

University of Rhode Island Kingston Campus Master Plan

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1. EXECUTIVE SUMMARY

Extraordinary transformations in American higher education are changing the economic and social context in which colleges and universities operate. Historically, land- or sea-grant institutions like the University of Rhode Island have been charged with developing and disseminating knowledge to benefit the economic and political life of the state. Today, faced with widespread changes in the economic underpinnings of the state and regional economy, with fierce competition among institutions for a shrinking pool of potential students, and with fundamental shifts in the makeup of the student body, the University must confront a series of discrete challenges to ensure that its historic mission successfully adapts to the conditions of the twenty-first century. These challenges emerge on several levels:

The Increasing Value of a College Education

Forty years ago, a high school diploma was the entry level degree for thousands of Americans, providing access to technical and some managerial positions across the economic spectrum. Today, access to comparable positions typically requires a bachelor's degree, and middle- and upper-management positions typically require master's degrees or higher. Demographic changes and the constantly evolving workplace demands of high technology are also changing the diploma's value and how it is delivered: programs for working adults must provide tightly focused technical information quickly, often during evening hours, and must provide quantifiable benefit within a compressed two- or three-year schedule.

Campus Infrastructure: Deferred Maintenance and New Technology

American colleges and universities embarked on extensive building campaigns in the 1940s and 1960s, spurred first by the end of World War II and the GI Bill in the 1950s, and then by a huge surge in college-age population (the baby boom generation) in the 1950s and 1960s. Some of the buildings constructed during this period of growth have proven to have greater maintenance needs than earlier buildings, and institutions now find themselves facing the reconstruction or complete renovation of some of the buildings constructed during this period. At the same time, funding for public higher education has continued to decrease, forcing institutions to defer critical maintenance needs in favor of programs or salaries.

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Campuses also face infrastructure challenges in basic systems like steam and electrical lines, never glamorous projects to fund through capital campaigns, with the added complexity of providing fiber optic backbones and computer network routing equipment.

This accumulation of deferred maintenance and new technology needs has created an increasingly serious management challenge for higher education.



URI has recently made substantial investments in bringing its campus infrastructure up to date

A Changing Economy

American universities are in a vastly different economic climate today than they were twenty-five years ago. Decreased state and federal funding for higher education has required the University to search for alternative funding sources, spawning creative in three major directions: about partnerships with private industry, entrepreneurial research and teaching, and cost-saving measures such as privatizing or contracting out auxiliary functions such as food service, the university book store, facilities maintenance and management, and even on-campus housing. The rate of tuition increase is also putting additional pressure on higher education. After many years in which the rate of tuition increase surpassed the national rate of inflation (sometimes by a considerable amount), colleges and universities are beginning to find that the market will not support previous rates of increase in tuition.

All of these challenges set the stage for the future of the University of Rhode Island. In tandem with ongoing planning for the Narragansett Bay Campus, with the University's own internal planning processes, such as the 1998 Academic Plan, and the annual "Open Space" planning meetings, and with statewide academic planning underway through the Board of Governors for Higher Education, at Rhode Island College, and at the Community College of Rhode Island, this physical Master Plan for the Kingston campus will help the University prepare for the future by suggesting ways in which the University can selectively reconfigure existing facilities and develop new facilities to face these, and other, challenges over the next ten years.

Vision and Goals

This Master Plan proposes four broad elements of a vision for the future of the University of Rhode Island. First, the University should seek opportunities in every project and initiative to *cultivate a sense of community* among its faculty, students, and staff. Second, the University should *recognize the value of its varied resources*—from physical resources like land and buildings to human resources like a world-class faculty and an energetic, diverse and vibrant student body—to ensure that those resources are employed most effectively. Third, there should be a *demonstrable match between programs and facilities* across all departments and divisions of the University, to ensure that core programs are housed in adequate facilities regardless of trends in funding for particular disciplines and programs. Finally, the University of Rhode Island should build on its national reputation as a center for excellence in environmental education by seeking every opportunity to *create a “green” campus*, to put into practice in the physical environment the ideals developed in the classroom, in the laboratory, and in the field.

To provide more specificity to these aspects of a vision for the future, a series of goal statements were developed early in the master planning process. These goals are described in more detail in Section 3 of the Master Plan.

Demand for New and Renovated Space on Campus

The University of Rhode Island’s Kingston Campus currently contains 2.7 million NSF of space in 112 buildings—not including the Coastal Institute and the future Convocation Center—of which approximately 660,000 NSF is in residential buildings. The results of an extensive survey process involving every academic department and program at the University and every administrative unit, has identified approximately 106,000 NSF of future demand for new academic space (Net Square Feet = space that excludes circulation areas, mechanical spaces, and restrooms.) The surveys also identified almost 75,000 NSF of need for future administrative space. This total request for 181,000 NSF of new space (representing approximately a 9% increase over the current total) has been reviewed by the academic deans and administrative vice presidents, but has not been thoroughly tested against University-wide academic and administrative priorities. This space demand reflects needs above and beyond those space needs that will be addressed by previously approved projects.



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The Master Plan proposes approximately 265,600 NSF of new academic and administrative space. This space comes from a variety of sources: six proposed new buildings (plus one “opportunity site”), the reuse of former fraternity houses (or comparably sized new buildings on the site of former fraternities), current projects like the Coastal Institute, and proposed projects already in the Capital Improvement Plan like the Biological Sciences building addition. This figure also includes deductions for any proposed demolition of space, such as one of the two housing warehouses, the automotive garage, and the Women’s Center and Risk Management buildings in the service area.

Thus the Master Plan provides for 130,200 NSF of additional space above the requested 181,000 NSF. This area is “opportunity space,” potential building sites available to the University to attract research funding or to house special projects, including a 45,600 NSF site between Chafee and White Halls that could be developed as an academic building. In total, the master plan identifies potential new space to accommodate the total request from the academic and administrative units responding to the survey, 206,000 NSF, plus an additional 105,200 NSF of space to house future academic opportunities as they arise. The total, 311,200 NSF, represents an increase of approximately 10-15% over the current total net space contained in the Kingston campus buildings—this is an approximate, rather than an exact, figure because there are discrepancies in the University’s space databases, so an exact figure for the total amount of existing square footage is not available.

Summary of Master Plan Recommendations

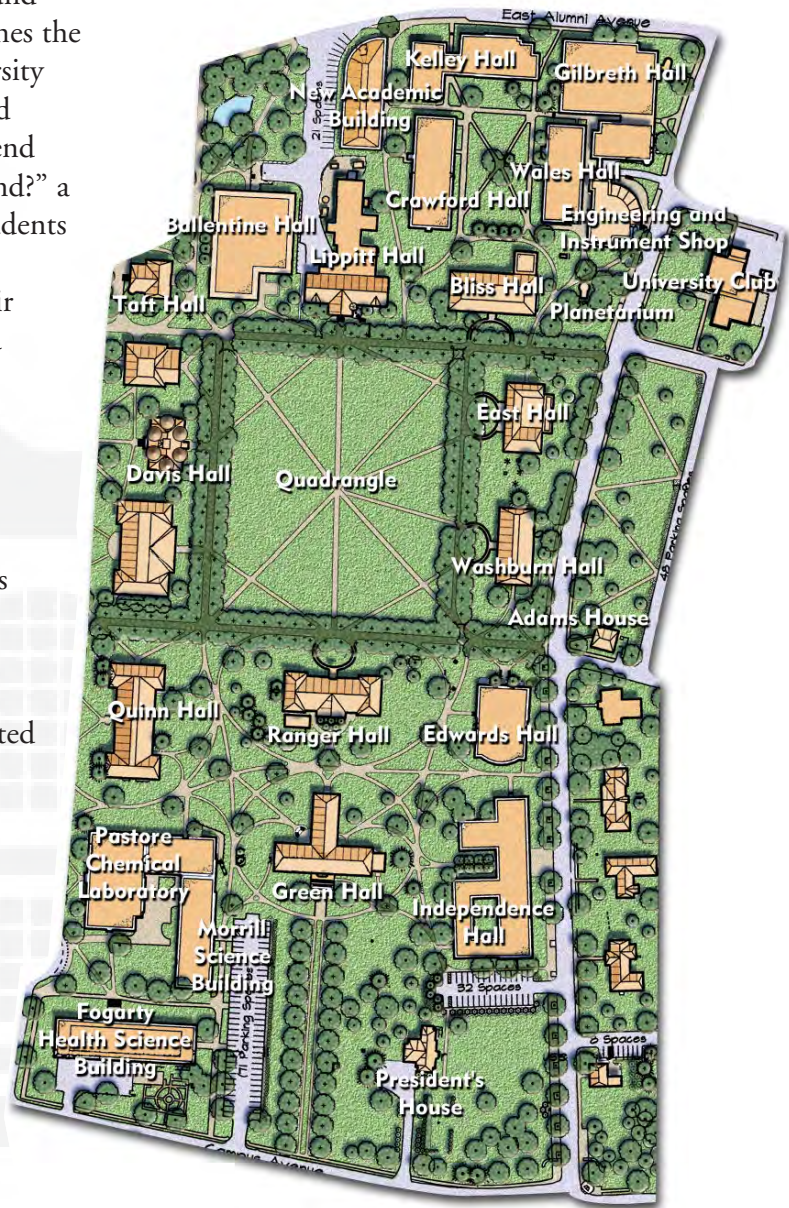
The Master Plan conceptually divides the campus into eight large districts, reflecting a combination of land use analysis, terrain and natural features, and architectural character. These districts are the Quadrangle, the Mall, North Campus, the Marketplace, the Hillside, Service, and Athletics, plus a Wetlands district identified strictly for preservation and ecological education purposes. The plan proposes several projects that cut across the districts (such as the campus circulation loop and the Elephant Walk), but in general proposed projects remain within district bounds, and even large projects have been designed to be implemented in phases that can occur within a given district. The projects proposed for each district are described in detail in Section 5 of the Master Plan. The following is a summary of the most significant projects proposed for the campus in each district.

The Quadrangle

The Image of the Quadrangle

Encompassing both the historic Olmsted quadrangle and the area around Green Hall, this district defines the essential image of the University of Rhode Island. When asked “Why did you choose to attend the University of Rhode Island?” a majority of matriculating students cited the classic image of the quadrangle as a factor in their decision. Projects in this area should reinforce this image.

As the physical and psychological heart of the University, the quadrangle should reflect the University’s core mission of educating the students of Rhode Island. Buildings around the quadrangle should be dedicated to teaching, rather than administration or research. To achieve this end, the Master Plan proposes as a long-term land use objective the relocation of some of the administrative offices now in buildings on the quadrangle to other locations on campus, potentially in renovated fraternity houses on Upper College Road. Carlotti Hall, Lippitt Hall, Davis Hall, and potentially Taft Hall all contain administrative functions that could be relocated elsewhere on campus.



The Quadrangle District

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The landscaping of the quadrangle should be restored to convey the original intentions of Olmsted, Olmsted & Eliot, the original master planners for the campus. As the elms that originally lined the periphery of the quad succumbed to disease, zelkovas were planted in the hope that they would prove an acceptable substitute. But the zelkovas will never achieve the stature and majestic space-shaping canopies that made the elms such excellent campus trees, and so the Master Plan proposes that the zelkovas be replaced as they reach the end of their lives with taller trees that provide broader canopies. The new trees should be a mixture of species and varieties, to protect against the devastating effects a disease or parasite can have on a monocultural planting.

Carlotti Hall and New Building Sites

Carlotti Hall is sometimes reviled as an inappropriate style of architecture for the historic quadrangle. The building serves its current users reasonably well, but from a campus planning perspective the building's most important failing is the size of its setback from the quadrangle. Because it is set back much farther from the edge of the quadrangle than its neighbor Davis Hall, the space in the quadrangle seems to 'leak' around Carlotti's edges and the quadrangle's visual definition is consequently weaker than it could be at its southwest corner. Thus one of the Master Plan's recommendations is to renovate and expand Carlotti Hall with a significant new addition to the east, to provide stronger definition to this important corner of the quadrangle. As part of the renovation, the building should be re-clad in materials and in a style more appropriate to the image of the quadrangle.

A similar recommendation about improving the edges of the quadrangle focuses on the northwest corner of the quad, between Taft and Davis Halls. This corner is a potential building site for a small, carefully designed academic building, slightly larger than Taft Hall.



Carlotti Hall

Another new building site has been identified behind Lippitt Hall, for a new building (approximately 32,000 NSF) potentially tied to the Engineering quadrangle. The building should be designed to allow continued operation of the steam plant behind Lippitt, to face the wetland east of the Library, and to create a small enclosed outdoor space west of Kelley Hall.



Several areas of campus already frame the experience of a walkable campus.

A Pedestrian Core, with Peripheral Parking

Several of the other recommendations in the quadrangle district focus on improvements to parking and the transportation infrastructure. As a general principle of good campus design, and as a way to encourage the sort of collegiality that emerges from chance meetings on the paths at the heart of campus, the Master Plan is recommending that certain parking spaces at the heart of campus be removed and relocated, usually to more peripheral

locations on campus. The parking lot between Green Hall and Ranger Hall is one such example, although parking for visitors to the Admissions office is essential, so the Master Plan also proposes a new parking lot just south of Independence Hall.

Appropriate Facilities for Visitors

Since the quadrangle district is central to establishing the image of the University of Rhode Island for prospective students and their families, it is important to provide facilities for those visitors that convey the right messages about the quality of the environment on the Kingston campus. The current configuration of campus is not welcoming for visitors: the concrete visitors' center and its visually crowded sign do not immediately convey the image of a New England campus. Visitors are typically directed to the parking lot behind Ranger Hall, where they are presented with the back sides of both Ranger and Green Halls. The Campus Master Plan recommends that the existing visitors' center be demolished, and that the Watson farmhouse be relocated to the cleared site. The Watson farmhouse is of course a vital link to the University's past, and a decision to remove it from its current site should not be made lightly. However, as development of the campus continues around the original Watson site, the context for the farmhouse and its site becomes increasingly muddled. A relocation of the house would provide the economic impetus for a complete and sensitive restoration of the original building.

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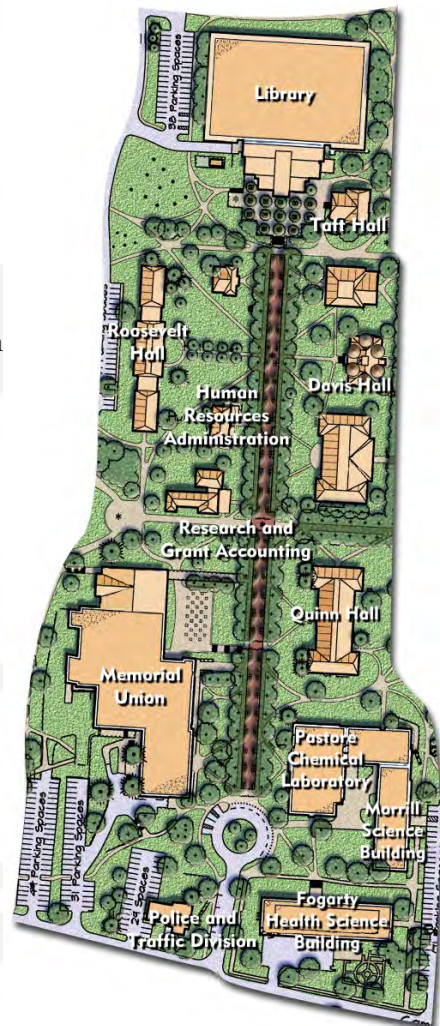
The visitors' center should be more than a place to get parking permits: it should highlight URI's academic, athletic, and community strengths, and suggest places on campus for visitors to go. In combination with the comprehensive renovation of Green Hall and the relocation of the Ranger/Green parking lot to just south of Independence Hall, the entire visitor experience at the University of Rhode Island will be greatly improved, both functionally and visually.

The Mall

The Kingston Campus 'Main Street'

If the quadrangle is the public square of the Kingston campus, then the mall (which includes both the Hammerschlag Mall and the section of roadway south to Campus Avenue) is the campus Main Street. The two halves of the mall should be unified with paving, site furniture, and a consistent family of plantings. Creating a landscaped pedestrian precinct in front of the Memorial Union and Quinn Hall will also help to reduce the visual differences in scale between very large buildings like the Memorial Union and small buildings like the Multicultural Center.

Like any vibrant Main Street, the mall should feature a variety of activities and varying architectural and landscape character. It already serves as a major pedestrian circulation spine; like Main Street, there should be plenty of opportunities for people-watching along the mall. The Master Plan proposes a variety of landscape improvements to provide additional places in which to sit, look, and socialize in nice weather. Improved paved plazas in front of the Library, at the intersection of the mall and the Elephant Walk, and between the Union and Pastore Hall should incorporate 'sitting walls' that evoke the low stone walls characteristic of rural southern Rhode Island.

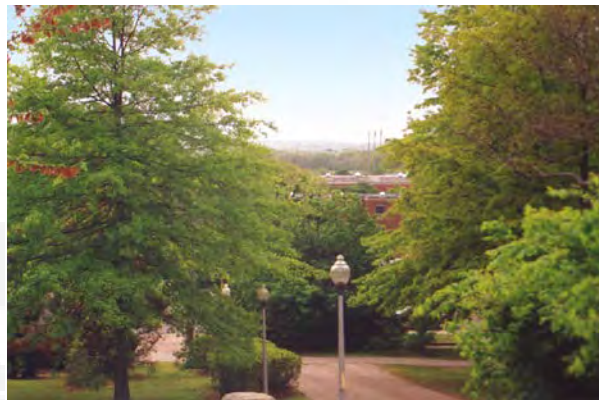


The Mall District

Adjacent to the lower level of the Memorial Union, the plan proposes an expansion of the existing sidewalk and a tightening of the existing hill, allowing for the creation of an outdoor café or event space. The landscaping along the mall should be designed to create a series of outdoor ‘rooms’ of varying character, from the relative formality of the space between Roosevelt Hall and Davis Hall, to the quieter, more transitional space between Carlotti and the Multicultural Center, to the more expansive space between the Union and Quinn Hall.

Celebrating the Elephant Walk

Just northeast of the café proposed for the Memorial Union is potentially one of the most important moments on campus: the intersection of the mall and the Elephant Walk. If the mall is metaphorically URI’s Main Street and the quadrangle its public square, then the Elephant Walk is its parkway, a scenic route



The Elephant Walk is the main east-west pedestrian route on campus

tying city (i.e. the dense, historic core campus) and country together. The Master Plan proposes strengthening the importance of the Elephant Walk as the major east-west pedestrian route on campus. One way to do that is to provide special markers at significant moments along the route. Pavings, plantings, lighting, and site furnishings can contribute to making this a special place. There may also be potential donor opportunities to purchase a commemorative brick or paving stone in this important plaza, as a way to help pay for site improvements.

Improving Vehicular Circulation

Some of the most significant improvements proposed in the Campus Master Plan concern the vehicular circulation system. Currently, URI’s roadway network resembles a broken grid, with two strong east-west roadways serving as the northern and southern edges of campus (Flagg Road and Route 138, respectively). Upper College Road is the main through north-south connector; other north-south roads, such as Butterfield Road and Lower College Road, do not connect the northern and southern edges. Instead,

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these roads feed into internal east-west routes like Campus Avenue, Baird Hill Road, and Alumni Road. The roads are particularly disorienting for visitors, with frequent 90° turns creating confusion at key intersections. The Master Plan proposes to consolidate some of the campus roads into a more clearly unified internal loop, either as a single continuous road from the intersection of Keaney Drive and Route 138, to Upper College Road, to Flagg Road, and back out to Plains Road, or as an inner loop road that encompasses Butterfield Road, Flagg Road, Upper College Road, and a realigned Baird Hill Road, combined with an outer loop road that includes Plains Road, Flagg Road, Upper College Road, and Route 138. These two options hinge on a decision about whether or not to close Butterfield Road from the Potter Building to the Weldin/Barlow dormitories. As discussed below, there are convincing arguments both to close the road and to leave it open. The decision will have significant implications for the campus circulation system.

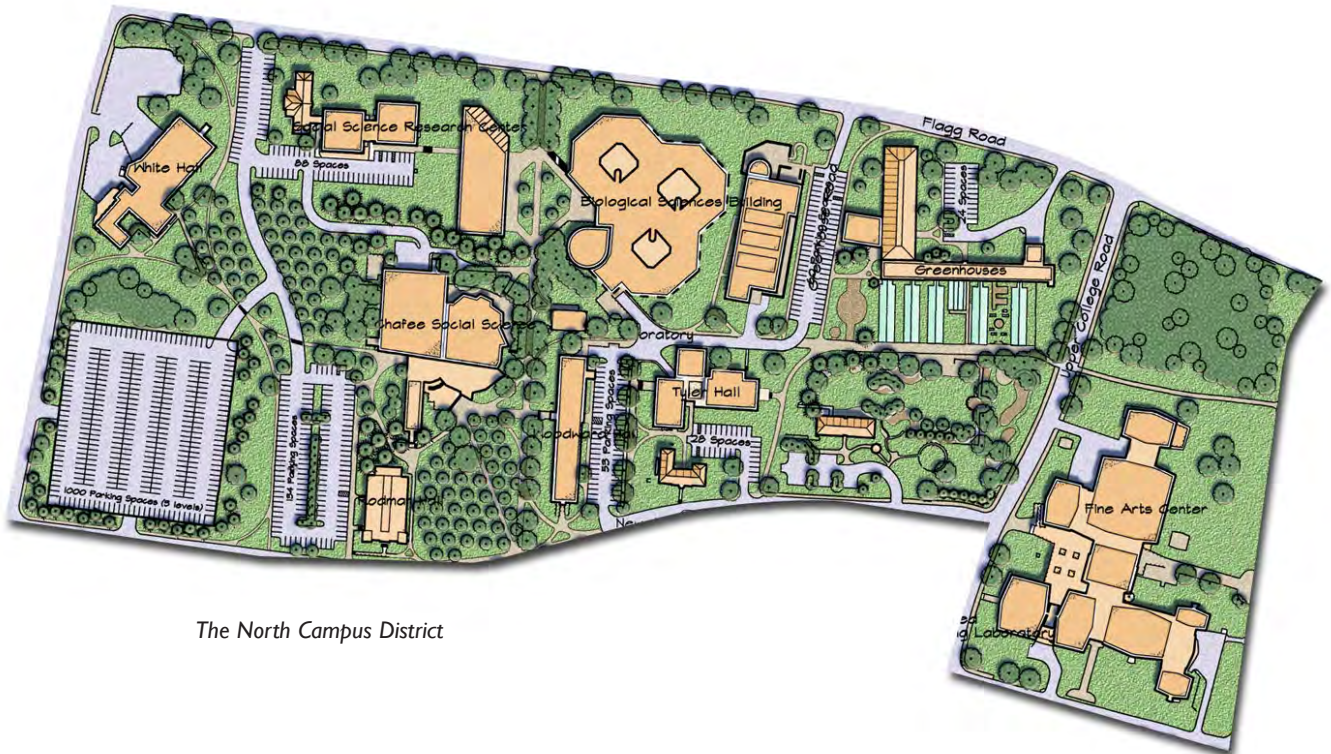
As part of these roadway improvements (discussed throughout this executive summary), the Master Plan proposes to realign Baird Hill Road to the south of the Police Station, and eliminate the turning movement conflicts that now exist at the vehicular turnaround with Baird Hill Road and Lower College Road. The turnaround would remain, but there would be a single access point, with one lane in and one lane out.

North Campus

Density, Scale and Character

The North Campus district is the most heterogeneous of the Kingston campus districts. It offers widely varying architectural character and scale. It encompasses the severe sculptured concrete forms of the Biological Sciences building, the simple brick lines of Washburn Hall, and soon it will also include the more exuberant angles and colors of the Coastal Institute building. Buildings in the North Campus area tend to be larger and in some cases taller than other buildings in the academic core: the Biological Sciences building has one of the largest footprints, and Chafee tower is the tallest building on campus.

For this reason, the North Campus district is a suitable location for large, new academic buildings. The Master Plan has identified four potential building sites in this area, in addition to the Biological Sciences addition already included in the Capital Improvement Plan. The first site is north of Chafee Hall, on the existing, unused tennis courts. This site could potentially accommodate a relatively large academic building – 38,200 net square feet (NSF) on three floors, or 51,000 NSF on four floors.



The North Campus District

North of the Plant Science greenhouses is another potential site for a new academic building. A three-story building is probably more appropriate on this site; the Master Plan shows a three-story building with an approximate area of 34,000 NSF. A 60,000 GSF addition (which translates into approximately 42,000 NSF) to the Biological Sciences building was included in the FY 2000 Capital Improvement Plan.

A third potential building site is between Chafee Hall and White Hall, in an area now used for parking. A large academic building in this area (approximately 45,600 NSF), in tandem with the first building site identified above, could help define a new quadrangle, potentially with a social sciences theme. Because this building will require the removal of a substantial number of parking spaces and complicate access to Chafee Hall, it is being shown only as an option on the Master Plan – as “opportunity space” – and not as a firm recommendation.

Parking Garage

The fourth potential building site is the northeast corner of Butterfield Road and Alumni Avenue, a hilly site where the Phi Gamma Delta fraternity house is currently located. The Master Plan has identified this as the most advantageous site for a proposed 1,000-car parking garage. At this location, the garage could easily accommodate a significant portion of the traffic from major events at the

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Convocation Center, particularly if the sidewalks and lighting along Alumni Avenue were improved. (The garage is approximately a 7-10 minute walk from the Convocation Center.) The garage is also close enough to the academic core to provide ample daytime parking for faculty, staff, and students. Adding 1,000 spaces to the current parking supply at the academic core will almost entirely alleviate the real and perceived parking shortages that now occur at peak times on the upper campus.

The steep slope of this site also potentially offers an advantage over other sites: the garage could conceivably be constructed with three separate entrances (one at the top of the hill, one at the middle, and one at the base), eliminating the need to construct internal ramps and significantly increasing the efficiency of the floor plan. These efficiencies will need to be balanced against the operational costs of maintaining three separate entrances, either staffed or mechanically controlled. A feasibility study of this garage, its site, and its operation will be conducted as a follow-up to this Campus Master Plan.

A final destination site for the Phi Gamma Delta fraternity has not been identified in this Master Plan; there are two potential sites available in fraternity circle, on the abandoned foundation east of Chi Omega, or just north of Chi Omega. The relocation costs for Phi Gamma Delta must be included in the project costs of the proposed garage.

Landscape and Sustainability

More than other districts on campus, North Campus district is strongly tied to the campus landscape and to concepts of sustainability. The Plant Science and Landscape Architecture programs are important academic residents of this district. Faculty and students from the Landscape Architecture and Horticulture programs maintain the formal gardens across Upper College Road from the Fine Arts Center. The Biological Sciences building was built as an experiment in 'sustainable architecture,' employing earth berms, subterranean construction, and light wells to heat, cool, and light the building. Sustainable design practice has evolved considerably since 1972, when the Biological Sciences Building was constructed, and it is hoped that future projects can learn from the successes and failures of such experimental projects.

The Master Plan proposes to develop a teaching orchard in the quadrangle between Chafee and the Library, with neat diagonal rows of trees channeling views toward the entrance to Chafee Hall and breaking down the scale of the space. A similar planting is proposed as an option between Chafee and White Hall, if it is determined that the “opportunity site” identified above is not needed. If the parking garage sufficiently relieves the parking shortage, the proposed planting will help enliven a space where cars have eliminated a usable pedestrian environment.

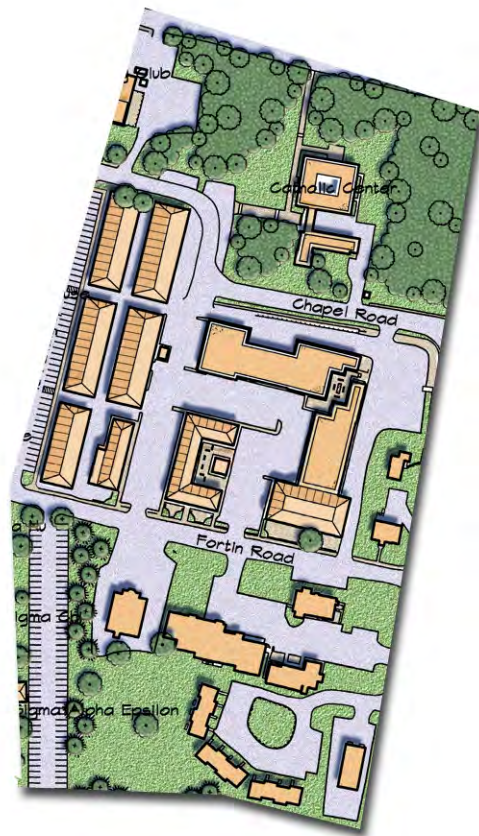
Marketplace

Why Include the Emporium?

The marketplace district is not properly land under the University’s control. As shown on the Master Plan diagrams, much of the marketplace district is land contained within the Emporium shopping center. So why do we include this land within a Master Plan for the University and its campus?

An active retail district is part of the classic model of a college town: offbeat coffeehouses, bookstores, record stores, and art galleries are typical in a college town. The Emporium is the closest approximation of such a district available to the URI community. These districts:

- Encourage students to spend time around campus;
- offer opportunities for informal interactions among colleagues and between students and teachers, extending the academic community outside the classroom walls;
- can potentially house large numbers of students who want to live in high-density apartments in an active retail area, further contributing to the vitality of the retail district;
- benefit the local economy, particularly with a large number of out-of-state students; and
- encourage students to walk, rather than drive, to shop and socialize, thereby keeping cars off congested roads.



The Marketplace District

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The Emporium is one of the University of Rhode Island's secrets, hidden away off Fortin Road, but unfortunately, successful retail depends on *visibility*, not secrecy, for its survival. Route 138 would be the logical location for University-oriented retail, but it is already heavily congested, and concerns about maintaining its historic character make it unsuitable for new retail development.

Upper College Road is the next best option for providing the sort of visibility essential to the success of a retail district, but retail directly on Upper College Road is not recommended, simply because Upper College Road is very clearly a *university* road, lined with academic buildings and fraternity houses (current and former). A retail presence directly on this street would disrupt this character.

A Public-Private Partnership to Revitalize the Emporium

Thus the Master Plan proposes to provide visibility from Upper College Road across a shallow lawn into a retail district, with appropriately-designed storefronts behind a row of on-street parking. This lawn provides a separation between the University and the retail district, but also ensures that the district has visibility from Upper College Road.

As shown in the Master Plan, the University's property line extends approximately into the middle of the one-way street serving the front retail parking. The remainder of the land is privately owned. The Master Plan recommends that the retail buildings be constructed as two- or three-story buildings, with ground floor retail uses and apartments for graduate students or upper-level undergraduates on the upper stories. Thus, there may be an opportunity for a public-private partnership with the developers of the retail complex to include housing for students in the retail complex.

Hillside

Circulation Improvements to Create a Student Village

The Hillside is the largest of the campus districts identified in the Master Plan, extending from Heathman Hall all the way to the University Village apartments. The terrain in this district is quite steep, thus the residence halls are constructed in bands parallel to the slope. Though this pattern of housing blocks is efficient, it tends to create small, poorly-defined spaces between the dormitories. Buildings are connected only by loosely organized diagonal pathways, rather than through well-organized spaces like quadrangles or blocks.

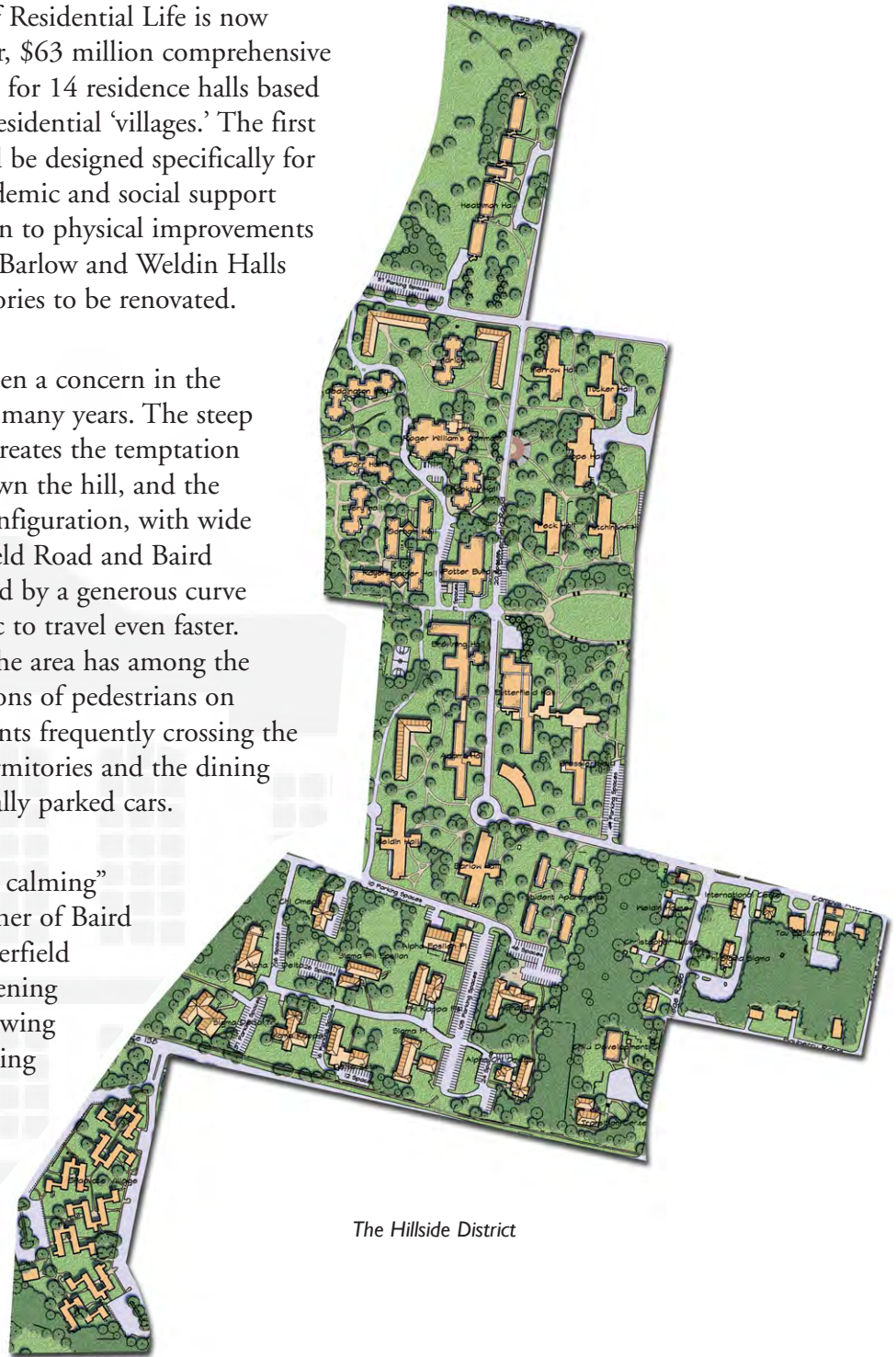
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The Department of Residential Life is now working on a 7-year, \$63 million comprehensive modernization plan for 14 residence halls based on the concept of residential ‘villages.’ The first of these villages will be designed specifically for freshmen, with academic and social support resources in addition to physical improvements in the dormitories. Barlow and Weldin Halls are the first dormitories to be renovated.

Traffic safety has been a concern in the Hillside district for many years. The steep terrain in the area creates the temptation to drive too fast down the hill, and the current roadway configuration, with wide streets like Butterfield Road and Baird Hill Road connected by a generous curve radius, allows traffic to travel even faster. At the same time, the area has among the highest concentrations of pedestrians on campus, with students frequently crossing the streets from the dormitories and the dining halls, between illegally parked cars.

Appropriate “traffic calming” measures at the corner of Baird Hill Road and Butterfield Road, such as tightening the geometry, narrowing the pavement, creating a planted median between travel lanes, or creating “neckdowns” at the corner, will help discourage students from driving so fast in this area.



The Hillside District

If these traffic calming measures are insufficient to address the traffic safety issues, or if the University decides to pursue a pedestrian-only zone near the residence halls, the Master Plan includes as an option the closing of Butterfield Road to

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vehicular traffic between the intersection with the Elephant Walk and the corner of Baird Hill Road. The replacement pedestrian pathways should be designed to accommodate occasional vehicular traffic, as the pathways would be open to emergency vehicles and for move-in and move-out each year. As described above in the Mall district, the Master Plan recommends that Baird Hill Road be realigned south of the police station, and that a new connector be constructed to link Baird Hill Road with Fraternity Circle. Just west of Fraternity Circle, the Master Plan recommends that Fraternity Circle be linked to the redesigned Keaney parking lot by improving the existing service road. In this way, the southern leg of the campus inner circulation loop will link the entrance to the Keaney lot, into Fraternity Circle, up to Baird Hill Road and Lower College Road, and via Campus Avenue to Upper College Road.

The Master Plan also suggests closing the existing entrance to Fraternity Circle from Route 138, limiting access to the southeastern corner of campus to the newly signalized intersection at Route 138 and Keaney Drive. As part of the safety improvements to this intersection, the plan recommends moving the curb cut into Keaney lot from its existing location approximately 200 feet east to align with the access road into Peckham Farm. This will create a safer four-way intersection, and the addition of a pedestrian signal will also improve safety for students crossing Route 138 from University Village.

New Residence Halls

As the Master Planning process gathered information about the residential life program at URI, it became apparent that Coddington and Burnside Halls were a significant burden on the resources of the residential life department. The



The pondside residence halls represent some of the best 'residential real estate' on campus

buildings were designed in 1966 to break the mold of typical double-loaded dormitories, offering a complex floor plan of suites and individual student rooms. After the buildings were constructed, however, changes in building codes required fundamental modifications to these complex plans, creating an inhospitable warren of difficult-to-navigate stairs and corridors. Thus Coddington and Burnside have been cited as the most likely candidates for demolition of all of the residence halls.

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The sites on which these two buildings sit represent the best ‘residential real estate’ of the entire Hillside district. The Master Plan recommends that if Burnside and/or Coddington are demolished, that new residence halls, with more appropriate floor plans, but approximately the same scale, be constructed on the same sites as the demolished buildings. These sites offer views across the pond to the athletic complex, and define a series of well-enclosed spaces within the Roger Williams housing complex.

