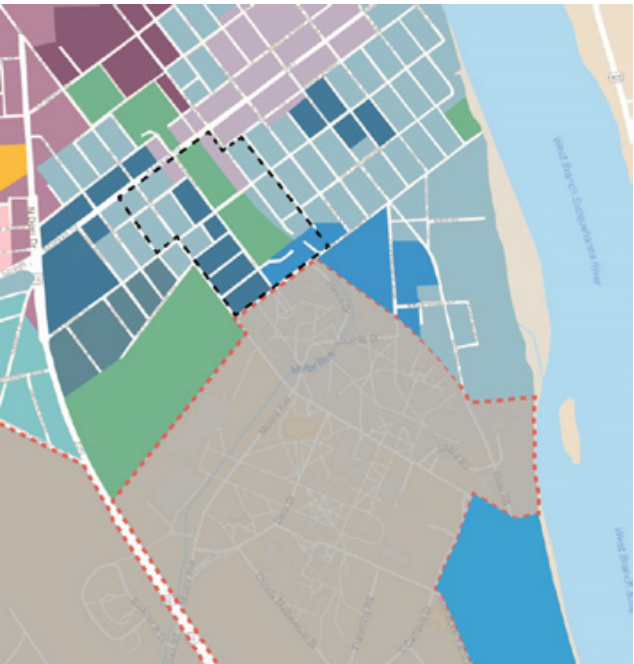
Average Sales per Block				
Block	Number of Properties	Average Sale Year	Average Sale Price	Approximate Tax Obligations
Block 1	20	2006	\$144,729	\$319,800
Block 2	12	1999	\$125,896	\$159,211
Block 3	3	1996	\$366,267	\$124,170
Block 4	21	1990	\$54,176	\$101,128
Block 5	15	2000	\$132,623	\$248,615
Block 6	13	1974	\$92,277	\$113,137
Block 7	12	1990	\$104,959	\$127,572
Block 8	13	2008	\$145,200	\$113,883
Block 9	10	2007	\$106,048	\$93,102
Block 10	14	2004	\$109,286	\$158,205
Block 11	8	2011	\$104,063	\$83,364
Block 12	12	2003	\$96,459	\$178,779
Block 13	12	1999	\$255,700	\$259,084
Block 14	9	2003	\$173,078	\$93,548
Block 15	8	2012	\$840,000	\$64,284

Floodplain Analysis



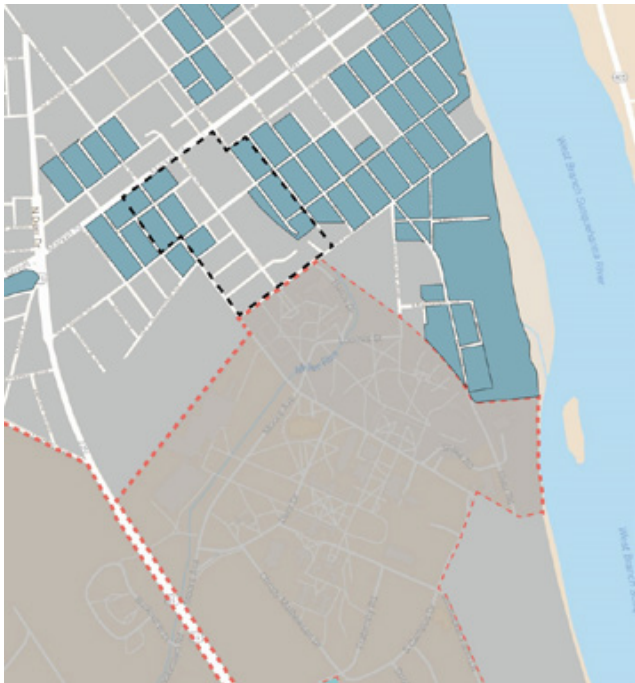
- **100-Year Floodplain** covers most of the Market Street to St. George Street and South 7th Street to 5th Street corridor
 - No expansion or enlargements of existing structures in 100-Year Floodplain are allowed
 - No new construction / development allowed in the identified floodway
 - Elevation Requirements: lowest floor (including basement) of new or substantially improved structure must be at least 1.5 feet above the 100-Year Flood Elevation
- **500-Year Floodplain** covers most of the other parcels north of Bucknell
- **Small gap in Floodplain** present from South 4th Street to South Front Street ranging from St. Catherine Street to Market Street.

Zoning Analysis



- Mix of Residential Town 1, 2 and 3 Zones, Open Space Zone and Downtown Commercial Zone in analyzed district.
 - **Residential Town 1:** primarily single-family or two-family residential district
 - **Residential Town 2:** higher-density residential uses & certain light-density commercial & professional office
 - **Residential Town 3:** Land developments larger than 5,000 SF & property owned by Bucknell
 - **Open Space:** Active & passive recreation, wildlife habitat and flood protection
 - **Downtown Commercial:** Traditional commercial uses (retail, office, banks, restaurants, etc.)

