



CHAPTER 5

THE PLAN

Ten-Year Projects • A Campus of Neighborhoods
Improving a Sense of Campus Community • Connecting the Campus
Supporting the Campus

The Campus Plan provides a comprehensive framework for making decisions about capital investments and development initiatives. It introduces ambitious new projects and initiatives intended to integrate growth with minimal impact on neighbors and the environment while safeguarding the very qualities that make the Princeton campus so special. This chapter presents the plan from two viewpoints—geographically and thematically—making it possible to understand the campus holistically as a family of distinct but interrelated neighborhoods with unique and shared infrastructure.

Aerial view of the campus, 2006



Ten-Year Projects

The Princeton Campus Plan is unprecedented in the University's history for its comprehensiveness. It touches on nearly every facet of the physical space of the campus, from buildings to landscape, from signage to campus shuttles. The uniqueness of Princeton's campus is the way in which these elements are integrated in a complete space, a strength that this plan reinforces. In addition to the many projects and initiatives specifically shown, the Campus Plan provides an ongoing forum and a context for innumerable decisions that will affect the physical design and functioning of the campus over the next decade. A wide range of issues can now be framed and explored by asking the question, "How would this concept fit into the Campus Plan?"

THE TEN-YEAR PROJECTS MAP

The map that follows summarizes most of the capital projects proposed by the Campus Plan, or integrated with it, for the ten-year period from 2006 to 2016. While a large number of projects are included, some proposals cannot be shown on a map, or are not technically part of the Campus Plan. Projects not shown on the next page include:

- Wayfinding and signage program (pages 140 to 145).
- Transportation demand management and campus transit systems (pages 146 to 157).

- Campus sustainability initiatives (pages 160 to 165).
- Development programs for which a site has not yet been selected.
- Building projects of a very small scale, or interior renovations, which do not have a campus planning impact (in other words, which result in no fundamental change of land use or physical design of the campus).

THE SCOPE OF THE CAMPUS PLAN

The map shows the ambitious scale of the University's plans for the next decade.

One measure of this scale is quantity: 70 individual projects are indicated in seven major categories. Some of these, such as the Arts and Transit Neighborhood, include numerous sub-projects. By the time this book is published, many of these projects will already be in the process of implementation, and some will be complete.

New building construction over the ten-year planning period will total approximately 2.1 million square feet in eight major projects. Approximately 850,000 square feet of existing buildings will be renovated for new uses, and approximately 150,000 square feet of new administrative and support space will be provided off campus.

The Campus Plan is not only about buildings, however. Equally important are projects that support campus life and enhance the infrastructure, open spaces, and circulation that support and connect the campus. The map shows a wide range of landscape and environmental restoration projects, athletic field improvements, parking facilities, and infrastructure including data and power supply; road, rail, bus, and shuttle facilities; bike paths; and stormwater management improvements. These elements are fully coordinated and integrated in an overall vision for the campus.

Taking all of these projects together, the total affected area of the campus is significant. Adding up the colored areas on the map, 127 acres of land will be largely reconstructed, fully one-third of the approximately 380 acres of the contiguous main campus. Also shown are approximately 50 acres of landscapes and natural areas that will be restored.

Much of this area is concentrated in a broad southern "belt" of new development, stretching across the entire campus, from the Arts and Transit Neighborhood on Alexander Street to the Butler Tract on Harrison Street. This sweeping arc of new growth will transform the southern edge of campus, redefining its relationship to the lake valley, and creating new gateways to visitors arriving from Route 1.

PROJECTS SERVE TO IMPLEMENT THE PLAN

The many projects shown in the Ten-Year Projects Map, as well as initiatives not shown, such as wayfinding and sustainability, will collectively serve to realize the physical implementation of the Campus Plan.

Enhancing the existing campus

While there is no longer available space for major construction within the Core Campus, the plan includes numerous projects that continue the University's stewardship of this significant historic area, while ensuring that it can continue to meet the functional needs of a modern institution. The reconstruction of Holder Court (L2), Cannon Green, and other spaces will restore the historic splendor of these landscapes, while subtly accommodating the need for vehicular access, high pedestrian traffic, reunion tents, and other factors that have damaged these original spaces over time.

Other projects are intended to enhance areas of post-war development, extending the sense of the campus, and better connecting these areas to the core. Along Shapiro Walk in the Prospect Avenue and William Street Neighborhood, for example, a landscape program (L13) will add pathways and create a richer palette of plantings, creating more attractive and walkable outdoor spaces for this part of campus.

Building to meet present needs

Most of the Campus Plan projects create spaces for the University's most critical new academic initiatives and other current and planned programs, and needed supporting infrastructure.

Examples of projects to meet current needs include the Arts and Transit Neighborhood (B1-3), where the Peter B. Lewis Center for the Arts will be located, Whitman College and the reconstructed Butler College (B5) to support a planned increase in the undergraduate population, and new playing fields such as the planned Roberts Stadium (A2).

Numerous supporting infrastructure projects are needed to enable the realization of these planned programs. The new parking facility (P5) will both support new growth and replace parking displaced by development. Streicker Bridge (F4) is a planned footbridge across Washington Road that will allow for crucial interdepartmental connections between several existing and new buildings in the Natural Sciences Neighborhood, as well as pedestrian crossing between the Ellipse and athletics areas.

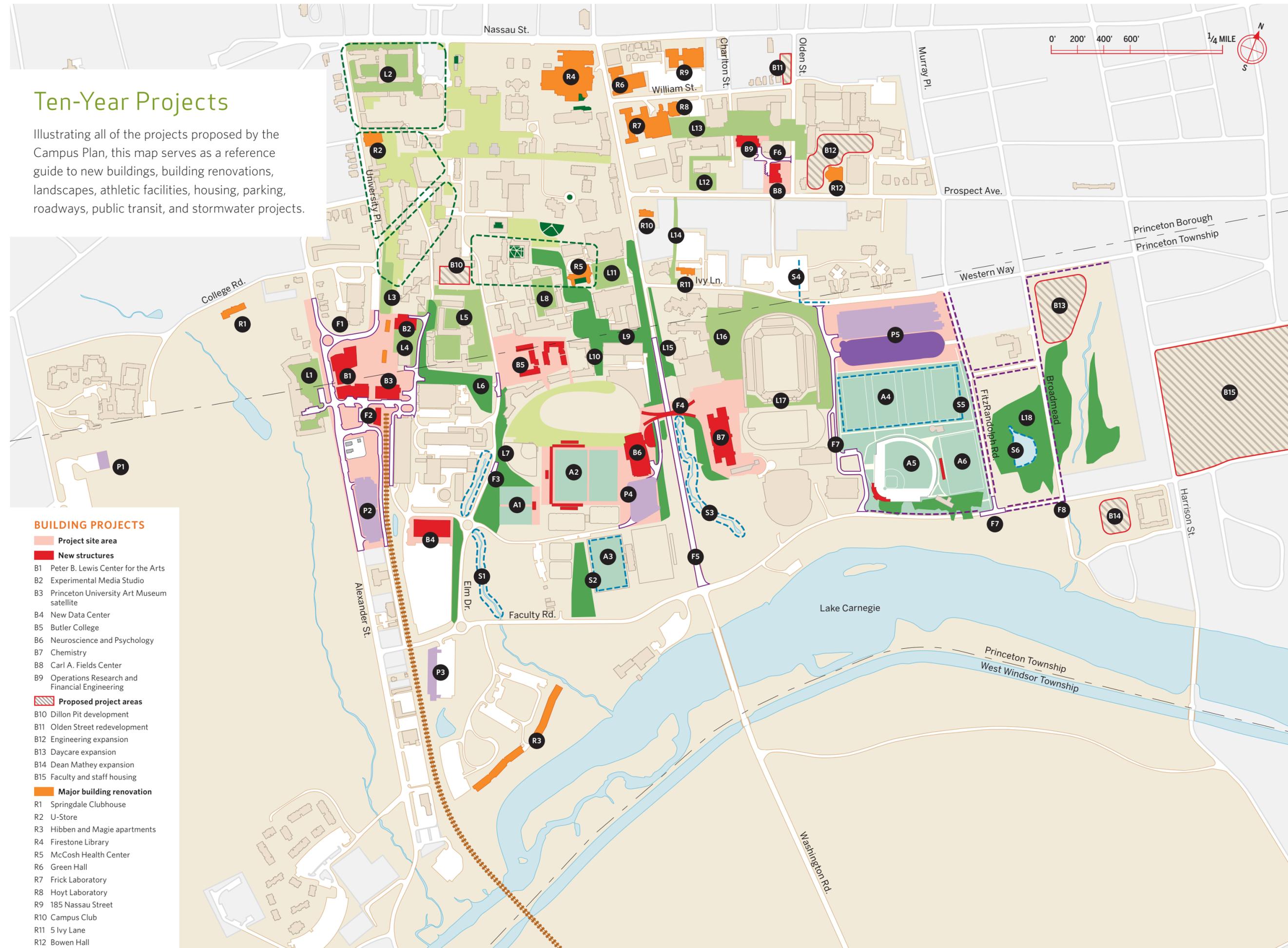
Preparing for the future

Other projects are more strategic in nature. While they may address a current need, they have been planned in such a way as to prepare the campus to better support long-term strategic objectives of growth, sustainability, and management of its demands on infrastructure. These forward-thinking initiatives will ensure that the University has flexibility in the future without compromising the needs of the present.

For example, the stormwater management plan includes the creation of an infiltration and retention bed below the planned east athletic fields (S5) that will provide additional capacity for future growth while protecting the health of the natural watershed and reducing the impacts of runoff on streams and valleys. The relocation of the Data Center (B4) will allow for the expansion of this mission-critical facility at a new site, making use of proximity to the power plant for backup power and cooling, while removing an incompatible land use from the Prospect Avenue neighborhood, thus allowing for future uses more in keeping with the character of that area. The renovation of Frick, Hoyt, and Green halls (R6-8) will create space for the long-term growth of the humanities and social sciences, which would otherwise have few expansion options.

Ten-Year Projects

Illustrating all of the projects proposed by the Campus Plan, this map serves as a reference guide to new buildings, building renovations, landscapes, athletic facilities, housing, parking, roadways, public transit, and stormwater projects.