The Master Plan has also identified two additional sites for new residence halls: behind the existing Adams Hall, and at a reconfigured southwest corner of Butterfield Road and Alumni Avenue. Constructing a new residence hall behind Adams in the L-shaped plan shown on the Master Plan will help to enclose an appropriately-scaled quadrangle space near the renovated freshman dormitories. Butterfield Road now has an odd ‘hump’ where it intersects Alumni Avenue – the road curves abruptly westward and upward to create an intersection with significant sight line problems.

The Master Plan proposes straightening Butterfield Road at this point, to create safe and convenient entrances to the proposed parking garage. Straightening Butterfield Road at this point unearths a ‘hidden’ residence



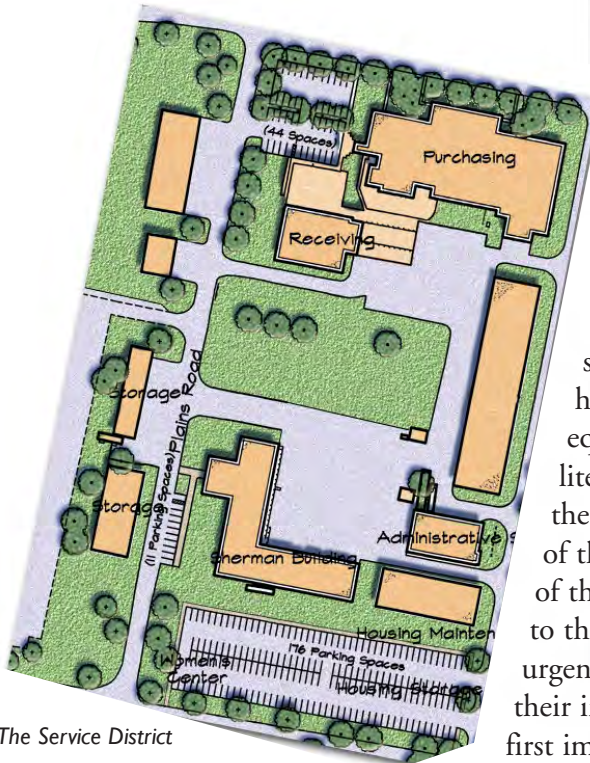
Landscaping improvements in the residential area will make the Elephant Walk more inviting for prospective students

hall site at the southwest corner of the realigned intersection. This proposed L-shaped building could provide a stronger northeast edge to the Roger Williams complex and create an enclosed courtyard for student activities between the new building and Aldrich Hall.

Major Landscaping Improvements

Some of the most significant image problems in the Hillside district can be traced to the condition of the pathways as they traverse the hill from the residence halls to the Mall and to the Memorial Union. The Master Plan proposes a single large, dramatic gesture in the landscape along the Elephant Walk, designed to take advantage of the spectacular views from the top of the hill into the valley below. A large grassy oval, with an overlook at the top, a sitting area at the bottom, and gently curving paths lining its edges, will provide a ceremonial focus to the residential area. Students could gather on the oval and enjoy performances at the bottom, or lay out on the grass and study in nice weather.

Another major landscaping improvement is proposed for the hillside west of Hope Hall, replacing the parking lot displaced by the realignment of Butterfield Road with an outdoor amphitheater or performance area. Major improvements to the pathways and plantings are also proposed for the freshman village quadrangle between Weldin and Barlow.



The Service District

Service

Needed Improvements to the Facilities Management Compound

First-time visitors to the facilities management area at the northwest corner of campus are often shocked by the condition of the buildings that house the University's maintenance functions, equipment, and supplies. The landscaping shed is literally collapsing, with gaping holes in the roof, while the warehouses on the southern side of this complex are an eyesore. With the construction of the \$45 million Convocation Center immediately to the south, cleaning up the service area has become urgent: not only are the facilities inadequate for their intended uses, but they will soon shape the first impression of the University of Rhode Island for thousands of visitors to the Convocation Center.

The Master Plan proposes consolidating the service facilities in the western half of the block they now occupy. The existing dining services warehouse, the Sherman building, the receiving warehouse, and the administrative services building

suggest the outline of an enclosed “working quadrangle” where necessary and occasionally messy facilities operations can occur. The plan proposes demolishing the automotive garage to make way for a long, linear building between the dining services warehouse and the administrative services building. This new building could accommodate equipment storage, automotive garages, and any workshops necessary in the facilities compound, while largely hiding the operations from public view.

A Kingston Campus Conference Center

On the eastern side of the block now occupied by the service facilities, north of the Dairy Barn, the Master Plan proposes a function that does not now exist on campus: a Conference Center for the University community, particularly for the Kingston campus. Many universities, especially larger research universities, have various types of hotel or conference facilities on or near campus. These facilities allow the University to host major national and international conferences more effectively, generating both scholarly good will and revenue from the conference center’s operation. The site’s proximity to the proposed golf research center is an added attraction, creating opportunities for synergy between the research and recreational components of the golf course.

The proposed Conference Center is not intended to compete with existing conference facilities at the Alton Jones campus. Those facilities are seen as a state-wide conference resource, and are often used for private conferences and events. The proposed facilities would be designed to enable Kingston campus faculty and staff to hold conferences and events with direct access to the academic resources of the Kingston campus, and to house the visitors (and potentially other visitors, such as parents at graduation time) in direct proximity to the conference site.

The Dairy Barn should be renovated and included in this Conference Center if at all feasible: if it were renovated well, the building would stand as a powerful reminder of the University of Rhode Island’s rich heritage as an agricultural college. The building could be renovated as conference or seminar rooms for the Conference Center, as club space for the golf course, or even potentially as a nonalcoholic social club for students. As shown in the Master Plan, the buildings of this Conference Center should create an enclosed formal space, facing east toward the stream and toward the pristine hillside behind Heathman Hall.



The Athletic District

Athletics

Traffic and Parking Requirements for the Convocation Center

The Convocation Center will introduce a major new facility into the athletic complex. With the new facility come new traffic issues, including visitor parking, truck access, and service. The peak parking demand for the Convocation Center was estimated to be approximately 2,600 parking spaces. The Master Plan proposes to meet this parking demand through a combination of existing parking resources and new parking areas: reconfiguring the parking areas south of Mackal will provide approximately 1,100 spaces, (representing a modest increase over current capacity) while the proposed parking garage at Butterfield Road and Alumni Avenue will provide spaces for an additional 1,000 cars. The remaining 500 spaces will be provided in new lots near the Convocation Center: 160 spaces in a “VIP lot” immediately north of the building, and 340 spaces in a new lot at the northwest corner the Plains Road and Alumni Avenue intersection.

One concept that has been incorporated into the Master Plan very early in the process is a new connector roadway between Plains Road and Flag Road, an S-shaped segment that would bypass the road in front of the Sherman Building. This roadway will help move traffic on and off campus more efficiently. The University should seek external funding to design and build this road.

The Master Plan also proposes expanding the parking areas north of Alumni Avenue between the stream and Plains Road. Some of this parking will be set aside for resident students, to help reduce conflicts between long-term overnight parking and short-term visitor parking for peak Convocation Center events.

A new Ice Rink facility is proposed for a site north of the existing tennis courts, just off of Route 138. There are obvious operational concerns about simultaneous events at the Ice Rink and Convocation Center; more detailed studies of the parking demand patterns for the Ice Rink may suggest traffic management strategies for resolving this potential conflict.

Changing Conditions, New Facilities

The two major facilities proposed for the athletic area have significant implications for some of the athletic programs that currently use the fields near the Mackal-Keaney-Tootell complex. In particular, the Convocation Center and associated parking will require changes in the two practice football fields – one of the fields will need to shrink to approximately two-thirds of its current length.

The Ice Rink, on the other hand, will displace the lacrosse field entirely. A new site for the lacrosse field may be available east of Plains Road, on an 11-acre parcel now leased by the University to a turf farmer. When the lease on that parcel expires (by the end of 2001) the parcel should be reclaimed for use as prime athletic fields.



The athletic complex is the visual terminus of the Elephant Walk and should have landscaping acknowledging its uniqueness

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Long-range plans of the Plant Science department include consolidating the plant science/turf management operations at Peckham Farm, south of Route 138, if funding were available to relocate or create adequate research facilities there. If the plant science operations could vacate the facilities north of Route 138, the Athletics department could reclaim the land around the turf management buildings for field space.

The track also needs to be rebuilt – it is not usable in its current state. Subsurface investigations will help determine if it simply needs to be resurfaced, or if it needs a new foundation as well. The throwing area should be relocated closer to the track as part of this project.

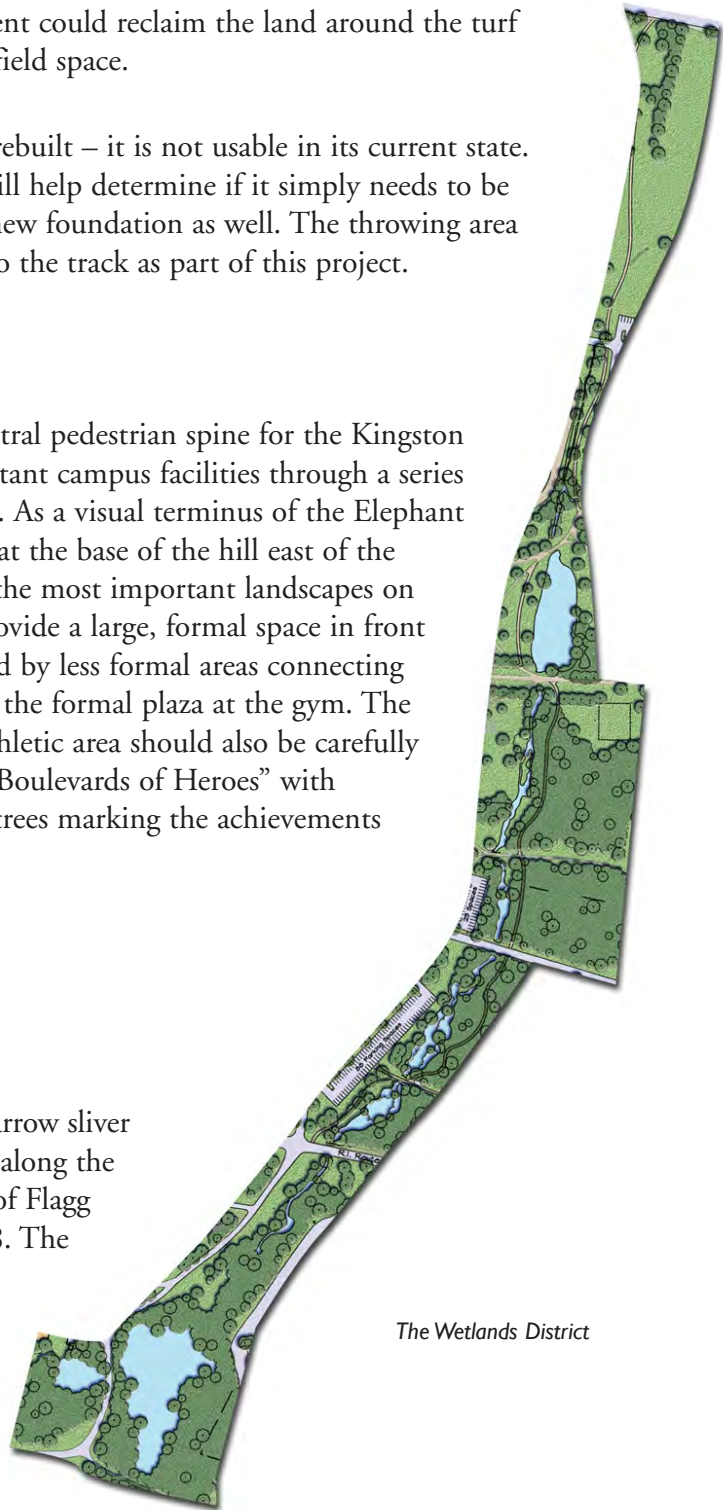
Landscaping Improvements

The Elephant Walk is a central pedestrian spine for the Kingston Campus, connecting important campus facilities through a series of well-defined open spaces. As a visual terminus of the Elephant Walk, the large open space at the base of the hill east of the athletic complex, is one of the most important landscapes on campus. The site should provide a large, formal space in front of Keaney Gym, surrounded by less formal areas connecting the landscaped stream with the formal plaza at the gym. The important roads into the athletic area should also be carefully landscaped, potentially as “Boulevards of Heroes” with plaques or flags at selected trees marking the achievements of URI athletes.

Wetlands

Role of Wetlands on Campus

The wetlands district is a narrow sliver of land running all the way along the base of the hill from north of Flagg Road to south of Route 138. The regional watershed system also includes a small creek (Whitehorn Creek) that runs east to west through the campus, from the top of the hill near the Fine Arts Center, under the Engineering



The Wetlands District

buildings and the Library, through the Roger Williams residential area, into the main stream. The wetlands serve many functions: they are scenic areas, particularly for the residence halls; a living laboratory for students of botany, biology and environmental science; and a reminder of the fundamental ecological forces shaping URI's environment. The Master Plan recommends a more active role for these wetlands areas in highlighting environmental education initiatives. Where feasible, manageable, and appropriate, some aspects of this local watershed system should be removed from culverts and restored to natural stream-like condition. One area of campus where this treatment may be appropriate is in the North Campus district, by the horticulture gardens and greenhouses. This sector of campus is increasingly the focus for environmental programs at URI.

The Regional Transportation Context

The Kingston Campus participates in an increasingly complex regional transportation system. Washington County, which includes the Town of South Kingstown, is the fastest-growing county in the state of Rhode Island. Between 1980 and 1990, the number of housing units in Washington County increased by almost 22%; in contrast, Kent County, the next-fastest growing county in the state, increased the number of housing units by 14.7% (1990 United States Census Data). Similarly, the population growth rate in Washington County between 1980 and 1990 was about 17.9%; Newport county had the next highest population growth rate, at 7.1%, and the other counties were noticeably less than the state average, which was just under 6%.

Many of the transportation pressures now facing the University and its neighbors are largely the result of 'growing pains' attributable to the substantial increase in population and year-round housing constructed over the last 10-20 years. These growing pains manifest themselves as a severely stressed regional transportation infrastructure, with increasingly unacceptable delays and backups at critical nodes in the regional system. This Master Plan has demonstrated the University's commitment to working collaboratively with its neighbors to address regional transportation issues. Although the campus population is essentially stable, the University recognizes that solving transportation problems along Route 138 and in Kingston Village will require the cooperation of all of the area stakeholders. Thus the Master Plan transportation recommendations have been coordinated with parallel ongoing studies of the regional transportation systems and of the transportation impacts of the Convocation Center.

Evaluating and Implementing Projects

The success or failure of this Master Plan will stand not on the breadth of its vision for the future nor the strength of its analysis of current conditions, but rather on the extent to which the various proposals outlined here are constructed and effectively operated and maintained. The Master Plan proposes several mechanisms for ensuring that projects are appropriately prioritized, designed, funded, constructed, and maintained.

Project Evaluation Criteria

All projects initially presented to the University administration should be evaluated in a consistent manner before entering the State funding process. The project's 'proponent' should be required to describe the project's objectives and benefits. The project proponent could be a College requesting a new facility or renovations of an existing facility, a private party requesting partnership space on campus, or the Facilities department requesting funding for a new initiative. The proponent should estimate all project costs—including construction, equipment and furnishing costs, professional fees, inflation-related escalation, and a reasonable contingency budget.



The new Multicultural Center echoes and complements Roosevelt Hall.

The proponent should also describe potential impacts the project will have on campus infrastructure systems, traffic internal and external to the campus, parking supply and demand, and the maintenance resources required from the Facilities management department. The intention is not to create an additional hurdle in completing projects on campus, but rather to provide notice to the campus community that projects are evaluated and developed according to consistent rules of costs and benefits. A clearly and simply stated list of project evaluation criteria will provide a greater sense of fairness among those in the campus community involved in significant changes to the physical environment.

Architectural Design Guidelines

The architectural design guidelines presented in the Master Plan are intended to help campus decision makers work with consulting architects and engineers during the design phase. Just as the Master Plan

divides the campus into eight large districts for land use planning purposes, the architectural design guidelines propose several districts encompassing the various periods and styles of architecture on the Kingston campus. Within each district, the guidelines propose attitudes about design for major decision points about the external appearance of the building like siting, massing, height, roof, and windows.

Standard Details: Site Work, Site Furnishings

The Master Plan provides a sample set of standard details for basic site components like walkways, roadways, sign and furniture foundations, to assist the Facilities department in developing a standard set of construction practices that will ensure cost-effective and easy-to-implement solutions to common building problems. The plan also proposes a single unified palette of site furnishings like benches, trash receptacles, and light standards, to help reinforce visual unity across the Kingston campus.

Building Systems

The need for a complete facilities audit of all buildings on campus, including building conditions and energy usage is described in Section 11 of this document. This section provides a summary of the range of additional analysis, supplementing the Master Plan, that will be required to obtain a complete and detailed picture of the current state of the University's buildings and their respective systems. Such an effort should be tied directly to ongoing efforts to improve the University's "information infrastructure," that is, the data tools and personnel required to bring the most vital management data into contemporary, easy-to-use computer systems and the world wide web.

Coordination with the Capital Budget

The Capital Improvement Plan (CIP) is the mechanism used by the Rhode Island Board of Governors for Higher Education to approve projects and to produce a coordinated higher education bonding request to the voters of Rhode Island each year. Projects must be approved by the Board and placed on the CIP priority list. In most cases the Master Plan and the CIP effectively complement one another – with one or two significant exceptions, this Master Plan does not contradict the project

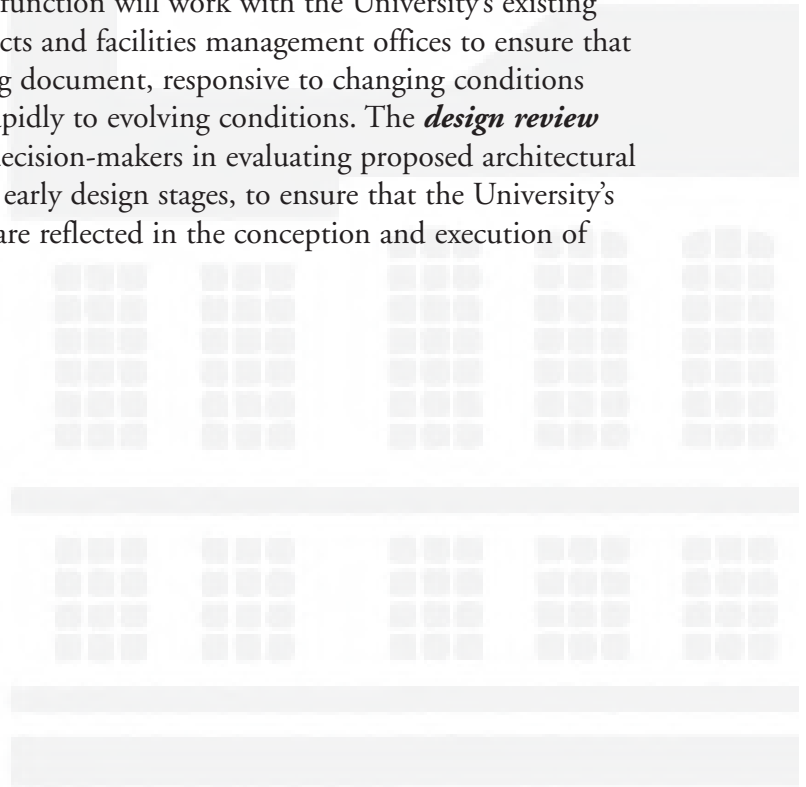


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descriptions contained in the current CIP, and most of the projects proposed in the Master Plan could be easily added to the CIP. To be most effective, the Master Plan and the CIP must be seen as interlocking tools designed to achieve the same end: the continued improvement of the University of Rhode Island to remain educationally strong and competitive in the higher education marketplace.

New Implementing Offices

The Master Plan recommends that the University establish three new offices or positions to help manage and implement the plan's various components. The **transportation management** function will assign parking permits to faculty, staff, and students; promulgate parking regulations throughout the community and coordinate their enforcement; manage the URI shuttle and other shuttle services (RamVan, escort service); and potentially operate the proposed parking garage. The **physical planning** function will work with the University's existing strategic planning, capital projects and facilities management offices to ensure that the Master Plan remains a living document, responsive to changing conditions on campus and able to adapt rapidly to evolving conditions. The **design review** function will assist University decision-makers in evaluating proposed architectural and engineering projects in the early design stages, to ensure that the University's interests and design guidelines are reflected in the conception and execution of capital projects.



2. INTRODUCTION

The Planning Process

This report is the summary document of a year-long physical master planning process for the Kingston Campus of the University of Rhode Island. The process was designed to be wide-reaching and inclusive; over the course of the last year the master planning consultant team, led by Boston-based Goody, Clancy & Associates, met with faculty, staff, and students during nearly 100 separate meetings. The Master Plan includes recommendations in six distinct planning and design disciplines: land use, landscape, facilities, transportation, architectural and engineering design, and signage. The team included landscape architects from Carol R. Johnson Associates, Inc.; transportation planners from BETA Engineering, Inc.; academic facilities planners from Rickes Associates; signage designers from Jon Roll & Associates, Inc.; and architects from Saccoccio Associates, Inc.

The Rhode Island Board of Governors for Higher Education has requested that each of the three institutions under its supervision evaluate its existing facilities and prepare a Master Plan for future physical facilities needs. Thus, this document, which lays out the future development of the Kingston Campus, is one of several planning documents recently produced or currently in production by public institutions of higher education in Rhode Island. The Narragansett Bay Campus of the University of Rhode Island and the Community College of Rhode Island are currently preparing Campus Master Plans; Rhode Island College has recently completed its Master Plan.

The consultants and the University's Office of Strategic Planning and Institutional Research employed several techniques for soliciting input and providing feedback:



Bimonthly meetings were held with the Executive and Technical Advisory Committees, as well as with Focus Groups organized around five topics relevant to the Master Plan.

Advisory Committees

The Technical and Executive Advisory Committees were established at the beginning of the process to provide oversight and serve as the primary client committees to which the Goody, Clancy team reported. The Technical Advisory Committee represented a broad cross-section of the University community, including faculty, administrators, undergraduate and graduate students, and

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also included a representative from the Town of South Kingstown. The Executive Advisory Committee consisted primarily of senior University administrators, and also included representatives from South Kingstown and from the State of Rhode Island. Bimonthly meetings with this group were scheduled to provide progress reports, to check policy direction, and to discuss the broad framework of the Master Plan. Initially the two groups met separately, but after a successful joint meeting which allowed more time for questions and discussion, subsequent meetings of the two groups were held jointly.



Workshops, interviews and one-on-one meetings were also held throughout the project period.

Focus Groups

To provide more detailed feedback on particularly important topics within the scope of the Master Plan, five focus groups were established to serve as adjuncts to the two advisory committees. The five topical areas covered by these groups included traffic and parking; campus life; academic and pedagogical issues; land use and design; and enrollment and fiscal issues. Several of these groups were designed to bring previously constituted campus committees directly into the master planning process. Each of these five groups met bimonthly.

Presentations and Lectures

At appropriate points in the master planning process, the master planning team presented their findings to interested groups on and off campus. Audiences for these presentations included such groups as the faculty senate, the student senate, the landscape architecture public lecture series, and a public meeting for South Kingstown residents.

Surveys

The master planning team used a variety of survey instruments to collect specific types of information in a standardized format. Space surveys were distributed to every academic department and program, and to every administrative unit on the Kingston Campus. Surveys were also distributed to the Athletics department to provide insight about their use of the land west of the main campus. Additional surveys were also used to capture information about student parking and driving patterns. Surveys were typically distributed and returned through the administrative director or academic dean in charge of a particular unit, to provide a degree of university oversight for the information provided by each unit before incorporation into the Master Plan.

Direct Interviews

Through numerous interviews with members of the University community, the master planning team identified specific physical or programmatic issues at the departmental level. Interviews were often conducted where survey information was unclear or where identified space needs were unusually high or low, or where additional clarification was required.

Open Space

The master planning team participated in the two-day Open Space meetings held in the Memorial Union in July, 1999. In keeping with the format of Open Space, the master planners sponsored several of the conversations during the course of the meeting, including well-attended sessions about “the future of teaching at URI” and “campus life at URI.” The master planning team also made their presentation material available during the course of the two-day meeting.

Exhibit of Presentation Materials

Boards produced by the master planning team for use in various presentations were exhibited at high-traffic locations on campus after each presentation. Boards were exhibited in the Library and in the Memorial Union.

Electronic Communication

Goody, Clancy & Associates hosted a web site for the University of Rhode Island master planning projects. The web site provided complete information about each phase of both the Kingston and Narragansett Bay Campus Master Plans, and also allowed for interactive posting of messages about particular master planning topics. The master planning team also relied heavily on email communication.

About this Document

This document contains the findings and final recommendations of the interdisciplinary master planning team. It summarizes research into existing conditions and policies, describes goals that were used to develop specific design recommendations, and contains detailed information about those recommendations. More than 100 specific recommendations are included in Section 5, including both recommended physical changes to the campus (new buildings, landscape investment, or transportation infrastructure changes) and recommended policy directions.



University of Rhode Island Kingston Campus Master Plan

The Master Planning Team

The following individuals contributed to the design and development of this Master Plan for the University of Rhode Island:

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University of Rhode Island Kingston Campus Master Plan

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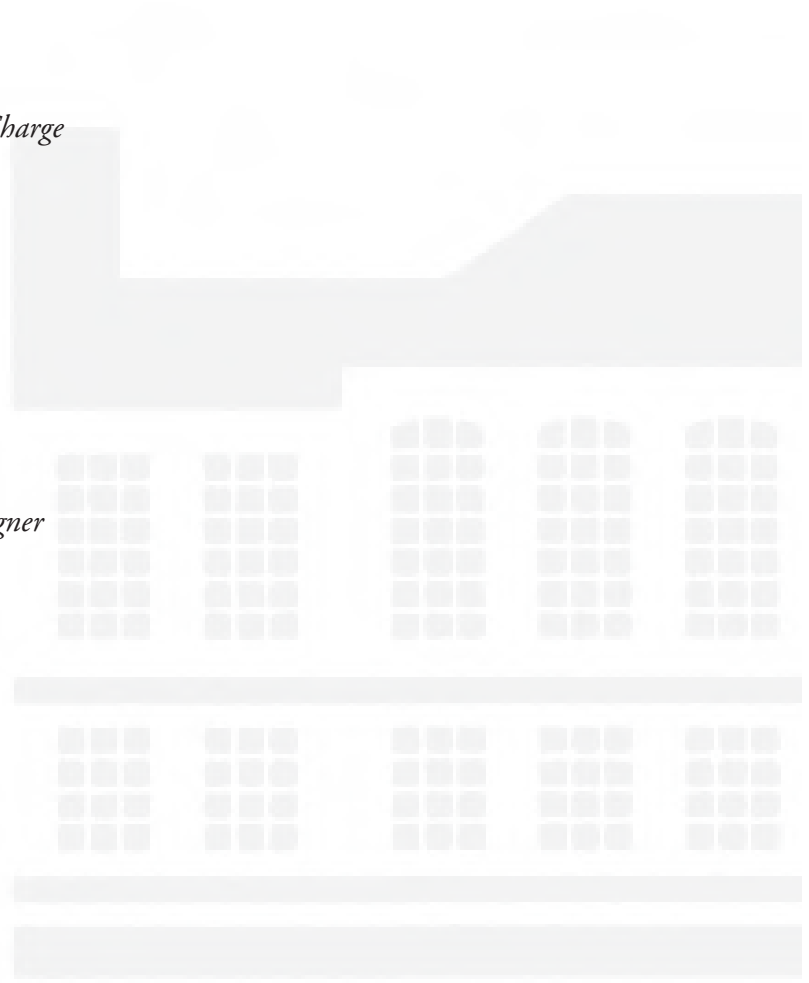
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Context for Planning

The University of Rhode Island is undertaking its first master planning effort in nearly forty years. The pace of change—both within the University and outside its walls—is accelerating, and the University is now in the early stages of a large-scale renovation and capital development program designed to address years of deferred maintenance and position the University as an educational leader in the twenty-first century. A Master Plan is an integral part of the physical and institutional changes now underway at the University of Rhode Island.

There are six key factors driving the need for a Campus Master Plan:

- A desire to provide a *coherent vision for the future of the University*—internally and externally
- The need to address *significant deferred maintenance challenges* for all types of facilities on campus, and to ensure that the University enters the twenty-first century with *appropriate campus facilities*
- A desire to *build on academic planning efforts* already completed, notably the 1998 Academic Plan
- The need to *reconcile the convenience of the automobile* with the *benefits of a walking community*, to maintain the strength of a small, walkable campus while ensuring convenient access for commuters
- Competitive pressure among institutions of higher education to consider the effect of an *ongoing evolution in education*, arising largely from the application of technology to scholarly discourse, on the future of teaching and research at the University of Rhode Island
- An increasingly *market-savvy student body* with sophisticated expectations about education, residential life, and student amenities

1 A Coherent Plan for the Future—Internally and Externally

The Rhode Island Board of Governors for Higher Education is charged with overseeing a state educational system that provides “access to higher education free of discrimination for residents of the state, and [enriches] the intellectual, economic, social and cultural life of the community.” In a changing national and world economy, it is more critical than ever that Rhode Island maintain and develop an educated workforce.

For the Board of Governors and University administration, this Master Plan can serve as a tool for decision-making, outlining



Some areas of the campus can serve as showpieces of campus planning principles, demonstrating the effect of carefully targeted investment.

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options for institutional and campus change foreseeable in 2000 and guiding unforeseen decisions in the future. By providing background research and evaluating advantages and disadvantages of various options for particular projects and sites, it provides the context for investing financial or other resources in the campus.

For the external community, the Master Plan serves as one more way to communicate the University's vision of its own future. The Master Plan can strengthen relationships between the University and its neighbors by indicating what types of changes to University facilities and programs are envisioned for the future, by describing the services the University provides (or will provide) to the community, and, if the Master Plan is made public and kept up-to-date, by providing direct access for members of the community to one of the key decision-making tools used by the University administration.

2 Deferred Maintenance and Appropriate Facilities



The University is now addressing years of deferred maintenance, allowing it to move forward unencumbered in the next century.

Most of the buildings on the Kingston campus are now more than 40 years old. Few of those buildings have been comprehensively renovated since they were constructed, and many are showing signs of their age. To bring those buildings in line with expectations about twenty-first century facilities, a systematic plan of facilities upgrading and renewal is required. Deferred maintenance requirements have become a serious drain on University resources, precluding necessary expenditures on improvements to teaching facilities or technology.

The first phases of facilities upgrading are now in progress, with projects to renovate the freshman residence halls and replace many of the campus' aging steam lines now in the design and implementation phase. The Campus Master Plan will work in tandem with the University's own capital budgeting process, ensuring that appropriate facilities maintenance and renewal projects are appropriately identified and budgeted alongside new development initiatives.

3 Building on Academic Planning Efforts

The May 1998 Academic Plan for the University of Rhode Island is the product of a dynamic, participatory process, involving the Office of Higher Education, the Board of Governors, community members, students, faculty and staff from the four campuses in the University of Rhode Island system. It incorporates insights from the various planning efforts the University has undertaken.

Though this Campus Master Plan is primarily a physical plan, the physical qualities of the University must emerge inexorably from its institutional mission and programs. The 1998 Academic Plan and its 1999 revisions propose looking at the departments and programs of the University in terms of ‘focus areas’ – four programmatic divisions that are, according to the Plan, “areas of existing strength as well as those in which [the University has] a reasonable opportunity to become strong.” In addition to the core of traditional academic disciplines of the liberal arts and sciences, the four focus areas are Marine and the Environment; Health; Children, Families and Communities; and Enterprise and Advanced Technology.



Some departments, such as the various engineering disciplines, fit clearly into one or another focus groups. Others are less clearly defined.

After discussion with faculty and administrators about the physical implications of grouping academic programs into focus groups, a consensus emerged that the focus groups should determine the physical configuration of campus only insofar as they could strengthen existing communities of interest, or to create new communities where there was strong faculty interest in collaboration and interdisciplinary work. Elsewhere on campus, the focus areas may not necessarily be expressed in bricks and mortar.

4 Reconciling the Automobile and a Walking Community

The essence of the University is an exchange of ideas within a community of scholars, a community defined by proximity and the chance encounters that arise on a small, walkable campus. But the realities of contemporary life, particularly for a rural campus like the Kingston campus, dictate that the automobile is indispensable for meeting commitments to work and to family. Reconciling the inherent tension between these two aspects of life at the University is one of the most important objectives of the Master Plan.

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A large proportion of the student body works off-campus, and faculty and staff with young children need ready access to their cars. Yet, for all its convenience, the automobile tends to isolate people and fracture community. The most effective communities require a certain degree of physical closeness to succeed. And unless its parking and circulation systems are carefully managed, an automobile-centered campus forces buildings to be dispersed across a wider area.

The land required for parking at the center of campus could be put to other, more attractive use, and drainage and erosion controls could be more naturalistically implemented. A comprehensive solution to ongoing concerns about parking will involve changes in the physical environment, changes in policy and management, and—most difficult—changes in attitudes about parking.



A Master Plan can help build trust and confidence among the University's neighbors.

5 Evolving Education Technology and Pedagogy

The last forty years have seen a remarkable revolution in how people communicate with one another: through continual improvements in the transmission of text, sound, and images, and through exponential increases in the power and speed of microprocessors. Universities have been at the heart of this revolution since its inception—indeed, many of the technological strides we now take for granted were developed in university laboratories—and must continually adapt their educational models to keep pace with new developments in technology.

Faculty are increasingly taking advantage of improved communication technology to post examples and assignments on course- or department-specific Internet sites, to answer students' questions with electronic mail, and to traverse the world wide web for research materials. These changes may also serve to transform the traditional pedagogical model from one of "provider/consumer" into a more interactive, experiential model.

The University is responding to this increased interest by upgrading its fiber optic network backbone, by developing guidelines and requirements for technologically up-to-date classrooms, and by providing in-room Internet connections in the residence halls. A complete evaluation of the University's technological capacity and detailed technical guidelines for continued development are beyond the scope of this Master Plan. But in consultation with the Information Resources Council,

and with input from faculty, staff, and students, this Master Plan provides an overview of how improvements in technology can affect the future of teaching, learning, and research at the University.



Changing student expectations are a significant force in today's higher education marketplace.

6 Changing Student Expectations

Students have been quick to adapt to rapid changes in technology, and they increasingly demonstrate the power of this technology for making informed choices in the marketplace. As consumers of the University of Rhode Island's educational programs, students play a large role in advocating for positive change.

The current generation of students is also, in the main, more affluent, more worldly, and more focused on higher education as an entrée into a career than earlier generations. Where thirty years ago college students expected double-loaded dormitory corridors, gang bathrooms, and dining hall food, today students expect residence halls to follow a suite model, with semi-private baths where possible, and a more sophisticated array of student amenities. According to some, 60% of today's students have never shared a bathroom with another person, and 80% have never shared a bedroom. Students have also expressed interest in ensuring that their college experience is reflective of the diversity of the world around them. These changing student expectations inform some of the Master Plan's goals and recommendations.

More broadly, the State of Rhode Island has a vested interest in attracting and retaining not simply more students, but better qualified students. In an economy driven by workers who need specific technical skills or particular expertise, a strengthened student body in the state University system can translate directly into a more competitive position to attract regional or national investment from private industry.

Meeting the Needs, Providing the Tools

The Campus Master Plan addresses the six needs described above by analyzing the impacts of each—quantitative and qualitative—on the University’s core mission and related facilities. By developing a series of goals that addresses these core needs, with associated recommendations, the Master Plan provides the University with the necessary framework to address future changes in a coherent and integrated way. Primarily, a Campus Master Plan is:

- *A road map for future change on campus.* A Campus Master Plan provides guidelines for making decisions about the built environment on campus, ranging from large-scale decisions such as where to locate major new academic, administrative, or athletic facilities, and which landscapes to preserve, to smaller-scale decisions such as the best location for a new pathway or the type of signs to use throughout the campus.
- *A tool for setting campus priorities.* In the face of equally compelling academic and institutional needs—but finite resources—which needs should be addressed first? The Master Plan provides an objective snapshot of campus facilities in 1999-2000, and can map out foreseeable projects for the next 10-15 years. The Master Plan can also provide a mechanism for review and renewal, to ensure that future projects that are not anticipated in today’s plan are compatible with the long-term development of the campus.
- *A strategy for targeted investment.* Where can campus funds be spent to produce the most significant results for the greatest number of people? Can similar (and sometimes competing) projects be consolidated to achieve the needed results at less cost? To produce synergies among departments and programs, can facilities’ needs serve as catalysts for academic change? Can academic change identify a more efficient use of existing facilities? This global view of space needs and space costs is one of a Master Plan’s most important functions.

Contemporary Trends in Higher Education

Although this Campus Master Plan addresses specifically challenges facing the University of Rhode Island, with the particular characteristics of its Kingston campus, no university exists in a vacuum. With college costs consistently rising faster than the rate of inflation, with a national economy that increasingly sees a college degree (rather than a high school diploma) as the basic qualification for entry-level work, and with a readily available wealth of information about competing institutions on the Internet and elsewhere, market forces now influence higher education more than ever before.

To remain competitive in this marketplace, the University of Rhode Island must recognize important contemporary trends in higher education. To stay ahead of those trends, URI, like other colleges and universities, recognizes the need to:

- acknowledge changing demographics that will bring increased numbers of students to campuses over the next decade, including many first-generation students, followed by a significant drop-off in traditional college age population;
- understand that many of those students will be adult learners, returning to school for second or third degrees or to receive training in a new field;
- create a sense of community wherever and whenever possible through both formal and informal spaces and opportunities for interaction;
- anticipate and support, where appropriate, shifts in programmatic demands, such as the current emphasis on health care and information technology;



Colleges and universities must successfully compete to provide a sense of community. Students learn as much outside the classroom as inside.

- nurture cooperative and collaborative relationships with other educational providers, both traditional and non-traditional, and acknowledge the impact of the various forms of distance education;
- provide access to technology to students, faculty, and staff wherever possible, and incorporate it into the curriculum as appropriate;
- enhance revenue opportunities through innovative uses of existing resources and by developing entrepreneurial partnerships with the private sector;
- find ways to meet student, faculty and staff demands for wellness, fitness, and recreational opportunities; and
- recognize that up to three-fourths of what students learn while attending college is the direct result of experiences that occur outside the traditional classroom environment.