Zoning Requirements: Residential Town 1



- **Permitted Uses:** Single-Family Dwellings, Two-Family Dwellings, Community Living Arrangements, No-Impact Home-Based Businesses, Accessory Structures and Forestry
- **Special Exception Uses:** Public and Semi-Public Uses, Bed-and Breakfast Establishments, Houses of Worship, Home Occupations
- **Conditional Uses:**
 - Townhouses, not to exceed four units per building
 - Multi-Family Dwellings, not to exceed four units
 - Off-Site Parking
- **Impervious Coverage and Height Requirements**
 - Max. Coverage (Single + Two-Family): 40% of gross lot area
 - Max. Coverage (Multi-Family + Non-Residential): 60% of gross lot area
 - Minimum Usable Open Space: 30% of gross lot area
 - Max. Building Height
 - » Principal Use: 35 feet
 - » Private Garage: 35 feet
 - » Other Accessory Structures: 15 feet

Zoning Requirements: Residential Town 3



- **Permitted Uses:** Single-Family Dwellings, Two-Family Dwellings, Community Living Arrangements, No-Impact Home-Based Businesses, Accessory Structures + Forestry
- **Special Exception Uses:** Public and Semi-Public Uses, Bed-and Breakfast Establishments, Houses of Worship, Professional Offices (no exterior alterations), Bucknell University District permitted uses
- **Conditional Uses:**
 - Multi-Family Dwellings
- **Impervious Coverage and Height Requirements**
 - Max. Coverage (Single + Two-Family): 40% of gross lot area
 - Max. Coverage (Multi-Family + Non-Residential): 60% of gross lot area
 - Minimum Usable Open Space (Residential): 40% of gross lot area
 - Minimum Usable Open Space (Nonresidential): 20% of gross lot area
 - Max. Building Height
 - » Principal Use: 35 feet
 - » Private Garage: 35 feet
 - » Other Accessory Structures: 15 feet

Zoning Requirements: Residential Town 2



- **Permitted Uses:** Single-Family Dwellings, Two-Family Dwellings, Class I Commercial Uses (not requiring building alterations), Community Living Arrangements, No-Impact Home-Based Businesses, Accessory Structures + Forestry
- **Special Exception Uses:** Public and Semi-Public Uses, Bed-and Breakfast Establishments, Houses of Worship, Mixed-Use Structures, + Class II Commercial Uses
- **Conditional Uses:**
 - Multi-Family Dwellings (not to exceed four units per building), Class I Commercial Uses, Funeral Homes, Boarding Houses, and Rooming or Lodging Houses
- **Impervious Coverage and Height Requirements**
 - Max. Coverage (Single + Two-Family): 40% of gross lot area
 - Max. Coverage (Multi-Family + Non-Residential): 60% of gross lot area
 - Minimum Usable Open Space: 30% of gross lot area
 - Max. Building Height
 - » Principal Use: 35 feet
 - » Private Garage: 35 feet
 - » Other Accessory Structures: 15 feet

Zoning Requirements: Open Space Zone



- **Permitted Uses:** Agriculture and Horticulture, Water-Related Uses (docks, piers, bridges, etc.), Passive Recreation (trails, bike paths, etc.), Forestry
- **Special Exception Uses:** Not Applicable
- **Conditional Uses:**
 - Public Memorials and Monuments, Outdoor Public Recreational Facilities, Cemeteries + Active Recreation



Zoning Requirements: Downtown Commercial Zone



- **Permitted Uses:** Class I + II Commercial Uses, Single- + Two-Family Dwellings, Bed-and-Breakfast Establishments, Mixed Uses (Res. + Commercial), Accessory Structures, Forestry
- **Special Exception Uses:** Multiple-family Dwellings, Public or Semi-Public Uses, Houses of Worship + Accessory Uses
- **Conditional Uses:**
 - Off-Site Parking, Boarding House, + Rooming or Lodging Houses
- **Impervious Coverage and Height Requirements**
 - Max. Coverage: 85% of gross lot area
 - Max. Building Height: 45 feet

Residential Town 1 Zone	General Commercial Zone
Residential Town 2 Zone	Commercial Highway Zone
Residential Town 3 Zone	Downtown Commercial Zone
Residential Suburban Zone	Open Space Zone
Medium-Density Residential Zone	Industrial Zone
Urban Residential Zone	Bucknell
Mixed-Use Zone	

APPENDIX C: EXISTING PLANNING MATERIALS

- 2016 Christy Mathewson Memorial Stadium Precinct Master Plan
- 2016 Demosthenean Hall Renovation for New Humanities Center
- 2014 School of Management Phase 1: Visioning & Space Programming Study Brief
- 2013 Bertrand Library Programming & Concept Design Study
- 2013 Campus Landscape Improvement Plan
- 2013 Christy Mathewson Memorial Stadium Precinct Master Plan
- 2012 Campus Visit Experience: Branding and Environmental Recommendations
- 2012 Bucknell University Dining Spaces: Recommendations for The Bostwick Marketplace and The Bison Café
- 2009 Campus Expansion Utility Master Plan
- 2008 Student Housing Strategic Plan
- 2008 The Master Plan: A Vision for Bucknell
- 2008 The Master Plan: A Vision for Bucknell – Landscape Guidelines
- 2004 Campus Signage Program
- 2004 Campus Signage Guidelines
- 2004 Campus Traffic Study
- 2004 Lewisburg Neighborhood: Protecting University and Community Interests
- 2004 The Lewisburg Neighborhood Project: Findings and Recommendations of the Lewisburg Neighborhood Task Force
- 2002 Master Plan Forrest D. Brown Conference Center



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