BUILDING PROJECTS

- Project site area
- New structures
 - B1 Peter B. Lewis Center for the Arts
 - B2 Experimental Media Studio
 - B3 Princeton University Art Museum satellite
 - B4 New Data Center
 - B5 Butler College
 - B6 Neuroscience and Psychology
 - B7 Chemistry
 - B8 Carl A. Fields Center
 - B9 Operations Research and Financial Engineering
- Proposed project areas
 - B10 Dillon Pit development
 - B11 Olden Street redevelopment
 - B12 Engineering expansion
 - B13 Daycare expansion
 - B14 Dean Mathey expansion
 - B15 Faculty and staff housing
- Major building renovation
 - R1 Springdale Clubhouse
 - R2 U-Store
 - R3 Hibben and Magie apartments
 - R4 Firestone Library
 - R5 McCosh Health Center
 - R6 Green Hall
 - R7 Frick Laboratory
 - R8 Hoyt Laboratory
 - R9 185 Nassau Street
 - R10 Campus Club
 - R11 5 Ivy Lane
 - R12 Bowen Hall

LANDSCAPE PROJECTS

- Landscape project site area
- Constructed woodland
- Garden restorations
- Soils, planting, and restoration
- Tree planting areas (campus canopy)
- L1 Forbes College Green
- L2 Holder Court
- L3 Blair Walk extension
- L4 New South Green
- L5 Whitman College
- L6 Baker Lane
- L7 Elm Drive constructed woodland
- L8 Wilson Courtyard
- L9 Goheen Walk improvements
- L10 Landscape passage: Eno/Guyot Court to Poe
- L11 Frist Green
- L12 Bendheim Green improvements
- L13 Shapiro Walk
- L14 Prospect/Ivy Walk
- L15 Washington Road constructed woodland
- L16 Sciences Green
- L17 Stadium passage
- L18 East Basin constructed woodland

ATHLETIC FIELD IMPROVEMENTS

- Project site area
- A1 Lenz Tennis Center improvements
- A2 Roberts Stadium (soccer)
- A3 Bedford Field
- A4 Practice fields
- A5 Clarke Field relocation
- A6 Rugby field

PARKING PROJECTS

- Parking lots
- Parking garages
- P1 Lot 19 expansion (Graduate College)
- P2 Dinky commuter lot
- P3 Lot 23A expansion
- P4 Lot 20 reconfiguration
- P5 New campus parking facility

INFRASTRUCTURE

- Roadway improvements
- Sidewalk improvements
- F1 Alexander Street-University Place improvements
- F2 New Dinky station on Transit Plaza
- F3 Elm Drive guard station relocation
- F4 Streicker Bridge
- F5 Washington Road improvements
- F6 ORFE and Carl A. Fields Center roadway improvements
- F7 Parking facility and athletic field roadway improvements
- F8 Broadmead, FitzRandolph, and Faculty Road sidewalk improvements

STORMWATER MANAGEMENT

- Project site area
- S1 Elm Drive stream restoration
- S2 Infiltration/retention under Bedford Field
- S3 Washington Road stream restoration
- S4 Ivy Lane piping redirection
- S5 Infiltration/retention under eastern athletic fields
- S6 East Basin capacity upgrade



View of the Campus Plan model

A CAMPUS OF NEIGHBORHOODS

- Core Campus
- Arts and Transit
- Natural Sciences
- Ivy Lane and Western Way
- Prospect Avenue and William Street

Princeton's main campus is large in scale and characterized by an intricate layout across hilly terrain. While the Core Campus has a strong historic character, newer areas have a varying sense of identity. These outlying areas include academic and other spaces that support the daily activities of a large portion of the University community. They are also the locations for much of the growth proposed in the Campus Plan. To reinforce these developing areas, the plan adopts the concept of "campus neighborhoods" as a guiding principle.

Campus neighborhoods are geographic areas defined by commonalities of character, use, or activity, such as the arts or the natural sciences. They break down the scale of Princeton's large campus into comprehensible districts, often in support of interdisciplinary collaboration between departments. The word "neighborhood" as it is used here connotes a sense of social and academic community organized within a distinct physical space.

Princeton's singular campus cannot be segregated into isolated parts, however. Campus neighborhoods therefore are not the exclusive locations for certain activities, but rather for a concentration of intensity in a particular realm. For example, the Arts and Transit Neighborhood will be a hub for the visual and performing arts, but many other arts activities will continue to be distributed widely across the campus. Neither will the physical design of neighborhoods create divisions between parts of campus. Instead, they allow for subtle shifts in architecture and landscape within a larger coherent whole.

The idea of campus neighborhoods is also a tool for planning, so that new buildings do not become individual monuments, but instead are woven into the landscape and infrastructure of their surroundings, avoiding a series of "projects" that feel disconnected from each other and from the campus.

In addition to the Core Campus, four emerging campus neighborhoods make up the heart of the Campus Plan—these are the areas which will undergo the greatest transformation over the next ten years.

Core Campus Neighborhood

Balancing preservation and modern needs

Most observers will immediately associate the physical presence of the Core Campus with the very identity of Princeton University. This cherished space is distinguished by its vast and diverse collection of historically significant architecture, including three national historic landmarks (Nassau Hall, Maclean House, and Prospect House) and many important works by some of the most notable American architects of the 19th and early 20th centuries, including Benjamin Latrobe, John Notman, McKim Mead & White, Ralph Adams Cram, and Richard Morris Hunt. Although many architectural styles are represented, the Core Campus has a coherence resulting from a history of judicious campus planning, most notably by Ralph Adams Cram in the early 20th century, and from the great attention given to creating a park-like landscape, first by President McCosh and later by pioneering landscape architect Beatrix Farrand. The collegiate gothic architecture added to the campus during the presidency of Woodrow Wilson further defined the enduring sense of place that makes the campus such a profound aspect of the University's character.

The Campus Plan recognizes that within the Core Campus, very little space remains for significant new development. This densely built area, which nonetheless maintains a park-like character as a result of the careful integration of buildings and landscape, has reached a point of substantial completion. As a result, emerging campus neighborhoods surrounding the core are the principal areas of focus of the Campus Plan. The four other neighborhoods discussed in this chapter will absorb most of the projected new growth on campus in the next ten years and beyond and thus require significant attention to planning and design.

There are nonetheless a range of issues within the Core Campus that are addressed by the Campus Plan. Most of the initiatives of the plan in this neighborhood support the University's role as the ongoing steward of its historic legacy, while at the same time ensuring that the Core Campus continues to serve as the vibrant and active home for some of the most central functions of the institution, including academics, administration, and undergraduate life. The plan reinforces and builds upon Princeton's long experience in striking an appropriate balance between preservation and the operation of a modern institution.

As the Campus Plan took shape, the new Whitman College and Butler College dormitories were under construction. Designed to accommodate an expansion of the undergraduate class by 500 students, these structures will

likely be the last major construction projects in the Core Campus. They complete a sweeping arc of undergraduate housing first envisioned as a campus planning concept by Ralph Adams Cram in 1908. Other building projects in the Core Campus include the planned expansion of health and recreation facilities, for which several potential locations are under consideration, including the "Dillon Pit"—a sunken terrace south of the Dillon Gymnasium—and the possible reconfiguration of the McCosh Health Center.

A significant focus of the plan is placed on the enhancement of the historic landscapes of the Core Campus. A comprehensive landscape strategy includes the revitalization of historic gardens, such as Prospect Garden; the improvement of processional walks, such as McCosh Walk; the restoration of historic yet actively used campus greens, such as Holder Court; a tree planting and maintenance program; and soil restoration throughout the neighborhood. The landscape approach will not only enhance the historic beauty and park-like character of the Core Campus, but is also necessary to adapt the landscape to the intensive pressures placed on it by modern functional needs.

The original campus landscape was not designed to accommodate the high traffic and heavy use that occurs today, including vehicular traffic for maintenance, moving days, deliveries, and other purposes; heavy pedestrian activity, including recreational sports such as volleyball; and the large crowds and construction of tents, platforms, and other structures that occur regularly for commencement, reunions, and other events. Like Farrand's early plan for the campus, the plan creates resilient landscapes that are more resistant to damage from these factors, while also requiring less maintenance and improving environmental sustainability through measures such as the passive reuse of rainwater instead of irrigation. New standards for soils, planting, and paving will support these goals and buttress the health of historic trees. The introduction of young trees in the Core Campus will create a successive generation of tree canopy and mitigate the potential loss of distinctive older trees.

Together these initiatives will ensure the preservation and sustainability of the qualities that make Princeton's Core Campus one of the nation's most significant academic settings—the very place where the word "campus" was first used to refer to the grounds and buildings of a university.

Model view: Core Campus (from Nassau Street looking south)



Rendering of Blair Walk restoration



Rendering of Holder Court restoration

Arts and Transit Neighborhood

Creating a cultural and transportation hub that is both a campus and community destination

Unlike the historical development of cloistered enclosures separating the University from its surroundings, the new Arts and Transit Neighborhood at the western edge of campus will form a public space that is a nexus of both campus and community life. New public plazas will complement Princeton's existing public spaces—Palmer Square, the Scudder Plaza fountain, and Hinds Plaza at the public library—with a focal point for cultural life. New activities in the area will build upon and strengthen the longstanding presence of two anchors of the Princeton community: the McCarter Theatre Center and the New Jersey Transit Dinky railroad station.

The neighborhood will be the home of the new Peter B. Lewis Center for the Arts. According to President Tilghman, the center will enable the University “not only to expand its programs in the creative and performing arts, but to establish itself as a global leader in the quality of its offerings and in their integration into a broader liberal arts education.” The neighborhood will support academic programs in theater, dance, and music (which will also maintain its presence in Woolworth Hall) with new teaching, rehearsal, and administrative spaces. Shared performance venues will include a black box theater, a film theater, an experimental media studio, and a performance hall with a fly loft and orchestra pit. A new building for the Princeton University Art Museum will complement the existing museum with galleries for contemporary and rotating exhibits, teaching spaces, and a museum lounge/café and shop.

In addition to their teaching function, the new performance venues will host University-produced performances and other activities that will be open to the public. Combined with the art museum and the existing McCarter and Berlind theaters, the neighborhood will become a vibrant cultural destination for the region. Restaurants, cafés, and other public amenities will support the needs of visitors, while also appealing to faculty, staff, and students, as well as to the many riders of the Dinky and other transit services in the area.

These spaces will not all be housed in a single large structure but in a “village” of smaller buildings, compatible with the scale and texture of the surroundings, and interspersed with plazas and landscaped open spaces following

traditions of campus and town planning in Princeton. The buildings will be designed by a variety of architects, establishing a diversity of architectural expression within a coherent whole created by the neighborhood planning framework.

Before this vision for a mixed-use arts neighborhood can be implemented, many layers of transportation infrastructure in the area must be reconfigured into a coherent and functional system. The project itself will not generate new traffic—in fact it will reduce peak-hour traffic by replacing administrative offices with cultural uses. However, the roads and transit facilities in the area were not originally designed to handle the volume of regional and commuter traffic they now support. Changing regional traffic patterns, growth of town and campus, and the increasing appeal of the Dinky to daily commuters and other users have all led to significant traffic congestion. Any revitalization must improve traffic and transit facilities to create a more functional and attractive site.

A comprehensive upgrade of this regional transportation center will include the reconfiguration of the roadway network with a roundabout to reduce traffic congestion, and the creation of a multi-modal transportation hub. This proposed “Transit Plaza” will serve rail commuters and provide connections for cars, taxis, buses, a community jitney, campus shuttles, and bicycles, as well as the future bus rapid transit service proposed by New Jersey Transit. A new Dinky station building, with improved amenities for commuters including retail space, as well as the relocated 24-hour Wawa store, will face the pedestrian-oriented plaza.

Public parking for Dinky commuters and other users will be replaced, while parking for visitors to the new arts facilities and McCarter and Berlind theaters can be provided in the University's existing Lot 7 garage, utilizing capacity created by the reassignment of some University employees to the proposed new parking facility east of Washington Road. As a result of road and track realignments, the Lot 7 garage will be accessible directly from Alexander Street.

Taken together, the proposed transportation improvements, retail, public spaces, and buildings for the arts will create a lively and attractive gateway to the township and borough of Princeton as well as to the University.