The Master Plan's Vision

Sources and Predecessors

Developing and articulating a 'vision' for the future of the institution is important because it provides a sense of where the institution is going and why it is going there. An outside consultant can help facilitate the process of developing a vision, but any vision for the University of Rhode Island must be grounded in careful self-assessment, strategic planning about the future of the institution and the society it serves, and the unique nature of the University of Rhode Island community.

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This Campus Master Plan builds on the hard work of many groups of faculty, staff, and students – notably, the group that assembled the 1998 Academic Plan; the ongoing research about the state of the University conducted by the office of Strategic Planning and Institutional Research; numerous professional studies conducted in anticipation of projects such as the Convocation Center, the Ice



Green Hall symbolizes the continuity of old and new at the University of Rhode Island.

Rink, and the Residence Hall renovation project; and a series of thoughtful and thorough plans developed by landscape architecture students on such topics as the future of Upper College Road and Butterfield Road.

The University of Rhode Island boasts an impressively open culture, where an exchange of ideas is encouraged, and major decisions about the campus and the institution are discussed and refined in a public forum. This Campus Master Plan is a product of that culture, and seeks to identify opportunities to continue the tradition of participatory planning into the future.

The Vision

There are four components to the vision that this Campus Master Plan presents for the future of the University of Rhode Island generally, and the Kingston Campus in particular. First, the University should seek opportunities in every project and initiative to *cultivate a sense of community* among its faculty, students, and staff. Second, the University should *recognize the value of its varied resources*—from physical resources like land and buildings to human resources like a world-class faculty and staff and an energetic, diverse and vibrant student body—to *ensure that those resources are employed most effectively*. Third, there should be a *demonstrable match between programs and facilities* across all departments and divisions of the University, to ensure that core programs are housed in adequate facilities regardless of trends in funding for particular disciplines and programs. Finally, the University of Rhode Island should build on its national reputation as a center for excellence in environmental education by seeking every opportunity to *create a “green” campus*, to put into practice in the physical environment the ideals developed in the classroom, in the laboratory, and in the field.



Previous studies of the campus, including student research projects, have informed this Master Plan.

A. Cultivate a Sense of Community

The University is composed of many natural communities of interest: faculty colleagues pursuing a common intellectual discipline, students sharing a dormitory hallway or similar family background, athletes confronting a common opponent. The challenge for the University is to augment the experience shared by the members of these smaller communities with a broader sense of belonging. Doing so will build loyalty among alumni, improve morale among faculty and staff, and attract an increasingly talented pool of potential students.

Allowing for the conveniences we all take for granted (like a car for travelling off-campus, or electronic mail for communicating without being physically present) while simultaneously cultivating community is a formidable challenge, and requires an abiding sense of balance between what is desirable and what is practical. Ultimately, a Master Plan is about presenting choices to the University community—a choice between convenient parking and landscaped pathways, or between high-tech classrooms and larger faculty offices. Each choice has implications for the nature of the community the University nourishes.

There are several dimensions of community. The intellectual dimension can produce outstanding advances in learning, by realizing the full potential of an exchange of ideas, experiences, knowledge, and perspectives. The physical dimension requires proximity—cultivating community requires opportunities for chance meetings and for informal groups. A small, walkable physical setting will succeed more effectively in cultivating community than a large, sprawling campus. Finally, the functional dimension of community requires that basic human needs be accommodated within a broader program framework—single-use buildings or zoning may be easier to build and easier to fund, but people are generally happier and more effective if they are given opportunities to “change gears” throughout the day: providing opportunities to grab a cup of coffee or read the newspaper in an academic building are remarkably effective ways to help build community.



A strong community allows for both formal and informal gathering places.

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B. Make Efficient and Appropriate Use of Valuable Resources

As with any complex institution, it is difficult for individual participants to know the full extent of available resources. These resources—both physical and human—provide solid foundations upon which the University can move forward with new programs and initiatives. It is vital that the University understand the real value (fiscal and otherwise) of those resources, assess their condition, estimate their future usefulness, and communicate that value to the broader University community.

In particular, it is important to recognize ‘undervalued’ resources. Although the University owns hundreds of acres of land, much of which is unbuilt, the land at the center of campus is more ‘valuable’ in its ability to develop and sustain community than the outlying land. The outlying land is more valuable in its ability to support agricultural research projects or athletic fields. Thus decisions about the future use of this outlying land should consider the effects of land use changes on both the parcels in question and on the land at the campus core.

C. Ensure a Demonstrable Match between Programs and Facilities



The University must lead by example in the stewardship of land and other resources

Continually striving to provide a consistent base level of classroom, laboratory and office space across the University is a laudable goal that should enter into every major decision about physical facilities on campus. The University should establish minimum space standards and provide a mechanism for allocating space according to those standards. The Program and Quality Contribution Analyses (PCA and QCA) mentioned in the 1998 Academic Plan are good starting points for developing a similar contribution-based index of space requirements for particular programs or departments.

The entire University community will benefit from across-the-board improvements in the environment for learning. All divisions of the University should be provided with sufficient resources (both space and technology)—not just those divisions that are the beneficiaries of current funding largesse. Ensuring a baseline level of physical and technological resources for all programs represents a long-term investment in the quality of University programs and facilities.

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D. Work toward 'a Green Campus'

The University of Rhode Island has an outstanding reputation for providing some of the most environmentally progressive academic programs in the country, particularly in Oceanography, Marine Studies and Marine Engineering. The University's role as an educational leader in the natural environment should extend to its own buildings and grounds. By conscientiously adopting environmentally friendly facilities maintenance and groundskeeping policies, the University is demonstrating to its students that the lessons learned in the classroom about environmental stewardship are workable and worthwhile.



Aiming for an equitable match between programs and facilities begins to suggest an order of priorities in renovation.

The concept of sustainability is central to the vision of a green campus. There are several dimensions to sustainability: at the planning level, sustainability calls for intelligent use of the land, favoring both building siting criteria and landscape design strategies that reduce the need for extensive transportation and service infrastructure. Sustainable architectural design employs traditional, natural systems of heating, cooling, and ventilating buildings, as well as building components that incorporate recycled materials, supplemented only as needed by mechanical systems. At the operational level, sustainability requires institutions to encourage members of their communities to conserve and recycle materials, to



The goal of a 'green campus' extends to all aspects of the University community, not just its landscape.

make individual choices about transportation that reduce dependency on fossil fuels, and to make choices about maintaining campus systems that reduce waste and minimize the impact of potentially toxic substances on the surrounding environment.

Most importantly, sustainability is a metaphor for the systemic nature of the institution as a whole: to flourish, it must successfully balance its inputs with its outputs; it must allow for its own growth with an eye to the resources available to it; and it must create appropriately symbiotic relationships

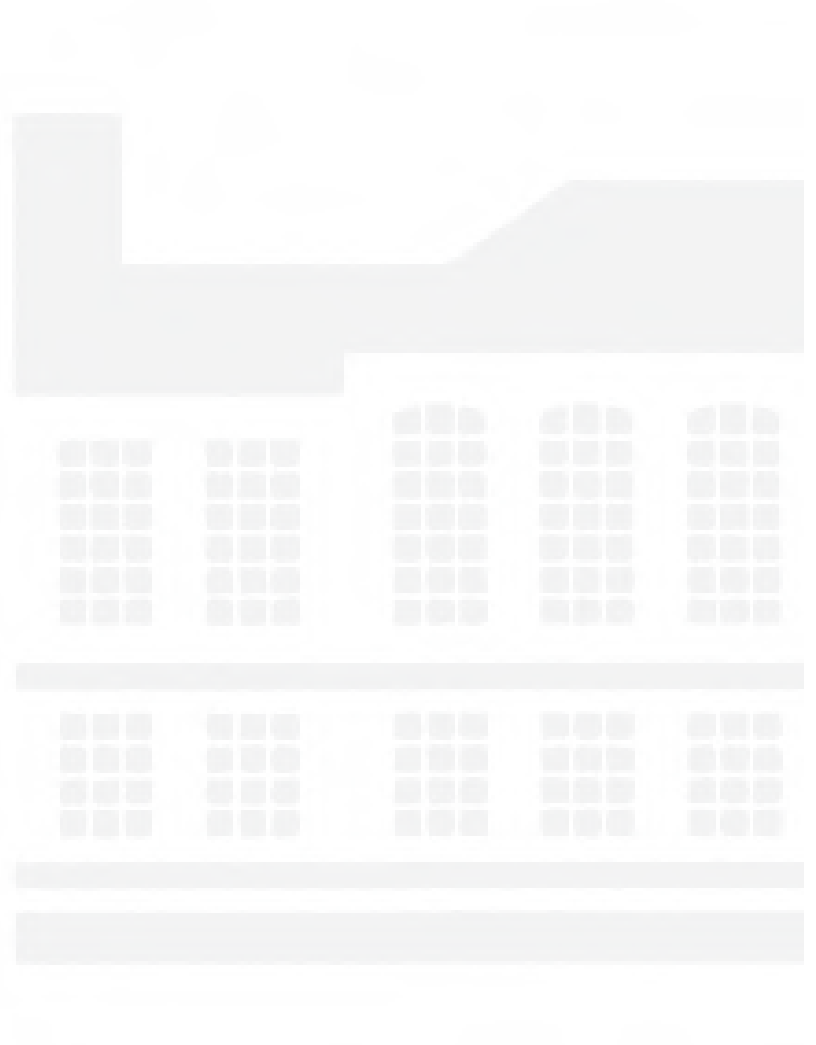
with its surroundings and its neighbors. Sustainability is only "just a metaphor" as long as decision-makers maintain the University's balance sheets, image, plans and policies, as separate and distinct entities. When the relationships among those various components of the University are considered, then sustainability leaves the realm of political metaphor and becomes a working model for the healthy functioning of the institution.



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Implications of the Vision

When developing a vision for the future of the University, it is easy to lose sight of the concrete steps that will make that vision a reality. One of the primary purposes of the Campus Master Plan is to provide specific goals to achieve the plan's vision and a 'toolbox' of implementation strategies to meet those goals. The goals are outlined in Section 3. The specific design recommendations described in Section 5 emerged directly from these goals, and reflect the four broad components of a vision for the future of the University of Rhode Island.



3. CAMPUS PLANNING GOALS

The campus planning goals in this section have been organized according to the four components of a vision for the University's future:

- A. Cultivate a sense of community.
- B. Make efficient and appropriate use of resources
- C. Ensure an equitable match between programs and facilities
- D. Work toward a 'green campus'

Under each component of the vision are outlined a series of more specific goals that have implications for one or more aspect of the physical campus:

- land use
- landscape and open space
- transportation and parking
- facilities
- infrastructure and utilities
- architectural design
- signage

A. Cultivate a Sense of Community

A.1 Seek Opportunities to Cross Disciplinary and Departmental Lines

Each intellectual discipline within the University has its own community of scholars, a group of peers who speak the language of the discipline and understand its particular rules and customs. But the University's greatest potential as a source of new ideas is often realized when someone is able to look at problems with fresh eyes—either as a student or as a professor from another discipline—and make an intellectual leap of faith. To encourage this type of disciplinary cross-fertilization, the University should seek opportunities in every project to encourage students and faculty from several disciplines to work together. This could take the form of shared common facilities, or regularly scheduled faculty roundtables, or guidelines for developing new interdisciplinary courses.

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A.1.1 Where possible and desirable, departments and programs that would benefit from direct working relationships should be consolidated

Certain departments and programs at the University seem, to outside eyes, to be ‘fragmented’ among smaller units offering potentially similar courses or research topics. To what extent is it desirable to make these fragmented departments “whole?” In some cases, fragmentation may actually promote synergy and sharing.



Providing faculty with resources and incentives to cross disciplinary lines can help generate exciting new ideas and approaches to learning.

Some departments prefer to be self-contained, while others express concern that it isolates faculty.

A.1.2 Support research initiatives with respect to the study of natural environments and their associated ecosystems

The University should highlight its nationally-recognized strengths in environmental and ecological sciences through new research initiatives. Where possible, these initiatives should involve collaborations among different departments or programs of the University, bringing to bear on each project thinking from the various academic specialties dedicated to the natural world.

A.2 Protect and Enhance the Shared, ‘Civic’ Space on Campus

The shared space on campus is akin to the public realm in a city or town: no one ‘owns’ it, yet its quality and appearance can contribute significantly to community pride. The shared spaces on the Kingston campus include formal open spaces like the Quadrangle and the Hammerschlag Mall, but also include less majestic spaces like the dumpster storage areas near the residence halls, and the parking lots that dot the hillside. These shared spaces must be treated as community resources, and their care and maintenance must be adequately funded, if they are to serve the University well as indicators of a common vision for the campus.

A.2.1 Provide formal and informal gathering areas—both interior and exterior—of various sizes clustered around similar uses

Over time, work spaces, conference rooms, and informal spaces on campus have been converted to other assigned uses. This, in turn, has



Where informal gathering places did not exist, students have often created them.

interfered with day-to-day operations and reduced opportunities for informal interaction. Wherever possible, such spaces should be provided. This might mean a common lounge space for a building, a conference room to be shared between adjacent departments, or even a 24-hour “cybercafé” in the Library. These types of spaces should also be considered when developing plans for the University’s landscape—through carefully arranged benches, an appropriately placed fountain, or just a gently sloping hillside behind a classroom building.



Many of the best informal gathering areas are at the Emporium—can more of these types of spaces be created on campus?

A.2.2 Provide amenities (cafés, seating areas, etc.) associated with interior and exterior common spaces wherever possible

As a corollary to goal A.2.1, many of the formal and informal gathering areas around campus should include amenities to encourage their use. These amenities can be as simple as a coffee maker or vending machine, or can be more elaborate and involve a greater reach, as a café or “cybercafé” would. The implementation of these amenities may be relatively complex, involving both departmental funds and funds for general University ‘civic’ space.

A.2.3 Each project should be responsible for a portion of the shared space on campus and be required to contribute to specific improvements or to a general fund for campus improvements



An equitable approach to maintaining the ‘civic’ space of the campus should be developed and implemented.

To reinforce the sense that the campus common spaces ‘belong’ to everyone, and that their maintenance and improvement is everyone’s responsibility, new projects on campus should be required to contribute to the improvement of these common spaces. There are a variety of mechanisms to accomplish this: specific portions of the campus can be mapped to particular buildings, indicating required ‘limits of work’ for projects in those buildings; the campus can be mapped to particular divisions or departments; or contributions to the common spaces can be made into a general fund, which is then allocated according to a defined mechanism.

A.3 Continue to Build Connections between the University and the Broader community

The University's relationships with the broader community—in nearby towns like South Kingstown and Narragansett, across the state of Rhode Island, and in the world community of scholars—are vitally important for attracting top faculty and students, and for spreading the word about the value of the University in the state and local economies.

A.3.1 Strengthen existing bicycle and pedestrian routes to the campus from the greater community

It is important to improve pedestrian and bicycle access to the campus from the surrounding community for several reasons:

Encouraging alternative modes of transportation will reduce traffic congestion and ease demand for parking on campus.

Improved access will highlight the many resources the University makes available to the surrounding community, including arts and cultural offerings, academic resources, and the campus and its excellent botanical collection.

Improved access may also encourage faculty and students who live off-campus to commute to school by foot or by bicycle, which will in turn encourage a more pedestrian-friendly culture on campus.



A campus master plan can help allay community concerns about the extent and direction of the University's growth.

A.3.2 Create on-campus housing opportunities for visiting faculty, especially during the summer months

Visiting faculty to the University do not have many housing options now. More attractive alternatives enhance the University's reputation as a place that welcomes visiting scholars and encourages its faculty to interact with the international academic community.

A.4 Ensure that the University and its Campus Project an Image Appropriate to the Institution's Mission

The image of the institution is most often cited as the reason undergraduates choose to attend the University of Rhode Island. The Quadrangle projects the archetypal image of a college campus; that image is among the University's strongest tools for marketing itself. Beyond the Quadrangle, not every sector of campus lives up to the example the Quad sets. Enhancing these less-polished areas of campus should be a top priority in the coming years.

A.4.1 Ensure that new buildings are architecturally appropriate to their surroundings on campus

By issuing design guidelines to all architects designing buildings for the University and by formally reviewing schematic-phase architectural designs, the University can ensure that all new buildings (and building additions and renovations) on campus are appropriate to their settings, and to the 'image' of the University. As older renovation projects of buildings enter the capital budget, the University should seek opportunities (as with the Ballentine Hall project) to put more appropriate new 'faces' on buildings that do not currently match the image of the campus.

A.4.2 Improve wayfinding on campus through the use of pavements, plantings, signage, lighting and gateways

It is not always readily apparent where campus visitors should go to receive admissions information, meet with faculty or members of the administration, or see the student center. A coordinated strategy for wayfinding on the campus will assist visitors and provide them with a better first experience with the campus. Wayfinding elements include signage, lighting, gateway, plantings, and paving materials. The gateways to campus and campus edges are critical components in this wayfinding system—they should be designed to delineate clearly the entrances to the University and direct visitors to common destinations quickly.



A few buildings on the Kingston campus serve as excellent examples of what is NOT appropriate for the image of the University.

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A.4.3 Establish standards for site furnishings, paving materials and plantings to unify the campus environment

One of the great strengths of the University's campus is the botanical richness of its campus, which was originally envisioned (and continues to this day) as a memorial arboretum. The richness of the foliage can be enhanced by a more focused palette of smaller plantings, and complemented by consistently designed and carefully placed site furnishings.



Signage and a rational roadway system are the primary wayfinding tools visitors use to navigate an unfamiliar campus.

A.4.4 Relocate selected interior parking lots to the perimeter of campus to strengthen central campus open spaces (such as the Elephant Walk) and improve the flow of pedestrian traffic at the center of campus

Several parking lots at the center of campus provide extremely convenient access to core buildings, but interfere with the flow of pedestrian traffic or interrupt important landscaped areas of campus. Where feasible alternatives exist, such parking areas should be relocated to more peripheral areas, and core pedestrian areas (such as alongside the Elephant Walk) should be restored as landscaped zones free of vehicular traffic.

A.4.5 Locate areas suitable for public art with consideration of maintenance requirements, spatial relationships and vistas, and encourage interpretive art opportunities that reflect the history and development of the campus

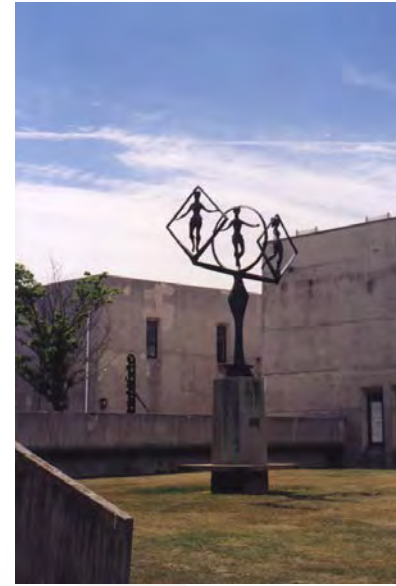
One of the roles of the university in American culture is cultivating and promoting the arts. The University of Rhode Island offers a rich array of artistic and cultural programs to the community, but the campus itself could more effectively promote the arts. As a state university, the University of Rhode Island can benefit from the state-funded 1% for art program and those funds should be spent strategically to provide the best works of art on the most appropriate sites.



The greenhouse gardens are almost universally loved and provide a good starting point for establishing site standards at the University.

A.5 Ensure that the University's Campus Functions Well for its Users

The image of the the campus plays one role in establishing a degree of comfort and trust that brings prospective students and faculty to select the University of Rhode Island. The functional qualities of the campus are another important aspect. Convenient parking, a sense of safety, a roadway network that makes sense: all of these indicate to visitors that the University is a place that both looks good and works well.



Walking across the campus would be a richer experience if additional works of public art were strategically sited.

A.5.1 Maintain and strengthen distinctions between public and private zones

Like any city or town, the University of Rhode Island has “business zones”—areas of campus that bustle with activity where the daily business of the University occurs—and



Signage can effectively delineate public and private zones.

“residential zones,” where students go to sleep, eat, and socialize. As the campus draws an increasing number of visitors to public events at the new Convocation Center, it will be important to maintain the privacy of these residential areas, which are essentially private areas for campus residents only. The University can help maintain the integrity of these zones with a variety of techniques, ranging from “hard” techniques like gates or buildings designed around quadrangles to “soft” techniques like one-way streets leading out of the residential zone or appropriate signage.

A.5.2 Reorganize land use zones to focus on the historic Quadrangle

As the symbolic heart of the University, the Quadrangle should be a place dedicated to the core mission of the institution. One possible way to strengthen the connection between its symbolic importance and its practical role in day-to-day life is to ensure that all buildings facing the Quadrangle contain at least some teaching uses. This would imply that some of the buildings that are now primarily administrative (Carlotti, for example, or Davis Hall) become primarily classroom buildings. This would then create the need to locate administrative uses elsewhere on campus. Upper College Road is one possible location for a reconfigured administrative zone.

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A.5.3 Reinforce defined land use zones

The University of Rhode Island campus is divided clearly into land use zones: the athletic buildings and their fields are at the base of the hill, the residence halls are nestled into the hillside, and the educational and administrative functions of the University are at the top of the hill. It is important to respect the distinction between land use zones, to ensure that buildings which are not necessarily compatible in their hours or intensity of use are not inadvertently placed next to one another. Section 6 of this document discusses campus land use, and outlines recommended changes in existing land use zoning the University should consider as part of the master planning process.



As the symbolic heart of the University, the Quadrangle and its associated buildings should be dedicated primarily to teaching.

A.5.4 Integrate public safety and security measures by clearly identifying pedestrian and vehicular circulation routes and encouraging natural surveillance of outdoor spaces through proper landscape development

The concept of ‘defensible space’ is frequently used to describe design that discourages crime. Defensible spaces are visible from surrounding buildings; they are well-lit (but not over lit, so as not to create glare); they give outsiders the sense of entering a private zone; and they provide clear paths from inside to outside. Defensible space goes hand-in-hand with the concept of public and private zones as described in goal A5.1. Those areas on campus where concepts of defensible space can be applied to improve safety should be considered, and defensible space concepts should be incorporated into design strategies for their renovation.



The campus falls naturally into several land use zones separated by natural or geographic features like the hillside and wetlands.

A.5.5 Provide full accessibility for all persons and emergency vehicles to all indoor and outdoor spaces of the campus

The Americans with Disabilities Act requires that public facilities be fully accessible to the disabled. This Act has wide-ranging implications for buildings at public universities, but its requirements also extend to the exterior spaces of the campus. These requirements pose a particular challenge to campuses on steeply sloping sites; pathways must be carefully designed to meet slope requirements (typically 5% maximum without handrails) without resorting to unappealing and expensive double-backs and handrails.



Providing full accessibility on the University's hilly terrain is a significant challenge.

Even if master planning goals suggest the removal of vehicular traffic from certain areas of campus, all buildings must still be easily accessible to emergency vehicles. A variety of solutions—ranging from high-tech electronic barriers to low-tech padlocked bollards—will allow emergency access while restricting general traffic. Appropriate strategies should be adopted to incorporate these solutions as unobtrusively and inexpensively as possible.

A.5.6 Reinforce existing cross-campus pedestrian connectors and strengthen the hierarchy of pedestrian paths to physically link open spaces and provide accessibility to major components of the campus environment

Portions of the pedestrian circulation system on campus are badly deteriorated, and barriers exist in places that would otherwise be natural circulation routes. The pedestrian system should provide a clear hierarchy of pathways, from major campus 'arteries' like the Hammerschlag Mall and the Elephant Walk, to secondary paths, to sidewalks leading to building entrances. The circulation hierarchy must be diagrammed clearly, and changes to the pathway system should be checked against the diagram to ensure that paths are in the correct location.



The campus pedestrian system includes some of the best-designed outdoor spaces on campus.

A.5.7 Improve parking accessibility on the periphery of campus through shuttle and pedestrian connection improvements.

Removing parking from the core of campus requires providing attractive alternatives to parking near core academic and administrative buildings. Peripheral parking must be combined with improvements in the shuttle system (which can range from decreases in headway to more informative signage about times and routes) and well-lit, attractive pedestrian paths from parking areas to core campus destinations.

B Make efficient and appropriate use of resources

B.1 Financial resources

As a state institution, the University of Rhode Island must carefully leverage every dollar spent to achieve the maximum benefit from each capital project, and ensure the longevity of its investment in physical plant and programs.

B.1.1 Projects should integrate multiple objectives, where possible

The reality of project funding often dictates a 'single objective' project model. Projects meet a need for additional classroom or laboratory space; they provide new athletic facilities for a particular sport; or they supply offices for a particular administrative division. But it is important to ask, before proceeding with a project, "*What else can this project accomplish?*" An athletic facility adjacent to the residence halls can provide new space for student dining, for example, or a parking lot redesign can also serve to create a new outdoor gathering space. With limited funding available, every dollar spent on particular projects must be leveraged to create additional value for the University.

B.2 Physical resources

The Kingston campus is home to a wealth of physical resources, including over 1,200 acres of land, three million square feet of usable built space, and an extensive utility infrastructure that continues to serve the University well. The extent and value of these resources must be understood, and the most effective means of stewardship for each should be made available to those groups or individuals charged with their care. In some cases (as with the open land on campus, for example), the value is difficult to quantify, and must be understood in the broader context of where growth should occur.



Major new projects, like the Convocation Center, should integrate multiple objectives, in addition to meeting an identified program need.



Without a compelling programmatic reason, new projects should not be developed outside the University growth boundary.

B.2.1 Identify a suitable “growth boundary” for the University and compelling strategies for protecting and/or using surrounding land

One of the most important (but often underappreciated) resources the University has is its compactness. This compactness, and the academic and social communities engendered by proximity, are strong qualities for prospective students. Unlike the sprawling land-grant Universities of the Midwest, where a walk between classes sometimes means a 20- or 25-minute hike, most destinations on the Kingston campus are within a 10-minute walking radius, and the most distant corners of campus are separated by at most a 15-20 minute walk. This resource is endangered every time a project is considered on the land west of the athletic complex, north of Flagg Road, south of Route 138, or east of North Road.

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B.2.2 Recognize and preserve open spaces as important characteristics of the campus environment and adopt design standards for spaces with similar spatial qualities

B.2.3 Recognize and enhance the significant man-made features of the campus and adopt design recommendations to preserve and enhance their qualities

The open spaces of a University campus create some of the strongest associations many people have with their alma mater, and indeed campus open spaces are some of the great civic spaces of America: the great lawn of the University of Virginia, Harvard Yard, or the steps of Low Library at Columbia University (graced by Alma Mater herself). The University of Rhode Island is fortunate to have a strong design framework on which to build—it is important to enhance the existing qualities of the campus’ open spaces while identifying necessary improvements.



The natural and man-made features of the campus are inseparable—and together contribute to the image of the University.

Effective campus design is often about defining open spaces with the edges of buildings that surround those spaces—the classical quadrangle form derives its strength both from the size and shape of the lawn defined on the ground plane, and from the extent to which the surrounding buildings make that size and shape apparent in the third dimension. Quadrangles do not exist without effectively defined building edges.



The view from the quadrangle/Hammerslag Mall area is one of the University’s most important (and most intangible) resources

B.2.4 Enhance and reinforce view corridors through pathway alignment, site furnishings, landscape lighting, and plantings

The Kingston campus offers spectacular views from the hilltop site of the historic quadrangle down into the pristine valley below. These views represent a priceless asset for the University, and should be preserved from incursions by new development. Preserving views was one of the major design issues surrounding the siting of the

Convocation Center—three-dimensional sketches and photo-collages helped determine the project’s impacts on views from the upper campus. Those tools should be employed for every major project with potential to affect campus views, and methods to protect those views—such as defined ‘view corridors’ identifying specific viewpoints and views to protect—can be adopted.

B.2.5 Develop University of Rhode Island “signature details” to enhance the unique image and identity of the University with consideration to the history and location of the University.

Part of the challenge of creating a ‘sense of place’ that uniquely identifies the University of Rhode Island to community members and visitors alike is developing a set of small-scale construction details (both architectural and landscape) that consistently contribute to the look and feel of the campus. These ‘signature details’ can range from a particular type of foundation plantings, to a uniform set of handrail details for building entrances, to particular types of curbing used on certain areas of campus. Though individually small gestures, these details can reinforce the sense of a coherent place defined by the organization of the campus open spaces and buildings.



Clues about the University’s signature details are abundant on campus, if you look closely.



Not all of the signage on the Kingston campus conveys the appropriate image

B.2.6 Develop a signage system that reflects the image of the University, and provides a clear hierarchical system for all campus signs

The current campus signage system is reasonably clear and recognizable, but some signs are inconsistent in certain aspects of design, for example, in typeface, logo, and spacing. Building signage is relatively consistent, but other types of signage (directional signage, for example, or campus maps) are not as well organized. A consistent signage system, when combined with the currently evolving standard in other aspects of the University’s “image” (e.g. the word mark used on letterhead), will convey the impression of a single community to visitors and the outside community.

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B.2.7 Reorganize selected campus roadways (through realignment, direction changes, or potentially closure) to improve traffic flow and increase pedestrian safety

Several intersections on campus pose serious hazards to pedestrians, and on many roadways students drive too fast. The Master Plan has assessed traffic conditions and improvement options at the following locations:

- Butterfield/Baird Hill Road and Fraternity Circle
- Student Union circle
- Upper College Road, particularly on the southern end.
- The roadway link behind Keaney, in conjunction with the Convocation Center design
- The Ranger Road/Upper College Road intersection
- Flagg Road, particularly relating to on-street parking and maneuverability
- The Alumni Avenue corridor—as it functions now, and as it will function as a more pedestrian-oriented roadway as proposed in the Master Plan



Some campus roadways pose safety hazards and should be reconfigured or reorganized to address safety and functional concerns.

B.2.8 Employ traffic calming measures on selected roadways to reduce vehicle speed

Pedestrian safety concerns and sometimes excessive vehicular speed on certain campus roadways, particularly in the residential area, suggests the potential benefits of installing traffic calming measures (speed tables, neck-downs, etc.) at certain points along those roadways, or potentially closing portions of these roads to vehicular traffic altogether.

B.2.9 Address deficiencies in existing campus parking lots

Many of the parking lots on campus are in need of attention—either fairly minor improvements like resurfacing, or more significant improvements like new drainage systems. A thorough study of the parking lots on campus should review capacity, access, safety and drainage issues for each lot, to determine needed repairs. The Master Plan has taken a first look at these parking facilities and proposed broad-based changes where appropriate.

B.3 Human Resources

The University's human resources are at once the most rewarding and most difficult resources to mobilize. Effective leadership can draw out the richness of the University community, and channel it in extraordinarily creative and fruitful ways. On the other hand, old ways of thinking, working, and living can be powerfully entrenched, and may require radical (and occasionally uncomfortable) shifts of habits in the face of global change.

B.3.1 Enhance the teaching, research and public service opportunities related to all aspects of design, engineering and environmental science, using the campus as a tool where possible

The University's nationally-recognized strengths in environmental science are a draw for many of its students. Students and faculty alike should have ample opportunity for research and public service in southern Rhode Island or on the University campus itself.

The campus is also a tremendous teaching tool, with an unparalleled collection of specimen trees that have been used in teaching botany for many years. The botanical resources on campus were formalized into the Christopher Memorial Arboretum in 1989.



Many of the Plant Sciences courses use the campus itself as a teaching tool.

B.3.2 Identify and assess difficulties encountered in maintenance of the campus landscape, including staff effort required, public safety issues, and visual impact



Though unglamorous, providing appropriate solutions for dumpsters and similar functional items is vital for maintaining a high-quality image.

The best plans can successfully create a beautiful image for the University of Rhode Island only if the campus is adequately maintained. The facilities maintenance staff is in the best position to provide insight into the current difficulties of maintaining the campus buildings and grounds, and can help develop a list of 'maintainability criteria' for future projects to ensure that newly-constructed areas of campus are well maintained many years after their construction.

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B.3.3 Evaluate current parking management and policies related to the distribution of stickers and enforcement of parking regulations

Suggested starting points for a comprehensive overhaul of transportation-related policies on campus include:

- Establish a Transportation/Parking Department to further develop management strategies
- Create a transportation/parking fee structure
- Evaluate enforcement/fine modifications
- Revisit the question of State of Rhode Island enforcement of University parking regulations

B.3.4 Make the edges of the campus visually ‘permeable’ at selected locations, to draw in members of the surrounding community



It is important to define the edges of the campus strongly, and provide appropriate points of entry along their length.

Universities are inherently interesting places—students are busy mastering complex bodies of knowledge, faculty members are pursuing the frontiers of learning, and the University’s mission is outward-looking and idealistic. The inherent interest of the University should be made apparent at selected points along the boundary between the University and the community, to encourage the University’s neighbors to get involved in various activities on campus and to indicate that the University is interested in their participation. This can happen in a number of ways—the athletic areas are

always a popular draw for members of the surrounding community, and arts and cultural events could benefit from additional exposure in the community. (Note that this goal must potentially be balanced against goal A.5.1, which recommends enforcing a distinction between public and private zones on campus.)

C Ensure a demonstrable match between programs and facilities

C.1 Facilities and technology should be flexible to accommodate changing requirements

Technology and teaching are increasingly interdependent, but the pace of technological changes makes predictions about the nature of “the classroom of the future” difficult. The computer labs featured on many college campuses ten years ago now face imminent obsolescence, and a more distributed, decentralized technological model seems to be taking hold. In the face of these rapid changes, flexibility and adaptability will ensure at least a measure of long-term viability in facilities investments as teaching continues to evolve.

C.1.1 Future space planning should generally accommodate current enrollment numbers and patterns, although there is some desire to increase the incoming freshman class from the current 2,000 to approximately 2,400 students



Future space planning should accommodate current enrollment while allowing some flexibility for growth.

There are no definitive plans to expand the University’s enrollment over its current level of about 13,500 students, but a plan for the future of the University should allow a certain amount of institutional flexibility should a decision be made to expand enrollment in the future. Where possible, spaces should ‘flex’ to allow increased capacity. Part of this capacity may come from opportunities in scheduling courses, but additional capacity can be provided in generous shared or common spaces in academic and residential buildings.

C.1.2 Provide flexible office, classroom, and laboratory space, especially where research initiatives are concerned

The current mechanism for funding research projects creates a certain amount of uncertainty about the need for facilities—it is difficult to apply credibly for research funds without appropriate designated project space, but if the funds are not

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approved (or once the project is completed) the University is left with underused space. A mechanism for expanding and reallocating dedicated offices for project faculty and student staff may help the University address this issue. One possibility mentioned in discussions with faculty and administrators was a business incubator or a research park facility.

Flexible instructional facilities that are capable of delivering education in new ways are required. While this implies additional multimedia classrooms to support collaborative learning, there will still be a need for traditionally large classrooms. Opportunities for delivering distance learning also need to be explored, as does the need for student project space to promote collaborative learning.

C.1.3 Appropriate technology should be incorporated into any new or renovated space

There is a plan underway to upgrade the technology and overall quality of classroom spaces as it is recognized that most are significantly deficient. New technology, in turn, will be supported by a proposed Center for Teaching Excellence. Such a Center could be housed within a new ‘Information Commons.’ This Commons could consolidate technology staff now scattered around the campus, including the Library.

All new projects on campus should include detailed language in the project specifications (to be provided to the project’s architects and engineers at the very beginning of the design phase) stipulating methods of wiring buildings, and required number and types of communications outlets to be provided.

C.2 Rigorous Standards of Academic Quality Should be Used in Evaluating Changes or Additions to Existing Programs

The impacts on academic programs of any proposed change to the University’s existing academic offerings should be evaluated with the same rigor used to assess its fiscal impacts. The particular contribution of the proposed change should be quantified to the extent possible, and reviewed by a body charged with ensuring standards of academic quality, according to previously-adopted criteria.

C.2.1 Projects should provide definable academic benefits: new or supplemental courses; additional internship/experiential learning opportunities; or additional opportunities for on-campus employment

It is difficult to develop specific criteria for evaluating the academic ‘contribution’ of a particular project to the University that can be applied across all departments and programs, but some reasonably objective measure is necessary to help set

long-term priorities for resource expenditures. The Program Contribution Analysis (PCA) and Quality Contribution Analysis (QCA) discussed in the 1998 Academic Plan are important steps toward developing a consistent, University-wide method of evaluating the relative effectiveness of a project in meeting institutional objectives.

C.2.2 Facilities concerns raised by accrediting agencies need to be addressed

Particularly among the smaller departments or programs without resources to improve their own facilities, complaints about inadequate space tend to reach accrediting agencies and factor into accrediting decisions. These decisions must be taken seriously, and concerns about facilities should be addressed as part of a long-term facilities plan.

C.3 Rigorous Standards of Quality in Facilities Should be Used in Evaluating Changes or Additions to Campus Buildings and Grounds

Any changes in campus buildings or grounds should be held to a high standard to ensure compatibility with the University's image and with principles of campus design. A mechanism for evaluating proposed projects (whether an addition to an existing building or a major new structure) should be established, and all projects—regardless of sponsoring division or funding source—should be subject to the same standards.

C.3.1 Perform a facilities audit of the campus, including such elements as classroom size and distribution, office distribution, and quality of building finishes, to determine which buildings are most in need of modernization

A facilities audit of the campus will determine where areas of serious space and architectural deficiency



Serious facilities deficiencies on campus, particularly when raised in the accreditation process, should be given high priority in the capital funding process.

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exist, and serve as another tool for setting priorities in the capital program budget. The facilities audit must incorporate agreed-upon standards (such as minimum square feet per student per classroom, minimum appropriate office size, and minimum level of architectural finish) to allow for an equitable review of campus spaces.

C.3.2 If faculty and staff offices must be relocated, those offices should only be moved once, if possible, and only when occupants relocate to equivalent or (preferably) better space.

Given a limited amount of ‘swing space’ available to absorb facilities demand during renovation projects, it is tempting to seek the most cost-effective solutions that may involve multiple moves for some departments or programs. Where possible, these multiple moves—which are distracting to those who are subjected to them—should be avoided.

C.3.3 Undergraduate space needs to be improved. Overall, survey results indicated that undergraduates on the whole occupy the poorest space.

The undergraduate community in many ways has the highest expectations for the quality of University facilities—undergraduates are savvy consumers, and expect that the University they choose will provide them with the latest technology, comfortable and contemporary housing, and classrooms equipped for experimental or experiential learning. The residence hall renovation project now underway addresses one aspect of this need, but the academic and student services space must be similarly upgraded over the next few years.

C.3.4 Provide one private office per full-time faculty member

Although sometimes exaggerated, there may be a grain of truth to stories about faculty with three or four offices on campus—“one for each project.” Each faculty member should have only one private office. Where project needs exist (see goal C.1.2, above), secondary offices should be dedicated primarily to student assistants.

One alternative that should be explored is the idea of “hoteling” or providing shared space for faculty members who are not using an office full-time. This works particularly well when faculty schedules are designed not to overlap.

C.3.5 Surge space for renovation projects should be coordinated among all campus buildings through a centralized mechanism

There is a concern that there will not be enough general-purpose classrooms on campus when Ballentine Hall is taken off line for renovations. There are 16 classrooms in Ballentine now, and that number will be reduced to 12 when the building re-opens. Given that 115 of the 122 classrooms are in use at peak times, it is evident that current scheduling patterns will need to be adjusted and/or additional instructional facilities may need to be found.

D Work Toward a ‘Green Campus’

D.1 Apply principles of sustainability to the physical campus environment

The Kingston campus itself should serve as a model of sustainable design. The functioning of natural systems on campus should be both protected and highlighted as a tool for learning, and the man-made systems should strive to emulate the resource- and energy-efficiency of the natural world. Principles of sustainable design should inform the process of procuring supplies, materials and designer services.

D.1.1 Identify the natural plant associations throughout the campus and ensure the sustainability of proposed plant materials with varieties suitable to the environment and location

The University campus is a wonderful repository of botanical and ecological knowledge. The Christopher Memorial Arboretum provides funds to maintain and protect the plant variety on campus, and Plant Science classes regularly use the campus as a teaching tool. The University should take advantage of all opportunities to enhance the teaching potential of the campus and its ecosystems.



The natural flora and fauna on campus can provide valuable lessons about sustainable systems.

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Transportation and parking systems should strive for a balance between the needs of a sustainable community and the dictates of convenience.

D.1.2 Create “greenway” links connecting open spaces while encouraging exploration of the natural environment

South County offers a fascinating range of natural environments, both inland and along the seashore. The University’s system of open spaces should tie in to available regional greenway systems where possible, or even create new greenways through the University’s extensive land holdings west of the central campus. The University should also investigate providing access to the South County Bike Path now in the planning stages.

D.1.3 Assess existing vehicular circulation requirements and make recommendations for improvements with respect to cross-campus connections, parking and service facilities.

The master planning team analyzed the existing circulation network on campus to determine whether the campus roadway network adequately services necessary facilities on campus, and provides appropriate connections among areas of the campus. The master plan recommends a series of discrete changes to the campus circulation network, with priorities assigned based on pedestrian safety, traffic congestion, and facilities served.

D.1.4 Preserve sensitive natural resources on and around the developed campus environment and encourage interpretive features expressive of the significance of the natural ecosystems

Some of the most attractive areas on campus are also the most ecologically sensitive. The wetland at the base of the hill on which the historic campus sits (and the stream that feeds it) creates a lovely setting for the residence



Campus wetlands are an important component of the area’s natural drainage system.

halls and the athletic buildings, and the wetland area across Upper College Road from the Plant Sciences garden is an excellent laboratory for learning about wetland ecology. These natural resources should be protected from invasion by new construction or ecologically damaging activities (like excessive roadway salting during the winter months).

D.1.5 Perform an energy audit of the campus to determine where improvements in heating, cooling, or power technology would be most effective

Many of the older campus buildings present opportunities to improve energy efficiency, sometimes by impressive amounts. Replacement windows, new heating and cooling systems, and more efficient equipment can dramatically reduce the operating costs of some buildings, more than offsetting the initial capital investment required to bring them up to contemporary standards. Furthermore, the energy audit should identify opportunities to



Where possible, buildings with high energy usage should be studied to determine if improvements in efficiency are possible.

use natural heating and cooling methods (such as ‘stack effect’ ventilation or cross ventilation) that can provide needed climatic conditions without expending any mechanical energy at all. The energy audit must be cross-checked with applicable building codes to ensure that appropriate state and local standards are met.

D.2 Promote Principles of Sustainability Among Members of the University Community

Ultimately sustainability can be distilled to a series of choices made by individual members of a community or institution. Encouraging sustainability, whether in the form of incentives for using public transportation, or by providing recycling services on campus, can help promote sustainability as the most attractive choice among many.

D.2.1 Strengthen the shuttle system as an alternative form of transportation

The current shuttle service is effective and reliable, but is not as heavily used as it could be. To understand the factors affecting its use, as well as broader transportation issues on campus, the following options should be investigated:

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Improvements in the campus shuttle system should be coordinated with RIPTA bus routes to provide increased access to off-campus destinations such as the Kingston Railroad Station.

- Evaluate providing enhancements to the current Shuttle Service by generating revenue through additional transportation fees
- Shuttle enhancements should be considered to include off-campus trips to Wakefield, Kingston Station, Narragansett Bay Campus, Providence, etc
- Shuttle stops should include high visibility crossing areas and shelters where appropriate
- Consider consolidating shuttle stops to maximize efficiency and improve safety conditions when boarding and disembarking
- Coordinate with RIPTA on future routing and scheduling enhancements



D.2.2 Reinforce other forms of transportation for members of the campus community

The topography of the Kingston campus and the occasionally harsh winter climate may discourage some residents from walking or cycling on campus, but by making pedestrian and bicycle travel more attractive (by providing bike racks, bike storage rooms, and improved paving on campus paths) more members of the campus community may find those modes to be efficient, enjoyable and healthy.



“If you build it, they will come.” Better bicycle storage facilities will encourage bicycle use and reduce vehicular traffic on campus.



4. EXISTING CONDITIONS

Campus Land Uses

Existing Uses

The Kingston campus was built in waves: the historic quadrangle was designed and platted by Frederick Law Olmsted's firm on the former Watson farm in the late nineteenth century, and the first buildings on the quadrangle were largely built in the thirty years between 1891 and 1921. The remainder of the historic quadrangle was completed in 1928, with the construction of Bliss Hall and Edwards Hall. The buildings and campus open spaces south of the main quadrangle were built primarily before the second World War. The majority of campus buildings were built in the twenty-five years following the war; nearly all of the student housing on campus dates from the period 1950-1966.



East Hall, built in 1909, was one of the earliest buildings on the Kingston Campus

The Kingston Campus is already divided into land use zones based largely on the topography of the site: academic and administrative uses sit atop a gently sloping plateau, with outstanding views of the valley below; residential uses straddle the hillside; and athletic and agricultural uses, which require large areas of open land, occupy the flat plain at the base of the hill. These zones are fairly clearly defined, and transitions between them generally occur either through natural features (the wetland/stream at the base of the hill, the steep drop in slope behind the Memorial Union) or across roadways.

This existing zoning incorporates five basic land uses: academic, administrative / student service, athletic, residential, and service. Additional land uses that are not on University property include the surrounding residential properties in Kingston and South Kingstown, the retail properties in the Emporium and near the eastern edge of campus, and commercial/retail uses along Route 138.

Currently the academic/administrative zones distribute academic and administrative space fairly evenly around the historic Quadrangle and along Upper College Road. There are a few administrative uses like the University Health Center in the residential zone; there are also a number of small academic uses like the Transitional Center in the residential area. Some residence halls also contain academic and administrative functions.

Preserving Resources

Land is an essential resource for the University of Rhode Island. The land itself has financial and functional value, but there are other values that must be considered in planning for the future use of the Kingston campus' nearly 1,300 acres. The value of a compact, walkable campus derives from the possibilities it creates for social and intellectual interaction. The value of campus green spaces is in their powerful draw for potential students and faculty, and in their ability to convey the environmental strengths of the University of Rhode Island and its programs. The value of the spectacular views from the hilltop down to the valley below lies in connecting the University to its heritage as an agricultural college, and to the land that still sustains it. Maintaining campus open spaces also helps to maintain the largely rural character of South Kingstown, even in the face of strong external growth pressures. And the value of the University's historic spaces is in conveying the sense of continuity as an institution, which in turn adds value to every diploma the University awards.

The University's open land also helps further its environmental mission in very tangible ways. Much of the land now in use as athletic fields sits atop a major recharge zone for the regional aquifer, and the wooded borders of University property serve as important wildlife habitats, crucial for maintaining the region's biodiversity.



A compact, walkable campus helps cultivate a sense of community.

A Compact, Walkable Campus

One of the most important (but often underappreciated) resources of the University is its compactness. This compactness, and the academic and social communities engendered by proximity, is a strong selling point for prospective students. Unlike the sprawling land-grant Universities of the Midwest, where a walk between classes sometimes means a 20- or 25-minute hike, most destinations on the Kingston campus are within a 10-minute walking radius, and the

most distant corners of campus are separated by at most a 15-20 minute walk. This resource is endangered every time a project is considered on the land west of the athletic complex, north of Flagg Road, south of Route 138, or east of North Road. The concept of a growth boundary, discussed in Section 6, can help maintain the compactness and attractiveness of URI's campus.

Green Spaces

The various green spaces on the Kingston campus—from the wetlands at the base of the hillside, to the wooded recreational area behind Adams and Browning Halls,



The greenhouses and formal gardens near Upper College Road put the University's commitment to environmental education on display.

to the dense woods north of Flagg Road—convey a powerful message about the role of the natural world in shaping the University. The intertwining of the natural and the man-made on campus suggests a harmonious, sustainable relationship, a message that inspires the large numbers of students who pursue environmental studies at the University of Rhode Island. These spaces should be protected from development, and should be highlighted as teaching opportunities.

Spectacular Views

The views from the hilltop on which the core academic area sits are spectacular. They serve as a reminder of the University's agricultural heritage, as well as inspire with their simple beauty. As development of the Kingston campus proceeds the importance of these views in sustaining the image of the University must be recognized, and protected with appropriate measures. The Convocation Center was sited and designed to minimize impacts on views.

Historic Spaces

The role of historic spaces in shaping the image of the University cannot be underestimated. The majority of students polled about why they chose to attend the University of Rhode Island cited the image of the Quadrangle as a contributing factor in their decision. The Quadrangle, quite simply, looks like what a University

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should look like. In an age of short attention spans and channel- or web-surfing teenagers, a strong image that excites the imagination is often the most effective way to reach a desired audience. The Kingston campus needs to protect the historic assets that make these spaces work—both buildings and grounds—and provide for their continual renewal.

De Facto Zoning

Current University projects typically adhere to a ‘de facto’ zoning code—it is understood that projects should only be constructed in ‘appropriate’ areas of the campus, and those areas are reasonably clear within the University community. This de facto zoning has functioned reasonably well for the University in recent years, but as land at the center of campus becomes a scarcer commodity, the likelihood of conflicts among contending uses increases.



Historic spaces provide the archetypal image of a university that first draws many students to URI.

Outlying Land Holdings

The University’s extensive land holdings beyond the developed area of the campus merit considerable attention. Development pressures in South County are increasing rapidly, and it will be important to balance the uses the land currently serves for athletic fields and research programs against opportunities that may arise in the private sector to create partnerships for research and development focusing on biotechnology or agribusiness. Section 6 describes the recommended plans and policies for these areas of campus.

Athletic Programs

The Convocation Center will affect the athletic fields closest to the existing athletic buildings. To make room for the facility itself and its associated parking areas, at least one football practice field will need to be resized. The Ice Facility will have a greater impact, displacing the lacrosse field.

Summer soccer programs are a significant source of revenue to the University, with programs that are expanding annually. These programs require large areas of open land that can be subjected to fairly intensive use by adolescent soccer players, so long-term agricultural experimental lands are not appropriate for soccer use. The need for ‘flexible field space’ to accommodate intensive summer athletic use and other, less intensive uses during the rest of the year is a major challenge.



The use of University fields by summer soccer camps is an important revenue source.

Finally, the golf course proposed for the northwest corner of the campus has been in development for several years. Proposed as a model ‘sustainable’ golf course with opportunities for teaching and research in the plant science programs, the golf course could also be an important recreational amenity for members of the University community and South Kingstown residents. Planning for the Convocation Center, and the proposed “S-curve” connector between Flagg Road and Plains Road (see Section 8) may have an impact on the configuration of this proposed golf course, and detailed planning for these projects will need to be carefully integrated to maximize the benefit of each.

Research Programs

Much of the University’s land outside the core campus and beyond the athletic fields is now used for agricultural research. Addressing explosive world population growth and the need to feed billions of people in underdeveloped nations is a vital mission of all universities with agricultural programs. It is important for the University of Rhode Island to retain its strength in these programs by maintaining the quality and extent of available research lands. The needs of the research programs have been balanced against those of the other groups contending for the use of this land. Recommended plans and policies are described in more detail in Section 6.

Public-Private Partnerships

Establishing partnerships between the University and private industry is an effective and increasingly common method for Universities to broaden the reach of their ideas, to underline the value of their work in the local, state, and national economies, and to provide valuable experiential learning opportunities

for their students. One of the primary factors determining the feasibility of these partnerships is the availability of appropriate sites and/or buildings. Where the focus of the partnership is appropriate to the types of research conducted on the University's agricultural research land, some of that land may potentially be used to foster the partnership. Other types of partnerships will require sites within a reasonable distance of the University. "Incubator" space for faculty pursuing private-sector applications of research methods also fall into this category. East Farm may be an appropriate site for these uses. The Ladd Center may also be able to provide appropriate leasable space for partnerships and research space.

Open Space and Landscape

The University's landscape and open space character are crucial in establishing a sense of place and institutional image. As the campus has grown and changed over the years, heavy use, construction activities, lack of capital investment, and deferred maintenance have eroded the quality of some open space areas. There is no clear process established for evaluating the impact of proposed improvement projects on the landscape which would ensure a consistent level of quality across the campus.

Campus Character



Wetland habitat west of residential hall housing

The image of the University of Rhode Island campus is of particular importance in attracting prospective students, ensuring the vitality of student life, and establishing memorable moments for alumni. In its architecture and landscape architecture, the University displays rich historical roots visually apparent across the campus environment. The granite walls of the original structures surrounding the quadrangle are sensitive to the site and its history and anchor the buildings in their locations. The diversity of native vegetation, reflective of topography, soils, and hydrology distinguish areas of floodplain forests, wet meadows, and upland forests that encompass

the developed campus, and recall the historic qualities of the original Oliver-Watson Farm. Scatterings of stone walls and rock outcroppings, characteristic of the rural New England landscape, contribute a sense of place and identity, unique to the University's geographic location.

The clear separation and hierarchy of the distinctive components that make up the academic, residential and recreational aspects of the University serve to enhance its image. The recreational facilities located on the plains at the base of the hill, in visual proximity and direct accessibility to the upper campus, reflect the common ground for all students, faculty and staff regardless of academic specialization and contribute to University pride. The academic facilities sited on the plateau at the top of the hill display as a whole a sense of dignity and importance, while the individual groupings of open spaces around the different colleges create a series of smaller special places. The residential facilities located along the slope act as the transitional element between the academic and recreational life of the campus and contribute to the sense of community among students.



Rural stone wall near greenhouse

The definition of the University within its natural and man-made setting is important in creating a self-sustaining environment with minimal negative impacts on its surroundings. The rich integrity of the historic Kingston village and the natural beauty of the diminishing native forests and waterways deserve special attention to enhance and complement their individual strengths.

The current image and character of the University of Rhode Island is sustained by specific experiences throughout the campus, but the lack of continuity among these experiences diminishes the potential for memorable moments unique to this University. Enhancing and unifying the image and character of the campus will create a more valuable experience with beneficial effects that will ripple throughout the academic, residential and recreational life of the campus.

Spatial Hierarchies

The greater part of the development of the physical layout of the University of Rhode Island has evolved over time in response to immediate needs. This has resulted in a large number of diverse outdoor spaces, some of which were thoughtfully planned in advance and others emerging as a by-product of development. The characteristics of these spaces differ greatly in spatial form, scale, function, plantings, intimacy, views and relationship to adjacent building activities. While a unique separation and individual identity are important to maintain, a clear order and hierarchical definition of the interrelated functions of these open spaces are necessary to bring unity and cohesion to the campus.

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Natural Stream north of Dorr Hall

The scale of the buildings and the horizontal expanse of the campus contribute to the rural character of the University. The Quadrangle and other open spaces are volumetrically enclosed by three- to four-story structures, that define the walls, and the overhead tree canopy, that defines the ceiling of an outdoor room. While two dimensional plans are important in establishing functional relationships between structures, the three dimensional qualities of the landscape and buildings are vital to the spatial development of open spaces on campus.

The most important open space on the campus is the Quadrangle, which is the legacy of the initial planning for the University. Its historic and symbolic significance as the heart of the campus, common to all generations of the University family, is such that any future development within and around its limits must maintain the integrity of the original plan and function. The spatial quality of the Quadrangle is defined by the formal arrangement of the oldest buildings on campus and the double row of shade trees encompassing a great expanse of open lawn used for active and passive recreation. The current condition of the Quadrangle reflects years of deferred maintenance and utility upgrades with excessive amounts of asphalt that disrupt the relationships between the surrounding buildings and the open lawn. The zelkovas planted in monoculture to replace diseased elms are insufficient in scale and are prone to numerous diseases and pests, as evident in many of the older trees which are in a state of decline.



Quadrangle with its backdrop of granite structures and perimeter of zelkovas

Several east-west and north-south connecting open spaces incorporate the flow of traffic and link the different parts of the campus. The Elephant Walk, Hammerschlag Mall extending to the Memorial Union, the pedestrian corridor from Flagg Road to the main quadrangle, and the pathway from the Fine Arts parking lot to Greenhouse Road are the most heavily used and significant

pedestrian linear spaces. These spaces must serve to maintain a safe flow of traffic while also providing secure gathering areas for impromptu encounters and an active student life on campus. In some cases, these spaces lack a clear distinction between vehicular and pedestrian circulation, contributing to potentially unsafe conditions and to a sense of disorder. The formal arrangement of plantings within these spaces, defining circulation, has reached maturity and should be supplemented with new plantings for future establishment.



Hammerschlag Mall

The open spaces surrounding the residence halls have a quality of simplicity and natural beauty. Large sloping lawns dotted with informal plantings of native large shade trees are the primary characteristic of the entire residential zone, while individual clusters of residence halls have unique features including a stream, pond, wetland, and basketball and volleyball courts. Both pavements and plantings suffer from the steepness of the topography and elasticity of the soils, which have caused significant erosion and deterioration of lawns and pavements. Barrier-free accessibility is difficult in some areas due to the steep slopes. The dual use of roadways for vehicles and pedestrians and the general lack of separation between them compromise the integrity, safety and serenity of the residential open spaces and the sense of community within each cluster.

The athletic complex contains highly maintained open spaces that function primarily as recreational fields. These areas require strict management of specialized treatments to sustain the durability required by their highly programmed use.



Quiet wooded area west of Adams Hall

Most often overlooked, but of critical importance, are the open spaces that operate as natural ecosystems. These areas provide academic learning opportunities about the natural systems of flora and fauna diversified into upland forests, floodplain forests, wet meadows and wetlands and are important assets to the University. On-going land-based research and teaching activities occur in these outlying areas. Much of the campus overlies

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the town of South Kingstown watershed. It is critically important that these open spaces remain intact, without intrusion of development, to maintain the sustainability of the natural environment, during a time when these areas are rapidly becoming depleted, and for the University to demonstrate by example the responsible stewardship of the land.



Pond habitat east of gymnasium

Other open spaces on campus are the areas between and around buildings in the academic core, a series of “leftover” spaces. They exhibit unplanned spatial qualities, and can potentially be wonderful transitional places on the campus, once the excessive pavement and overgrown vegetation are addressed. Although each space is unique and should maintain its own individuality, they must be considered as part of the overall campus open space system—and designed and maintained accordingly—to contribute fully to the campus.

Campus Vegetation

The value of the mature and varied vegetation throughout the campus is critical to the image the University. Environmental and maintenance factors, together with age, have left their mark on the condition of plantings throughout the landscape. Many of the mature and overgrown plantings should be supplemented with newer cultivars of similar plants that are more compact in nature and truer to the desired scale at maturity. The same is true for plants that suffer from disease and pests; new resistant species of plants have been developed to withstand some problems encountered in the past.

As the visual scale of the campus has grown and changed over time, the selection of plant material has followed no apparent standard method in regards to perimeter plantings, gateways, entries, focal areas, large lawns and quadrangles, small lawns and wooded areas, linear spaces, building entrances, garden areas, and wetlands. This has contributed to the lack of cohesion between different areas of the campus and has created an uneven sense of hierarchy.

The Christopher Memorial Arboretum, which contains over 140 species and cultivars of deciduous and evergreen trees, is a tremendous asset to the University for its teaching role and in making the campus more attractive. Funded primarily through an endowment established by Dr. Everett P. Christopher and by donations from local nurseries and alumni, the arboretum is rich in botanical diversity. The controversial labeling of the trees, both beneficial to the teaching ability of

the campus community and detrimental for plant science professors in testing students, consists of planting two of every ornamental tree and only labeling one. The system for labeling is inconsistent and would be more effective if a standard method were developed and applied. Replacement of some of the more mature trees will secure the future of the arboretum and continue to enhance the beauty of the campus.



Specimen arboretum planting

Landscape Systems

Circulation throughout the University campus, both vehicular and pedestrian, is important to the organization of open spaces and the interrelation of building functions. A complex mix of walkways and roadways has accumulated over time and a full assessment of the current functional requirements of each is necessary to eliminate obsolete paths and clearly define pedestrian and vehicular routes. The condition of many of these walkways and roads is poor and many have been temporarily patched with varying materials that contribute to the lack of consistency. A hierarchical ordering of widths and materials for roads and walkways and the use of more consistent materials throughout the campus would strengthen the sense of a clear hierarchically defined circulation system on campus.



Plant identification label

Drainage of surface water is complicated by the steep topography of the campus and elastic soils, resulting in continued problems with erosion. Although attempts to control water drainage are evident on campus, grading of new projects and restoration of existing hillsides must incorporate measures to control runoff on site in relation to the surrounding context and not discharge the problem elsewhere.

Site furnishings throughout the campus, benches, lighting, pavements, railings, receptacles and signage are often particular to specific buildings and immediate needs with little regard to standards. Families of site furniture are recommended to replace the disparity in quality and placement of existing elements to improve the quality and character of the campus.

Transportation and Parking



Inconsistent light styles

Traffic and parking on the Kingston Campus is a highly charged issue within the University community and in the surrounding towns. A common perception among members of the University community is that there is “not enough parking” on campus, or that certain groups are monopolizing the parking supply in key lots. Traffic congestion and pedestrian safety are also frequently mentioned issues on campus: late in the day, the intersection of Upper College Road and Route 138 is unquestionably congested, creating delays for faculty, staff, and students choosing to exit the campus this way. Outside the University, regional traffic issues are frequently a source of public controversy, particularly along the Route 138 corridor. The University’s contribution to the levels of traffic along Route 138 is often discussed, and is now once again in the spotlight as the trip generation projections for the new Convocation Center are reviewed and analyzed.

In reality, the issues are complex and do not have simple causes or easy solutions. Allowing freshmen to have cars is often cited as a major contributor to campus parking, but the actual contribution of freshmen to campus and regional traffic congestion is fairly minor. Imposing across-the-board restrictions on student ownership of automobiles is not necessarily a viable solution, because a large number of University students have off-campus jobs that require access to a car. There are certainly broader regional transportation issues relating to the Route 138 corridor than the trips generated at the University of Rhode Island; a regional analysis of the corridor is underway, and University traffic studies are being carefully coordinated with that ongoing work.

Equally important, the master planning team has heard again and again about the “Rhode Island mentality”—a caricature, to be sure, but based at least partially on real attitudes that resist any necessity to walk more than a few yards from a car to the door of any building, and insist that instantaneous access to their automobile is a birthright. An important component of the master planning process is drawing out the truth behind these caricatures, to determine the extent to which the attitudes of a community are aiding or limiting its ability to make informed choices. Fundamentally, traffic and parking issues at the University of Rhode Island can be traced to these individual choices.

Circulation

The roadway system servicing the University of Rhode Island consists primarily of a series of north-south collector roads that divide the main campus into three distinct areas. The north-south collector roads on campus, with their ownership, include the following:

- Upper College Road (URI)
- Lower College Road (URI)
- Butterfield Road (URI)
- Old North Road (Town)
- Plains Road (Town)
- Keaney Road (URI)

Several east-west roadways provide links to the collector roads shown above, including:

- Flagg Road (URI)
- Baird Hill Road (Town)
- Campus Avenue (URI)
- West Alumni Avenue (URI)
- East Alumni Avenue (URI)

All of these roadways carry two-way traffic except for Old North Road, which is one-way (northerly) between Route 138 and Baird Hill Road.

One project which has already been extensively discussed during the planning stages of the Convocation Center is a proposed “S-curve” connector road between Flagg Road and Plains Road. This proposed roadway will, in theory, ease traffic flow into and out of campus, particularly during Convocation Center events, and reduce the current pedestrian-vehicle conflicts at the corner of Plains Road and Alumni Avenue.

The existing roads provide students with access to academic buildings, on-campus living facilities and parking areas. Keaney Road was recently opened to provide access for the URI Shuttle and other means of transportation. The roadway was originally designed to service the loading areas behind Keaney, not to carry two-way traffic on a regular basis. The graphic on the following page illustrates vehicular circulation on campus.

Upper College Road is the primary north/south route on campus, extending from Route 138 to Flagg Road, and provides access to the other internal campus roads. Upper College Road is 30 feet in width consisting of 12-foot travel lanes and 3-foot shoulders. Sidewalks are provided on both sides for the entire length of the roadway. The vertical and horizontal geometry is straight and level.

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The intersection of Upper College Road and Route 138 is signalized and acts as the major entrance/exit to campus. This intersection is characterized by long queue lengths during peak periods on the Upper College Road southbound approach during the day. These queue lengths have been observed to reach as far back as Washburn Hall in the afternoon peak.

The queue lengths on Upper College Road can be at least partially attributed to the one-way direction of Old North Road. Old North Road is a north/south perimeter road that runs along the easterly edge of campus from Route 138 to Flagg Road. Old North Road is one-way north between Route 138 and Briar Lane allowing students only to use this road as an alternate route. The one-way scheme was developed to assist in eliminating congestion on Route 138. At Briar Lane, which is a three-way stop condition, Old North Road turns into a two-way road and provides links to Chapel Road, Bills Road and Flagg Road.

The intersection of Upper College Road and Ranger Road/Fortin Road is heavily used. Fortin Road provides access to the Emporium, which generates significant pedestrian and vehicular traffic.

Flagg Road is a two-way road that runs east/west along the northern border of campus. Parallel parking on both sides of the roadway is permitted. Flagg Road is 40 feet in width and consists of 12-foot travel lanes and 8-foot parking lane/shoulders.

Butterfield Road provides a link to the student living areas, dining halls and the Memorial Union. This roadway is characterized by a heavy level of pedestrian activity. Parking is not permitted on either side of the roadway although illegal parking frequently occurs there. Vehicles also tend to travel at high speeds through this section of roadway, raising pedestrian safety concerns.



Intersection of Upper College Road and Ranger Road/Fortin Road

The intersection of Butterfield Road and West Alumni Avenue is heavily traveled by resident students. It is controlled by stop signs on the Butterfield Road approaches. The intersection is slightly skewed making turning maneuvers difficult.



Looking West on Flagg Road

Traffic flow through the University is cyclical in nature, dependent upon class or function schedule. Thus the internal roadways operate relatively efficiently with congestion at major outlets (Upper College Road) during peak periods only.

Traffic

For the purposes of this Master Plan, traffic data were reviewed and quantified from available reports and sources, including “Transportation Needs

Reassessment for Route 138 between Route 2 and Route 1”, RIDOT (1994) and Average Daily Traffic (ADT) figures from RIDOT’s permanent count station database for 1998.

The regional transportation network in the vicinity of the University of Rhode Island Kingston Campus and related traffic volumes are illustrated in the graphic on the following page. Traffic volumes are presented in terms of average daily traffic for both the campus and surrounding state highways. The graphic also shows regional distribution percentages related to the route travelers are using to access/ egress the campus.

The internal campus traffic volumes are illustrated on the pull-out maps following this section. Students, faculty and staff use all available access/egress points to the campus. Old North Road is used by 31% of the campus community to enter the campus, Upper College Road, 22% and Flagg Road 19%. The majority (41%) of the drivers use Upper College Road to exit the campus followed by Lower College Road (22%) and Flagg Road (15%).

Accident data were provided by the University of Rhode Island Public Safety Office for a three-year period extending from January 1996 to December of 1998. The accident data revealed that there were a total of approximately 409 accidents during



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the analysis period along Campus roadways (intersection specific information was not available). Upper College Road totaled 45 accidents during the three-year period or an average of 15 per year. Flagg Road and the Fine Arts Lot averaged more than 10 accidents per year. Table 4.1 summarizes the accident information for the campus.

Parking Supply

There are approximately 6250 parking spaces currently available within the 40 parking lots provided on the University.

A comprehensive parking inventory was completed on a typical weekday when classes were in session. The following attribute information was collected during the parking inventory:

- Number of spaces—faculty/staff, on-campus students, commuters, handicap and visitor
- Restrictions on the lot
- Lot utilization
- Overall condition of the lot

Table 4.1 Summary of Traffic Accidents on the Kingston Campus

Location	1998	1997	1996	Total
Upper College Road	14	14	17	45
Flagg Road	9	10	18	37
Fine Arts Lot	9	6	19	34
Keaney Parking Lot	8	10	11	29
Unknown	10	8	7	25
Dairy Barn Lot	11	10	3	24
Fraternity Circle	7	4	12	23
Lower College Road	9	6	7	22
Chafee Hall Lot	10	6	3	19
Heathman Road	3	3	8	14
Area #18	4	3	6	13
Plains Road	3	3	6	12
Baird Hill Road	4	5	3	12
Butterfield Road	5	1	4	10
Area #10	5	4	1	10
Alumni Avenue West	2	2	6	10
Total	113	95	131	339

During the parking inventory, signing was observed only to designate areas for faculty and staff members. Handicapped spaces were clearly delineated and marked in all lots. Commuter, resident and visitor parking areas were not signed clearly. Time restriction policies for each parking lot were also not indicated.

Based upon site evaluations during peak periods there appears to be adequate parking for students, faculty, staff and visitors although each parking facility is near or at capacity. Parking area designations are as follows:

Parking passes are required for commuters, resident, faculty and staff. These passes are issued by the University Police. The commuter and resident stickers are valid for one year while the faculty and staff stickers are valid for two years. The number of parking passes distributed is as follows:

- Commuter Passes – 5,697
- Resident Passes – 2,017
- Faculty/Staff Passes – 3,235

Additional research is required to quantify the policy implications of issuing window stickers versus hanging permits: students are permitted to register more than one car, and are issued a window sticker for each car. Faculty and staff are required to display a hanging permit from the rear-view mirror. This distinction may lead to artificially high numbers of commuter or resident passes.

The Office of Student Life-Disability Services for Students governs handicap passes. These passes are also given to students and faculty who need them for short periods of time.

Utilization

Utilization rates for the main parking areas were quantified during the inventory and are shown on the figure on the following page. As the figure depicts, parking areas close to the academic core are at capacity or approaching capacity. As would be expected, students and faculty attempt to park as close to their destination as possible.

The major lots on campus include the Fine Arts Lot, Keaney Lot, Chafee Lot, Rodman Lot, and the Dairy Barn Lot. These lots comprise approximately 50% of the parking on campus and serve faculty/staff, commuters, residents and the handicapped. A brief description of these major lots follows.

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- Fine Arts Lot is located in the northeast quadrant of campus behind the Fine Arts Building. There are two entrance/exit points, one on Bills Road and the other on Flagg Road. This 1030-space lot is for commuter parking and reaches capacity on a regular basis during class core hours of 10 AM to 2 PM. The overall condition of the lot is good, but it does require new striping.

Table 4.2 Parking Areas on the Kingston Campus

LOT	No. of Spaces	Restrictions
1 East Lot	334	Faculty/Staff
2 Washburn Lot	33	Faculty/Staff
3 Davis Hall	6	Faculty/Staff/Handicap
4 Engineering Lot	69	Faculty/Staff/Visitor/Handicap
5 Tyler & Greenhouse	135	Faculty/Staff/Resident/Handicap
6 Woodward Lot	53	Faculty/Staff/Handicap
7 Heathman Circle	8	Resident/Handicap
8 Chaffee & Rodman	335	Faculty/Staff/Handicap
9 White Hall Lot	48	Faculty/Staff/Handicap
10 Baird Hill Lots	68	Faculty/Staff
11 Ranger Lot	39	Faculty/Staff/Visitor/Handicap
12 Gymnasium Lot	114	Faculty/Staff/Handicap
13 Fogarty Lot	20	Faculty/Staff/Handicap
14 Morrill Lot	72	Faculty/Staff/Handicap
15 Fine Arts Lot	1030	Faculty/Staff/Commuter/Handicap
16 Administration Lot	126	Faculty/Staff/Handicap
17 Union Lot	17	Handicap/Visitor
18 Infirmary Service & Dining Hall Lots	57	Faculty/Staff/Handicap
19 Alumni Ave. Lots	64	Resident
20 Cowbarn Lot	545	Staff/Resident/Handicap
21 Police Lot	15	Staff
22 Tucker House	70	Faculty/Staff/Handicap
23 Child Development House	20	Faculty/Staff/Handicap/Visitor
24 Dormitory Lots	96	Faculty/Staff/Resident/Handicap
25 Sherman Lots	165	Faculty/Staff/Handicap
26 Heathman Road	40	Resident
27 Married Student Apartment Lots	35	Resident/Handicap
28 Bressler Lot	19	Resident
29 Fraternity Circle	295	Resident
30 Faculty Apartments	41	Faculty/Handicap
31 Church Lot	195	Commuter/Visitor/Handicap
32 Upper College Rd	106	Resident/Commuter
33 University Village	77	Resident/Handicap
34 Flagg Road	405	Commuter/Resident
35 Keaney Lot	1045	Faculty/Staff/Resident/Commuter
36 Adams Hall Lot	41	Faculty/Staff/Handicap
East Alumni Parking	37	Commuter
Lot on East Alumni	20	Faculty/Staff/Handicap
Lower College Road	38	Commuter/Handicap
Bayberry Hill Road	16	Commuter
Upper College Road	29	Commuter
Behind Dining Service	177	Faculty/Staff/Commuter
Physical Therapy Lots	144	Faculty/Staff/Commuter/Handicap
TOTAL	6229	

- Keaney Lot is located between Route 138 and Keaney Gymnasium. This lot services faculty/staff, commuters, residents and handicapped persons. The faculty/staff parking area is delineated with wood barriers and is signed appropriately. The lot contains 1045 spaces and reaches approximately 75% capacity on an average day during core hours. The overall condition of the lot is poor. The pavement is deteriorating, with potholes and cracking throughout the lot, and the striping has faded.

- Chafee and Rodman Lots are located behind Chafee Hall and the Library. This lot can be accessed only from Flagg Road and is signed for faculty and staff only.



Fine Arts Parking Lot

The lot has 335 spaces available and is consistently at 100% capacity during the core academic hours. The overall condition of this lot is satisfactory. The lot is beginning to crack and form potholes, and the striping is faded.

- The Dairy Barn Lot is located on West Alumni Avenue across from Burnside Dormitory and behind Heathman Dormitory. The lot provides parking for residents and has 545 parking spaces.

The lot is at 100% capacity throughout the day and night. The overall condition of the lot is poor as cracking and potholes have developed and the striping is faded.

Alternative Campus Transportation

Safe Ride Service (Escort)

The University of Rhode Island, through the University Police Department, provides an escort transportation service that provides rides to students during the evening hours. Listed below are the characteristics of this escort service:

- The service requires that students call the Police Station to request rides.
- There are currently two vehicles used for this service: a Caravan and a 15-passenger shuttle. Students drive these vehicles.
- The Caravan runs from 5 PM to 1 AM on demand.
- The Shuttle runs a specific route and runs from 6 PM to 12 AM.
- The service runs 7 days a week during fall and spring semesters, winter and spring breaks and selected holiday weekends.
- The escort service also provides Library Walks: students at the Library who will walk

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anyone to their car or dormitory if he or she is uncomfortable walking alone

Statistics about the shuttle service utilization are recorded at the Police Station. The Police Department keeps statistics on the following information:

1. Mileage for the shuttle vehicles
2. Accidents
3. Total trips
4. Number of people transported
5. Number of females transported
6. Number of males transported
7. Total requests for rides
8. Number of Library Walks

These statistics indicate that between September 1998 and February 1999, 75% of the users were women and 51 library walks were provided per month. Approximately 6950 trips were made by the service during this time frame. Three accidents involving shuttle vehicles were recorded during this time.

In the 1997-1998 school year, 68% of the users were women and approximately 79 library walks were used each month. During this year the shuttle service made approximately 9100 trips, with no accidents reported.



Chaffee and Rodman Parking Lots

RamVan

The RamVan is an on-demand shuttle service for the disabled. The system uses a single handicapped-accessible van available. During the 1998-1999 school year (up to March) the service made an average of 22 runs per day and served a total of 108 riders (72 temporary riders, 36 permanent riders).

URI Shuttle

The URI Shuttle provides students with rides to locations on campus during the day. There are 2 shuttle buses that hold 15 passengers and run continuously throughout the day. The Shuttle Service runs from 7:30 AM to 5:00 PM, Monday through Friday when classes are in session. The shuttle headway is approximately 12 minutes, and the system includes approximately 15 stops. As part of the master planning effort a shuttle survey was conducted and is summarized below.

Shuttle Survey

A Shuttle Survey was conducted in order to determine utilization rates and origin/destination data of the shuttle bus service on the Kingston campus. The goal of the survey was to obtain information about the people riding the shuttle, where they were coming from and going to and how they liked the shuttle service. BETA Engineering conducted the survey, which was held on Wednesday, April 7, 1999 from 10 AM to 2 PM. A map delineating the shuttle route was created and the existing shuttle stops were located and coded accordingly to identify where the riders got on and off the shuttle. A staff member from BETA rode a shuttle bus for the four-hour period and observed the daily routine of the shuttle. A copy of the Shuttle Survey and the Shuttle Map are on the following pages.