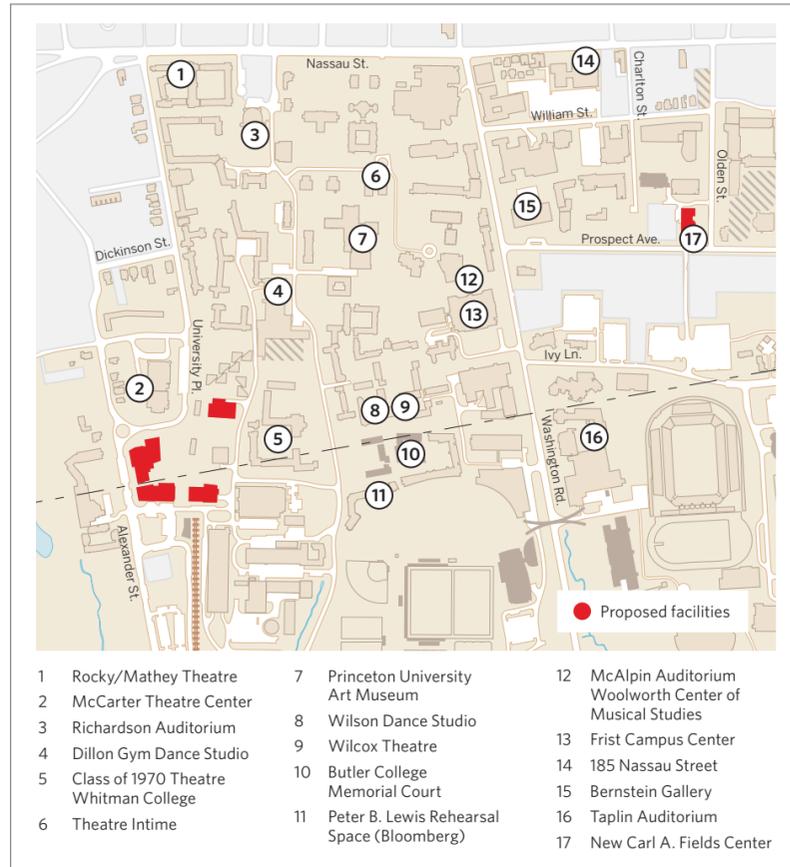


CONNECTIONS TO THE CAMPUS

Arts on campus

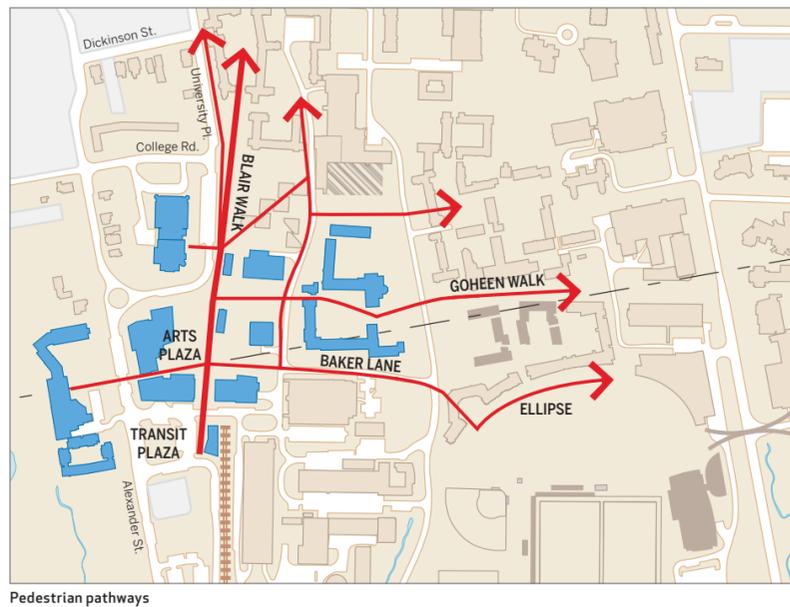
The Peter B. Lewis Center for the Arts and the Princeton University Art Museum satellite will create a new focal point for arts instruction, exhibition, and performance alongside the McCarter and Berlind theaters. The program will include retail and public amenities to enliven the new mixed-use district. At the same time, the new buildings will complement existing arts facilities across the campus. Existing destinations such as Richardson Auditorium, the Princeton University Art Museum, 185 Nassau Street, and myriad theater, rehearsal, gallery, and studio spaces will continue to serve the arts communities on campus and throughout the region. This strategy supports the “edge-to-edge deployment” of the arts on campus recommended by President Tilghman’s 2006 Creative and Performing Arts Initiative.

University arts facilities

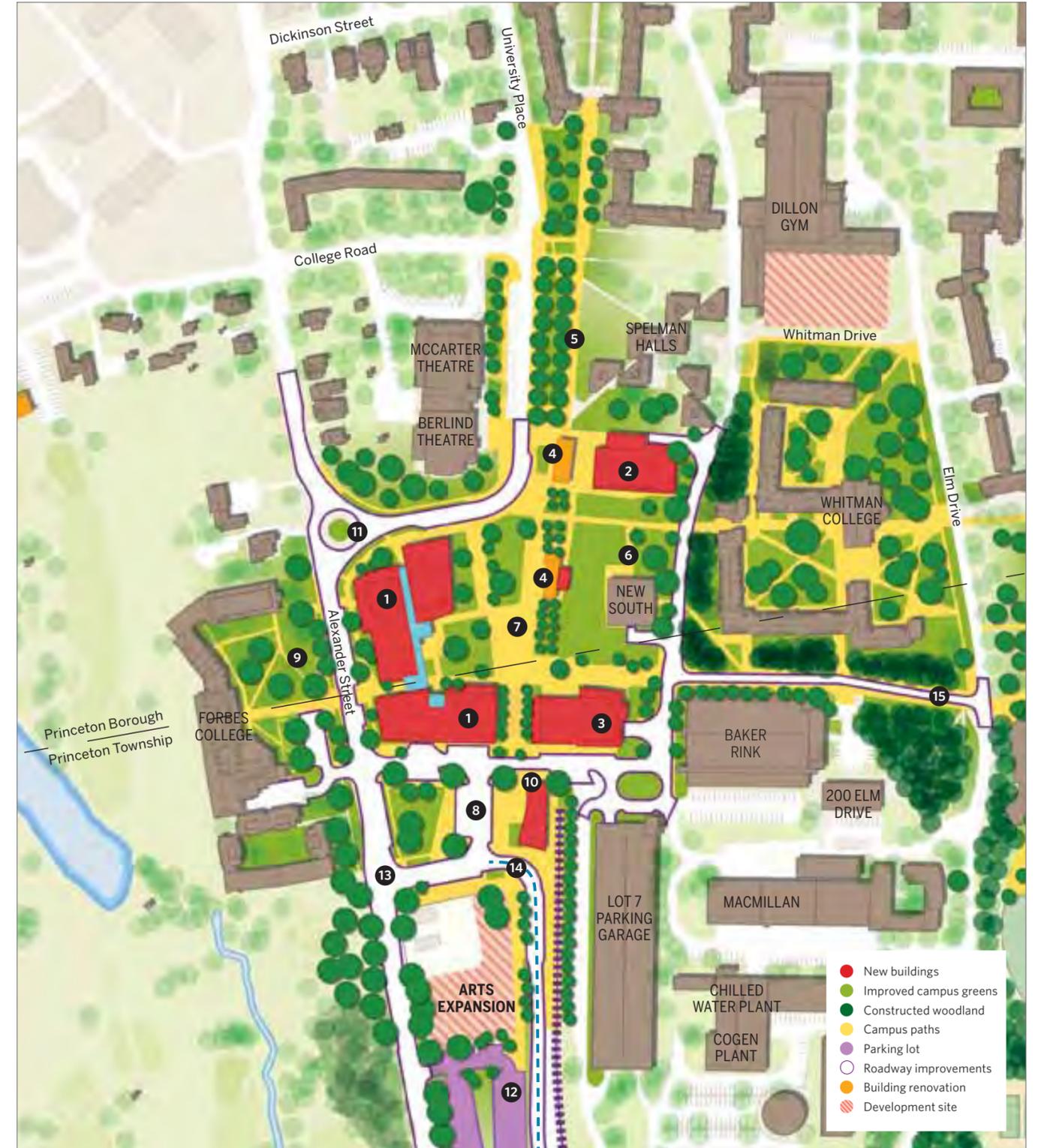


Pedestrian connections

The Arts and Transit Neighborhood will create a gateway to both the campus and the surrounding community for visitors arriving by car, bus, train, and bike, with a new pathway network radiating into the campus and connecting the Dinky station to Nassau Street. The historic Blair Walk, designed by Beatrix Farrand in the 1920s as a pedestrian promenade into the Core Campus, will be extended to the new station. New public plazas, animated by retail and arts activities, will form a crossroads for campus and town walking routes in both east-west and north-south directions.



Arts and Transit Neighborhood framework plan



PROPOSED PROJECTS

Arts and Retail Facilities

- Peter B. Lewis Center for the Arts
- Experimental Media Studio
- Princeton University Art Museum satellite
- Repurposed Dinky buildings for retail

Public Spaces and Amenities

- Blair Walk extension
- New South Green
- Arts Plaza
- Transit Plaza
- Forbes Green

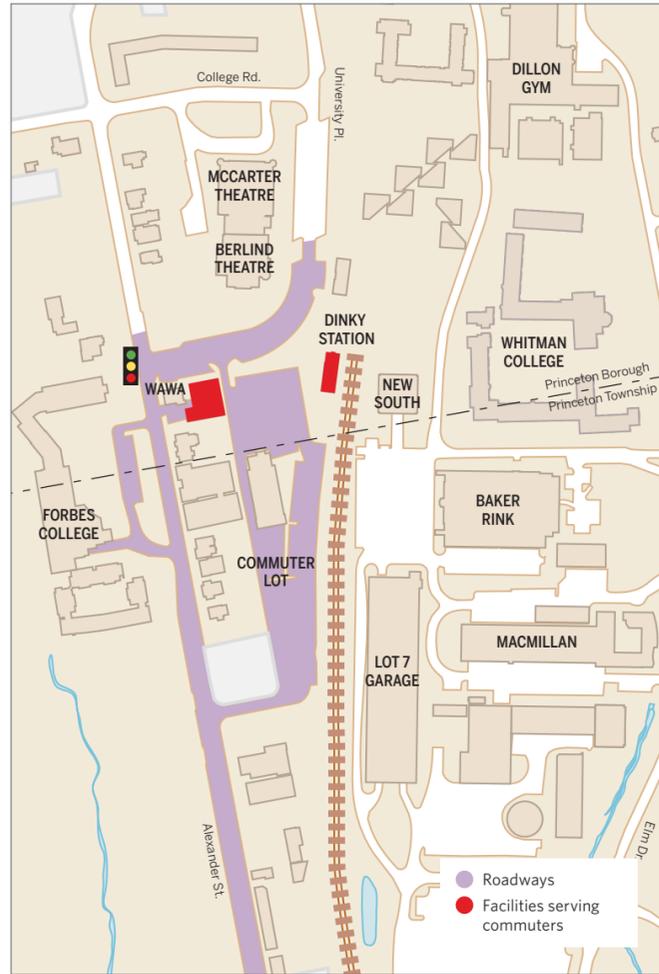
Infrastructure

- New Dinky station
- New roundabout
- New Dinky commuter parking lot
- Improved roadways

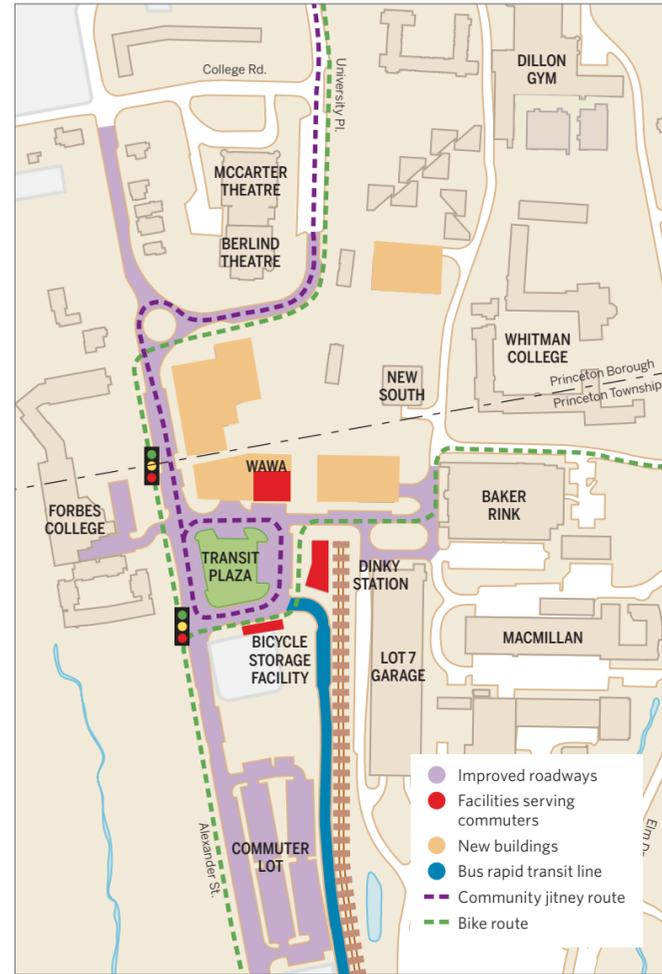
Other Projects

- Potential bus rapid transit
- Baker Lane





Transportation infrastructure, 2006



Transportation infrastructure, 2016

The proposed design reconfigures roadways, the Dinky rail line, and parking areas to improve traffic flows and create a multi-modal transportation hub at the new station, which can also accommodate potential bus rapid transit service.