Shuttle Survey Findings Summary (Number of respondents: 80)

Question 1 – What is your current status at URI?

The majority of the shuttle riders are resident students (82%). Commuters accounted for 15% of the riders, while faculty and staff only accounted for 1% of the riders.

Question 2 – Where are you coming from?

65% of the shuttle riders were coming from the dormitory area. Of the riders coming from the dormitories, 29% were from Weldin Hall, Barlow Hall, and Adams Hall. Approximately 13% were boarding the shuttle at the Athletic Complex.

Question 3 – What is your destination on campus?

The destination of 81% of the riders were academic buildings, while 10% of riders were destined for the Student Union and 9% to other buildings on campus. Of the 81% going to academic buildings, 50% were going to academic buildings on the shuttle route (Independence Hall:12%; BISC: 9%; Fine Arts Building: 6%).

Question 4 – How often do you utilize the shuttle service?

Of the riders utilizing the shuttle, 53% are regulars (use the shuttle almost everyday), 23% use the shuttle periodically (once a week or less), 18% use the shuttle if it is immediately available, and 3% use it only during bad weather.

Question 5 – Are the stops convenient?

94% of the riders thought the stops were convenient. The riders who thought the stops were inconvenient suggested that stops should be added in front or closer to the gym, at the University Village and at the library.

Question 6 – Is the waiting period uncomfortable (too long)?

71% of the riders did not think the waiting period was inconvenient, while 21% thought it was uncomfortable and 8% thought the wait was inconvenient at times.

The shuttle drivers offered the information below:

- The shuttles are used the most between 9 AM and 12 PM.
- The shuttles are driven approximately 180 miles per day.
- The shuttle route is 3.7 miles.
- Each shuttle makes 45-50 trips per day.
- The drivers will adjust if they are too close together.

A copy of the findings is included in the appendix.

Shuttle Survey Conclusions

The majority of the riders on the shuttle bus are resident students. These students primarily use the shuttle bus in the morning between 10 and 11 AM when they are going to classes. They are boarding the shuttle bus along Butterfield Road and are headed to the academic buildings, especially the halls along the shuttle route. The commuters are using the shuttle bus from the parking lots to the academic core.

Facilities

Overview

The following briefly reviews existing conditions by space types. The square footage data and associated counts were obtained from the facilities' space inventory provided by the University.

Figure 4.1, below, summarizes net assignable square footage by space type (unassignable space is not included):

Office Space

According to the space inventory, there are almost 2,500 spaces with the designation of “office” on the Kingston campus, encompassing over 392,000 square feet. The perception exists that some individuals may occupy multiple offices, although this cannot be immediately ascertained without a room-by-room inventory. Meanwhile, it was observed that it is virtually impossible to readily locate new office space for incoming faculty. Offices also vary significantly by size and quality, and shared office space is not uncommon.

Classrooms

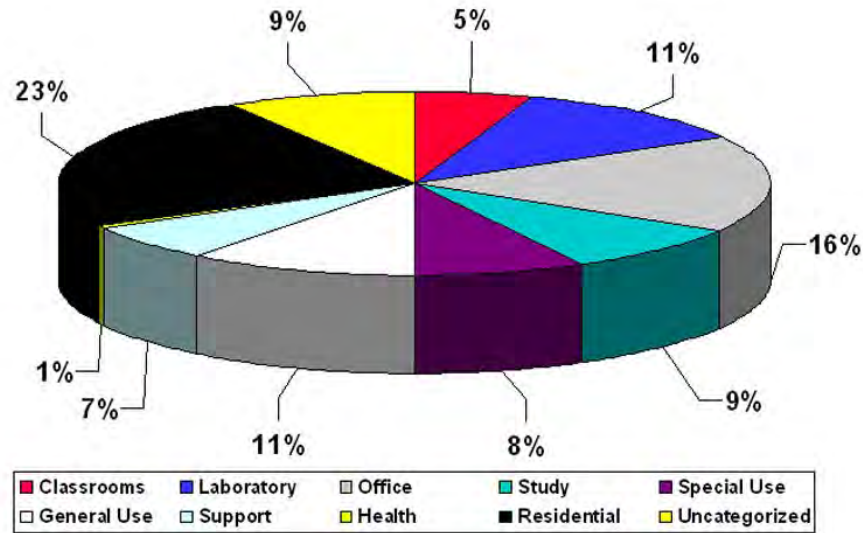
Based upon the space inventory there are 169 general-purpose classroom spaces in a total of 31 buildings and encompassing just over 120,000 square feet. The Registrar, however, identifies and schedules 122 such classrooms. This would seem to indicate that the inventory has not kept up with the reassignment of classrooms to other uses.

Classrooms per building range from a single classroom in a number of buildings, to 22 classrooms in Independence Hall and 16 in Ballentine. Use varies significantly on a room-by-room basis, but overall use between 8 a.m. and 5 p.m. is 63 percent, or just under a typical target of 67 percent. Classroom use is heaviest on Tuesdays and falls off significantly on Fridays. The highest number of classrooms in use at any one time is 115 out of the 122 available.

Residence Halls

Overall, the University has 19 residence halls, five student apartment complexes, three faculty apartment buildings, the President’s house, and two buildings with available living space (International Engineering Program House, and the Kingston Fire Station), for a total of 30 residential buildings on campus. Currently, plans are in the works to acquire adjacent condominiums for additional living spaces. Existing residence halls are being re-conceptualized as “neighborhoods” including

Figure 4.1 Facilities by HEGIS space category
(Higher Education General Information Survey)



(Excludes unassignable space)

a freshman village. Beginning in January 2000, each facility will be off-line for a semester and a summer to perform needed renovations. Opportunities may exist to incorporate some seminar/meeting rooms into the residence halls. Such rooms could support residential programming efforts, and perhaps also temporarily offset the impending classroom shortage.

General Observations

There is approximately 2.7 million gross square feet of space (including circulation) in a total of 112 buildings, including the 30 residential buildings listed above. It is difficult to determine how accurate this number is, because the available space inventory data from the University appears to be either incomplete or inaccurate. For example, the data seems to be missing several large and important campus buildings (like the Biological Sciences building), and the sizes of some facilities (like the relatively new Multicultural Center) appears to be incorrect. Thus this number is an estimate—it does not include facilities that have not opened yet (like the Coastal Institute or the Convocation Center), but it may also be missing major existing facilities. Section 13, Implementation and Funding, describes some of the challenges the University faces in improving its “information infrastructure” to the point that the facilities database can deliver accurate and up-to-date information as a management and planning tool.

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Table 4.3 on the following page summarizes net square footage by building, based on the available inventory of campus buildings.



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Table 4.3 Existing Space on Campus (NSF)

Building Name	Area (NSF)	Building Name	Area (NSF)
Adams Hall	39,242	Lippitt Hall	32,816
Administrative Services Center	5,517	Mackal Field House	67,568
Athletic Hut	176	Meade Field House	2,589
Automotive Garage	9,163	Meade Stadium	865
Ballentine Hall	49,542	Memorial Library	220,452
Barlow Residence Hall	40,795	Memorial Union	121,031
Biological Sciences Building	63,686	Merrow Residence Hall	24,343
Bliss Hall	38,931	Morrill Hall	32,918
Bressler Residence Hall	33,508	Multicultural Center	8,808
Browning Residence Hall	56,247	Pastore Hall	59,783
Burnside Residence Hall	45,796	Peck Residence Hall	22,194
Butler (East Farm)	1,328	Planetarium	280
Butterfield Hall	45,661	Police Station	9,070
Carlotti Administration Building	25,128	Potter/Health Services	17,755
Central Receiving Warehouse	9,831	President's House	6,281
Chafee Social Science Building	36,084	Press Box	1,183
Child Development Center	3,406	Pumphouse #4	860
Coddington Residence Hall	46,371	Quinn Hall	47,341
Concession Area (Meade Field)	1,693	Quonset Hut/Athletic Field	1,031
Crawford Hall	23,174	Ranger Hall	41,532
Davis Hall	16,316	Research Building	6,243
Dining Services	33,994	Rodman Hall	24,827
Dorr Residence Hall	36,937	Roger Williams Common	25,105
East Hall	25,677	Roosevelt Hall	44,735
Edwards Auditorium	16,142	Root Crops Storage	594
Ellery Residence Hall	28,027	Ruggles House	2,655
Faculty Apartment A	4,738	Salt Pond Boat House	2,560
Faculty Apartment D	6,423	Salt Storage Shed	1,961
Faculty Apartment E	4,231	Service Building for Faculty Apartments	1,262
Faculty Center	7,031	Sherman Building (approx)	20,000
Fine Arts Center	120,564	Student Apartment F	4,826
Fogarty Hall	58,672	Student Apartment G	5,356
Former Multicultural Center	11,047	Student Apartment H	4,223
G.H. Gardner, Jr. Building	8,190	Student Apartment J	5,373
Gilbreth Hall/Kirk Hall	35,969	Student Apartment K	4,814
Gordon Research Center	4,585	Taft Hall	10,860
Green Hall	27,695	Tootell Gymnasium	100,696
Greenhouse	2,871	Track Shed	241
Hart House	3,212	Transition Center	5,529
Hazardous Waste Storage	234	Tucker House	3,545
Headhouse/Greenhouse	30,864	Tucker Residence Hall	24,343
Heathman Residence Hall	61,491	Turf Grass Insectary	105
Hope Dining Hall	11,837	Turf Storage Building	1,743
Hopkins Residence Hall	28,659	Turfgrass Research Center	4,305
Housing Storage Building	8,097	Tyler Hall	31,959
Human Resources Administration Building	5,524	Wakefield House	2,906
Hutchinson Residence Hall	22,536	Wales Hall	23,711
Independence Hall	48,392	Walmsley Lane	1,000
Independence Square Office Complex	16,430	Washburn Hall	22,144
Information Center	681	Weldin House - Pharmacy Annex	2,250
International Engineering Program House	10,775	Weldin Residence Hall	40,807
Keaney Gymnasium	93,847	White Hall	44,888
Kelley Hall	18,024	Women's Center	1,908
Kelley Hall Annex	14,348	Woodward Hall	46,349
Kingston Fire Station	10,575	WRIU Transmitter Building	1,956
Kirk Center for Advanced Technology	10,500		
Lee House	2,503	Total	2,667,396

Note: the above list of spaces excludes fraternities and sororities, off-campus buildings, and buildings still under construction.

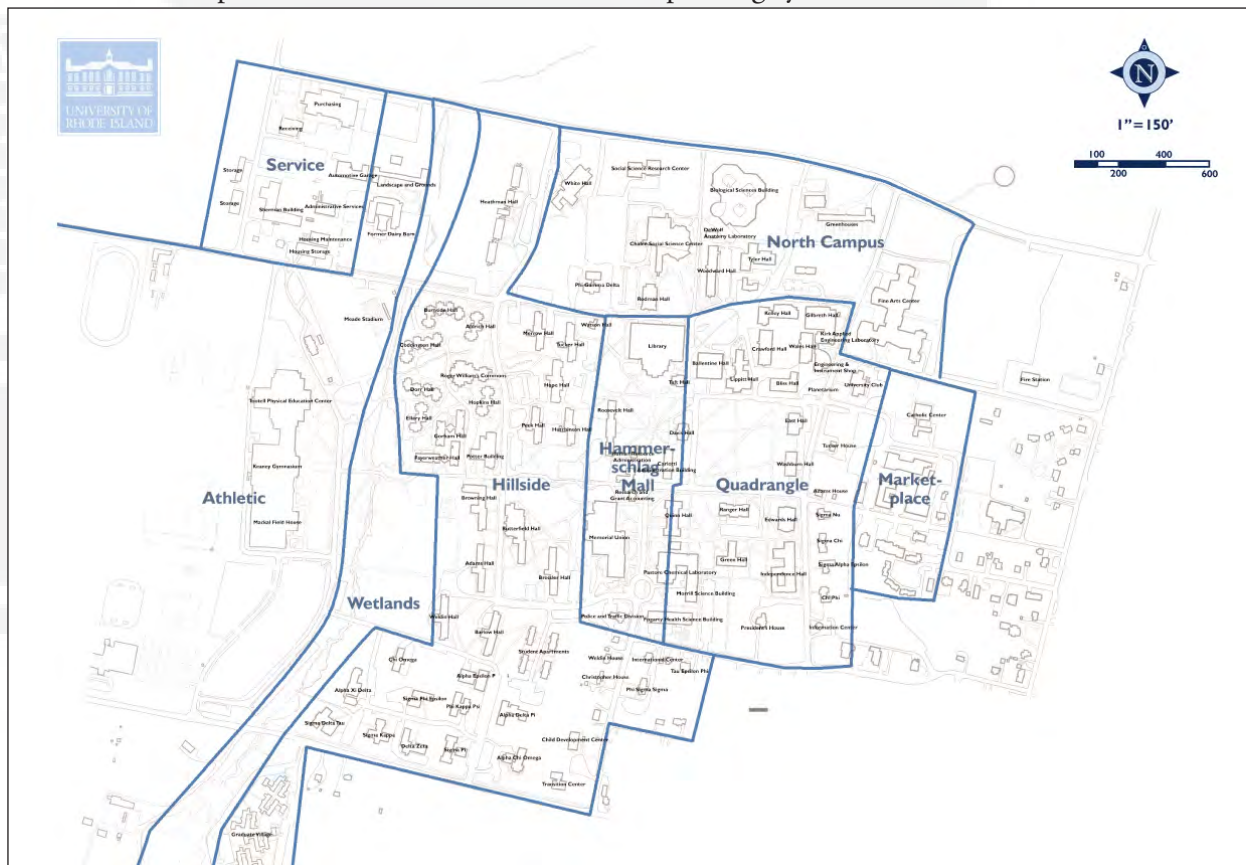
5. CAMPUS MASTER PLAN

Districts and Neighborhoods

For master planning purposes, the campus was divided into eight large districts. The boundaries of these districts were drawn to reflect physical conditions on-site, broad land use patterns, and the character and history of the buildings and landscape in each area.

Physical Basis for Districts

The steeply sloping hillside that separates the athletic and research fields from the academic core provides a strong basis for zoning the campus. The fields at the base of the hill have traditionally been used for agriculture and athletic events. Of the University's 1280 acres on the Kingston campus, the campus core occupies 400, with the remaining acreage distributed widely over the areas west of the athletic complex. The hillside district was developed largely in the 1950s and '60s, with



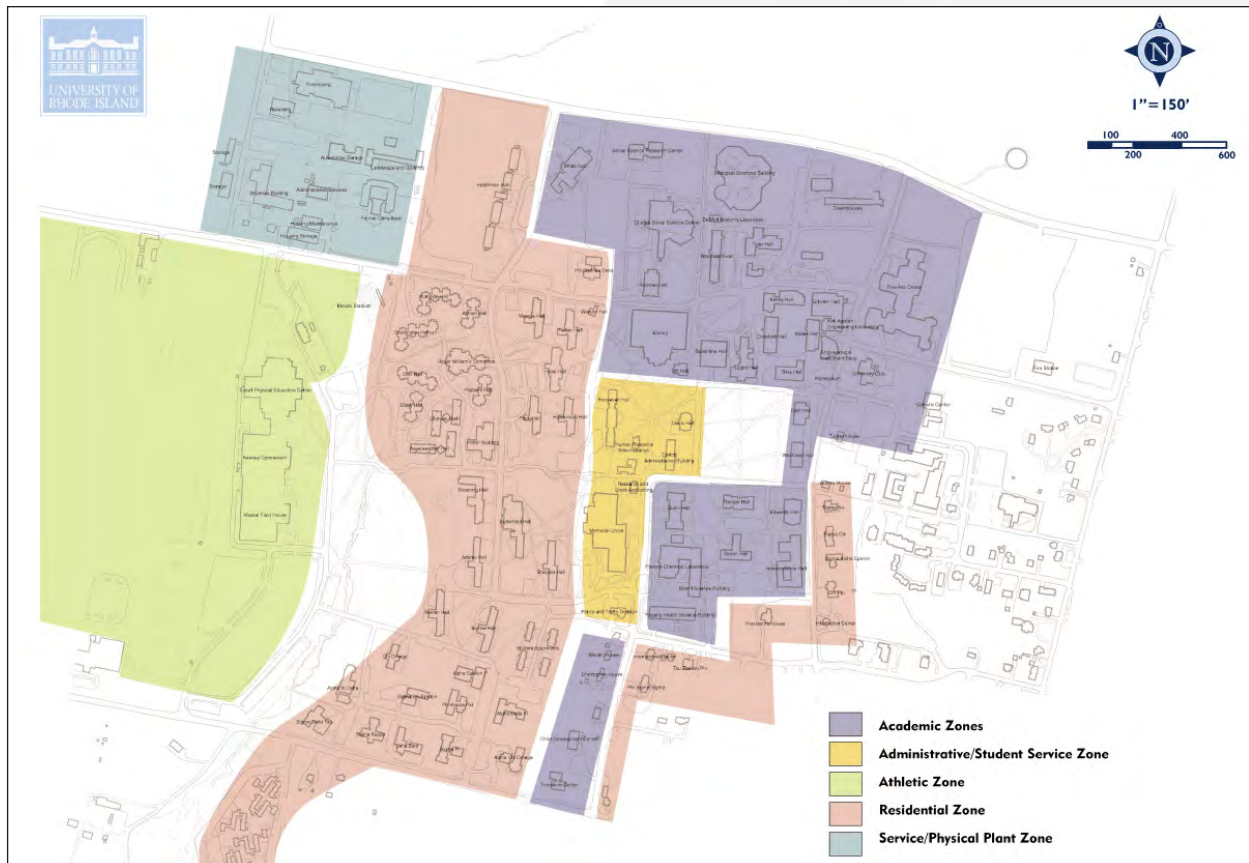
Boundaries of the eight campus districts

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the construction of the residence halls. The Hillside ends on the west side with the wetlands, and on the east side levels off to meet the Mall district. The gently-sloping plateau at the top of the hill includes the Mall, the Quadrangle, portions of the North Campus district (defined primarily by the larger scale and heterogeneous architectural styles of its buildings), and the Marketplace district.

Land Use Basis for Districts

Since the initial planning of the Rhode Island College of Agriculture and Mechanic Arts, the academic core has grown consistently around the original quadrangle designed by Olmsted, Olmsted & Eliot. Later additions to the inventory of academic facilities extended north and south from the quadrangle, from Independence Hall to the Fine Arts Center. A few facilities, such as White Hall, were constructed further down the hill, but for the most part the academic zone has remained relatively compact. Administrative uses were generally developed near the academic zone. Roosevelt Hall began the steady march of residential



Existing land use zones

construction on the hillside, with the “big six” and “little four” constructed in the late 1950s, and the Roger Williams compound and Heathman Hall following over the next 15 years. Construction of the fraternity houses off Route 138 also occurred in this period. Private residential neighborhoods grew up around the College, particularly to the south and east.



Graduate housing at University Village is the exception to containing campus land uses north of Route 138.

In general the residential zone has been confined to the area north of Route 138, south of Flagg Road, east of the wetlands, and west of the Hammerschlag Mall area, but the decision to cross Route 138 with the University Village apartments created a precedent for potential residential development in other locations. There are few remaining sites in the Hillside district for large-scale residential development – the Master Plan has identified two potential building sites for new residence halls and two sites for reconstruction of existing buildings,

but large-scale developments like the Roger Williams compound are no longer possible within the hillside district.

None of the parameters of this Master Plan indicated a substantial growth in either total student population or on-campus student population. In general, absent a significant surge in on-campus population, the Master Plan recommends that residential development remain within the Route 138 – Flagg Road – wetlands – Mall boundary. Serious safety concerns about students crossing Route 138 recommend against new development south of that road. Most of the University’s land west of the athletic complex is already dedicated either to athletic or research use; as mentioned in Section 6, areas outside a recommended ‘growth boundary’ should not be built upon without exhausting options within the campus core and without strong programmatic justification.

The Marketplace district includes land owned by private parties; it includes the Emporium shopping district and surrounding commercial development. One of the stated goals of the Master Plan is to help encourage a sense of community at the University of Rhode Island; one of the most effective ways to achieve this is to provide a vibrant retail district adjacent to campus where the relationships developed in the classroom and in the department office can

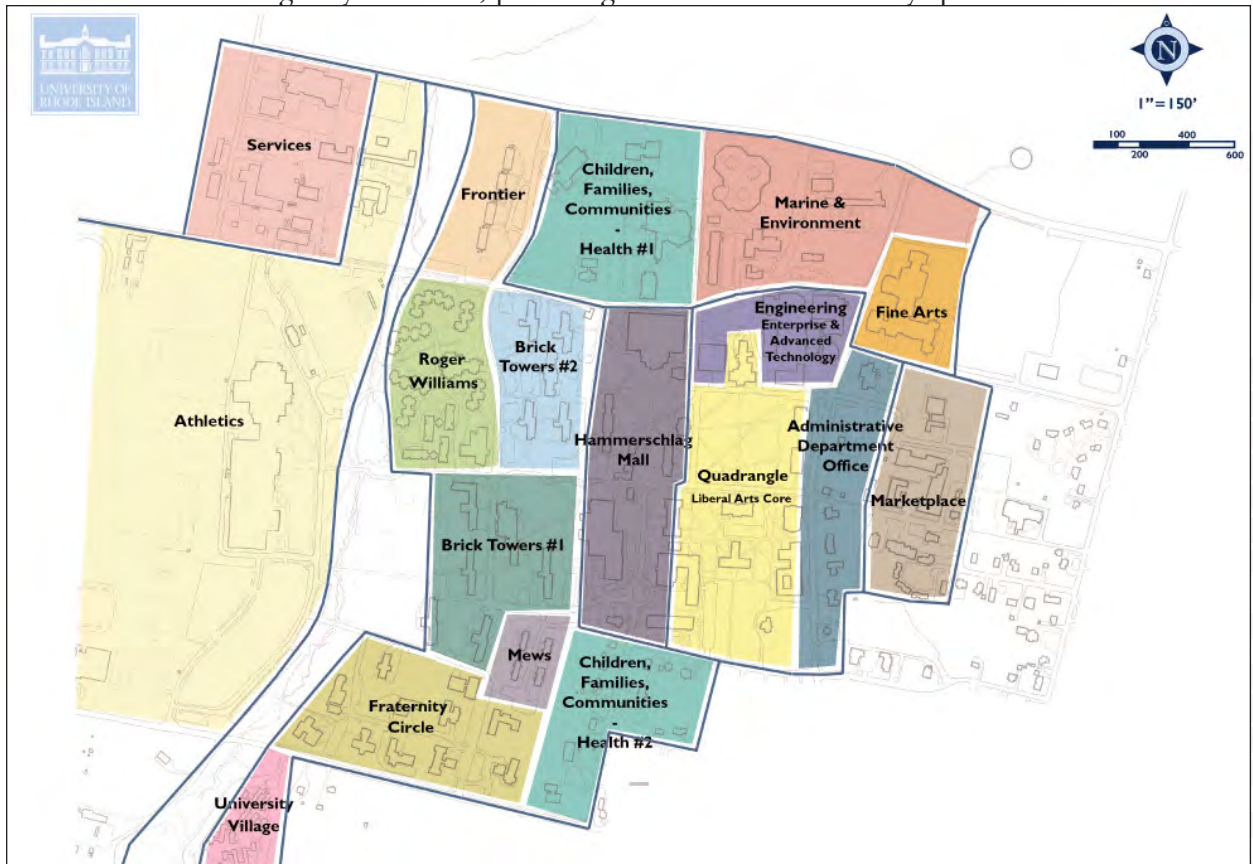


The Emporium in the Marketplace district

naturally spill over into coffee shops, book stores, or art galleries. The recommendations proposed for the Marketplace district are suggestions that can form the basis for discussion between the University and the owners and tenants of the Emporium, to work together towards a common goal of an inviting, active shopping district focused on the University community.

Neighborhoods

The concept of ‘neighborhoods’ is already at work in the residential areas of campus. The comprehensive renovation of the freshman dormitories are planned around a ‘freshman village’ concept, in essence a neighborhood of buildings containing only freshman, providing more structured activity space such as



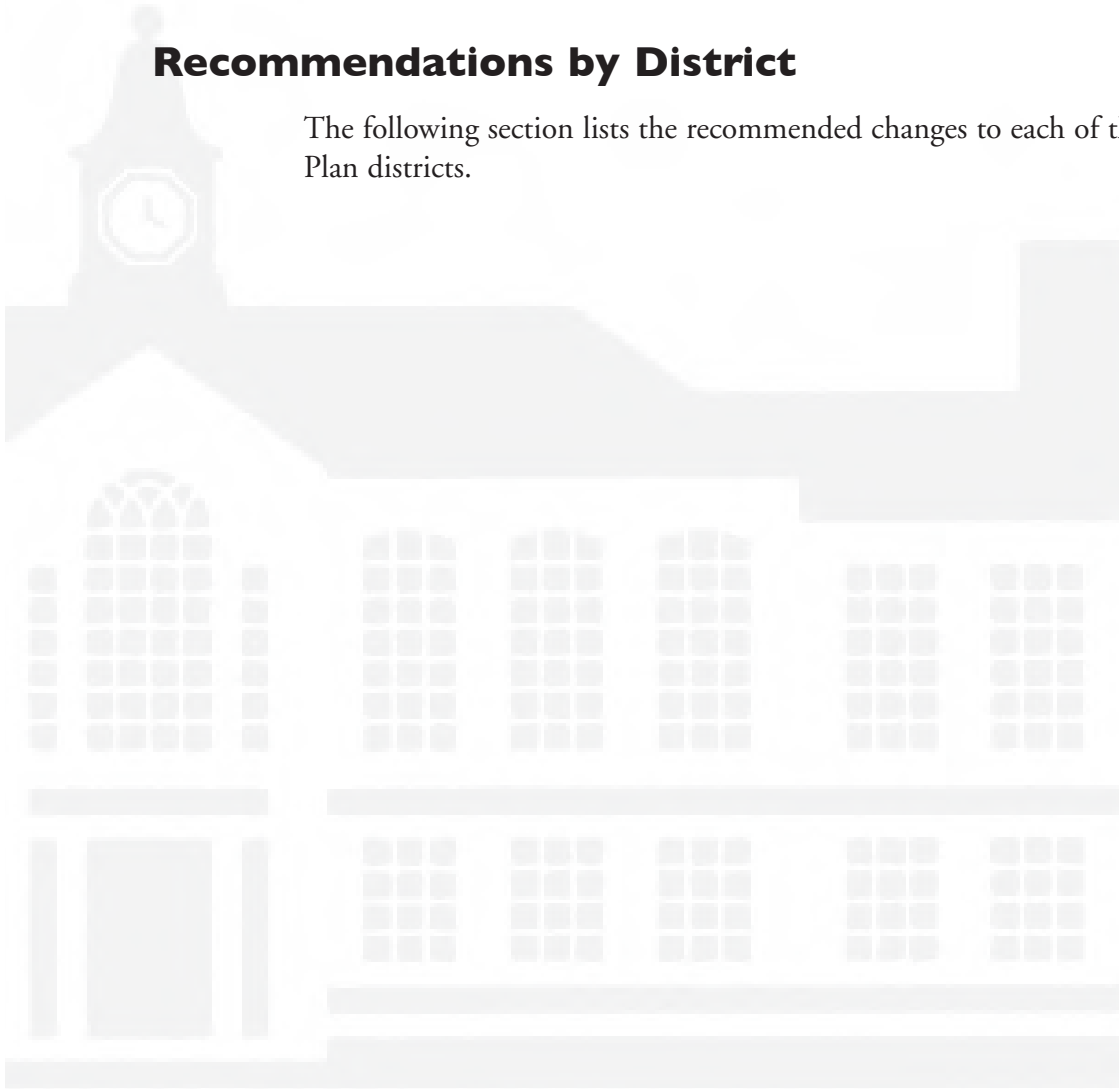
Proposed campus neighborhoods

study rooms in the renovated buildings. The same concept can apply to the non-residential areas of campus. For example, within the North Campus district, a large area encompassing a wide range of academic programs, two neighborhoods

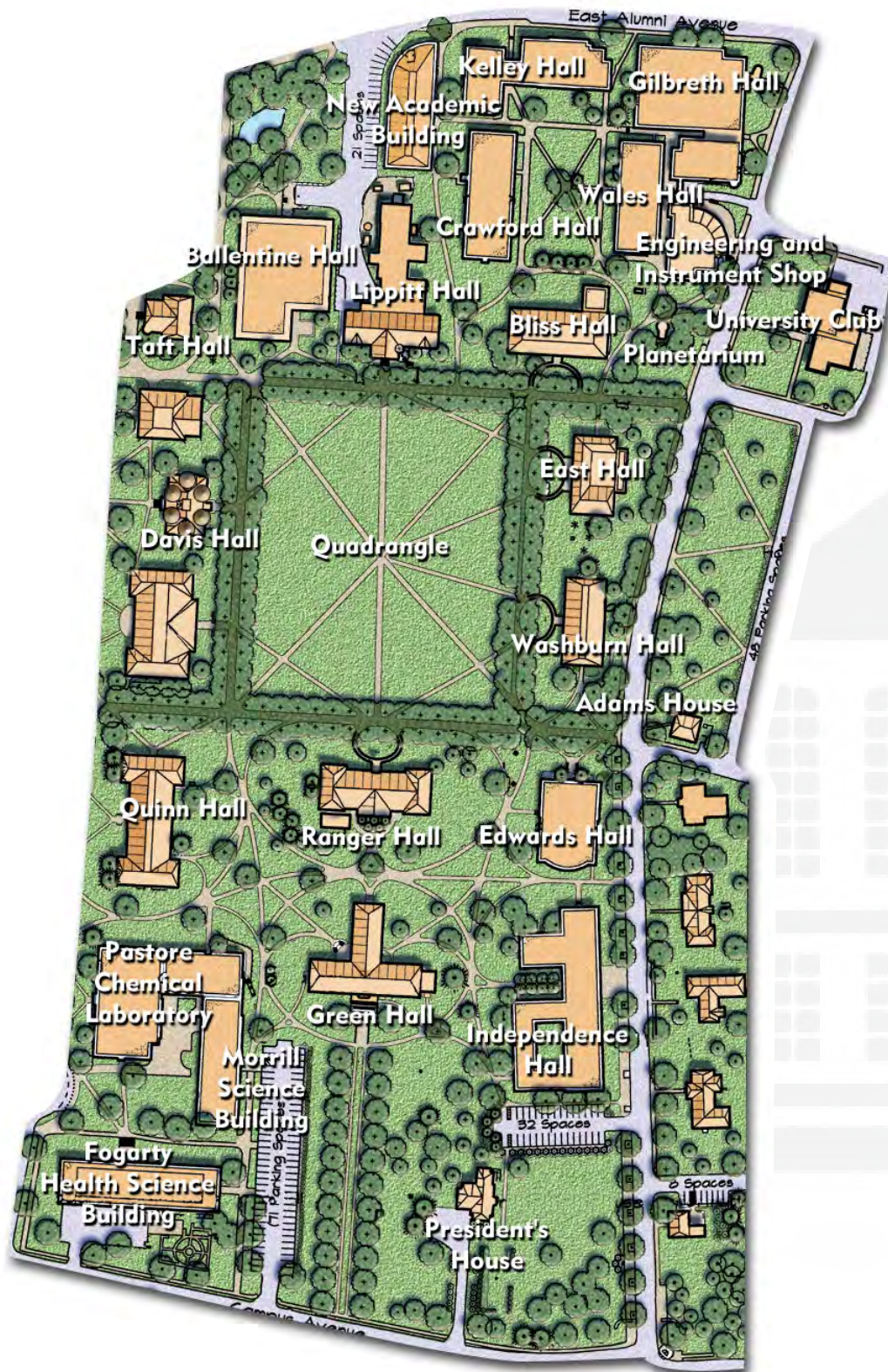
are proposed: one with a strong theme based on the Marine and Environment focus area described in the 1998 Academic Plan, and one without a strong theme. The neighborhood concept is not meant to impose an outside order on existing facilities; rather, it is meant to help give focus to emerging cross-currents among disciplines and in acknowledged areas of strength for the University.

Recommendations by District

The following section lists the recommended changes to each of the eight Master Plan districts.



University of Rhode Island Kingston Campus Master Plan



The Quadrangle

- 1 Remove most administrative units from buildings facing the main Quadrangle – house relocated administrative units in Upper College Road buildings**
- Reinforce the main Quadrangle as the academic heart of the University
 - Address need for additional classroom space as major renovation projects begin over the next five years
 - Make more effective use of Upper College Road properties, especially former fraternity houses
 - Locate ‘external’ administrative units (such as the URI Foundation and University Advancement) in an area where parking is closer and more convenient

Davis Hall: 12,600 NSF potentially available

Faculty Club: 4,800 NSF potentially available

Lippitt Hall: 17,400 NSF potentially available

Ranger Hall: 31,700 NSF potentially available

2 Renovate and expand Carlotti Hall to the east – new use as academic building

- Provide additional classroom or laboratory space in central location
- Improve appearance of building in historic core
- Provide stronger southwest corner to Quadrangle

Current area: 15,800 NSF

Proposed area: 23,700 NSF

3 New academic building between Davis and Taft

- Provide additional classroom space in central location OR provide necessary expansion for public programs at library
- Provide stronger northwest corner to Quadrangle

Proposed area: 12,700 NSF

4 New academic building north of Lippitt and west of Kelley

- Provide additional classroom or research space in central location
- Provide expansion space for engineering programs – this is the only potential site adjacent to the engineering quad
- Maintain access to steam plant behind Lippitt Hall

Proposed area: 45,600 NSF

5 Reduce width of pavement around perimeter of quadrangle

- Reduce area of unsightly asphalt
- Reduce maintenance costs for Quadrangle perimeter
- Eliminate pedestrian/vehicle conflicts at Quadrangle perimeter
- Return focus of quadrangle area to pedestrians
- Limit vehicular circulation around quadrangle to restricted service and emergency access

6 Remove obsolete paths crossing quadrangle and replace with reconfigured paths

- Provide more attractive geometry to pathways in key historic space
- Eliminate maintenance costs for obsolete paths
- Strengthen pedestrian connection in and around the quadrangle to reflect pedestrian desire lines



Existing pathways

7 Provide universal accessibility into Ranger Hall, Washburn Hall, East Hall and Bliss Hall

- Meet ADA requirements for all campus facilities
- Provide universal accessibility with shallow ramps (5% slopes) without compromising historic character of building
- Create informal gathering areas with seating adjacent to new ramp/stair entrances to buildings facing quadrangle

8 Reconfigure entrance paths into Carlotti, Davis Hall, proposed building north of Davis, Ballentine Hall and Lippitt Hall

- Each major building project will have some associated landscape cost
- Include those costs as part of the project budget from the outset

9 Provide art at intersection of Lippitt Road and pedestrian path from Flagg Road, and between East and Washburn Halls

- Proposed sites are part of a campus-wide art and beautification program
- Other public art locations should be identified: art should highlight important spatial relationships and vistas

10 Remove existing trees around quadrangle and replace with new trees (oaks and disease resistant elms)

- As zelkovas reach the end of their lives, replace with species with a higher branching aspect
- Avoid a monocultural planting, like the elms that were wiped out by a single pest

11 Site furnishings (lighting, benches, receptacles)

- Site furnishings should reinforce the historic image of the Quadrangle
- Provide a unified suite of furnishings to avoid clashing imagery

12 Site Drainage

- Avoid ponding in low-lying areas of the district
- Reduce erosion from stormwater runoff

13 Grading, loaming and seeding

- Will be a necessary part of any major project
- Should be budgeted appropriately

14 Irrigation

- Can help streamline maintenance operations

15 Remove parking and access road south of Ranger Hall

- Improve the quality of the space between two important historic buildings
- Create the space for attractive formal walkways between the historic main quadrangle and the Green Hall lawn

16 Remove existing paths and replace with new paths around Ranger and Green Halls

- Improve the appearance of one of the most important ‘first impression’ spaces on campus
- Provide elegant formal walkways between the two main historic and ceremonial spaces on campus
- Improve accessibility to Green and Ranger Halls
- Design pathways to minimize impact to specimen trees in the area

17 Provide parking south of Independence Hall

- Provide needed visitor parking close to admissions office
- Streamline visitor arrival and parking experience

18 Provide screen planting around proposed parking lot south of Independence Hall

- The lot is adjacent to the President’s house and will need appropriate screening to maintain the privacy of the President’s house
- Appropriate planting will also help direct visitors to the admissions office

19 Reconstruct pedestrian path from Campus Avenue to Green Hall with associated planting

- This path is an important ceremonial ‘front door’ to the University. Improving its appearance will also improve its ability to serve its ceremonial role
- Open view to Green Hall from Campus Avenue by replanting the diseased linden alley with higher branching trees spaced further from the central path
- Incorporate a double pathway with seasonal plantings between the rows of trees

20 Remove hedge around President’s House

- Hemlock hedge is diseased and should be removed

- Removing the hedge will improve visibility from the Upper College Road/ Campus Avenue gate through to Green Hall
- Improving the visual connection between the gates and the historic architecture will significantly enhance the sense of arrival at the University

21 Provide additional specimen plantings

- The Quadrangle is an important component of the Christopher Memorial Arboretum
- Specimen plantings will both beautify the area and provide additional teaching resources for the Plant Science and Botany programs that use the campus as a teaching tool

22 Remove parking east of East Hall and Washburn Hall to open views of quadrangle from Upper College Road

- Strengthen the visual edge of the Quadrangle along Upper College Road by eliminating small parking areas east of historic buildings
- Reinforce the importance of the Quadrangle as a pedestrian zone

23 Renovate and relocate the Watson House to serve as the new information center

- Provide a more appropriate 'first impression' for visitors to the University
- New information center should highlight the achievements of URI faculty, staff, and students
- Locate parking for information center after the house with appropriate signage
- Selectively clear some of the plantings on the east corner of Upper College Road to open views to new information center
- Balance programmatic and technological needs of a new information center against preservation issues surrounding Watson farmhouse (integrity of original site, potential for damage to house during relocation or renovation, etc.)

The Mall

1 Remove existing road east of Memorial Union. Reconstruct and extend Mall pedestrian pavement

- Limit vehicular circulation from Memorial Union to the Library to restricted service and emergency access
- Strengthen pedestrian connections from Library to Memorial Union (and beyond)
- Provide informal outdoor gathering areas with seating along length of mall in relation to existing or proposed buildings
- Improve pedestrian connections across mall with emphasis on intersection with Elephant Walk

2 Reconfigure vehicular turnaround

- Reduce turning movement conflicts at Lower College Road turnaround
- Reduce pedestrian-vehicular conflicts at turnaround
- Maintain central location for shuttle and RIPTA bus stop

3 New academic building between Roosevelt and Library

- Provide additional classroom or administrative space in central location OR provide necessary expansion for public programs at library
- Fill in northeast corner of 'outdoor room' in front of Roosevelt Hall

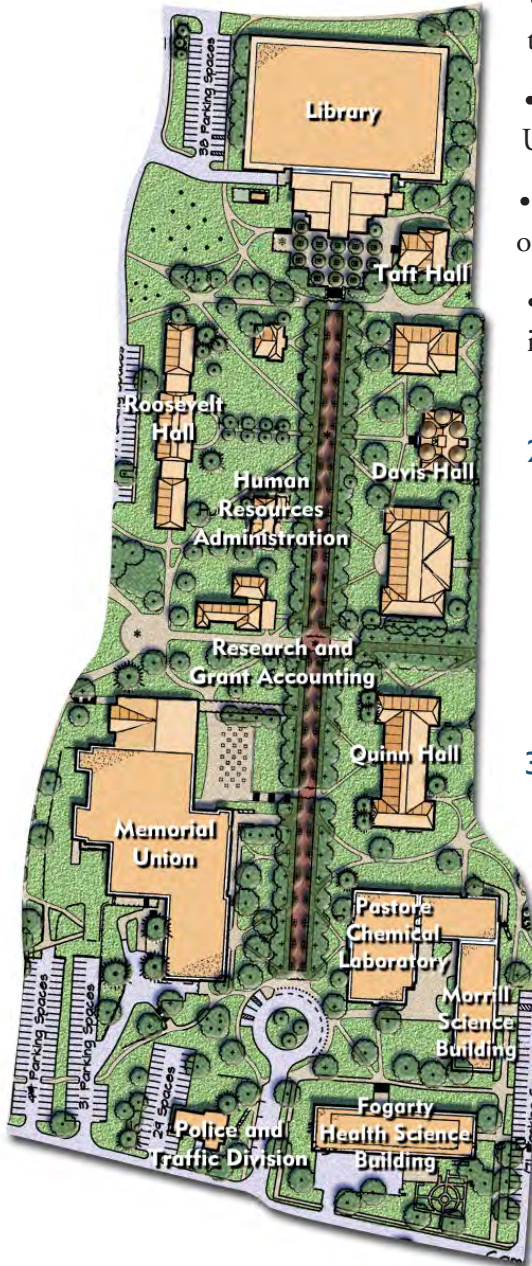
Proposed area: 4,000 NSF

4 Sidewalks and bollards at bus drop-off

- Improve waiting areas for shuttle and RIPTA buses
- Use bollards to prevent unauthorized access to Mall roadway

5 Planting of canopy trees along mall

- Direct and emphasize linear views along the Mall



- Provide a consistent ‘ceiling’ for the Mall

6 Site furnishings along Mall (seating, lighting, receptacles, etc.)

- Site furnishings should reinforce a unified visual character for the Mall
- Furnishings should relate to those of the quadrangle

7 Informational kiosk at intersection of Elephant Walk and Mall

- Provide an attractive place for student event flyers, etc. at an important central location
- Kiosk should be both attractive and extremely durable
- Periodic maintenance of this and other campus kiosks should be considered before construction (“adopt-a-kiosk” program? student organizations sharing responsibility for maintenance?)

8 Art at intersection of mall and path from Roosevelt to Davis

- Mark another important intersection along the Mall with public art

9 Outdoor café at lower level of Memorial Union (pavement, retaining walls, stairs and planting)

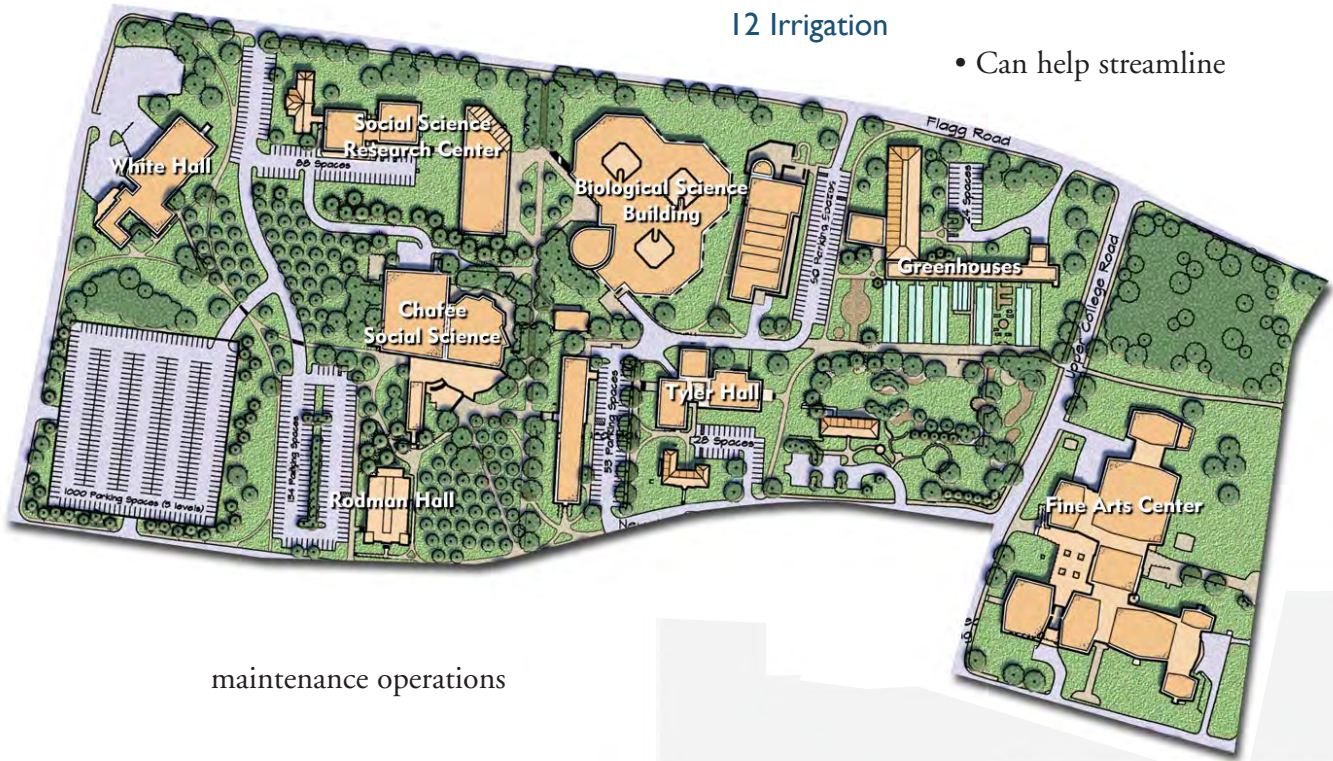
- Enliven lower entrance of Memorial Union by terracing the slope and providing an outdoor café/seating area
- Provide additional outside activity space
- Provide additional social options for students and faculty

10 Site drainage

- Avoid ponding in low-lying areas of the district
- Reduce erosion from stormwater runoff

11 Regrade, loam and sod

- Will be a necessary part of any major project
- Should be budgeted appropriately



- Can help streamline

maintenance operations

North Campus

1 Remove extension of Greenhouse Road from intersection to northeast of Tyler Hall to East Alumni Avenue

- Remove unnecessary vehicular circulation
- Reinforce pedestrian core

2 New academic building north of existing greenhouse headhouse

- Provide additional classroom or laboratory space in central location
- Build on emerging Marine and Environmental sustainability initiatives to create a center for excellence in environmental studies on the Kingston campus
- Provide additional parking lot east of proposed building for faculty and staff

Proposed building area: 37,300 NSF

3 Provide additional perpendicular parking along Greenhouse Road for Greenhouses

- Provide additional shared parking for new Coastal Institute building and new Sustainable Communities building

4 New academic building west of Kelley Hall

- Provide additional classroom or laboratory space in central location
- Hide unsightly steam plant operations from view along East Alumni Avenue
- Maintain high density of buildings near Engineering quadrangle
- Take advantage of views west into pond next to library
- Provide new parking area along western side
- Maintain service access to steam plant

Proposed building area: 27,300 NSF

5 Limit vehicular circulation between East Alumni Avenue and West Alumni Avenue south of Chafee to restricted service and emergency access

- Reinforce perimeter transportation loop, and eliminate use of Alumni Avenue as an east-west circulator
- Improve pedestrian safety in this highly-trafficked area

6 Build parking structure northeast of intersection of Butterfield Road and West Alumni Avenue to hold approximately 1000 cars

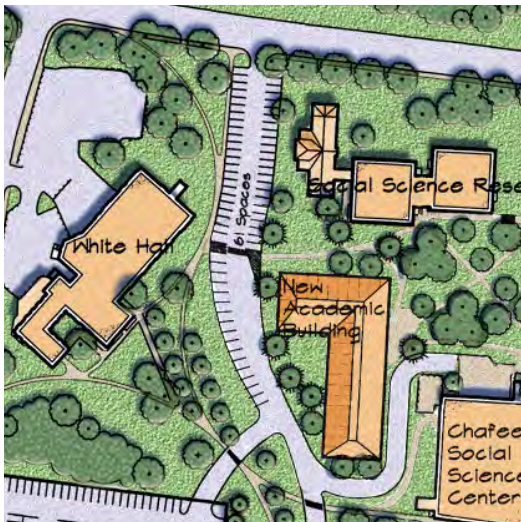
- New parking structure will relieve parking shortages at peak time for academic core
- New structure can also accommodate (with additional areas) peak crowds for Convocation Center events
- Sloping site will potentially allow the parking structure to be constructed without ramps, significantly increasing floorplate efficiency
- Feasibility study will determine detailed costs, optimal operating parameters

Proposed capacity: 1,000 cars

Approximate building area: 335,000 GSF

7 Strengthen pedestrian connections from Flagg Road to Quadrangle (e.g. between Chafee and Biological Sciences building) through paving types and a continuous canopy of trees. Limit vehicular circulation to restricted service and emergency access

- Acknowledge the Chafee Walk as a major pedestrian circulation route



Potential academic building site between Chafee and White Halls, creating a new, secondary academic quad

- Provide a landscaped focus to soften the severe appearance of the Biological Sciences Building and Chafee Hall

8 Create an apple or crabapple orchard in the Chafee quadrangle

- Soften the entrance to Chafee Hall
- Recall the historic experiment station when the school was a College of Agriculture, and allow for present research initiatives

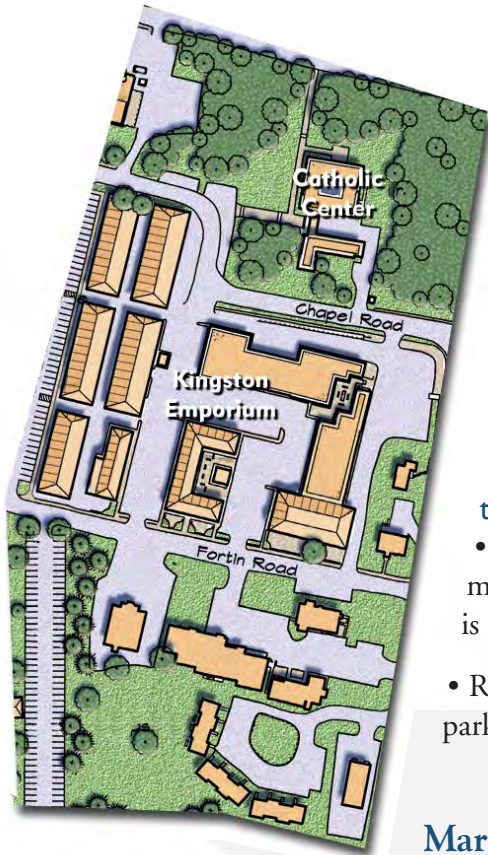
9 If academic and/or administrative space needs require it, construct a new academic building between Chafee Hall and White Hall, creating a new quadrangle

- Could significantly improve the quality of the pedestrian environment behind Chafee Hall
- Could create a major new academic quadrangle, potentially dedicated to a public health or social sciences theme
- Would eliminate a significant number of parking spaces, which would need to be replaced with spaces in the parking garage

Approximate building area: 45,600 GSF

10 Preserve and enhance the wetland area east of the Library

- Celebrate an important landscape and ecological feature of the Kingston campus
- Use the wetland area as a teaching tool to describe the watershed systems on Kingston Hill



- Provide a better relationship between the wetland and the adjacent pedestrian pathway

II Provide both an interim and a long-term practice site for the marching band

- Provide site near athletic complex and logistical support for marching band practice as interim solution until parking garage is constructed, relieving some demand on Fine Arts lot
- Return fenced practice area to Fine Arts lot upon completion of parking garage

Marketplace

I New mixed-use buildings on privately-owned land near current Emporium buildings

- Proposed plan calls for five new two-story buildings: four at 15,000 GSF each, and one at 12,700 GSF
 - Buildings should have campus-oriented retail on ground floor, and apartments for graduate students or upper-level undergraduates on second floor
 - West facades should be designed as traditional storefront buildings, with large storefront windows, wood base and transoms, and decorative awnings.
 - East facades should be designed to blend in with existing Emporium buildings

Proposed building area: 94,500 NSF

2 New road and parking west of proposed retail

- Provide a new road connecting Fortin Road and Chapel Road with perpendicular parking west of proposed new retail

University of Rhode Island Kingston Campus Master Plan

- Road is one-way loop, to minimize pedestrian-vehicle conflicts and to keep road as narrow as possible while allowing for parking

3 Restripe parking behind fraternity houses

- Make parking lot layout more efficient

4 Relocate or demolish Tucker House to create a new “front lawn” that will open views to the proposed new retail

- A clear view from Upper College Road to the new buildings of the Emporium will be essential for the success of the shopping district
- Programs in Tucker House (History and Political Science) should be relocated to renovated space in quadrangle buildings
- Tucker House can be relocated to Fraternity Circle to replace Phi Gamma Delta (displaced by the proposed parking garage) or another displaced fraternity or sorority
- Lawn area should be informal, in contrast with the more formal quality of the quadrangle
- Continue similar plantings from the quadrangle to marketplace lawn area to unify the spaces across Upper College Road



6 New pedestrian paths

- Strengthen pedestrian connections from the quadrangle to the new retail and through to the existing Emporium
- Provide pedestrian connections between the new retail buildings to the existing Emporium businesses (part of site development costs for the private Emporium project)

7 Site furnishings (lighting, benches, receptacles)

- Site furnishings should reinforce a unified visual character for Upper College Road
- Furnishings should relate to those of the quadrangle

8 Grading, loaming and seeding

- Will be a necessary part of any major project
- Should be budgeted appropriately

9 Irrigation

- Can help streamline maintenance operations

10 Realign intersection of Fortin Road and Upper College Road to improve corner

- Existing turn radius is too tight and the road is too narrow to safely accommodate turning traffic
- Included in Sigma Nu/URI Foundation project scope

Hillside

1 Removal of parking lots adjacent to Elephant Walk

- Remove large asphalt area next to key pedestrian walkway at campus core
- Improve views into valley from top of hill
- Provide site for major new landscape feature

2 New parking lot east of Potter building

- Provide adequate parking for health services patients
- Provide parking for dining services workers (depending on scheduling)



3 New/extension of parking lots south of Memorial Union

- The reconstruction of Baird Hill Road provides an opportunity to improve the efficiency and increase the capacity of the parking lots behind the Memorial Union
- Lengthen lots (toward the south) when Baird Hill Road is relocated

4 Removal of parking lots adjacent to Butterfield Road

- Provide an outdoor amphitheater west of Hope Hall for Residence Hall functions
- Provide parking for dining services workers in new lot across from health services, and in reconstructed lots behind the Memorial Union

5 Realign north end of Butterfield Road

- Improve safety at intersection with Alumni Avenue
- Provide appropriate connection to proposed parking garage
- Provide new residence hall building site on southwest corner

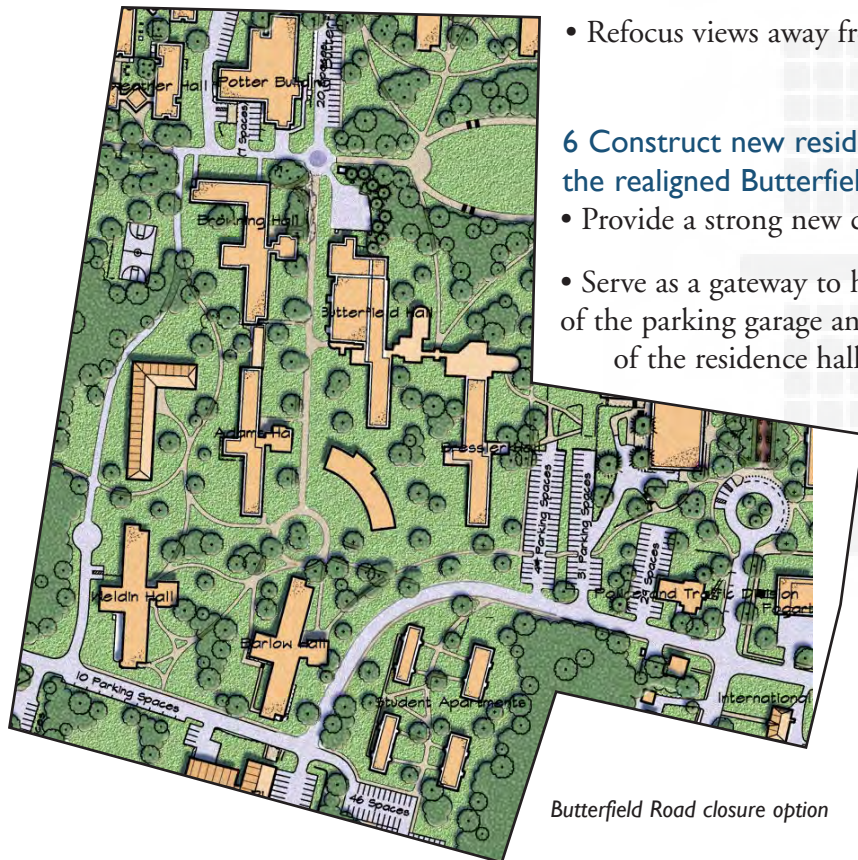
- Refocus views away from electrical substation

6 Construct new residence hall at the southwest corner of the realigned Butterfield Road and Alumni Avenue

- Provide a strong new corner to the residence hall area
- Serve as a gateway to help delineate between the 'public' space of the parking garage and Alumni Avenue, and the 'private' space of the residence hall area

- Create a new outdoor courtyard east of Aldrich Hall for outdoor social events

Proposed building area: 31,200 NSF



Butterfield Road closure option



Proposed pathway configuration



Existing pathway configuration

7 Reconstruction of Baird Hill Road – option

- Relocate Baird Hill Road to align with intersection of Lower College Road and Campus Avenue and connect into Fraternity Circle road
- Provide additional parking west of Police Station

8 Close Butterfield Road south of the Potter Building and Baird Hill Road west of Lower College Road to vehicular traffic except for move-in/move-out and emergency vehicles - option

- Improve pedestrian safety in one of the densest areas of pedestrian traffic on campus
- Reinforce the concept of a student village in the hillside district by creating active outdoor spaces (with appropriate pathways) from areas that are now roadways
- Would have major implications for campus vehicular loop road - would require connection from Keaney parking lot into Fraternity Circle, and from Fraternity Circle to Baird Hill Road at Lower College Road

9 Redesign parking behind Roosevelt Hall

- Remove large parking lots adjacent to Elephant Walk
- Reorganize and restripe lots behind Roosevelt
- Make more intensive use of lot east of Hope Hall
- Preserve existing stone bridge crossing stream

10 New parking west of Library

- New parking close to core area but not directly affecting views of historic spaces

11 New pedestrian paths to form Oval around the Elephant Walk and connecting paths

- Dramatic oval paths to form a central sloped gathering space in the middle of the Hillside district
- Site may be too steep for ADA compliance; alternatives will need to be considered
- Main pathways and some connecting pathways will require stairs and handrails
- Strengthen pedestrian connections between Residence Halls and Elephant Walk

12 Overlook plazas at top and bottom of Oval with seatwalls and benches

- Enhance Elephant Walk experience and views of valley below by providing an overlook north of the Memorial Union and a large sloping lawn area, “a clearing in the woods” for informal gatherings
- Can be designed to provide a variety of donor opportunities at the top and bottom of the hill

13 Brick plaza at intersection of Butterfield Road and the Elephant Walk

- Mark an important pedestrian crossing on campus
- If Butterfield Road remains open, provide for ‘traffic calming’ measures such as width neck-down or raised, textured paving

14 New pedestrian pavement for the Elephant Walk through residential area

- Limit vehicular circulation to southern end of Butterfield Road at intersection of Elephant Walk and strengthen pedestrian connections

15 Construct new residence hall behind Adams Hall

- Provide a new corner to the freshman village residence halls
- Create a new enclosed outdoor courtyard among Adams, Weldin and Barlow for outdoor social events

Proposed building area: 32,900 NSF

16 Grading, loaming and seeding and planting around Oval

- Separate from pathway construction costs
- Replant hillside with native trees and low growing native woody and herbaceous understory plants that grow a maximum of 3 feet.

17 Site furnishings (lighting, benches, receptacles)

- Site furnishings should reinforce a unified visual character for the Hillside district
- Furnishings should relate to those of the quadrangle, particularly near the Elephant Walk

18 Site drainage

- Erosion control is especially important in the Hillside district
- Avoid ponding in low-lying areas of the district
- Reduce erosion from stormwater runoff

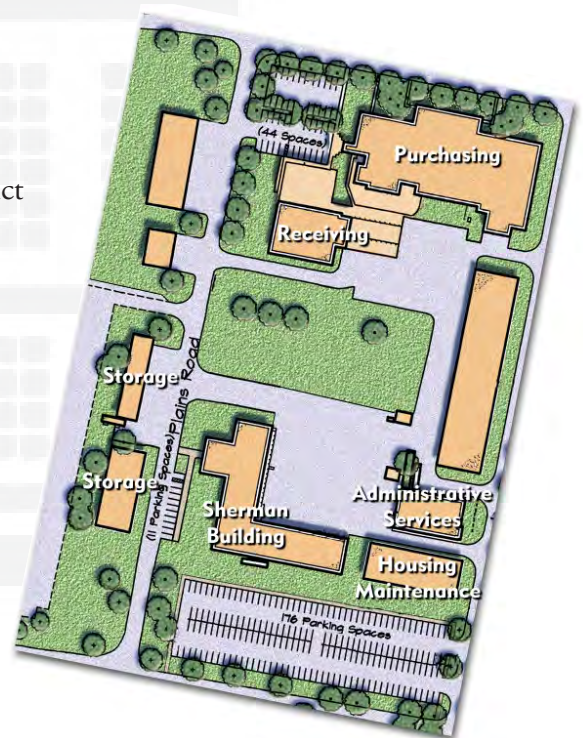
19 Irrigation

- Can help streamline maintenance operations

Service Area

I New service road from West Alumni Avenue to Flagg Road

- Create a new road connecting West Alumni Avenue and Flagg Road that will service the proposed maintenance area and University Conference Center



University of Rhode Island Kingston Campus Master Plan

- Seek outside funding for this project, which will also serve as a back door to the residential neighborhoods north and northwest of the University

2 New parking north of West Alumni Avenue

- Provide new parking at southern end of facilities management block – displace housing warehouse
- Provide additional parking lots for use by the Convocation Center and proposed University Conference Center

3 Reconfigure parking west of Dairy Barn and east of Receiving Building

- Provide new enclosed facilities ‘courtyard’ for outdoor activities

4 New Conference Center (two buildings, plus renovation of Dairy Barn) north of Dairy Barn

- Allow Kingston campus to host a greater number of academic conferences than it does currently
- Could potentially provide housing for academic visitors to the University and for parents
- Potential connections with golf research center – Dairy Barn could potentially serve as club house, could use conference rooms for turf management training events

Proposed new building area: 56,600 NSF

5 New facilities management building between Dining Services and Administrative Services

- Will replace landscaping shed and automotive garage
- Provides strong eastern edge to facilities area
- Will require demolition of existing automotive garage

Proposed building area: 20,800 NSF

6 New pedestrian paths to proposed conference buildings

- Provide a pleasant, walkable quadrangle at the heart of the proposed conference center

- Connect the conference center to important campus pedestrian routes like Alumni Avenue and a new sidewalk on Flagg Road

7 Specimen tree and lawn plantings around proposed conference buildings and parking lots

- Provide a flexible outdoor open space that could be used for large gatherings within the proposed Conference Center structures
- Enhance the existing stream east of the proposed Conference Center by opening views and replanting with native wetland species

8 Site furnishings (benches, receptacles and lighting)

- Site furnishings should reinforce a unified visual character

9 Grading, loaming and seeding

- Necessary to create the quadrangle in the conference center
- Should be budgeted appropriately

Athletics

I Relocate Keaney Road

- Increase the distance between rear exits to athletic complex and Keaney Road, provide additional distance for both drivers and pedestrians



University of Rhode Island *Kingston Campus Master Plan*

- Improve visibility of pedestrian crossings (stop signs, flashing lights, etc.)
- Potentially can provide additional parking behind Keaney Road

2 Reorganize Keaney Lot

- Increase the parking efficiency of Keaney Lot
- Shift the access road to create a four-way intersection with the Peckham Farm Road

3 Provide new four-way intersection at Route 138, Peckham Farm Road and Keaney Road

- Improve traffic and pedestrian safety at a dangerous crossing
- Eliminate “double-T” intersection in favor of a single four-way crossing
- Intersection may need to be signalized and coordinated with Upper College Road/Route 108 signals

4 Create a new landscaped quadrangle east of the athletic buildings

- Provide a drop-off area southeast of Mackal Field House to be used during events at the Convocation Center and Keaney Gymnasium
- Limit vehicular circulation east of gym complex to restricted service and emergency access
- Strengthen pedestrian connections east of gym complex by reducing path widths to a more comfortable scale and relocating pathways to reflect desire lines
- Open view of Keaney Gymnasium from Elephant Walk by relocating pin oaks on the south side of the Elephant Walk to a distance equal to trees on north side of the walk
- Provide an outdoor gathering area of pedestrian scale outside Keaney gymnasium separate from circulation route from Keaney parking lot to the Convocation Center
- Locate areas suitable for art in relation to spatial relationships and vistas

5 Consolidate turf management programs/plant science programs at Peckham Farm. Reclaim land around turf management facilities for use by athletics

- Bring turf research programs together at a single facility
- Reduce need for duplicate equipment

6 Reclaim 11-acre parcel off Plains Road for use as prime athletic fields. Relocate lacrosse field and other users affected by Ice Rink to current turf management areas and former leased parcels

- Current leased parcels provide key to future development of athletic facilities
- Leased parcels do not provide enough revenue to the University to warrant continued lease arrangements

7 Create new parking area north of Plains Road dogleg, for use by Convocation Center events and daily use for athletics department

- New parking area should minimize environmental impact
- Potentially to be built in “rings” – build only what you minimally need first, determine if it is enough
- Use only a binder, “grasscrete”, or plastic infill units if possible, instead of full bituminous paving
- Use lot as opportunity to work with turf management researchers to see if there is a more environmentally appropriate way to build a parking lot near athletic fields
- Keep maintenance considerations in mind (snow plowing, pooling of rainwater, etc.)

8 Develop traffic management plans for all major events, not just Convocation Center events – coordinate traffic management plans with regional transportation study recommendations

- Traffic management will help ensure a smooth flow of traffic in and out of campus for large events
- Transportation Demand Management (TDM) strategies may help reduce the volume of traffic using campus and regional roads for large events, and may also be applied to everyday use of campus parking areas

9 Create campus transportation office or position

- Coordinate shuttle service and extend to serve athletic area
- Improve parking enforcement
- Provide central office for issuing permits
- Improve permit database

10 Construct new turf management facility on Peckham Farm

- Assess issues surrounding donor bequest, facility naming, and available funds for construction
- Provide replacement on Peckham Farm for facilities west of Plains Road

11 Renovate existing turf management building as new locker/restroom facility

- Facility should be shared among all athletic users
- Should accommodate men and women athletes
- Public restroom and potentially concession facilities

12 Construct new track and field facility

- Track is currently unusable and must be reconstructed
- Potential sites include site of current track, parcel north of food service warehouse, land now used by turf management, or 11-acre parcel

13 Create an integrated running/biking trail system

- Trail should have connections back into University pathway system (along the stream, to the Elephant Walk, etc.)
- Potential locations include golf course perimeter, combined surfaces along existing regional trail or along proposed South County trail

14 Explore possibility of using wind blocks as physical anchors for improved path system

- Should not disrupt configuration of current or proposed fields
- May be used to separate distinct areas of large central playing field area

15 Celebrate athletic achievement in the athletic facilities

- Create a “Boulevard of Heroes” along Plains Road or in the forecourt of the athletic buildings at the end of the Elephant Walk
- Use these areas to celebrate and attract top-quality student athletes
- Develop potential donor opportunities in these areas as well

6. LAND USE

Many factors have determined the allocation of land on the Kingston Campus to the various uses required by a modern research University and undergraduate College: the site's history, including previous planning decisions by Frederick Law Olmsted's firm and others; the outward direction of campus growth radiating from the central Quad; topography and hydrology, which determine the physically and legally buildable areas of the University's property; the influence of the surrounding village and larger community, including land and building donations from alumni; decisions and deals made to seize unique opportunities; and decisions made to continue and protect previous investments.

The Master Plan makes a distinction between core land uses and outlying land uses, because the issues facing the nearly 400-acre core campus are significantly different from those confronting the over 800 acres of land west, north and south of the core campus. Outlying lands are used mainly for athletic fields, plant science research, turf farming under leases and a small amount of graduate housing. The core land uses are determined largely by the type of building and infrastructure in place on the built-up portion of the University's land. While academic and administrative uses may be interchanged with relative ease, converting a residence hall into a classroom building is more difficult.



The Mall district is the 'Main Street' of the Kingston Campus.

Core Land Uses

The Master Plan land use analysis identifies five broad land use zones: academic, administrative/student service, athletic, residential, and service/physical plant. The academic zone wraps around the northern, eastern, and southern sides of the main quadrangle, and extends south along Lower College Road to Route 138. The administrative/student services zone is fairly concentrated on the west side of the main quadrangle, encompassing the Memorial Union, Roosevelt Hall, Carlotti Hall, Davis Hall, and most of the smaller buildings in that area.

University of Rhode Island Kingston Campus Master Plan

The athletic zone includes almost the entire area west of the creek, from the tennis courts along Route 138 to the future site of the Convocation Center, and also includes the site of the future golf research center. The residential zone encompasses most of the hillside, extending from the University Village and Fraternity Circle on the south to Heathman Hall on the north. The service/physical plant zone is a fairly concentrated area at the northwest corner of campus, near Plains Road and Flagg Road.

The current land uses at the core of campus – academic, administrative, athletic, residential and service – generally work well. There are few serious land use conflicts, and the site’s topography naturally subdivides the campus into three broad zones: a plateau, a hillside, and a valley. The University’s “head” – its academic and administrative core – sits atop the plateau, while the residential units dot the hillside to take advantage of the views into the valley below. The valley’s broad fields continue in a limited way in their original use as agricultural land, while many have been converted into athletic fields and parking lots.



The buildings defining the edges of the quadrangle should be dedicated primarily to teaching.

This Master Plan proposes two major changes to core campus land uses: first, programmatically reinforce the quadrangle as the heart of the University by ensuring that the buildings defining its edges are dedicated primarily to teaching, rather than administration or research. Some exceptions to this recommendation are inevitable, but administrative units that have less to do with the everyday life of students at URI (‘external’ administrative functions such as fundraising and alumni relations offices, for example) should be relocated elsewhere on campus, especially if this makes them more accessible to

outside visitors. The corollary to this recommendation suggests that core teaching functions located outside the quadrangle should be returned to the quad if possible.

Many of the master planning land use discussions focused on Upper College Road. The former fraternity houses along Upper College Road could be readily converted into administrative buildings or faculty office buildings. Independence Hall, although a vital classroom resource, is not an ideal teaching facility: noise from Upper College Road is distracting, and the warren of small faculty offices at the rear of the building is antiquated and uninviting. The building’s comprehensive renovation, scheduled on the State Capital Improvement Program for 1999 (but

not yet begun), should address many of these deficiencies, but over the long term the Master Plan's recommendation to focus core undergraduate teaching on the quadrangle may call for a reconsideration of Independence Hall's use. Any renovation plans should be designed with the flexibility needed to accommodate a future conversion from classrooms to administrative offices.

The second major land use change proposed in this Master Plan is the conversion of the eastern portion of the current Service district into a new hybrid use: a Conference Center with hotel rooms. This Conference Center, which would ideally include the renovation of the Dairy Barn for use as meeting or social space, would allow the University much greater flexibility in hosting conferences on the Kingston campus. The URI Conference Center would be different from, and complement, the Alton Jones campus by being smaller; housing visiting faculty and parents; and hosting meetings and conferences more closely associated with the facilities and activities of the University: the Convocation Center, the International Scholar/Athlete Hall of Fame, the Golf Course and Research Center, the therapy and training programs of Independence Square, the teaching and research activities of all academic programs on campus and the business development activities of URI's partnerships with private enterprise.

Campus Scale and Walkability

The Kingston campus is eminently walkable. Compared with the sprawling campuses of the West or the last land-grant universities of the Midwest, URI's Kingston campus is compact. As Figure 6.1 on the next page indicates, from the front entrance of the library, it is less than a ten-minute walk to all but the most remote corners of campus. Most core academic and administrative functions are within the five-minute walking radius. Even from the front entrance to Keaney gym, one of the more remote areas of campus, most of the campus is reachable in less than ten minutes.

The Master Plan's parking recommendations highlight the walkability of the campus, creating a largely auto-free zone at the center of campus (between Campus Avenue and Flagg Road, and between Upper College Road and Butterfield Road). Within this zone, many of the current smaller parking lots have been removed, and their spaces have been relocated to the campus periphery.

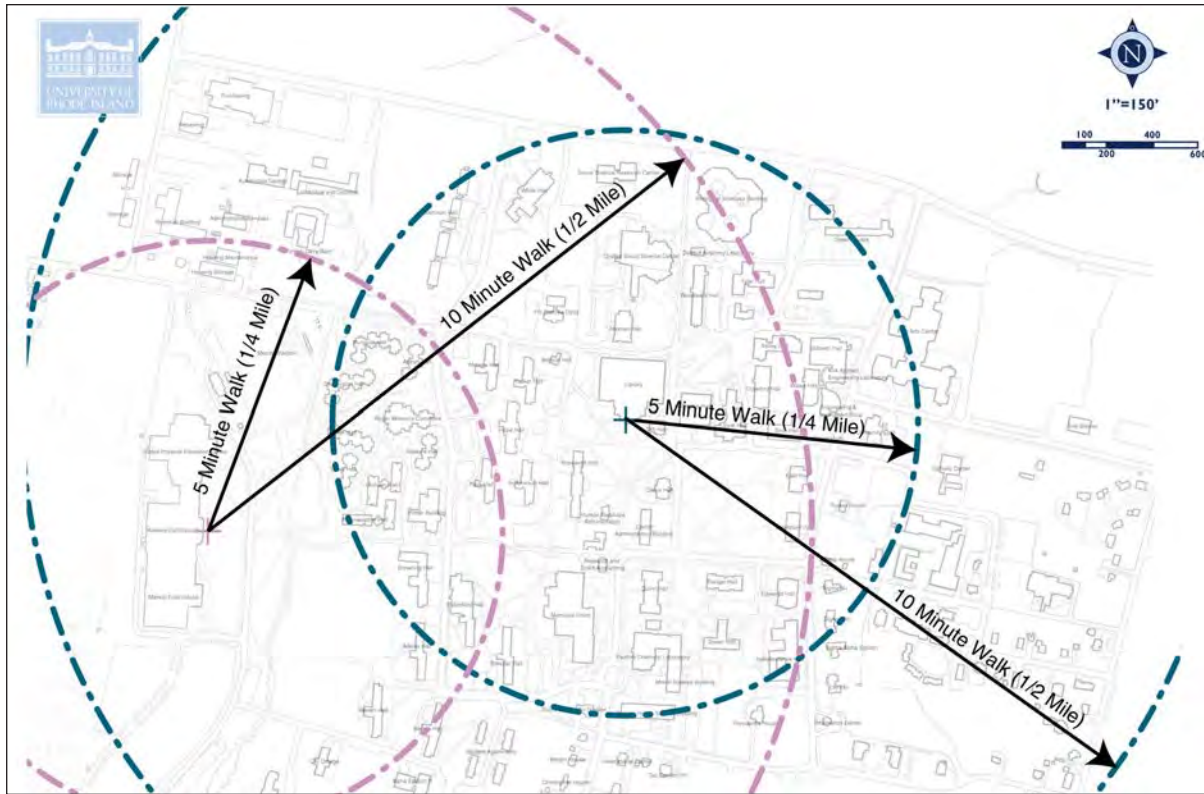


Figure 6.1: Concentric rings drawn around a map of the campus show that most destinations are within a ten minute walk of the library.

Growth Boundary

Protecting the walkability of the Kingston campus is an important goal of this Master Plan. Appropriate siting of new facilities, selective relocation of parking areas, and creating places where people want to walk are all viable ways to accomplish this end. An additional strategy is to codify, as a matter of University policy, the commitment to remain compact, and to build up the already-developed areas of campus rather than seek virgin sites at the edge of campus for new development.

The Master Plan proposes that the University adopt a growth boundary with Flagg Road as its northern edge, the western edge of the athletic complex as its western edge, and Route 138 as its southern edge. The eastern edge of the growth boundary is more complex, requiring a balancing of the University's long-term interests with the good relationships the University maintains with its residential neighbors to the

east. Given that the time horizon of this Master Plan is 10 to 15 years, it is unlikely that the University will exhaust the building sites at the core academic campus identified in this Master Plan and need to seek new sites within that period.

The growth boundary policy, if adopted, implies that the University should not construct buildings outside the boundary unless:

1. All available siting options inside the boundary have been tested and rejected;
2. There is sufficient programmatic justification for constructing a facility outside the boundary.