TRAFFIC AND TRANSIT

The redesign of the roadway network at the Arts and Transit Neighborhood will alleviate existing congestion by reducing peak-hour traffic-generating land uses and by eliminating the concentration of conflicting traffic movements at the intersection of Alexander Street and University Place (see Traffic section, page 152). A new roundabout will remove a traffic light and nearby parking at the problematic intersection. It will encourage the natural flow of traffic toward University Place and provide an arrival point to both the campus and community when approaching from the south.

A new signalized pedestrian crossing at Forbes College will move pedestrians away from the vehicular intersection. Further to the south, the Transit Plaza will reduce traffic congestion by providing off-the-road access to the Wawa and the drops-offs for a community jitney, the Dinky, and the arts venues. By removing these functions from the intersection of Alexander Street and University Place, the proposed redesign will maintain a smoother flow and more controlled distribution of traffic. A road linking to Lot 7 garage will draw University employees, visitors, and patrons of the arts directly from Alexander Street.

The existing administrative uses and parking lots on the site contribute to peak-hour morning and afternoon traffic as employees travel to and from work. The replacement of these uses with cultural and retail uses will reduce peak hour volumes since the new uses will draw visitors to the neighborhood in the evenings, afternoons, or weekends when the roads are less congested. Although all the public and commuter parking spaces that are currently on the site will be replaced in kind, University-related parking will be reduced at the site.

A GREEN PRINCETON

The new Arts and Transit Neighborhood is carefully planned to provide a 21st century mixed-use transit hub. The incorporation of a new Transit Plaza into the plan is an important environmental first step. The Transit Plaza will provide an improved station for the Dinky, stops for a proposed community jitney, a stop for University shuttles, bike rental and storage, and dedicated space for a possible future bus rapid transit expansion. These amenities and services will promote the use of public transit as an alternative to single-passenger vehicles for commuters and visitors. Direct access to the Lot 7 garage will reduce the vehicle miles traveled by commuters who arrive from the north to park in the facility by three-quarters of a mile in each direction. This in turn reduces the associated carbon emissions. Through energy efficient design, new buildings in the neighborhood will perform significantly above the requirements set by ASHRAE Standard 90.1.



Model photo of Arts and Transit Neighborhood looking east toward the Natural Sciences Neighborhood



Princeton University Orchestra

arts in society

I am tempted to rely on that over-used, misapplied word “revolution” to describe the establishment of the University Center for the Creative and Performing Arts, because there is something so unique, so forward-looking, even daring about it. But the term is wholly inaccurate because, innovative as it is, the concept is not disruptive. In fact, it is just the opposite: the realization of the necessity of art as a full and integral part of first-rate, higher education combined with a recognition of how artists work. The notion of the solitary writer, painter, musician, is an attractive myth (but even van Gogh had Gauguin as a housemate for a while). The relationship between creative art and research/analysis/criticism is an inseparable one. I can’t think of a single living artist who has not collaborated with someone in another genre (screenwriting, set design, or lyrics, narrative, music composition, video, photography, theater performances, architects, dance choreography, film). And I can’t think of any who did not rely on or produce appropriate scholarship.

So innovative as it is, the center is also natural, organic, “... indispensable” as President Tilghman has said, “to Princeton University’s special version of liberal arts education.” While I am not certain, I don’t believe there is another university in the country which has committed itself so concretely to the view of intellectual life as deficient without serious attention to the arts. Not just for the aspiring professional artist: not limited to an amiable pastime available in separate enclaves; but an assumption that art is an intellectual pursuit —struck, perhaps, by lightning bolts of inspiration; inoperable without the power of the imagination, but a pursuit deeper and much more profound than even the talent and genius of its purveyors. Princeton University is a natural habitat for such a pursuit.

Excerpts from remarks by

Toni Morrison

Goheen Professor in the Humanities, Emeritus
April 19, 2007

Natural Sciences Neighborhood

Fostering scientific collaboration in a natural setting

The natural sciences represent one of the most dynamic areas of growth and change at Princeton. Rapid advances in the sciences continue to generate new fields of inquiry, which require larger research buildings of ever-increasing technological sophistication. New interdisciplinary programs have been created, including the Lewis-Sigler Institute for Integrative Genomics and the Princeton Neuroscience Institute, and longstanding scientific disciplines such as chemistry can no longer accommodate modern laboratory-based research in the aging buildings that house them.

The Campus Plan proposes new buildings for chemistry, neuroscience, and psychology as part of a significant expansion and consolidation of science departments into a Natural Sciences Neighborhood at the south end of Washington Road. Such concentration has significant advantages. In the words of President Tilghman, speaking of the Neurosciences Institute, "To forge a true community of scholars, with shared facilities and instruments, we plan to construct a state-of-the-art neuroscience center in close proximity to other scientific disciplines, allowing faculty and students to move between the institute and their home departments with ease. The questions with which the institute will grapple are among the most exciting in the scientific world today, and the creative collaborations, serendipitous discoveries, and intellectual advances that lie ahead will shape the face of neuroscience in this country and beyond."

Streicker Bridge, a pedestrian footbridge across Washington Road designed by the distinguished Swiss engineer Christian Menn, will reinforce these connections by linking multiple buildings that have previously been separated by this major roadway. Outdoor pathways and basement-level passages will link buildings on either side of the road like a "ladder," with the bridge and the Goheen Walk crosswalk acting as the rungs.

One significant challenge of the Natural Sciences Neighborhood design is integrating the increasing size and bulk of modern research buildings into the human scale of the campus. The large mass of these buildings is due partly to their stringent requirements for high-technology systems and equipment, and partly to the fact that, at Princeton,

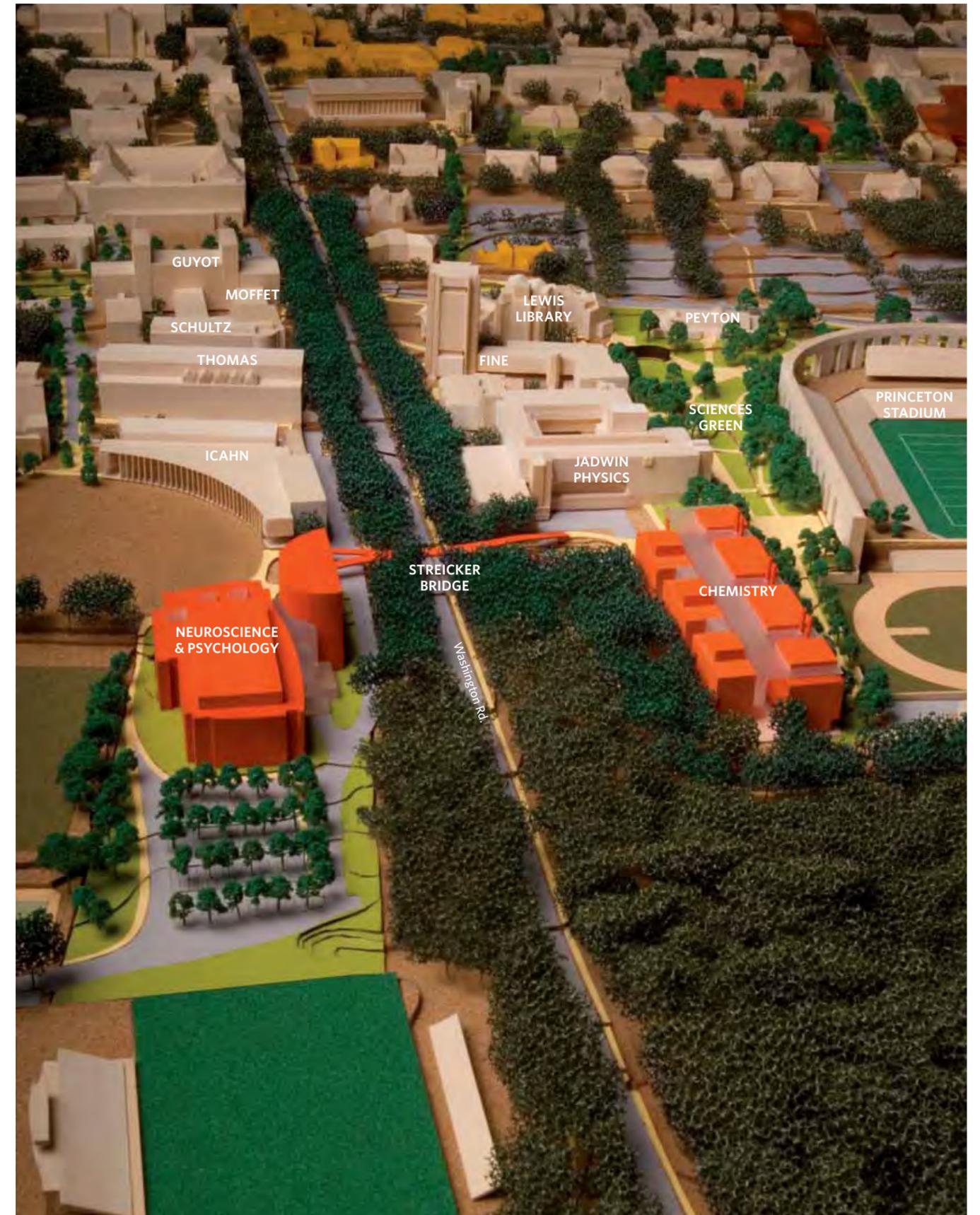
teaching continues to be emphasized in addition to research. As a result, the new Chemistry building will include more fume hoods and lab benches than would be required for a pure research space.

A structure like the Chemistry building would be vastly out of scale if it were located within the Core Campus. The planning strategy instead positions these buildings at the southern edge of campus, where the natural landscape of robust woodlands and ravines will provide an appropriate visual and experiential buffer to their size, as well as a pastoral view from offices and labs. A modern architectural vocabulary, emphasizing lightness and transparency, will characterize these structures, reducing their apparent size and relating them to the scenic surroundings in a very different way than the stone and brick buildings of the upper campus.