The growth boundary concept faces at least one immediate challenge from proposed development outside the boundary. The proposed consolidation of the plant science facilities at Peckham Farm, south of Route 138, would free up space on plant science/turf management lands for athletic facilities to the west of the core campus. This project would call for the construction of a new plant science/turf management facility at Peckham Farm, similar to the existing building off Plains Road. A specific site for this building has not been identified, but Peckham Farm is outside the proposed growth boundary and would therefore be precluded by the Master Plan from such building activity. Applying the policy as described above, however, a turf management facility meets the second test, since the facility is dependent on proximity to the research fields that are the basis for its existence, and the first test is moot since the research fields on which the facility depends are outside the boundary. Thus the proposed turf management facility meets the tests for exemption from the growth boundary policy.



Flagg Road provides a strong edge to the northern boundary of the campus.



Some athletic fields will be relocated as a result of the Convocation Center's siting.

Outlying Land Uses

The outlying lands include all land west of the athletic complex, the Peckham Farm area, East Farm and other University property south of Route 138, and the University's land holdings north of Flagg Road. The various users of this land are contending for a limited and somewhat fragile resource: athletics and agriculture are frequently incompatible, while turf research and turf farming may be compatible in a limited way. External athletic programs introduce additional questions of land use compatibility and traffic impacts, but they can also bring high visibility sporting events to the University.

The golf research center is an excellent example of a win-win proposal for the use of outlying lands at URI. Unlike the various contact sports that make very intensive use of fields, golf is a relatively low impact sport. In fact, golfers typically demand that the land be maintained to the highest standard. Thus the opportunity for research on plant species that are easier to maintain and more resistant to adverse conditions presents itself as upholding the research mission of the land grant



Over 800 acres of land surround the nearly 400 acre core campus. The University is committed to strengthening a tradition of environmental stewardship.

university. The recreational component of the golf course provides not only additional sport development opportunities for URI students, but also serves to enhance the attractiveness of the University's campus for visiting families and scholars. The Master Plan's proposed Conference Center north of the Dairy Barn is sited there precisely to complement the attractiveness of the golf course and strengthen both the arrival sequence and image of the University for campus visitors.

Although the leases of University land to local turf farmers provide a small amount of revenue to the University and can be linked to the

University's heritage as an agricultural school, ultimately the pressures on the use of outlying areas for important programs override these considerations. Thus, the Master Plan recommends that the University not renew its leases with turf farmers as those leases expire, and reclaim that land for programmed use. In particular, the 11-acre parcel just east of Plains Road is well-suited to athletic use, and will be a vital piece of a relocation strategy as the site for the proposed Ice Facility must be vacated by its current athletic users.

By eliminating private leases with farmers on Peckham Farm, the University can begin the process of consolidating the plant science/turf management programs at Peckham Farm, eliminating the need for duplicated equipment and facilities on either side of Route 138. Moving the turf management programs to Peckham Farm will also free additional space for athletics programs west of Plains Road.

Various proposals before the University to lease land for summer athletic programs or other types of uses must be individually evaluated to ensure compatibility with the University's mission. As with any new capital project, these proposed uses should be evaluated according to consistent and comprehensive criteria, described in Section 12 as Project Evaluation Criteria. The criteria seek to measure the proposed project's costs and benefits to the University's mission and operations, the local and state economy and the surrounding community, against the status quo or other, competing projects.

Of proposals for using outlying lands, in particular, the University should ask:

1. Will this activity supplement, rather than displace, current activities for URI students?
2. Will this activity adversely affect any of the other users of URI's land outside the core campus, including plant science research fields?
3. Will it generate unmitigated traffic impacts on local or regional roads?
4. Will it create additional, unfunded maintenance requirements for URI's facilities department?

If the answer to the first question is yes and the answer to the remaining questions is no, then the proposed activity could effectively complement URI's own use of the outlying lands. If the activity does not meet this test, then the University will need to balance the potential negative effects of such an activity against the revenues it will generate.

Proposals for private housing on land outside the University's direct control (but over which the University may assert some indirect control, such as through site access restrictions) may also be assessed through the Project Evaluation Criteria, which include project information the sponsor would need to submit for the Town of South Kingston's planning, zoning and approval processes. Such information would include answers to the following questions: What is the density of the proposed housing? How many vehicle trips will the proposed development generate, and where will those trips go? How much water will the project consume, how much sewage will it generate, and can the local infrastructure handle the proposed loads? The University must play an active role in shaping these developments which have the potential for significant impacts on the Kingston campus as well as on the surrounding community.

Unforeseen changes in the surrounding housing market, unanticipated immediate needs to replace existing residence halls, or new projections of campus population can all create the need to provide additional housing for students either on campus or on nearby property owned by the University. East Farm may also be a suitable location for this housing, particularly for older undergraduates or graduate students. The site could be effectively redeveloped as garden apartments or more densely clustered apartment buildings. Conference housing may also be appropriate on this site, particularly if the demand for conference-related housing on the conference center site near the existing Dairy Barn outstrips the capacity of that site. However, frequent and reliable shuttle service to East Farm will be essential for the success of any housing development there, to entice students to live there (or to provide for an effective connection to campus for conference participants) and to minimize neighborhood concerns about additional traffic generation.

Partnerships

As with other higher education institutions, an increasingly significant component of URI's teaching, research and service missions will be carried out through partnerships with private corporations, entrepreneurial start-up companies and non-profit institutions. These private parties seek to benefit from ties to the University's academic strengths, research resources, land and facilities; in turn they hope to apply research, develop new products and services, create jobs, attract investment and increase URI's revenues and prestige. Outlying lands can provide an ideal venue for these partnerships. As they border the surrounding community, they are often more closely associated with local villages and farms, in location and access, than with the University's core campus: they can be common ground between University research and local economic development opportunities. East Farm, off of Route 108, could provide such a site. Through its ownership of the land, URI can control the scale and type of development, so as to preserve the historic and rural village character of South Kingston in general and Kingston Village in particular, while contributing local and regional economic benefits.

7. OPEN SPACE AND LANDSCAPE

The landscape component of the Master Plan is about identity and the connective elements of the campus—the vegetation that enriches the campus at the ground plane, adjacent to buildings and defining the pedestrian paths. Preservation of the natural topography and native vegetation enrich the character of the campus and allow it to act simultaneously as classroom, laboratory, and a source of inspiration while creating a memorable sense of place within an ordered environment.

Landscape Design Goals

The specific requirements for campus landscape design change daily with the growing needs of the University. Adopting a defined set of landscape design goals and principles will help guide future development at URI towards a fundamentally shared vision that will remain constant over time and contribute to the cohesiveness of the landscape. The following list of conceptual goals should be used as a general starting point for all future development of the campus landscape in establishing the priorities of each project.

- Improve and enhance the quality of the campus landscape
- Integrate and unify the developed areas of the campus landscape
- Conserve and enhance natural and man-made landscape resources
- Improve the University's appearance and physical connections to the outside community

The principles outlined in the following sections offer more definitive guidelines, specific to landscape characteristics, that should be used in the development of design alternatives to assure cohesion in the greater campus landscape.

Campus Character

Memorable characteristics of the campus landscape can shape students' memories of the University of Rhode Island and serve to promote the University to prospective students. The consistent use of signature details, art and sculpture, gateways and edges, and visual connections throughout the campus landscape will help strengthen the University of Rhode Island's defining sense of place.

Signature Details

- Consider using University of Rhode Island “signature details” that enhance the unique image and identity of the University with consideration to its history and location.

The rural quality of the campus and its surroundings is much of the characteristic charm of the University’s landscape and built environment. Identifying, preserving and enhancing the key rural elements of the campus will help guide where future development should occur, and, just as importantly, where development should not impinge on the natural landscape.



Encroachment of structures near the pond separating the residence halls and athletic complex would detract from the rural quality of the area.

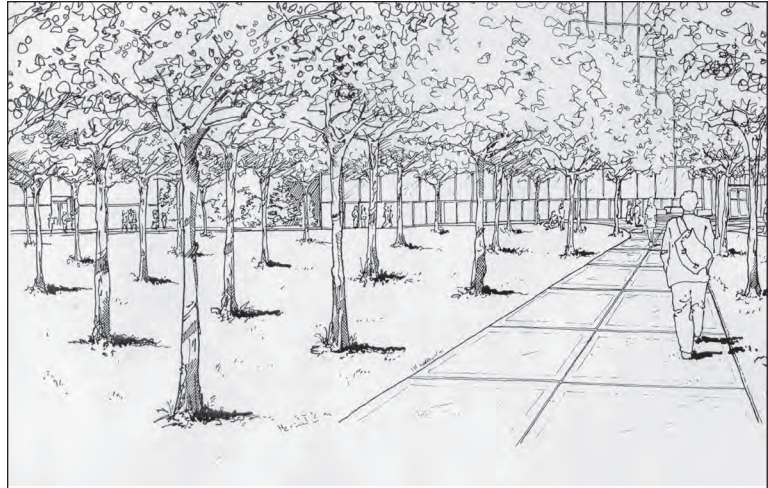
In areas of the campus that have previously been developed and have subsequently lost their rural charm, “signature details” that recall important periods in the development of the University over time should be incorporated into the landscape to give the University a sense history and importance.

Art/Sculpture

Integrate art into landscape projects with consideration to spatial relationships, vistas and long-term maintenance requirements, while encouraging interpretive art opportunities that reflect the history and development of the campus landscape.

Art enriches the learning environment and adds an element of surprise to the landscape. The placement of art throughout the landscape is to be encouraged where it can be appropriately sited and maintained.

The zone of influence associated with each art piece extends beyond the immediate surroundings, directly influenced by the siting in relation to visual axis and spatial relationships. Works of art should be sited on axis with a path, as a



Proposed recreation of a portion of the old experiment station around Chafee Hall reflects the historical development of the University and its landscape.



Proposed location for art between East Hall and Washburn Hall, as a subsequent room off the quadrangle, as seen from Upper College Road.

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focal element within a space, or as a minor element of a greater context. The style of the work should be carefully considered, be it realistic, abstract modern, or interpretive, as should the development of the surrounding site, whether surrounded by pavement, surrounded by lawn, or incorporated into a seating area of each piece.

In addition to general placement in the landscape, specific considerations for the siting of art should include: the sense of discovery, degree of enclosure or openness, thematic association with surrounding academic disciplines, scale, light and shadow, required utilities, and long term maintenance requirements.

Before any permanent or temporary art is installed in the campus landscape, a maintenance plan should be established for the continued care requirements of each piece of artwork, the persons responsible for the maintenance, and the recommended source of funding for appropriate levels of maintenance. Temporary installations may limit the continued care requirements, but should establish funding sources for the restoration of the landscape upon removal and identify the parties responsible for the restoration.

Features that are critical to the history of the University should be identified and considered as potential interpretive elements. Some of these historically significant artifacts could include, but are not limited to, the following:

- The historic Oliver Watson-Teft Farm that served as the original campus.
- The experiment station that once served as a major part of the academic learning environment.
- The contributions made by Olmsted, Olmsted & Eliot to the original layout of the campus around a central quadrangle.
- The historic stream corridor that once separated the academic portion of the campus from the agricultural fields.
- The first structures built on the campus made of granite quarried from the site.
- The role the University played in the First and Second World Wars.
- The Quonset and Nissen huts that were used as temporary facilities.
- The historic Dairy Barn located in the Service district.

Campus Gateways

Enhance campus gateways, from the greater community of South Kingstown, to clearly define the campus as a destination.

There are many points of entry into the Kingston campus from the surrounding community and at every point where visitors enter campus, the landscape should introduce the University as a special institutional place, unique in character to its surroundings. Each entry needs to be considered independently relative to streets, greenspaces and structures, while still part of an overall campus system of entries.

The Master Plan identifies eight entries into the campus that can be categorized into four types of entry treatment: Architectural Entries, Historic Entries, Athletic Entries, and Rural Entries.

Architectural entries are those that are found within the context of the town and main access road and should be defined by campus signage, vegetation reflective of the surroundings, safe pedestrian intersections, and adequate lighting and pedestrian paths. The two architectural entries are along Route 138 at Upper College Road and Lower College Road.

Historic entries are those that reflect the past and should be preserved with any future development, without duplication elsewhere. The intersection of Upper College Road and Campus Avenue is the historic entry to the campus as depicted by the stone walls, and represents the point at which the visitor becomes enveloped by the campus.

Athletic entries are those that enter directly into the athletic zone of the campus. They are unique in that they welcome large crowds of people during sporting events and represent a general interest and connection to the surrounding community. The intersections of Keaney Road and Route 138 and Plains Road and Plains Road represent athletic entries that need to be very directional in nature while maintaining a collegiate character.

Rural entries are those that enter the campus at areas of open lawns or woods as part of the rural theme. The intersections of Plains Road and Route 138, Plains Road and Flagg Road, and Flagg Road and North Road are examples of rural entries that should be treated with simple directional signage and minimal plantings.

Visual Connections

Encourage new and existing visual connections to significant campus landmarks through view corridors from the adjacent community into the campus landscape.

The definition of the campus proper within the context of its surroundings will help to foster a sense of unique identity for the University while also improving the interface with the existing community. Well-maintained open lawns and pedestrian corridors that visually connect the campus structures to the community clearly identify the limits of the University and establish its collegiate character.

Spatial Hierarchies

Continued physical growth of the URI campus has had a negative impact on the landscape and open space, resulting in a series of leftover spaces that have become disconnected from one another and are beginning to compromise the scenic resource that is the University's birthright. The increase in campus land area dedicated to vehicular traffic, as roadways or as surface parking, is the primary



Proposed reconfiguration of pedestrian corridor from Campus Avenue to Green Hall

source of this negative impact. When siting new construction—either buildings or landscape elements such as roads and parking lots—the University should carefully consider the physical impacts imposed on the landscape with regard to the creation of formal and informal gathering areas, outdoor rooms with various spatial qualities, improvements to cross-campus connectors, and enhancements to “greenway” linkages.

Gathering Areas

Incorporate formal and informal outdoor gathering areas, of appropriate size, into all landscape projects to encourage the sense of community.

The campus landscape provides a multitude of gathering areas, large and small, formal and informal. These spaces enrich campus life and encourage interaction among the University users. A hierarchy of gathering spaces should be included

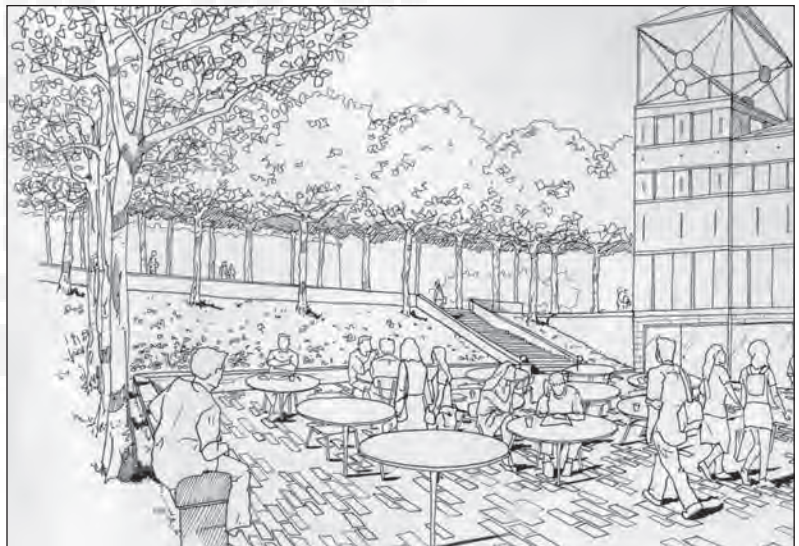
in every landscape project that is constructed on campus. Areas for informal gatherings along pedestrian paths should occur at intersections with other paths, where there is the opportunity to take advantage of a view, or when a path is wide enough to accommodate seating within its boundaries. Other opportunities for informal gathering areas would include seating areas along the stream or around the pond near the athletics complex. More formal gathering areas should occur at the entrances to buildings, along main pedestrian connectors or in landscaped areas, set aside, to be used by large numbers of people. The quality of these areas is dependent on the implied use and scale of the space and should be enhanced with pavement, site furnishings, and vegetation.

Outdoor Rooms

Develop open spaces throughout the campus as a series of outdoor rooms, with unique spatial qualities relative to the surrounding natural and man-made environment.

The placement of buildings on the landscape help to define the exterior space just as the buildings themselves enclose interior space. These spaces have various spatial qualities dependent on the materials, texture, scale, transparency and arrangement of the surrounding buildings and vegetation. Once the spatial quality of the room is defined, factors such as light, noise, reflection, color and comfort begin to define the character of the room.

All capital improvement projects should consider their impact on existing open spaces and the creation of outdoor rooms while minimizing unnecessary leftover spaces that lack character and detract from the visual quality of the campus.



Proposed creation of outdoor café at lower level of Memorial Union

Cross-Campus Connectors

Improve upon existing cross-campus pedestrian connectors to physically link open spaces and provide universal accessibility to major components of the campus environment.



Proposed enhancements to the mall providing filtered sunlight through a ceiling of leaves and steady columns of tree trunks

There are basically three main cross-campus pedestrian connectors on campus, the Elephant Walk, the Mall and the pedestrian path that leads from Flagg Road to the quadrangle. Each of these connectors has their own unique character, but all have the same function: to connect the different open spaces of the campus. Enhancements to these spaces should reflect the importance they serve in the greater context of pedestrian circulation on campus. Similar treatments of specialty paving materials, site furnishings and vegetation will unify these pedestrian paths, but still allow enough freedom to express their own unique identity.

“Greenway” Linkages

Incorporate “greenway” linkages connecting open spaces throughout the campus landscape to encourage exploration of the natural environment.

Greenway linkages are important landscape elements that enhance the ecological features of the campus and strengthen the connection between the natural environment to every day life. Not only will they contribute to the image and character of the campus, but the effects of interacting in an ecologically sensitive landscape can subconsciously change the way future generations develop the natural environment. Reducing the amount of formalized landscapes and returning them to a more natural state, using native plants relative to ecological zones, reducing vehicular circulation within the core of the campus, and providing additional natural elements such as streams and wetlands for run-off collection are some of the ways to connect the existing natural areas.

Campus Vegetation

Historically, a simple vocabulary of lawns and canopy trees defined the developed campus landscape. The subsequent removal of trees results in a loss of definition, scale and containment while small-scale plantings sacrifice the continuity and connectedness of the ground plane. Adherence to a set of planting principles regarding planting design, species selection, specimen plantings, natural ecosystems and aboriginal practices will insure the vegetative landscape as a valuable resource for future generations and contribute to the character of the University.



Proposed enhancement to Elephant Walk to include improved pedestrian circulation, overlook pavilion and recommended site furnishings.

The maturity of the vegetative landscape reflects the long history of the University and reinforces the institutional qualities. An effort to conserve and enhance the natural resources of the campus landscape by conducting an extensive inventory of significant trees as well as an analysis of the existing ecological zones of the campus will provide sufficient information to support continued care of the vegetative landscape.

Planting Design

Plant new vegetation to reinforce the desired spatial qualities of the campus with reference to campus-wide landscape character zones.

Trees are the defining element of the campus landscape and should be selectively placed to build the spatial character of the space while contributing to a larger vision of the campus as a whole. Smaller flowering trees, shrubs and herbaceous materials play a secondary role as accents to building entrances, courtyards and sitting areas, but do not have the three dimensional qualities that larger, canopy trees provide.

While in many circumstances, formalization of the landscape is appropriate, the natural informality of the campus provides much of the rural charm that is characteristic of the region and natural history of URI. Reclaiming some parts of the campus that have succumbed to inappropriate formalization and returning them to a wilder state will not only improve the visual quality of the landscape, but will also reduce maintenance requirements.

There are five basic ways in which plants can be used in the landscape to give form to the campus: specimen plantings, linear plantings, mass plantings, ceiling or canopy plantings and screen plantings. Each type should be considered for its appropriateness to the setting when developing planting recommendations.

Specimen Planting

In this category, a single tree stands alone as a focal element within a space. The purpose of this type of planting is to highlight a particular tree for its specimen qualities or to create a point of reference within the space. Special consideration should be paid to the selected species of tree, with the ultimate aim of building the diversity of species on campus. Planting too many specimen trees throughout the campus should be avoided; if one is good, more is not necessarily better.

Linear Allée

Two rows of trees are planted along a roadway or pedestrian path and help channel views and circulation patterns. The rhythm of the trees, mirrored along an imaginary centerline, gives the sense of perspective, scale, and order across long distances. Problems associated with this type of planting are the susceptibility of a single species to be wiped out by a disease or pest, the interruption of spacing requirements due to underground utilities, and the need to provide an adequate terminus at either end. Multiple species of similar scale and form should be used.

Mass Planting

Many trees are planted together to create a grove or solid vegetative form, where no individual tree stands out, but collectively the trees have a presence within the landscape. More of this type of planting should be done because it is representative of the native vegetation found within and around the campus and could include multiple species of trees reflective of the natural ecosystems and soil characteristics.

Ceiling or Canopy Planting

This type is similar to mass planting in that it usually consists of a large number of trees, with a high branching habit, forming an overhead enclosure that can take on a majestic quality. The density, texture and color of the leaves forming the canopy become important with respect to the sense of enclosure and character of the space.

Screen Planting

This type incorporates the use of shrubs and low branching trees that are dense in nature, to serve as barriers to direct views and circulation. Although this type of planting is useful to screen unsightly service areas or create a sense of privacy, careful consideration to the interruption of open space and maintenance requirements should be incorporated into the design process.

Species Selection

Identify landscape zones and soil characteristics to establish an appropriate palette of plant materials and ensure sustainability of the campus landscape.

The campus landscape as a whole can be broken down into several unique landscapes defined by scale, surrounding land use, circulation or gathering character, topography, existing vegetation and surface landscape quality. Reinforcing the strengths of each individual landscape area and understanding its relationship to the campus as a whole will strengthen the individual identity of each zone while uniting the campus landscape using a set of standard guidelines for species selection. For the following individual landscape types, refer to the *Campus Character and Spatial Hierarchies Plan*.

Campus Perimeter

The campus perimeter plantings should express the collegiate character of the University landscape. It should be planted with majestic canopy trees that line the streets, drifts of flowering understory trees planted with lawn areas, and massings of shrubs, groundcovers and seasonal plants to highlight key focal elements. As noted on the plan, the perimeter includes Upper College Road, Campus Avenue, Lower College Road, Flagg Road, and Plains Road.

Campus Gateways

The campus gateways, as identified previously, are: along Route 138 at Upper College Road, Lower College Road, Keaney Road, and Plains Road; along Upper College Road at Campus Avenue; along Flagg Road at North Road and Plains Road; and at Plains Road and Plains Road. These areas should be highlighted by plantings of flowering understory trees mixed with evergreen trees, with accents of flowering shrubs, groundcovers and seasonal plants. The scale of the plantings should reflect the character of its setting, from architectural to rural in nature.

Large Lawns and Quadrangles

Large lawns and quadrangles are those spaces on campus that are defined by buildings and are predominately composed of expansive lawns with a few specimen canopy or evergreen trees scattered throughout. Included in this category are the main Quadrangle, the area surrounding Green Hall and the proposed oval along the Elephant Walk.

Small Quadrangles

The small quadrangles on campus are those areas that are predominately defined by buildings and are composed of simple lawns with specimen canopy trees and a scattering of small flowering trees. They include the Chafee quadrangle and the Engineering quadrangle.

Linear and Link Spaces

The linear and link spaces on campus are primarily the major pedestrian circulation routes that connect open spaces and often cut across multiple landscape zones. Because of the motion within these spaces, clusters of large canopy trees at each end, with selective clumps of smaller flowering trees along the length, will add scale and create vistas while adding seasonal interest to the progression. The linear and link spaces identified on the plan include the Mall, the Elephant Walk, the walk leading to Green Hall, and the walk leading from Flagg Road to the main Quadrangle.

Building Entrances

The building entrances throughout the academic core of the campus landscape would benefit from the elegant simplicity of 3'-4' high shrubs, massed in groups, with groundcovers and seasonal plantings. The extent of these plantings should primarily enhance the main entrance of the building and should not wrap the entire foundation with plantings. Entrances to the residential buildings should primarily consist of dwarf shrubs that add seasonal interest but require minimal maintenance.

Open Fields and Meadows

The open fields and meadows are primarily located in the area of the campus that lies within the flood plain at the lowest plateau of the topography of the campus. These areas are characterized by low maintenance meadow grasses and wildflowers, with individual or groups of native canopy and evergreen trees.

Wetlands and Ponds

The wetlands, stream, and ponds occur in the north-south stretch of land at the toe of the slope separating the residential area from the athletic area. This zone is characterized by a high water table with poorly draining soils, which makes surface water a common element. The plants in this zone are mostly water-loving canopy trees with woody and herbaceous understory plantings. Planting in this zone should minimize the use of invasive species and create informal social areas.

Native Upland Forest

The upland forests are generally considered those areas on campus that provide a dense canopy of large deciduous trees with random plantings of evergreen trees and woody or herbaceous understory plantings. Although there is no immediate need to supplement the growth in these areas, the growth of native volunteers should be encouraged as well as additional plantings of similar species to maintain the continuous canopy and connect the zone to the greater part of the campus. The best example of this landscape, as shown on the map, is the wooded area to the north of Flagg Road.

Screen Plantings

These plantings are primarily used to direct views and pedestrian circulation away from service areas or other visually unattractive areas. The plantings should consist of dense evergreen or deciduous trees or shrubs that are low branching in nature.

Recommended Plant Materials List

See the appendix for the lists of recommended plant materials in each district.

Christopher Memorial Arboretum

Enhance the Christopher Memorial Arboretum by incorporating specimen plantings into all landscape improvement projects within the academic core of the campus.

The arboretum is a concept that has evolved from the earliest days of the University when the Olmsted office was hired to develop an arboretum path system through a native stand of vegetation. Today, the Arboretum consists of over 140 species and cultivars of specimen trees throughout the campus landscape. To ensure that this extensive learning collection is available for future generations, additional plantings of new cultivars, or replacement of existing species is important. The University should continue its relationship with local nurseries that donate specimen plant materials as a way of introducing new species to the general public, and purchase additional species that would enhance the collection. These trees should always be planted in duplicate, with one identified with a label and located on the accompanying map and the other not identified. This will enable the use of the plants on campus for the purpose of educating Plant Science students, as useful tools in plant identification field quizzes. The more exotic species should be planted in areas of the campus that provide good viewing opportunities, while the more native species could be planted within the less developed areas of campus.

Natural Ecosystems

Preserve or re-create significant natural ecosystems and highlight the importance they play in the greater context of the campus environment to support research and teaching initiatives.

The University campus exhibits many different ecological zones, characterized by topography, soils, and hydrology. These zones have characteristic species of vegetation and wildlife that are beneficial to the research and teaching initiatives on campus. Preserving these existing natural ecosystems and identifying the importance they serve in the greater context of the campus environment should



Proposed removal of hedge around President's House to open views of the great lawn.

be

highlighted with interpretive features such as information trail systems. Setting an example of proper stewardship of the natural environment was one of the main forces behind the creation of the University in the late nineteenth century and should continue to be a high priority under the pressure of continuous development.

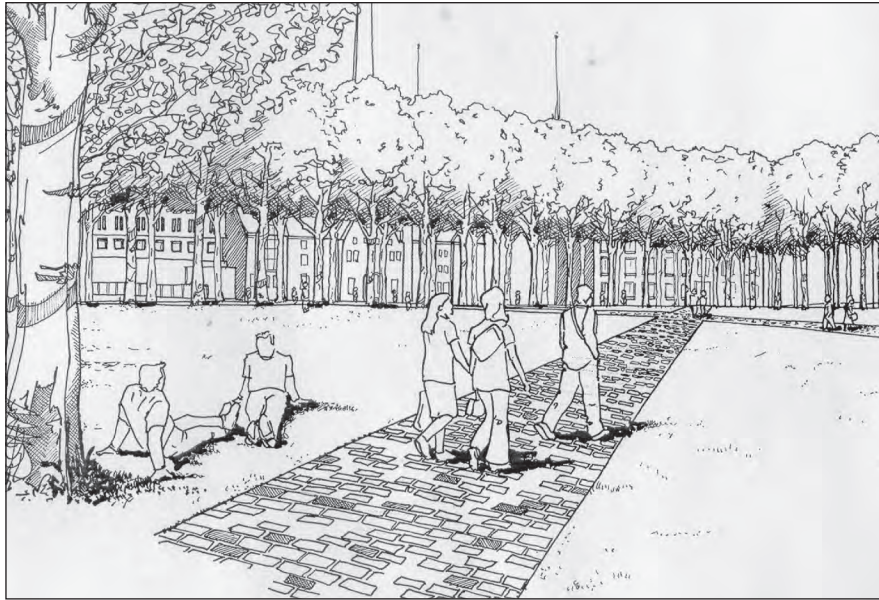
Arboricultural Practices

Identify and assess difficulties encountered in the maintenance of the existing vegetative landscape, and make recommendations for improving maintenance practices that will reduce staff burden, ensure public safety and enhance the visual quality of the campus.

The following arboricultural recommendations propose policies and guidelines that will preserve and enhance the quality of the vegetation throughout the campus. These recommendations address common issues and situations that occur at various places throughout the campus and are not necessarily site specific, but can be applied to all sectors of campus.

Lawns

Great expanses of lawn areas surrounded by prestigious buildings typify the collegiate character of the University campus. The extensive maintenance these lawns require is often overwhelming for the grounds maintenance staff considering



Proposed higher canopy and pathway resurfacing in the main Quadrangle.

the acreage of the campus landscape devoted to this use.

The topography and elasticity of the soils combined with the erosion problems throughout the campus make it difficult to maintain and establish grass growth as does the compaction of the soils due to vehicles driving and parking on lawn areas. Identifying the key open spaces on campus that should be maintained as lawns, restricting vehicular circulation with curbed edges or pedestrian bollards, and returning those areas of the campus that are especially difficult to establish grass to a more natural state will reduce the maintenance burden, contribute an overall hierarchy to the campus landscape, enhance the rural character of the campus landscape, and increase the potential for teaching initiatives.

Areas such as the main Quadrangle, the front lawn of the President's house and Green Hall, the proposed front lawn west of the Emporium, the proposed Oval along the Elephant Walk and smaller patches of lawns that are associated with building entrances or garden areas should continue to be maintained as high priority lawns. These areas should have irrigation systems installed, be set on a campus wide reseeding, fertilizing and aerating schedule and be planted with a heavy duty turf seed as recommended by the URI Turf Management Program.

Lawn areas within the residential zone of the campus should be smaller and more focused patches within the various neighborhoods. The remainder of existing lawn within this zone should be converted back to a natural state of native woody and herbaceous understory plants that have an ultimate growth of three feet. This will reduce maintenance requirements, contribute to the ecological nature of the campus environment and clearly define the residential zone as more private in character.

The hillside to the west of Heathman Hall, the area east of the proposed Conference Center and the outlying fields that are not currently used for recreational purposes should be converted to meadows that are comprised of native wildflowers and grasses. This will help to restore some of the wildlife to the campus landscape and support the teaching and research initiatives of the Plant Science community.

The small quadrangle south of Chafee Hall and the proposed quadrangle to the west of Chafee Hall do not currently support any active or passive recreational value from having lawn and could potentially be converted to another use. The landscape plan recommends establishing an apple or crabapple orchard to commemorate the original experiment station. Currently, East Farm is the site of an extensive crabapple research program maintained by the Plant Science Department. During the bloom season, around the middle of May, hundreds of people from all over New England flock to the farm to see the awe-inspiring beauty the variety of specimens display. A similar collection on the Kingston campus could be used as a valuable marketing resource for the University and would provide a valuable teaching opportunity for the horticultural students in producing offspring, creating new cultivars, and studying the effects of pests and diseases.

In the areas of the campus that are to remain as lawn, some general guidelines should be followed to further reduce maintenance requirements. Mow strips should be provided around buildings, walls, sculptures, or site furnishings that are adjacent

to lawns. The mow strip should be a minimum of 18 inches wide and consist of a raised gravel mulch bed or concrete unit pavers level with the finish grade of the lawn. Pedestrian paths should reflect desire lines and have appropriate turning radii at path intersections in anticipation of corner-cutting movements. Vehicular control devices should be installed to prohibit driving on lawns.

Tree Planting

The diversity of trees on campus will reduce the risk of a devastating tree loss due to diseases or pests, as was the case with the elm trees that once graced the Quadrangle and much of the Village of Kingston. In keeping with the character of the campus landscape, tall canopy trees should be planted in most locations, as they are long-lived and large-scaled. Smaller-scaled trees are more appropriate nearer building entrances or as accents as in focal areas. Trees should be selected for the seasonal interest, ultimate height relative to location, the desired structure and visual interest, and tolerance to specific soil conditions.

Specimen trees should be 3-5 inch caliper, balled and burlapped, and should be tagged in the nursery by a landscape architect. Generally, trees should not be staked to promote proper root stabilization. In sites that have high winds where staking would help keep the trees plumb, timber stakes and guy wires should be installed for one year after planting.

A ring of mulch should be placed around the trunks of existing and newly planted trees to reduce lawn mower damage, retain moisture and reduce competition for nutrients. The mulch should extend a minimum of 4 feet from the trunk at a depth of 4-6 inches, to be applied every three years. Trees should be planted in clusters within a single bed of mulch to simplify mowing of lawn areas. Organic mulch such as bark or pine mulch is preferred over gravel or other inorganic mulches that could catch in a lawn mower and damage the blades.

When planting within paved areas, it is important to use plants that do not have shallow roots that will lift the pavement, and to use a permeable material that will allow for water infiltration. Loosely fitted unit pavers with an appropriately sized area of mulch around the trunk will allow enough water to penetrate the soil around the tree.

Shrub, Groundcovers, Bulbs and Vines

Shrubs, groundcovers, bulbs and vines should be used sparingly on campus at building entries and small-scale intimate spaces. Large shrubs that require regular pruning should be removed and replaced with newer, more compact varieties if appropriate. Shrub beds used around foundations that hide architectural details should be minimized or eliminated. Vines should be trimmed at the bottom of the second story to reduce maintenance costs and present a clean appearance. The selection of shrubs, groundcovers and vines should be based on the ecological zone year-round seasonal interest for foliage, flower, stems or berries. Mulching of shrub beds should be kept to a minimum and groundcovers should be used where appropriate.

Tree Inventory

Trees represent a significant asset of the University. A tree inventory identifying the significant trees on campus, their location, caliper, species, and condition should be conducted. This would provide many clues about the variety of species the campus offers and could also assist in assessing the value of trees lost during natural disasters or new construction. The information gathered during the tree inventory could be added to a comprehensive database that could be updated whenever a tree is added or removed.

Factors that affect a tree's condition include soil compaction, excessive moisture from impervious surface runoff, temperature extremes, lack of sufficient nutrients, inadequate mulch protection and poor construction practices. By noting the condition of the trees, hazardous conditions could be identified and removed before an accident occurs. It can also hint at a tree's life expectancy so that future tree replacement can be considered.

Tree and Lawn Protection

Protection of trees during construction must be enforced. Tree-protection measures are often overlooked during construction, and the trees don't show the damage until long after the construction is complete. Temporary barriers of snow fencing and wooden stakes should be placed at a minimum around the drip line of a tree and twice that for trees that are deemed significant at the start of construction. No construction should occur within this protective barrier including access roads, material storage, foot traffic and temporary or permanent utility routings. Contractors must also be required to restore lawns and pathways damaged due to construction operations.

Landscape Systems

Circulation Routes

- Assess pedestrian and vehicular circulation requirements to minimize excessive amounts of pavement and provide universal accessibility for all persons and emergency vehicles to all indoor and outdoor spaces of the campus.

The basis for good design of all campus spaces is dependent on providing safe access for all pedestrians while making provisions for emergency service. Over time, new paths have been added to the campus landscape to address changing pedestrian circulation routes, while old paths have not been removed. A systematic approach for the removal of existing paths or roadways that have become obsolete will contribute to simplifying the campus landscape and pedestrian circulation. Establishing a vehicle-free zone within the core academic campus will reduce confusion between pedestrian and vehicular circulation and improve pedestrian safety.

Emergency vehicle service access within the vehicle-free zone should be accommodated by widening sidewalks and providing appropriate turning radii. These sidewalks should be designed to support vehicular traffic, but maintain the quality of a pedestrian path.

Landscape implications for providing universal accessibility to all building entries should be included in the design of building renovations or in any site improvement projects on campus. Safe, convenient access in accordance



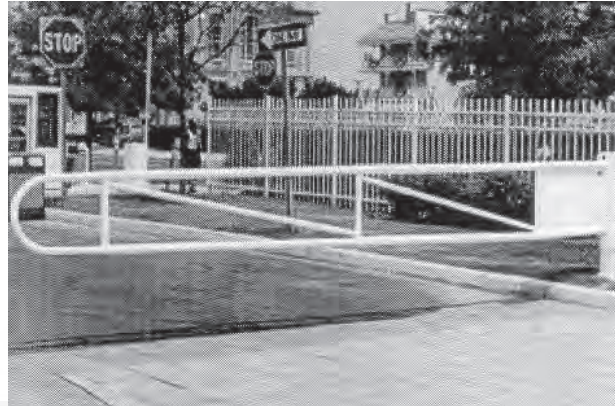
Recommended accessible path solution for buildings around the quadrangle

with the Americans with Disabilities Act (ADA), should be integrated into the design to avoid switchback ramps and other devices that appear as afterthoughts and detract from the visual quality of the campus landscape. Appropriate clearances and space for wheelchairs should be incorporated into seating groups between benches or at café style dining tables.

Safety and Security

Integrate public safety and security measures by clearly identifying pedestrian and vehicular circulation routes and encouraging natural surveillance of outdoor spaces through proper landscape development.

One of the most important safety measures that should be implemented at the Kingston campus is control of vehicular circulation. Currently, vehicular access to the entire campus has resulted in the degradation of lawns and confusion about which routes are vehicular and which are pedestrian. A clear separation of vehicular and pedestrian routes should be established and controlled



Recommended vehicular gate to restrict vehicular circulation to emergency access only.

through the use of vehicular gates that restrict circulation to emergency access only. The current method of using wooden gates is a first step in that direction, but the durability of these gates is often a maintenance issue. Using a sturdier gate of metal components in the same manner as the existing gates are used, and for the control of parking lots, will reduce the maintenance burden and create a more cohesive landscape treatment.