The design of this neighborhood will actually improve rather than degrade the natural ecology of the site. New buildings are located on existing parking lots, resulting in a net increase in green space over existing conditions today. The surrounding woodlands will be restored and expanded up to and between buildings, improving ecological balance by interconnecting fragmented natural areas. Stormwater runoff, currently directed to an overstressed and eroded streambed along Washington Road, will be recaptured for use as gray water within buildings, with the excess directed to "biofiltration" areas: landscapes that are both aesthetic and functional. These measures will allow the stream to be restored, further enhancing the natural balance of the entire Washington Road valley.

Combined with the advanced sustainability measures planned for the Chemistry, Neuroscience, and Psychology buildings, the Natural Sciences Neighborhood will be one of the most environmentally sustainable areas of campus. Appropriately, scientists and students in the natural sciences will be able to experience and appreciate the implementation of environmental principles in their daily surroundings.

Model view: Natural Sciences Neighborhood



CONNECTIONS TO THE CAMPUS

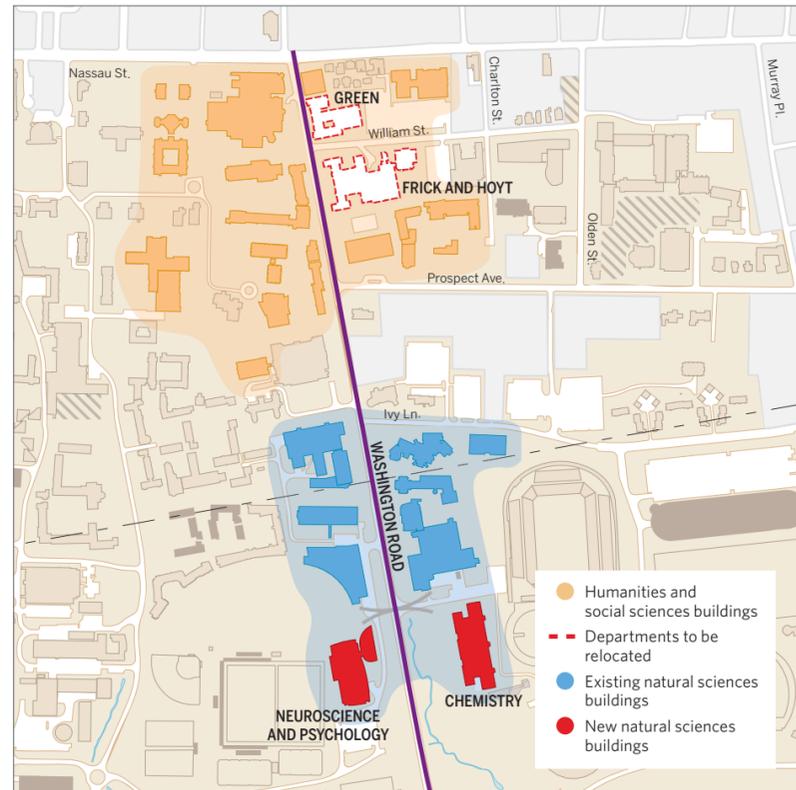
The planning framework for the Natural Sciences Neighborhood has been guided by a deliberate strategy to create new avenues for scientific collaboration and discovery by consolidating the natural sciences disciplines for the first time on campus. Its location at the foot of Washington Road will establish the neighborhood as one of the gateways to the campus, with Streicker Bridge as the iconic arrival point. The bridge will be part of a larger network of pedestrian connections to tie the neighborhood to the rest of the campus.

Consolidation of academic departments

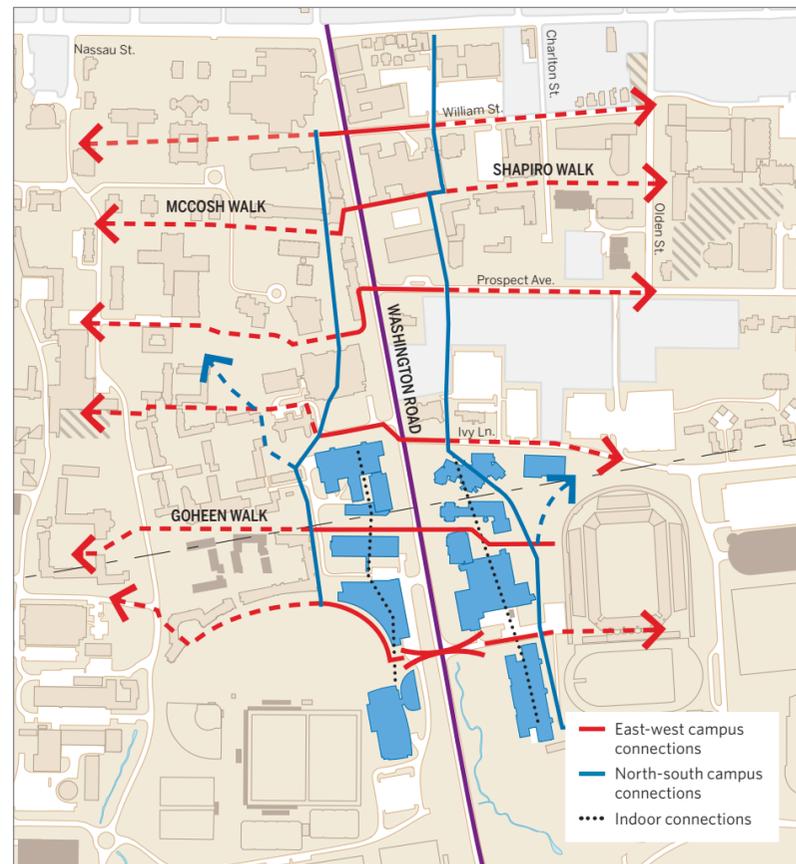
While the majority of natural sciences buildings are located south of Ivy Lane and the Frist Campus Center, some natural sciences departments have been historically housed in buildings along the northern portion of Washington Road. With the construction of the new Chemistry, Neuroscience, and Psychology buildings, all natural sciences departments will be consolidated into one neighborhood. Frick Laboratory, Hoyt Laboratory, and Green Hall will no longer house the natural sciences. Instead, they will be made available for humanities and social sciences departments, thus alleviating overcrowding in other academic buildings. This shift in building uses creates distinct interdisciplinary precincts on campus, with a natural sciences concentration in the south and humanities and social sciences in the north.

A ladder of pathways along Washington Road

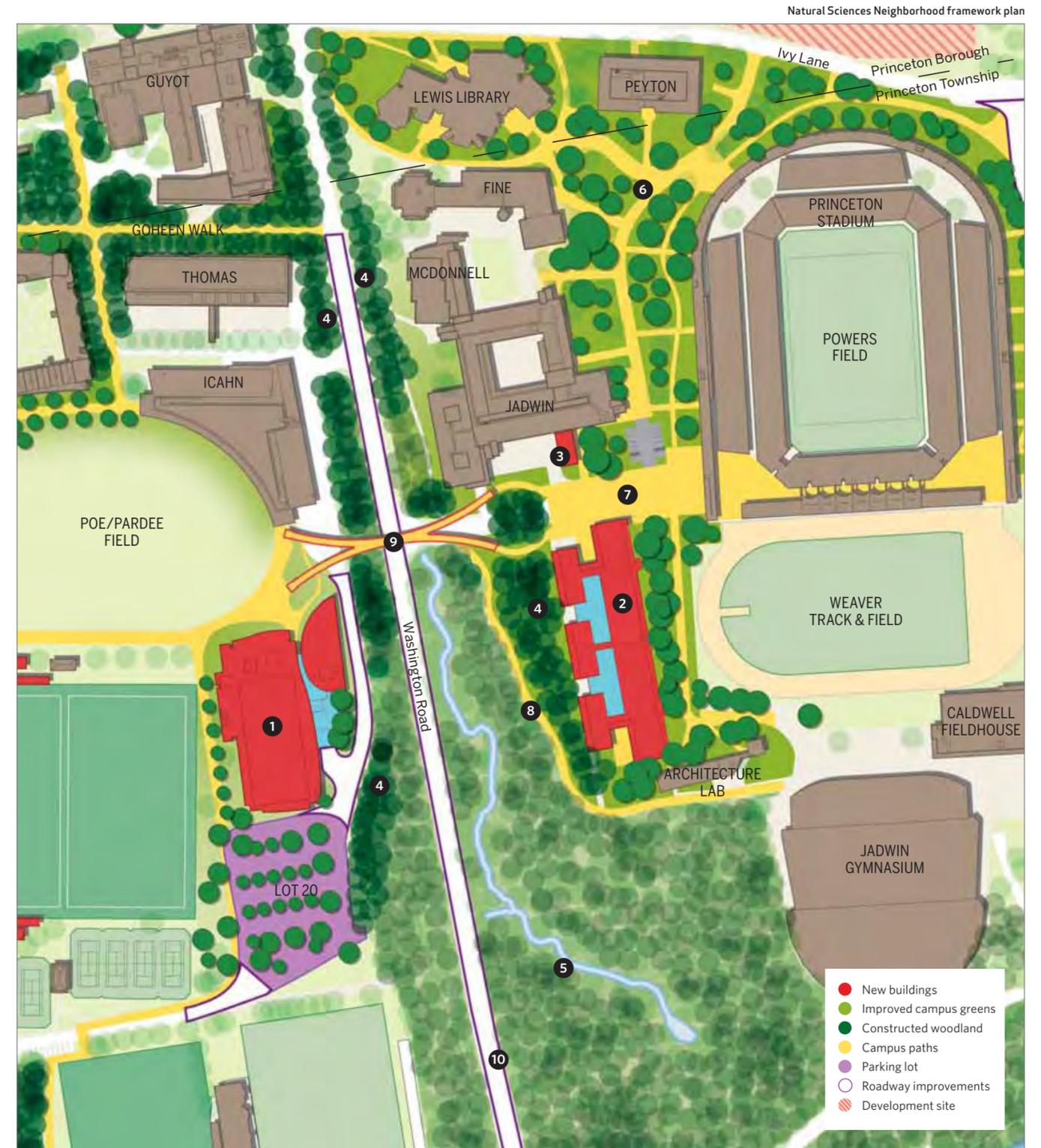
Historically, pedestrian walks have played an important role in preserving the connections between the eastern and western portions of campus. These connections will become especially important for the Natural Science Neighborhood as new buildings straddle the main thoroughfare of Washington Road. The new Streicker Bridge will complete a critical southern link on campus, providing a safe and scenic pedestrian passage from the Ellipse to Princeton Stadium. This new east-west link will be a rung in a "ladder" of east-west links on campus. The ladder is composed of a combination of existing and proposed north-south pathways that parallel Washington Road. Apart from Streicker Bridge, the rungs of the ladder are made up of established crossings at McCosh Walk, Prospect Avenue, Ivy Lane, and Goheen Walk.



Consolidation of the natural sciences



East-west pedestrian pathways



PROPOSED PROJECTS

Academic Buildings

- 1 Neuroscience and Psychology
- 2 Chemistry
- 3 Jadwin Physics loading dock improvement

Landscapes and Stormwater Management

- 4 Constructed woodland
- 5 Stream restoration
- 6 Sciences Green
- 7 Chemistry Plaza

Pedestrian Safety

- 8 Woodland path
- 9 Streicker Bridge
- 10 Washington Road improvements



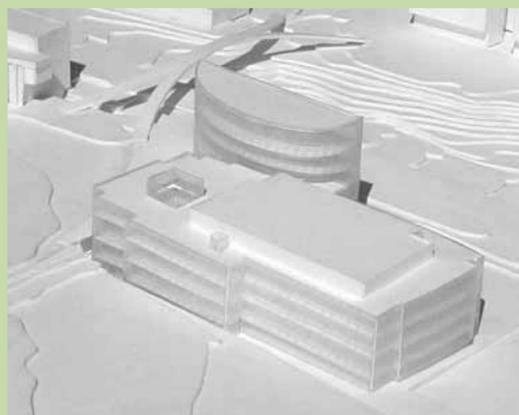


Chemistry

Architect: Hopkins Architects of London in collaboration with Payette Associates of Boston, MA
Landscape Architect: Michael Van Valkenburgh Associates
Size: 240,000 – 250,000 square feet
Scheduled completion: Fall 2010

Key features The Chemistry building will be clad primarily in glass and stone panels set in a structural framework. It will feature state-of-the-art laboratory and teaching spaces on the east side of the building with offices on the west side of the building facing Washington Road. The two wings of the buildings will be joined by a skylit atrium that will feature pedestrian connectors at three levels and public meeting spaces. A new multi-modal pedestrian plaza is being designed at the entrance of the building. In addition to being located at the eastern terminus of the Streicker pedestrian bridge, this plaza will serve as an active gathering and circulation space creating an animated focal point for the Natural Sciences Neighborhood. The building's design incorporates several "green" features which are discussed in the Green Princeton section of this chapter.

Landscape The landscape design for the Chemistry building takes into account its location adjacent to a sensitive stream and existing woodlands, both of which will be enhanced and restored. A nature walk is proposed to run along the building's western edge, paralleling the stream channel. In addition to providing an opportunity for recreation, this new nature walk will improve pedestrian circulation within this neighborhood. The area on the east side of the new Chemistry building will be landscaped to remove the existing parking lot and strengthen the pedestrian connections to the athletics facilities to the east and south and the other science buildings to the north. The overall experience of the sciences neighborhood will be further improved by providing a green corridor that connects all the science buildings along Princeton Stadium's west façade.



Neuroscience and Psychology

Architect: Rafael Moneo Arquitecto of Madrid, Spain in collaboration with Davis Brody Bond of New York City
Landscape Architect: Michael Van Valkenburgh Associates
Size: 200,000 square feet

Key features The Neuroscience and Psychology buildings will take an innovative approach to studying the brain and nervous system by housing two disciplines in separate wings of a shared space. The Department of Psychology and a new Neuroscience Institute will be located in two new buildings that will incorporate classrooms, laboratories, offices, meeting rooms, and some specialty spaces, such as a place to house the University's functional magnetic resonance imaging (fMRI) scanner.

The buildings will also frame the southeast corner of Poe Field, just west of Washington Road. The northern entrance will have a physical and aesthetic relationship to the new Streicker Bridge, which will connect the buildings to other parts of the Natural Sciences Neighborhood on the eastern side of Washington Road.



Streicker Bridge

Designer: Engineer Christian Menn of Switzerland in collaboration with U.S.-based HNTB
Scheduled completion: 2010

Key features The design for Streicker Bridge is a curved x-shaped superstructure supported by a single arch. The new bridge will span 300 feet and rise about 23 feet above street level at its highest point, serving as a gateway to the campus and the community for vehicles traveling north on Washington Road. The bridge will connect the athletics and science buildings on the east side of campus with new and existing buildings on the west side of campus, completing a critical missing link in the pedestrian route along the southern edge of campus. The approach to the bridge on the west side of campus will be framed by the Ellipse, Icahn Laboratory, and the new Neuroscience and Psychology buildings. The eastern terminus of the bridge will land in a new multi-modal pedestrian plaza that provides entry to Jadwin Hall and the proposed Chemistry building, as well as access to Princeton Stadium and other destinations to the east such as athletic fields and the proposed new parking facility.



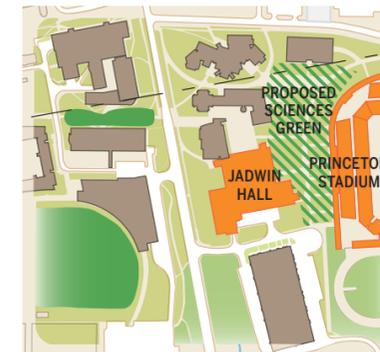
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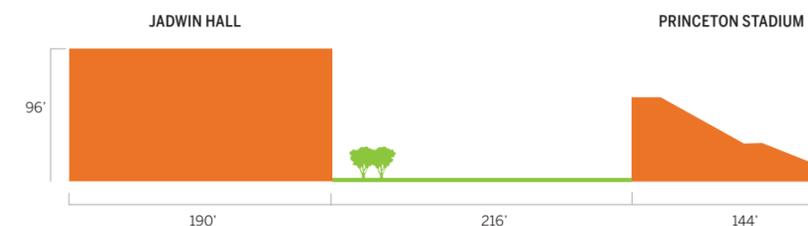
Jadwin and Fine halls



Historic campus landscapes



Post-war campus landscapes



Rendering of proposed Sciences Green

Scale of buildings and open space

While the south end of Washington Road has been an appropriate location for science buildings, the scale and bulk of these facilities have made it difficult to create the intimate pedestrian-oriented scale that is characteristic of the historic area of campus. Open spaces such as the Jadwin courtyard and the perimeter of the stadium are uninviting and disjointed from the active interior life of the buildings—in contrast to the variety of social outdoor spaces of historic courtyards such as the one in Holder. While the Holder Court maintains a human-scaled ratio of buildings to open space, the post-war landscapes on the southern part of campus lack the same proportions and relationships between interior and exterior. As part of the proposed landscape and building designs in the Natural Sciences Neighborhood, dynamic pedestrian plazas and redesigned open spaces will bring new life to the outdoor spaces. Tree plantings, view corridors, and active façades will enhance the pedestrian qualities of the greens.

Sciences Green

The Sciences Green is an open space that lies between Princeton Stadium to the east and the natural sciences buildings to the west. It has the potential to be a defining central green for the Natural Sciences Neighborhood that frames the bold new architecture of Frank Gehry's Lewis Library and Michael Hopkins' Chemistry building. At present this area has a barren underutilized landscape that is further weakened by the vehicular ring-road around the stadium. While considering utilitarian issues such as the impact of new loading requirements for Peyton Hall, the new design for this area will open up key views through selective tree removal and re-orient pathways for deep views and north-south connectivity. Additionally, the Sciences Green will provide a foundation for the development of a new "East Diagonal" that will link this neighborhood to future development along Ivy Lane and Western Way.



A bird's eye view of the new Chemistry building showing the solar photovoltaic panels highlighted in blue

CHEMISTRY BUILDING

In addition to landscape and stormwater strategies that will restore, enhance, and expand the natural areas, the new Chemistry building will incorporate sustainable building technologies. A series of proposed features will reduce energy demand and conserve water. As the highest utility user on campus, this building provides an opportunity to implement aggressive energy efficiency measures.

Extensive high-performance glazing will provide ambient daylighting of interior spaces, linked with sensors for control of dimmable electric lighting systems. Architectural shading elements will decrease solar heat gain in summer. One such element will be a roof canopy over the atrium interior, with solar photovoltaic panels designed to generate electricity. Integrated mechanical systems will enable optimal transfer of cooled and heated air from offices through the atrium and incorporate displacement heating and cooling in the auditorium. High-efficiency laboratory fume hoods with automatic sash closers will reduce both air supply and exhaust requirements, and heat recovery systems will capture energy from lab exhaust. A gray water system will collect and recycle stormwater for non-potable uses. Landscaped rain gardens and biofiltration areas will retain and filter additional building and site stormwater.

ENVIRONMENTAL RESTORATION

The experience of a naturalistic woodland setting as a feature of daily life has been a central theme of campus development at Princeton for the last 250 years. In this tradition, early 20th century designer Beatrix Farrand devised a series of pathways that drew people southward to Lake Carnegie across a lush stretch of natural woodland terrain. However, as vehicular traffic proliferated, the connection between the campus greens to the north and the woodlands to the south gradually fragmented, surrendering much of Farrand's original path network to parking lots, service areas, and roadways.

New developments in the sciences neighborhood offer an opportunity to restore the integrity of Farrand's vision by reuniting the woodlands with the rest of campus through the introduction of an expanded green belt that will extend northward up Washington Road to Lewis Library. The construction of the woodland threshold and the nature paths east and west of the Chemistry building will provide a lush natural setting for existing and new buildings from Lake Carnegie to the Frist Campus Center. It will reinforce the University's proximity to the natural valley of Lake Carnegie while providing an integrated stormwater system and restored natural habitats.

Contemporary scientific research is a study in contrasts: larger and larger scale effort to study more and more complex and, typically, ever-smaller scale phenomena. The challenge is to incorporate these large and complicated pursuits into the exquisite setting at Princeton, the paradigm set by the design, diversity, and execution of the buildings, and landscape of the Core Campus. The challenge is to architecturally control the massing of these new structures and integrate them into our campus in a cost-effective and environmentally sustainable way. This preservation, and in some ways augmentation, of the natural and historic beauty of our campus, while meeting the goals of our expanding scientific portfolio, is both demanding and exciting.

—PAUL LAMARCHE,
VICE PROVOST

the changing nature of research

Princeton stands unique among the world's "top ten" research universities with its small scale, its singular faculty committed to teaching undergraduate and graduate students, and its emphasis on high-quality research across all departments and divisions. As do their peers at other crucibles of leading research, scholars here pose and answer profound questions that could not even have been asked a few years ago. They generate ideas, scientific discoveries, and associated technologies that redefine society itself, often within a generation, let alone a lifetime. This relentless progress also spawns risks, side effects, and policy issues of great research interest themselves.

Today's research increasingly transcends traditional disciplinary boundaries, transforming the modes in which scholars operate. Princeton thrives in this new environment, as interdepartmental relationships have always been close, making it easy and natural to create institutes to address new initiatives and provide homes for shared facilities. Among these, the Princeton Environmental Institute and the Princeton Institute for the Science and Technology of Materials link researchers in engineering and the sciences as well as in other fields. Princeton researchers also benefit greatly from the presence of intellectual connections with the Princeton Plasma Physics Laboratory and the Geophysical Fluid Dynamics Laboratory at Forrestal, and the neighboring Institute for Advanced Study.



Undergraduate research in the Lewis-Sigler Institute's Integrated Science Program

Nevertheless we face a daunting challenge to keep up with all this, and to stay at the top! Research is expensive and space intensive: new laboratory buildings with sophisticated facilities, high startup costs for new faculty, and the constant need to renew all facets of our existing infrastructure can break any budget. The reason is simple—to make progress one must go where no one has gone before. As Princeton Nobelist Val Fitch once said, "You can't buy a world's-best department, but you have to pay for it!" In 2007, Princeton research sponsored by external funding totaled \$240 million—22 percent of Princeton's operating budget. Almost 90 percent of this research funding was provided by agencies of the federal government. It is of great concern, therefore, that competition for government support has greatly intensified, and institutions are expected to share an increasing fraction of the costs.

The new Campus Plan strongly and optimally enhances Princeton's interdisciplinary connections among the sciences, and hence its competitiveness and attractiveness to outstanding scholars. As a prime example, the Lewis-Sigler Institute for Integrative Genomics brings biologists, chemists, physicists, neuroscientists, engineers, and computer scientists together to perform experiments, simulations, and theoretical research to produce a fundamental understanding of the genome. Connections among molecular biology, physics, and mathematics were firmly cemented by the arrival of the Carl Icahn Laboratory across the street from Jadwin Hall. By contrast, the current locations of chemistry, neuroscience, and psychology inhibit interactions and sharing of facilities with their natural partners. Fortunately these problems will soon disappear with magnificent new buildings and state-of-the-art facilities for chemistry, psychology, and neuroscience to be located in the same neighborhood as physics and genomics.

With the beautiful Streicker Bridge across Washington Road and the preservation of the natural landscape, a spectacular new Science Neighborhood will be complete. Princeton's research future is bright indeed!

A.J. Stewart Smith
Dean for Research

Ivy Lane and Western Way Neighborhood

Integrating a once-remote area into the life of the campus and strengthening athletics

Ivy Lane and Western Way are two names for one continuous road that crosses the borough and township border as it extends east of campus. Encompassing lands on both sides of the road, the neighborhood forms the southeast edge of campus, and is home to Princeton Stadium, Clarke baseball field, and other athletics facilities.

The neighborhood seems farther away from the center of campus than it really is, a quality amplified by limited pathways and relatively low activity levels. Despite its seeming remoteness, this area is gradually becoming more connected to the center of campus. The Frist Campus Center, located at the geographic center of campus, is in fact as close to this neighborhood as to the traditional campus core to the west. The new Lewis Library, designed by Frank Gehry, is also bringing increased activity to this area.

The Campus Plan anticipates the continuation into the future of the easterly direction of growth begun by the library. While the ten-year plan includes no specific plans for new academic buildings in this area, it is a crucial location for future academic development. The plan establishes the principles and conditions needed to support long-term growth so that, over time, the neighborhood will become a fully integrated part of the future campus. Future development will need to provide new open spaces and pathways, strengthen the athletics district, and create an appropriate transition between the larger scale of academic buildings and the smaller scale of the residential community to the east. The plan proposes that FitzRandolph Road be the limit of future academic development in this neighborhood, although support uses that are compatible with the residential context, such as daycare, may be located east of FitzRandolph.

Several projects planned within ten years will begin integrating more of the Ivy Lane and Western Way Neighborhood into the daily life of the campus.

A parking facility to be located south of Western Way will meet the critical demand for new spaces and the loss of other parking areas to development. The facility will combine a low-profile garage set into the hillside with a landscaped surface parking lot. This concept was developed after an extensive study of alternative sites and strategies, which determined that of all possible locations for new parking, this site was within the closest walking distance of the majority of academic and administrative buildings where Princeton's commuting employees work.

With adequate and convenient parking, employees will be encouraged to walk from their parking spots to work using improved pathways connecting north and west to the E-Quad, Natural Sciences Neighborhood, and Core Campus. As a result, the new facility will reduce dependence on shuttle buses and avoid the risk that people will seek more convenient parking on neighborhood streets. Traffic access will be from Faculty Road, which with small modifications will have the capacity to collect commuter traffic and thus reduce impacts on surrounding neighborhoods. Finally, some employees will be reassigned from the Lot 7 garage near the Arts and Transit Neighborhood, thus freeing up space in that facility and avoiding a costly new garage in the western part of campus.

At the same time, the current practice fields and Clarke baseball field will be rebuilt and improved, defining a newly strengthened athletics neighborhood centered on the Caldwell Fieldhouse and replacing the existing parking Lot 21. A new rugby field will be added, lighting will be improved, and some fields will be surfaced with artificial turf, vastly increasing their utilization.

The Data Center currently located at 87 Prospect Avenue will be relocated out of the area, since its planned expansion, including a significant backup power and cooling plant, was deemed not only incompatible with the residential context but also a poor use of space in this increasingly campus-like area. It will either be moved to the Lot 16 site on the west side of campus or to an off-campus site. The existing building will be used as administrative space and is likely to be demolished eventually.

Campus daycare facilities, located at 171 Broadmead, will be expanded to a site known as the "Broadmead Fields," convenient for employees using the new parking facility as well as for faculty and staff who live nearby. Eventually, daycare facilities may be expanded in this location, creating a daycare "village" designed as a set of small-scale buildings compatible with the residential surroundings.

Each of these projects will contribute to the increased vitality of the Ivy Lane and Western Way Neighborhood, making it an increasingly significant part of the campus and setting the stage for future academic expansion in the area.



ATHLETICS AND OPEN SPACE

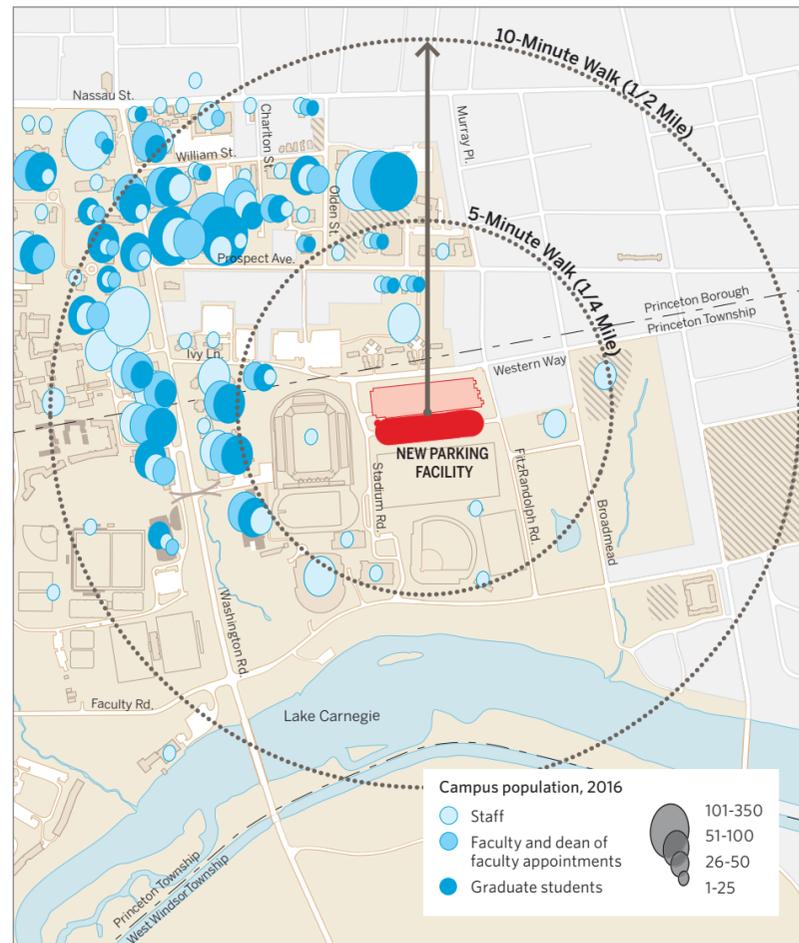
As part of the Campus Planning strategy to achieve greater integration of landscapes and uses east of Princeton Stadium, the athletic fields will move to the south and parking will shift to the north. Flipping the athletic fields and the parking on the east side of campus will fortify both the athletics neighborhood and the Lake Carnegie valley. A segmented assortment of open spaces will be consolidated into a contiguous band of green between woodlands and developed areas. The proposed realignment of playing fields will maintain the existing acreage of open space while increasing the efficiency and utilization of the fields with more resilient playing surfaces.

PARKING

By shifting the parking from its former location at Lot 21 to its new location off Western Way, it will be within a ten-minute walk to major faculty, staff, and graduate student destinations. Furthermore, its proximity to athletics venues such as Jadwin Gymnasium and Princeton Stadium provides ample parking for large evening and weekend events when the parking facility is not used by commuters.



Predominantly developed areas and contiguous open space, 2006



A walkable parking facility

STORMWATER MANAGEMENT

The parking facility and realigned fields will be designed with an integrated stormwater management system. Runoff from the terraced surface lot will be captured in wide landscape strips that separate the parking bays. Runoff from the parking garage will be directed to a bioswale buffer that separates the structure from the athletic fields to the south. All storm water on the site will be treated and stored in underground retention basins below the athletic fields.

In order to reduce the runoff rates and volumes in the area, and in order to take full advantage of the detention areas under the athletic fields, some of the storm water will be shifted from adjacent watersheds to the new detention areas. This will help protect the Washington Road stream from further deterioration by redirecting runoff from the Ivy Lane parking lots away from the stream. It will also reduce the impact of future development on the East Basin.



PROPOSED PROJECTS

Infrastructure Projects

- Roadway improvements
- New parking facility
- Sidewalk improvements

Athletic Facilities

- Realigned athletic practice fields
- New Clarke baseball field
- Rugby field

Landscape and Stormwater Management

- Regional stormwater infiltration and retention (below playing fields)
- East Basin improvements
- Constructed woodland
- Stadium landscaping and ADA access

Support Facilities

- Daycare expansion
- Data Center to be relocated
- Housing
- Expansion of Dean Mathey Court

Prospect Avenue and William Street Neighborhood

Extending the sense of campus to a mixed area

The area east of Washington Road and south of Nassau Street is one of the first expansions of the campus beyond the original historic core. Development there began with the University's first two science buildings, Frick and Green halls, with the intent of extending the gothic character of the campus across Washington Road. Further implementation of this plan was interrupted by the Great Depression.

Growth eventually continued in the area, but largely without an organizing plan or unified approach to architecture and landscape, resulting in a haphazard neighborhood interspersed with streets, parking lots, and utilities such as an electrical transformer station. According to the Princeton University Campus Guide, "With the exception of the Eating Clubs on Prospect Avenue, the buildings in this precinct seldom communicate with one another. Nor does there appear to be an overall plan or design—whether it might be symmetrical, picturesque, or Beaux-Arts—which would provide a focus to pull it all together."¹ In recent years, this neighborhood's identification as part of the campus has been strengthened by improvements to Shapiro Walk, the organizing spine of pedestrian movement, and by new buildings that better define quadrangles.

In 1990, the University and Princeton Borough agreed on the details of a new E3 zoning district, establishing limits on the amount of new development and providing for expanded buffers, especially behind the neighboring homes on its eastern edge. In 2005, the University, the borough, and a group of neighbors approved amendments to the ordinance increasing the amount of development permitted in the Engineering Quadrangle, but also establishing more detailed requirements within the overall zone. These emphasize the importance of an effective shuttle system, provide greater protections for neighboring residents, and call for the "overall site design" of the district to include "courtyards and walkways similar to those that exist elsewhere on the University campus." It also requires the development and implementation of "a comprehensive landscape plan" for the E3 zone.

The Campus Plan strategy is consistent with this mandate to extend the sense of campus into the neighborhood. New buildings must define and revitalize open spaces, with their entrances and activities focused on landscaped greens and pathways. The new Operations Research and Financial Engineering (ORFE) building is an example of a design that fills a gap and creates activity, strengthening the adjacent

quadrangle. Planned landscape improvements include robust new plantings to enhance the processional character of Shapiro Walk, a modern interpretation of the classic walks of the Core Campus designed by Beatrix Farrand. New trees and ground treatments, as well as additional pathways, will encourage greater pedestrian activity throughout the area.

Frick, Green, and the newer Hoyt Hall, having outlived their usefulness as science buildings, will be vacated as chemistry and psychology relocate to the Natural Sciences Neighborhood. They are well-configured, with renovations, to serve as expansion space for the adjacent divisions of the humanities and social sciences, consolidating and strengthening these activities around the Scudder Plaza fountain, an iconic and popular open space. 185 Nassau Street, a former elementary school, will continue to serve as a center for the arts, with expanded visual arts and creative writing programs made possible by the relocation of theater and dance to the planned Peter B. Lewis Center for the Arts on the west side of campus.

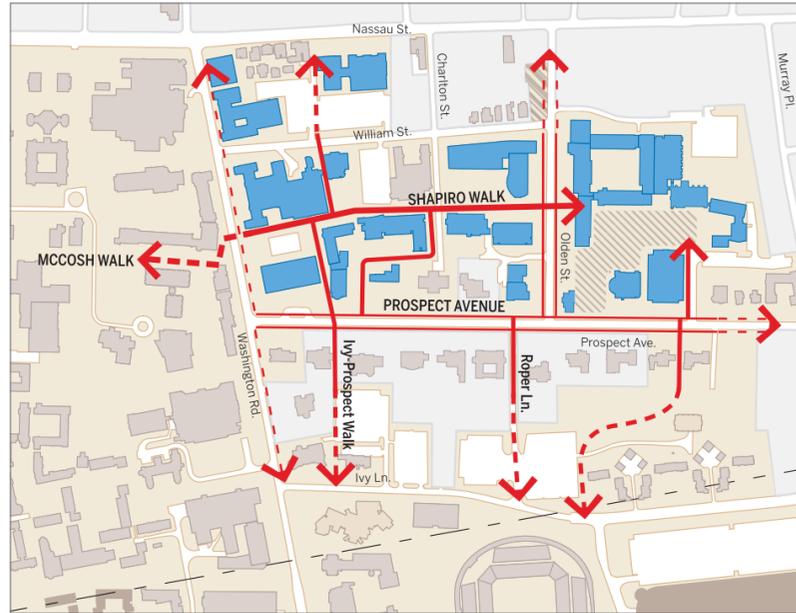
The east end of the neighborhood is home to the E-Quad, a self-contained set of buildings for the School of Engineering and Applied Science, built in 1962 with little relation to the surroundings. The plan anticipates a large addition between the original buildings and the more recently constructed Bowen Hall, on the site of an existing parking lot. Still in the planning stages, the new building will conform to the E3 zoning requirements and will enable the engineering school to meet urgent needs for expansion and modernization.

Prospect Avenue, known colloquially as "the Street," is home to Princeton's independently owned and operated eating clubs that were originally created as an alternative to Greek letter fraternities, banned at Princeton in 1855. They are housed in an elegant row of villa-like buildings built between the 1890s and 1920s, facing the avenue and creating a dramatic gateway to the campus from the east. Prospect Avenue constitutes a mixed-use and vital corridor for this neighborhood which the Campus Plan proposes to enhance by reusing two previous club buildings in a way that further integrates the avenue into the fabric of the campus. The former Campus Club will become a gathering space for undergraduate and graduate students, located in proximity to the Frist Campus Center, while the former Elm Club will become the new location for the Carl A. Fields Center for Equality and Cultural Understanding.

1. Raymond P. Rhinehart, *The Campus Guide: Princeton University* (New York, Princeton University Press, 1999), 60

Model view: Prospect Avenue and William Street Neighborhood





Pedestrian connections



Existing view of Shapiro Walk looking west



Proposed improvements to Shapiro Walk

CONNECTIONS TO THE CAMPUS

The Prospect Avenue and William Street Neighborhood is connected to the Core Campus along the spine of Shapiro Walk as it crosses Washington Road and becomes the historic McCosh Walk. Whereas Shapiro Walk is a broad and ceremonial east-west promenade, pathways to the south are more attenuated and dispersed as they take advantage of smaller opportunities to filter between the existing and former eating club buildings along Prospect Avenue. The existing walkway east of Bobst Hall links the Engineering Quadrangle to the Stadium, as does Roper Lane. Ivy-Prospect Walk creates a direct link between Scudder Plaza and Lewis Library. This plan aims to reinforce these pathways by clearly designating the existing walkways east of Bobst Hall and landscaping the Ivy-Prospect Walk east of Tower Club.

LANDSCAPE PROJECTS

Shapiro Walk

Pathways, landscaping, and green spaces will be improved along Shapiro Walk to create an attractive connection from Scudder Plaza to the engineering school. The landscape material will be selected for seasonal interest that can sustain the attractiveness of the walk during the winter months. The campus green along Shapiro Walk will be enhanced with the planting of additional shade trees and seating areas, making the lawn a pleasant space to spend time between classes or relax with friends, much like the greens of the historic campus.

Bendheim Center Green

A landscaped green in front of the Bendheim Center for Finance (the former Dial Lodge) will be made more accessible as a north-south pathway from Shapiro Walk to Prospect Avenue. This pathway is part of the larger strategy mentioned above to reinforce the connections to the Natural Sciences Neighborhood and the Ivy Lane and Western Way Neighborhood to the south.



PROPOSED PROJECTS

New Buildings

- 1 Operations Research and Financial Engineering (ORFE)
- 2 Carl A. Fields Center
- 3 Mixed-use residential and office development
- 4 Engineering expansion

Building Renovations

- 5 Green Hall
- 6 185 Nassau
- 7 Frick Laboratory
- 8 Hoyt Laboratory
- 9 Campus Club
- 10 5 Ivy Lane
- 11 Bowen Hall

Landscape Projects

- 12 Shapiro Walk
- 13 Bendheim Center Green
- 14 Carl A. Fields Center landscape
- 15 Ivy-Prospect Walk



Operations Research and Financial Engineering Building

Architect: Frederick Fisher and Partners
 Landscape Architect: Michael Van Valkenburgh Associates
 Size: 45,000 square feet
 Scheduled completion: Fall 2008

Key features Situated between engineering and the social sciences, the new ORFE building will exemplify the University's ability to bring together cross-disciplinary teams. It will be home to two academic programs, both of which seek to create a vibrant environment for teaching and research at the intersection of science and society.

The Department of Operations Research and Financial Engineering, founded in 1999, addresses problems related to decision-making and risk. It combines mathematics, engineering, and finance to help business leaders make critical decisions about financial markets, investments, or complex logistical operations. The Center for Information Technology Policy, founded in 2005, bridges a critical gap between policymakers and technologists in an age when computers are reshaping all aspects of life, from information privacy to national security to electronic voting.

The new glass structure will span four floors—one below ground and three above ground. It will house research studios and offices for faculty and graduate students. Conference rooms and a 65-seat lecture hall will grace the main floor, while a smaller classroom will be located in the basement. The building's entry is designed as a three-story atrium with a glass balcony that has a view of Shapiro Walk.

Sustainability aspects As designed, the building will incorporate energy saving techniques that make it 50 percent more efficient than the ASHRAE 90.1-2004 guidelines. As with other buildings on campus, ORFE's energy will be supplied by the University's central plant, thus taking advantage of the higher efficiency associated with cogeneration and thermal storage. An additional 5 percent in energy savings will come from daylighting control features. An extensive green roof, water efficient fixtures, and low-emitting materials will further reduce the building's environmental impacts.



Engineering Expansion

The proposed engineering expansion will create additional capacity for academic programs for the School of Engineering and Applied Science. The Campus Plan has shaped principles that will guide the selected architect in creating an expansion that enhances the functionality and aesthetics of the E-Quad while improving pedestrian circulation.

Planning principles In addition to the physical increase in building area (approximately 100,000 gross square feet), the new addition will create better access and exposure for the existing E-Quad courtyard and enliven the building's face on Olden Street. The addition will have a strong relationship to the redesigned Shapiro Walk. All new construction in the E-Quad will comply with the zoning requirements for this site that ensure buffers for the surrounding residential community.



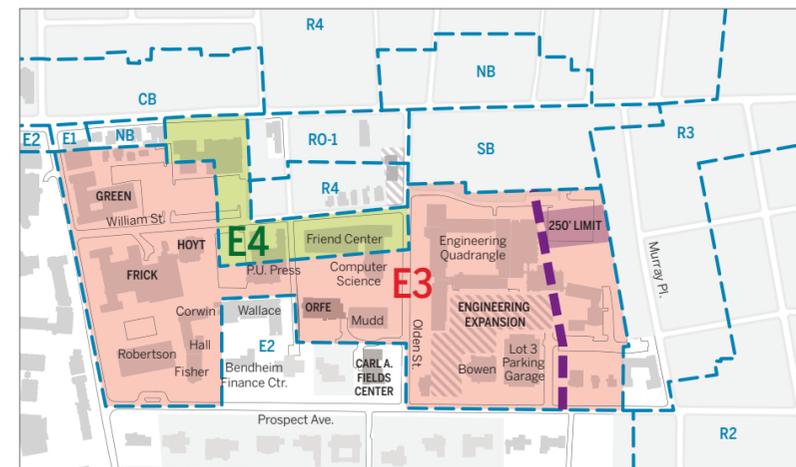
Carl A. Fields Center for Equality and Cultural Understanding

Architect: Ann Beha Architects
 Landscape Architect: Michael Van Valkenburgh Associates
 Size: 21,000 square feet (includes renovated space)
 Scheduled completion: 2009

Key features The Carl A. Fields Center will move from its current location on Olden Street to 58 Prospect Avenue, the former Elm Club. The new center will allow students greater access to cultural and social opportunities while providing more space for existing and expanded programming. An east and west addition that was added to 58 Prospect during a renovation in 1940 will be removed, and a new north addition will serve as the space for large social events. The landscape plan for the new center will relate to the landscape pattern established by other buildings on Prospect Avenue that features open front lawns framed by perimeter walls or hedges and space that provides room for outdoor gatherings under tents.



Potential Frick renovation
 As the former Frick laboratory (shown left) is renovated for humanities and social science programs in the future, a new connection can be created to Scudder Plaza, an active gathering space that is currently isolated from the building. Such a connection would both enliven the plaza and better integrate the building and its future occupants with the campus, strengthening the interaction of the humanities and social science departments, with Scudder Plaza as a new focal point.



E3/E4 zoning districts
 A 250-foot buffer behind the houses on Murray Place prohibits new buildings and imposes other restrictions. A landscape buffer behind the houses is also required.

BUILDING RENOVATIONS

Frick, Hoyt, and Green renovations

With the completion of the new Chemistry, Neuroscience, and Psychology buildings, Frick, Hoyt, and Green will be vacated. The newly freed space in these buildings presents an opportunity to house programs in the humanities and social sciences that are currently overcrowded, thereby consolidating this area as an inter-disciplinary humanities and social sciences neighborhood. The southern façade of Frick Laboratory can be opened up to create a direct relationship to Scudder Plaza.

185 Nassau renovation

Currently, the Program in Theater and Dance, the Program in Visual Arts, the Program in Creative Writing, and the Princeton Atelier are located at 185 Nassau Street. Once the Program in Theater and Dance moves to a new facility planned in the Arts and Transit Neighborhood, the vacated space will allow expansion for the Program in Visual Arts. Creative Writing may also move from 185 Nassau Street, freeing up additional space.

BACKGROUND AND HISTORY OF THE E3 ZONING ORDINANCE

Princeton's E3 zone includes the Engineering Quadrangle east of Olden Street and an irregularly shaped parcel west of Olden that contains many but not all of the University's lands between Olden and Washington Road. Prior to 1990, the zoning for this area would have permitted an additional 950,000 square feet east of Olden and 634,000 square feet west of Olden. In 1990, the borough adopted an ordinance that reduced these capacities to an additional 200,000 square feet (plus a 140,000 square foot garage) east of Olden and an additional 200,000 square feet west of Olden.

In 2005 the borough adopted a revised ordinance that increased the square footage permitted east of Olden by 100,000 square feet. The ordinance allows the University to meet parking requirements at locations outside the zone "if those spaces are serviced by a certified shuttle system" and outlines requirements for such certification. It also contains provisions that govern building design and use, traffic circulation, landscaping, and other buffering behind the neighboring residences on Murray Place, and for the E3 district as a whole the ordinance calls for a comprehensive landscape plan and site designs that include "courtyards and walkways similar to those that exist elsewhere" on the campus.