Recommended bollard to restrict vehicular circulation on pedestrian paths

Another method for controlling vehicular traffic in predominately pedestrian zones is the use of bollards. These could be either fixed or removable for emergency access and could be used in parts of the campus where car or bus drop-off areas are located and a flush curb is preferred for accessibility. The use of a chain attached between two bollards could accommodate emergency access while giving the clear indication that it is a pedestrian zone.

Integrating site lighting into the campus landscape is an important factor in campus safety. A site lighting master plan should be developed for the entire campus with the assistance of a lighting

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designer, working closely with the University engineers, to enhance feelings of safety after dark, reinforce major pedestrian connectors and highlight major architectural features. Lighting ground surfaces and familiar architectural or landscape landmarks provides orientation and gives pedestrians a secure sense of where they are in the campus landscape.

The criteria for selecting fixtures should be based on their ability to provide a glare-free modulated spread of light throughout the campus while not contributing to light pollution. All fixtures should be cut-off fixtures that focus the light downward rather than in a ring around the entire fixture. The pole height should be considered in relation to function and context of the surrounding area. Wherever function is not impeded, lighting fixtures should be grouped with other landscape features such as trees and benches. In order to reduce the necessity for hand trimming grass around fixtures, it is recommended that all lights sit on a concrete pad or within hardsurfaced areas or shrub beds.



Campus Standard Light Fixtures

Industry standards for foot-candle levels should not be the only criteria for light placement. A more comprehensive approach to minimize the overlighting of areas should include the analysis of existing plantings, ambient light from adjacent buildings, and the transparency of spaces from one to another. Building mounted lights that highlight entries or architectural features, should be used wherever possible to reduce the visual clutter of objects in the landscape and reduce costs. Lighting the perimeter of a space rather than its center increases the ability to see the perimeter and reduces the incidence of adjacent spaces seeming extremely dark. Illuminating destination points with the elimination of eye-level planting, so that pedestrians can clearly see through the space, also helps to reduce the visual clutter of the landscape while still providing a sense of safety. The height of the pole should be considered in the context of the surrounding area. For pedestrian paths, building entrances and gardens, 16-18 foot poles should be used, while lights located on streets should be 22-24 feet tall. The recommended standard light fixture to be used throughout the campus will add to the uniformity of the campus landscape and reduce costs for the fixtures that can be purchased in bulk.



Parking Lot Light Fixtures

Parking lot and roadway lighting should be designed to minimize glare that can inhibit the ability of persons in vehicles to see pedestrians. Overhead fixtures should be placed at recommended intervals along roadways in combination with the existing pedestrian lighting fixtures to assure good visual awareness. Parking lots should also incorporate overhead fixtures into their layout and design to allow for enough visual surveillance of the surrounding landscape, but not add to overhead light pollution.

Visual Unity of the Campus

Enhance and reinforce the visual unity of the campus through the use of a hierarchical ordering of pathway materials, site furnishings, landscape lighting, and signage.

In order to enhance the visual unity of the campus and simplify construction and maintenance, a palette of standard paving materials and details has been established for different use areas.

Sidewalks

All primary sidewalks throughout the campus should be cast-in-place concrete, with a minimum width of six feet, designed to accommodate vehicular traffic. Primary sidewalks are those that support heavy pedestrian traffic and occasional

maintenance vehicle use. At sidewalk intersections, a minimum radius of 6 feet for angles greater than 90° and 3 feet for angles less than 90° should be provided to minimize the compaction of lawn areas from corner-cutting. In all areas where corner-cutting opportunities exist prior to the intersection, the desired lines for walking should be anticipated and a walkway provided.

All secondary sidewalks, defined as those that support very limited pedestrian circulation and no vehicular use, should be bituminous concrete with a minimum width of 4 feet. The same radius recommendations for intersections should be applied to these walks.

Service Drives used as Pedestrian Sidewalks

In many areas, pedestrian paths are used by service vehicles. In these circumstances, the first priority is to the pedestrian so all these walks should be constructed of cast-in-place concrete. The width and radii of these walks should range from 12 to 18 feet depending of the type of service and should be scored to reinforce the pedestrian qualities.

Specialty Paving

Specialty paving can be used to enrich a space or divide it into smaller areas suitable for different types of use. It should be used to control pedestrian traffic, delineate building entrances, enhance memorable spaces, provide a porous surface for plant material that accommodates pedestrian traffic, and protect areas where it is difficult to manage grass or other landscape treatments. Specialty pavement should relate to the materials and scale of the surrounding buildings and space.

A standard palette of specialty materials has been established for use throughout the campus to assist in unifying the campus landscape. The use of clay bricks should be used whenever possible adjacent to brick buildings or in high priority landscape areas such as the Quadrangle. Granite cobble pavers should be used at path intersections, building entries, around sculptures and trees, or as accents to other pavements. A precast concrete unit paver shall be used when budgets don't permit the use of clay bricks but a specialty pavement is appropriate. A standard palette of two colors of warm tones should be used to complement granite structures while a palette of cool tones should be used to complement brick buildings. Under no circumstances should the use of red precast concrete unit pavers be used adjacent to red brick buildings.

Streets, Parking Lots, and Service Courts

Vehicular street, parking lots and service courts that are not used as pedestrian paths should be bituminous concrete pavement. This pavement will provide sufficient durability with minimal maintenance and be cost effective based on the large quantities often required. Heavy-duty, reinforced concrete should be used under dumpsters or where heavy loads from trucks are frequent.

The use of salt to melt snow and ice on pavements is damaging to vehicles, pavements, building entry floors, horticultural soils and plants. Its use should be limited to asphalt roadways wherever possible and applied after snow is removed. Salt should be mixed with a minimum of 1:1 ratio with sand to improve traction, and whenever possible lesser amounts of salt should be used. Maintenance crews should set baffles on spreaders to limit the spread of sand and salt mixtures. The use of straight sand is preferred on roadways if dry storage permits stockpiling of the material. If salt must be used on cement concrete walks, all new walks should be sealed within three days of installation to resist salt damage.

The use of less damaging snow melting chemicals such as calcium chloride pellets (“Ice Melt” or “Peladow”) or calcium magnesium acetate (“Snow-N-Ice-Melt”) should be considered on cement concrete or unite paver walkways, or where plant material is within the confines of the walk. After ice and snow has melted, janitorial staff should sweep walks and steps leading into buildings to remove chlorides and reduce tracking of residue into buildings.

Site Furnishings

Consistency in site furnishings enhances the visual unity of the campus landscape. Standards for benches, trash and recycle receptacles, ash urns, bicycle racks, seatwalls and retaining walls have been selected for their durability, ease of maintenance and their styling.

The recommended bench for the academic areas and the quadrangle has a classic simplicity that can be adapted to almost every architectural context. It consists of either metal or wood slats set within an iron framework with a black finish. The bench recommended for the residential areas is also constructed of black metal and represents a style that is less refined than the academic area and relates more to the bench currently used in the garden areas found on campus. The recommended bench to be located within gardens on campus is the one that is currently used, constructed of naturally rot-resistant wood with a gracefully arched back. Any deviation from the recommended styles should be approved by the University Landscape Architect.

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The placement of all benches should consider groupings at logical gathering spaces, as resting points along popular pathways, within ornamental gardens, and at places with special views. Taking into account available sunlight, prevailing winds and the effects on the organization of surrounding open space is recommended. Benches should be placed on a hard surface material such as granite cobbles or unit pavers.

The trash and recycle receptacles recommended complement the selection for benches and create a family of site furnishings. The recommended metal slat receptacles, painted black, have a classic simplicity that complements the benches and provide durability. Receptacles should be placed near seating groups, at building entrances and at major intersections. They should be placed on a hardsurfaced material similar to the benches. At key intersections, a grouping of three recycle receptacles should be included with one trash receptacle and should line the path in an organized manner.



Bench for Residential Areas



Bench for Quadrangle and Academic Areas



Bench for Garden Areas

The recommended ash urn is very similar in style to the trash receptacles mentioned above. Wall mounted ash urns located under building overhangs are recommended over the use of free-standing ash urns that become messy when exposed to the natural elements.

Bicycle racks should be located throughout the campus to promote alternative methods of transportation. While no one rack can solve all needs, some provide more security and stability than others and fit into the campus

landscape more discretely. All bicycle racks should be galvanized steel, not painted, to reduce maintenance issues. They should be mounted within a hardsurfaced area with adequate room around all sides for locking bicycles. The recommended style consists of a flat metal strap in the traditional ribbon style to complement the other recommended site furnishings.

Maintenance

Identify and assess current maintenance practices and recommend new techniques to improve them and to reduce maintenance requirements.

While there is no such thing as a “no maintenance” landscape, durability and quality are the key in reducing long-term maintenance and replacement requirements. The implementation of University-wide standards for landscape elements, as mentioned in the previous sections, will help to provide a consistent level of quality and durability throughout the campus landscape.

During the design phase of each new project, an assessment of current maintenance practices should be conducted and improvements should be made to reduce the maintenance of the future development of the site. Each landscape construction project should be evaluated for consistency with the University standards and for maintenance requirements.

Typically, in a University campus setting, landscape maintenance requires one full-time employee per 20-25 acres. This assumes that horticultural workers, who maintain plants and mow lawns during the warmer months, perform snow plowing and pruning during winter months. Upgrading the quantity and level of staff training with continuing education is key in improving performance and retaining skilled maintenance staff.



*University of Rhode Island
Kingston Campus Master Plan*



8. TRANSPORTATION

Recommended Transportation Improvements

Roadways

Butterfield Road/Baird Hill Road

Over the course of the master planning process, many discussions have focused on the possible closing of Butterfield Road. Butterfield Road serves as a major north-south spine through the campus between Upper College Road and Keaney Road. Pedestrian safety is the most important issue in the decision to reconfigure or close Butterfield Road. Butterfield Road is home to numerous residence halls and the main dining facility. To reach the dining facility and academic buildings to the northeast, students on foot must cross Butterfield Road. Crossing Butterfield Road, particularly where it intersects Baird Hill Road, can be dangerous when driving students are speeding down Baird Hill Road. The speeding is primarily due to the vertical alignment of Baird Hill Road.

In order to reduce speed levels, the Master Plan proposes a variety of traffic calming measures, potentially including a traffic circle at the base of a relocated Baird Hill Road. It is recommended that Baird Hill Road be relocated to the south side of the Police Station to improve alignment deficiencies and provide a safer cross-section with respect to roadway width, sidewalks and access to parking areas. A new four-leg intersection would also be formed at Campus Avenue. Additional traffic calming measures along Butterfield Road have also been proposed, including narrowing the roadway, elevated crosswalks and pavement treatments.

One option for improving pedestrian safety along Butterfield Road is to close the roadway to vehicular traffic between the Potter Building and Barlow Hall. A cul-de-sac or traffic circle would be provided in front of the Potter Building to allow vehicles to traverse the Potter Building area. This alternative would eliminate pedestrian/vehicular conflicts between the residence halls on the west side and Butterfield Hall on the east side. This would require removing the existing roadway and constructing a new pathway to service pedestrians. This pathway should be designed to accommodate vehicular traffic and emergency vehicles, but it should be well-landscaped and suitable for a pedestrian environment. Limited access for students could also be permitted for specific cases, such as moving-in and moving-out days, winter break, spring break, etc.

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This option would alter current circulation patterns, as Butterfield Road now serves as a major north-south connector through the campus. As a result, north-south traffic would be redistributed to other roadways.

The closing of Butterfield Road would also require providing a connection between Lower College Road and the Keaney Parking lot in order to provide linkage to Lower College Road from the northwest corner of the Campus. Lower College Road provides access to the Student Union Circle and Route 138. This connection would be accomplished by realigning Baird Hill Road, as previously described, to connect with Fraternity Circle. The new alignment would then extend between Barlow Hall and University Apartments to its intersection with Fraternity Circle.

Keaney Road

One roadway that would most likely experience an increase in traffic as a result of closing Butterfield Road is Keaney Road. Keaney Road was designed primarily to accommodate service and emergency vehicles. The roadway was opened to allow the URI Shuttle to circulate through the Keaney parking lot. Increasing the volume of traffic using Keaney Road by closing Butterfield Road would probably require that Keaney Road be moderately widened. Other safety improvements should also be considered with respect to pedestrians crossing the roadway from Keaney Gym to the Athletic Fields. The road is open now to all modes of transportation, thus, improvements should be made to accommodate this type of traffic especially with the opening of the Convocation Center.

Plains Road Extension

The extension of Plains Road will become an important circulation element in achieving smooth traffic flow for the campus, particularly for Convocation Center events. The new section of road is proposed to run from Plains Road at the extension of West Alumni Avenue and extend in a northeast direction to the current intersection of Flagg Road/Plains Road. This would provide a safer and more direct route to the proposed parking garage via Flagg Road and Butterfield Road during Convocation Center events. The extension of Plains Road would essentially complete a loop road around the campus that would include Plains Road, Flagg Road and North Road (inbound)/Upper College Road (outbound).

Intersection Improvements

Keaney Road/Route 138

Access through the Keaney Gym parking area has become an important link with the introduction of the new Convocation Center. Circulation improvements to the parking area have been recommended as shown on the Master Plan. These improvements include relocating the access driveway from Route 138 to the east opposite the Peckham Farm entrance to form a conventional 4-leg intersection.

This configuration would allow for safer access to Route 138 and would serve as a more appropriate crossing location for students from University Village than is presently provided. High visibility crosswalks could be provided in addition to a pedestrian signal if warranted. Full signal installation could also be warranted in the future once the Convocation Center is in full operation. The new intersection would also provide the logistics to link the University with the South County Pike Trail via Route 138 or behind Peckham Farm.

Butterfield Road/West Alumni Avenue

This offset intersection has difficult sight lines and an angled approach geometry that creates potentially unsafe travel conditions. The function of this intersection will become more critical if the proposed parking garage is constructed. The Butterfield northbound approach currently aligns with the transformer station located in the northwest quadrant of the intersection. The southbound approach is characterized by an acute angle and a rise in elevation, further complicating the intersection. In order to properly align these two approaches, the northbound side would require being shifted to the east through the Merrow Hall parking lot. The southbound approach would then be realigned to the east through the existing parking lot directly opposite the northbound approach.

The upper portion of Butterfield Road will also serve as a key access road to the proposed parking garage from Flagg Road. Access to the parking garage will most likely be provided from Butterfield Road and as a result modification could be completed in conjunction with the parking garage project.

Parking

Overview

One of the primary goals of the Master Plan is to relocate parking from the interior of the campus to the periphery without reducing current supply. During the Master Plan development process, a number of central parking lots were either reconfigured or removed. When parking was removed, it was relocated to a suitable location closer to the edge of campus. The Existing Conditions section includes a summary of the overall campus inventory of parking spaces.

The Kingston Campus currently has an inventory of approximately 6,245 spaces, while the Master Plan includes a total of 7,265 spaces (including the proposed Convocation Center allotment and the proposed parking garage). This would result in a net gain of approximately 1,020 spaces. (This scenario provides flexibility for the University to limit the number of parking spaces dedicated to the Convocation Center, or potentially to remove more parking from the central, pedestrian-oriented area of campus.) The additional parking supply is directly related to the proposed parking garage located at the corner of Alumni Avenue and Butterfield Road. The capacity of the garage is projected to be approximately 1,020 spaces. The table on the following page provides a breakdown of the existing and proposed parking supply.

Additional parking associated with the new Convocation Center has also been accounted for. According to the Convocation Center and Ice Rink Facility Traffic Study (Maguire, September, 1999) approximately 500 new parking spaces will be provided to service the Convocation Center. This number was confirmed by later analysis of the projected demand for parking spaces for the Convocation Center in the context of overall campus parking supply, independent of the Maguire report, and has been included in the total number of proposed spaces.

These factors result in no net increase in parking spaces if the parking garage is not constructed. However, there is a definite need to provide the 500 spaces that are planned to be built as part of the Convocation Center project.

The following describes parking modifications/improvements, listed by district, as illustrated on the Master Plan.

Quadrangle District

The parking lot located behind Ranger Hall has been relocated south of Independence Hall. Access to the existing lot is gained via Ranger Road from Upper College Road. This intersection is characterized by a high volume of pedestrian activity. Relocating the parking lot would reduce vehicular/pedestrian conflicts and would also provide the opportunity to modify the function of Ranger Road.

Access to the new parking area would be from Upper College Road directly opposite the Information Center. The lot behind Ranger Hall currently serves primarily as visitor parking, so the new location would be more appropriate, and would allow for pedestrian pathways and landscaping improvements between Ranger Hall and Green Hall.

Hammerschlag Mall District

A new lot has been proposed for a site west of the Library. This lot will replace some of the spaces removed as a result of landscaping improvements near the Elephant Walk and behind Roosevelt Hall. Access to the lot would be provided from the existing Library access road.

Hillside District

The existing parking lot west of Roosevelt Hall has been redesigned. The new configuration provides a more defined parking area and safer pedestrian access to Roosevelt Hall, Hutchinson Hall and the Elephant Walk. The Library access road provides access to this lot.

The Master Plan proposes removing existing parking lots along the Elephant Walk and Butterfield Road. The removal of these lots would provide the opportunity to further emphasize the importance of the Elephant Walk as a pedestrian circulation spine and provide significant landscape enhancements between the Multicultural Center and the Potter Building. Parking along Butterfield Road has also been removed with the exception of the spaces that are provided for Health Services. Parking for the dining services workers in Butterfield Hall would be divided between a new lot provided north of the Elephant Walk, and in parking lots serving the Memorial Union.

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Parking between Bressler Hall and the Memorial Union has been reconfigured and expanded. The opportunity to improve parking in this area depends largely on the relocation of Baird Hill Road. As previously mentioned, the Master Plan shows Briar Hill Road moved to the south, behind the existing Police Station. This relocation allows the lots located to the north of Baird Hill Road to be expanded and a new parking lot to be created on the west side of the Police Station.

Marketplace District

The Master Plan recommends creating a new open space between Upper College Road (opposite the Quad) and the Emporium. Head-in parking is supplied along the west face of the new buildings to service the retail establishments. The lot has been designed for one-way traffic with access entry from Fortin Road. Egress would be provided along the Emporium access road opposite the University Club. This concept would require removing parking that is currently provided at the corner of Upper College Road and the Emporium access road.

The parking lot behind the former fraternities along Upper College Road and the Post Office is currently disorganized and circulation patterns are not clear. Parking restrictions are also not clear, in particular behind the Sigma Nu and Sigma Chi. The new URI Foundation building will be built on the Sigma Nu site and another new building is planned for the Sigma Chi site. This area has also been targeted as a potential site for a carpooling lot. The Master Plan depicts a better defined parking area (in addition to a re-striping of the lot to maximize supply). It is anticipated that specific spaces will be designated for each building, which may require gating to limit access to each portion of the lot. Access to the parking area is provided at three locations – Fortin Road, Briar Lane and via a reconfigured Information Center lot.

North Campus District

A new 1000 car parking garage is recommended at the northeastern corner of Butterfield Avenue and Alumni Avenue. The main purpose of the garage will be to provide parking where it is needed now and in the future. There is a need to provide more convenient parking in the vicinity of the academic core, in particular near the Library. There will also be a need for additional parking within a short distance of the Convocation Center. The location presented is ideal to meet both of these needs with minor impacts to the campus community. The parking garage could service faculty/staff, commuters, special events (Convocation Center) and resident students (limited number). A feasibility study of the garage and its various operating scenarios will be conducted as a follow-up to the Master Plan.

Because the proposed site is the slope of a hill, access to the garage could occur at each of the three levels. This would eliminate the need to construct ramps and maximize the area available for parking spaces. Access to the garage would be gained from Butterfield Road, Alumni Avenue and via the parking area adjacent to White Hall. Restrictions with respect to designating spaces for Convocation Center events would also have to be established.

As previously mentioned, the parking garage could affect current campus circulation patterns. In particular, it could lead to increased traffic on Plains Road and Flagg Road.



Athletic District

The Master Plan recommends several improvements to the Keaney lot aimed at improving access to the new Convocation Center and maximizing parking supply. One key design improvement that will increase the efficiency of the lot is the relocation of the Keaney access road opposite Peckham Farm. This relocation would afford the opportunity to provide safer and more efficient circulation through the parking area to its eventual connection with Keaney Road. The design also provides a clearer definition for parking restrictions. The extended Keaney Road serves as a barrier between the parking areas designated for commuters, faculty/staff and residents.

The new configuration also provides for a clearly defined drop-off area in front of Mackal Field House. This drop-off would allow for buses and other service vehicles to remain for a period of time without hindering traffic flow. It is important to note that the proposed drop-off maintains a large area of green space in front of the entire athletic complex, and *does not* introduce pedestrian/vehicular conflicts at the end of the Elephant Walk. This recommendation is in conflict with current plans for the Convocation Center site improvements.

Parking Management and Transportation Policies

Overview

The primary objective of this task was to better organize the current parking supply based on where students, faculty/staff and visitors need to park (and where they park now). In order to reduce demand on University parking resources, the plan identifies disincentives for members of the University community to park on

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campus, provides alternative transportation strategies to bring those people affected by the disincentives to and from campus, and to establish the framework for the University to implement a parking/transportation fee structure. These fees would provide the University with the means for developing a plan for maintenance and infrastructure improvements.

Policy development focused on the current parking and transit situation related to the University's Kingston Campus. The concept of establishing a parking fee and/or restricting freshmen from parking on campus has been an issue for many years. The most recent activity occurred in mid 1990s during the Rhode Island Public Transit Authority's (RIPTA) Congestion Management/Air Quality (CMAQ) Project and the URI Security & Parking Committee Project for a Transportation Policy/Action Plan for FY 1994-95.

Both of the above-mentioned projects focused on reducing University-related traffic in Kingston Village and on the Kingston Campus by improving current transit services. They recommended developing parking/transportation policies that would encourage the use of public transportation. The projects also recommended that fees related to enhanced transit service and parking permit allocation be established.

Parking Management Plan

The need for a Parking Management Plan became apparent in conversations with the Traffic and Parking focus group and in other master planning discussions. This plan provides the framework for implementing specific policies, such as moving resident parking to the periphery of the campus and establishing a carpooling lot. The plan took into consideration the need to supply parking within the vicinity of the new Convocation Center slated to open in 2002. Essentially, the plan evaluated the parking needs of the University in a comprehensive fashion by balancing existing and future demand requirements.

In an effort to determine how many residents currently have vehicles on campus, a Parking Survey was distributed to the campus dormitories. The Survey was developed in association with the Student Senate. The Student Senate also distributed the surveys to all residence halls at the Kingston Campus. Approximately 3,500 surveys were distributed and 890 were returned. As a result, the total number of cars registered to resident students has still not been determined with certainty. Thus, the parking redistribution completed as part of the management plan was based on the current space allocation provided for residents, commuters and faculty/staff. Table 8-4 at the end of this section outlines the proposed parking inventory on campus at the completion of the Master Plan implementation.

In an effort to encourage the use of public transportation and potentially reduce the number of cars on campus, some of the resident parking was shifted to the periphery of the campus. As the graphic on the following page shows, a significant amount of resident parking has been moved to the Fine Arts lot. Approximately 600 spaces would be dedicated to resident student parking, while the remaining 430 spaces would remain designated for commuters. The 600 parking spaces could be dedicated for freshman use only. Upperclassman would be permitted to park in the lots provided in the vicinity of the residence halls along Butterfield Road. The only variable with respect to this allocation is the number of freshman with cars, which is unknown at this time. Freshman would most likely require additional supply elsewhere.

The area designated for resident parking does include the marching band practice area. As described in Section 5, this is potentially only a temporary disruption in current band practice facilities. Band practice could potentially be restored to the lot when the parking garage opens and relieves some of the pressure on existing parking facilities. In the interim, band practice could take place in areas near the athletic facilities; this will require appropriate arrangements for shuttling musicians, students and instruments back and forth from current storage and practice facilities in the Fine Arts Center.

As the Parking Management Plan indicates, the majority of the faculty/staff parking is provided in the center of the campus proper. The faculty/staff parking that has been removed from the Elephant Walk area has been redistributed to new lots or those that have been reconfigured. Approximately 220 spaces have been targeted for the proposed parking garage facility.

As mentioned above, the development of the Parking Management Plan evaluated the needs of special events associated with the new Convocation Center. Considering that only 500 new spaces are planned to be constructed as part of the Convocation Center project, the majority of the parking to service an event would come from existing supply. As a result, commuter and some faculty/staff parking spaces would have to be made available for events, as previously indicated in the policy options. Taking this into consideration, the management plan has designated additional commuter parking in the vicinity of the Convocation Center. A new surface lot, at the corner of Plains Road and West Alumni Avenue has also been included. This lot would be dedicated to commuters and Convocation Center events only. Shuttle service would be routed accordingly to service the lot.

The proposed parking garage will play a key role in the success of the management plan, particularly since the Fine Arts lot is not currently planned to be used for special event purposes. This is also dependent upon the number of spaces provided



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in conjunction with the Convocation Center construction. The construction and operation of both the surface lot at full capacity and the garage will not be necessary. The surface lot is most likely to be constructed first and should therefore be designed and constructed using materials with lower environmental impact than traditional bituminous asphalt paving, such as grass pavers.

The last component of the plan is the inclusion of a car pooling lot. This lot has been targeted to be located behind the Information Center on Upper College Road. This location was selected based on its proximity to the academic core and convenient access for commuters and faculty/staff. At this point, approximately 75 spaces have been allocated to service car poolers. Additional spaces could be added in the future if so desired. The actual location of the car pooling lot would depend on the need of the URI Foundation building and new Sigma Chi use. The car pooling lot would need to be physically separated from the rest of the parking supply and a staffed booth would need to restrict access to the lot, at least during peak ingress times.

Benchmark Data

Considering that the University does not currently have parking or transportation fees in place, it was determined that the Master Plan should study the need for such fees by, among other means, establishing a baseline of comparison. Comparable universities in New England and along the Atlantic coast were polled. These universities provided information related to enrollment, parking supply, parking permit fees and transportation fees if applicable. Table 8.1, below, provides a summary of the data provided. The master planning team also had conversations with representatives from several of the universities indicated, with the most in-depth information coming from the Universities of Connecticut and Massachusetts.

Table 8.1 Transportation Benchmark Data - Comparable Universities

University	Area Type	Enrollment+	Freshman	Parking Supply	Free Parking	Parking Permit Fee Ranges (Annual)	Transp. Fee
						Faculty/Staff	Students
Clemson	Rural	16,396	NA	12,395	Conf. Only	\$24 to \$108	\$48
Connecticut	Rural	15,328	No	8,645 (G)	Yes	\$0 to \$400	\$40 to \$80
Maryland	Rural	32,925	NA	NA	No	\$160	Res.: \$137 Com.: \$74
Massachusetts	Rural	22,000	NA	11,103 (G)	No	\$20 to \$185	\$20 to \$60
N. Carolina Charlotte	Rural	16,642	NA	8,947(3G)	No	\$210	\$160
N. Carolina Greensboro	Urban	12,700	NA	5,702 (2G)	No	\$315 to \$420	\$210
New Hampshire	Rural	12,000	No	6,488	Events Only	\$32	Res.: \$100 Com.: \$32
Vermont	Rural	13,500	No	NA	Yes	% of Salary (0 to .35 of Base)	Res.: \$95 Com.: \$18 - \$95

+ URI = 14,300

G = Parking Garage on Campus

* Appropriated from Student Activity Fee

++ Expected to increase in 2000

As the table indicates, the parking permit fee ranges from \$0.00 to more than \$400.00 per semester for faculty/staff and \$20.00 to more than \$200.00 per semester for students. In most cases, the ranges in fee were directly related to the location of the parking area with respect to the academic core and/or type of parking facility (i.e. parking garage). The University of Connecticut was the only school to offer free parking to faculty/staff, requiring the use of a shuttle due to its distance from the academic buildings. The table also reveals that only three of the schools provided a reduced rate option for commuters.

The last column of Table 8.1 is a transportation fee. In the cases presented, the fee indicated provides a direct revenue source to support on-campus shuttle services, public transportation, maintenance, enforcement and transportation office staff. In other cases, the parking permit fee funds maintenance expenditures and the transportation office, while a separate student activity fee contributes to funding transportation costs. Most transportation offices rely specifically on these fees to manage daily operations, while others have established goals to become self-sufficient in the near future. For comparison purposes, the fees recommended as part of the URI Security & Parking Committee project described previously are provided in Table 8.2. below.

**Table 8-2 URI Security & Parking Committee Recommendations
FY 1994-95**

Category	Fee
RIPTA Pass	\$75 per semester
RIPTA Automatic Discount	25% Discount with URI ID Card
Resident Parking Permit	\$50 per semester
Commuter Parking Permit	\$25 per semester
Sr. Administrative Staff	\$75 per semester

Public Transportation

The successful implementation of URI's parking fee structure will rely heavily upon the public transportation services provided. The University currently provides a shuttle service that circulates through the Kingston Campus on a daily basis when classes are in session. (Refer to the Existing Conditions sections for a description of operations.) The service would require improvement to better serve the academic community if a parking and/or transportation fee is implemented. It is recommended that modifications to the URI Shuttle, as set forth in the Student Senate's Proposal to Improve Parking Conditions (October 1999), in addition to other enhancements, be implemented in conjunction with the establishment of such a fee.



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Services currently provided by RIPTA also require enhancements. RIPTA and the University are currently working cooperatively toward developing such improvements. The RIPTA service will be essential in gaining acceptance of parking and/or transportation fees from students, faculty and staff. The fee(s) must be accompanied by an improved RIPTA service that could include providing new routes to the major off-campus student population centers, such as the Bonnet Shores area. Other service enhancements could include increasing the number of runs along existing routes that service URI in addition to adjusting route times to coincide more closely with class schedules. Another possible service that has been discussed is “on-demand” service. This service would operate during the evening hours and provide rides to desired locations within predefined service zones. Students, faculty and staff could be provided with a RIPTA pass that would permit unlimited rides on RIPTA buses statewide.

As part of this process, RIPTA will develop service cost estimates and funding requirements. These requirements will assist the University in establishing parking and/or transportation fees. Similar service enhancements were provided as part of the CMAQ Project mentioned above. For comparison purposes, cost estimates developed by RIPTA to fund the service enhancements provided under the CMAQ Project are included in Table 8.3, below.

Table 8-3 Expanded Service to URI - CMAQ Project, circa 1995

Category	Fee
Transportation Fee	\$100 to \$200 per semester
Parking Permit	\$50 per semester

Improved Campus Shuttle

Based on the Shuttle Survey completed as part of the Master Plan and documentation provided by the Student Senate, proposals to improve the URI Shuttle service have been included in this Master Plan. An improved shuttle service has been identified as a key factor in the successful implementation of parking and transportation fees. As previously mentioned, the improved shuttle would be developed in conjunction with improved RIPTA service.

The proposed campus shuttle route is designed with students in mind; transporting students from the parking lots and dormitories to their classes on time is the primary consideration. It is a modification of the existing route, with several improvements, including making it more time-efficient, safer for riders and pedestrians, and better organized in its path and schedule.

The shuttle will be available in both the Keaney Gym and the Fine Arts parking lots at the same time, fifteen minutes before each class period to better accommodate commuting students. It will be available at 15 stops around campus, arranged for maximum efficiency to get people to their desired destination on campus. The proposed shuttle route is presented in a fold-out figure following this section.

Campus Bike Paths

The proposed bicycle path encircles the URI campus and connects the major points of interest for on-campus riders. The path runs from outlying areas near Plains Road, the proposed Plains Road Extension, Keaney Gym parking lot, and Flagg Road, to interior campus spots such as Upper College Road, Memorial Union, and Butterfield Road.

The path would touch several outlying points around campus, and is designed to link to the nearby South County Bike Trail. The majority of the system lies within existing rights-of-way, where it would be considered a Class II or III bikeway. The northern segment along Flagg Road could be designed as a separate path, parallel to the roadway. The internal campus bike path is depicted in the figures following this section. A graphic showing the South County Bike Trail and potential links to campus is also provided. The options shown are being developed as part of the Kingston/URI Comprehensive Study.

Proposed Parking Policies

The following presents the recommended parking policies developed through the master planning process by the Executive Committee, Technical Committee and Focus Group Participants.

1. Establish a two-tiered transportation/parking fee structure. This would include a student transportation fee and an additional parking fee for resident students, commuters and faculty/staff. The structure would be established in conjunction with improved URI Shuttle and RIPTA transit systems servicing the University Community. Associated fees would be determined based on actual transit system design.
2. Construct and operate a parking garage on the site shown in the Comprehensive Master Plan to serve Convocation Center events and to provide 'premium' parking close to the core Academic Campus.
3. Apart from the proposed garage, physical changes to the campus parking supply shall result in no net loss in the number of parking spaces on campus, unless changes in enrollment, programs, or personnel create significant changes in campus parking demand.

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4. Configure on-campus parking in a tiered system, with “premium” parking close to the academic core. (e.g. upper-class resident lots, High Occupancy Vehicle lot, raffle, etc.) This system should provide opportunities for free or low cost parking.
5. Require first and potentially second-year students to park on the periphery of campus.
6. Provide improved URI Shuttle services to students and faculty. Collaborate with RIPTA to develop improved service to targeted off-campus areas such as Wakefield, Bonnet Shores, or Narragansett.
7. Create a car-pooling lot near the academic core that would serve both commuters and faculty/staff.
8. Provide adequate parking supply within a 10-minute walk of the Convocation Center for special events.
9. Use existing commuter and available faculty/staff lots for Convocation Center events.
10. Establish a Transportation & Parking Office to manage the day-to-day operations of maintaining and regulating parking facilities.
11. Provide the avenue for student involvement in the transportation and parking functions. (i.e. shuttle drivers/dispatchers).

Table 8-4 Proposed Parking Supply

Area		Existing	Proposed	
Net Gain			Number	Number
No.	Location	of Spaces	of Spaces	or Loss
1	Upper College East Lot	440	368	-72
2	Washburn Lot	33	0	-33
3	Behind Davis Hall	6	0	-6
4	Engineering Lots	69	24	-45
5	Tyler & Greenhouse Lots	62	88	26
6	Woodward Lot	53	53	0
7	Heathman Circle, in front of bldg	9	0	-9
8	Chafee & Rodman Lots	335	222	-113
9	White Hall Lot	48	48	0
10	Baird Hill Lots	68	49	-19
11	Ranger Lot	41	0	-41
12	Gymnasium Lots	114	160	46
13	Fogarty Lot	20	20	0
14	Morrill Lot	72	71	-1
15	Fine Arts Lot	1030	1030	0
16	Administration Lots	123	47	-76
17	Union Lot	17	31	14
18	Infirmery & Dining Hall Lots	72	62	-10
19	Alumni Avenue Lots	64	0	-64
20	Cowbarn Lot	460	282	-178

Table 8-4 Proposed Parking Supply, Continued

Area No.	Location	Existing Number of Spaces	Proposed Number of Spaces	Net Gain or Loss
21	Police Lot	15	29	14
22	Tucker House	70	0	-70
23	Child Development House	20	20	0
24	Dormitory Lots	106	30	-76
25	Sherman Lots	174	55	-119
26	Heathman Road	40	40	0
27	Married Student Apts. Lots	35	46	11
28	Bressler Lot	19	0	-19
29	Fraternity Circle	295	266	-29
30	Faculty Apartment Lots	41	41	0
31	Church Lot	195	195	0
33	Graduate Student Apts. Lots	77	77	0
34	Flagg Road	405	405	0
35	Keaney Lot	1045	1078	33
36	Adams Hall Lot	41	0	-41
37	East Alumni Road Parking	37	37	0
38	Staff Lot on East Alumni Road	20	20	0
39	Lower College Road Parking	38	38	0
40	Bayberry Road Parking	16	16	0
41	Upper College Rd.	29	29	0
42	Behind Dining Services	177	106	-71
43	Physical Therapy Lots	144	144	0
44	Information Center	8	8	0
45	Briar Lane Lot	64	64	0
A*	Independence Hall Lot	0	32	32
B*	New Retail Parking	0	48	48
C*	Dairy Barn	0	31	31
D*	Behind Greenhouse	0	24	24
E*	Library Lot	0	34	34
F*	New Sherman Lot	0	176	176
G*	Convocation Center Lot/Plains Rd	0	455	455
H*	Parking Garage	0	1020	1020
I*	HOV Lot	0	75	75
J*	Fortin Rd Lot	0	25	25
K*	East Lot Residential	0	46	46
Total Number of Spaces		6245	7265	1020

Outstanding Variables:

Proposed Parking Garage

1000 Spaces

Faculty(300) / Commuter(300) / Visitor(150)
Resident(Upper Class.150?)
(600? for Convocation)
*Charge Fee to Residents and Visitors including
Convocation Center Events*

Proposed Convocation Center Lot

Commuter/Convocation Center Parking

Total

1500 Spaces



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9. FACILITIES

Assessment Methodologies

A series of interviews, meetings, and focus groups were held with the Deans and senior administrators, key faculty and staff, as well as the Student Senate and the Faculty Senate on the Kingston Campus. The goal was to obtain an overview of current campus operations and future needs. This included a discussion of faculty and staffing issues, research and program initiatives, instructional spaces, and support space needs.

Additional quantitative information was obtained via a survey circulated to almost 300 academic and administrative unit heads. This survey sought details on both the quantity and quality of space required in the future. The intent was to assess future space requirements in light of existing occupancy patterns and within the context of the Academic Plan.

Administrative units, academic deans, and academic departments were surveyed with regards to space issues. Administrative units received surveys focusing on overall space needs and on adjacency issues. Academic deans and academic departments received surveys which focused on overall space issues, adjacency issues, instructional space issues, and laboratory space issues. There was a 83% return for academic surveys and a 22% return for administrative surveys. The overall response rate was 36% (111 out of 312).

Finally, associated data and internal policies and practices pertaining to space were obtained directly from the University. This included space inventory data by room, building, type, and assignment.

Findings

The following summarizes some of the campus planning issues that emerged during the course of the meetings, interviews, and survey reviews. It also evaluates existing square footage based upon the space inventory for the Kingston Campus.

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After parking, the most prevalent concern expressed was for equitable space, both in terms of quantity and quality. Requests for new space were quite modest, although the general sense is that the University has “outgrown” many of its facilities. In some instances, entrepreneurial departments have the resources to develop needed spaces on their own.

Any facilities recommendations must adhere to academic goals and objectives. Among the goals articulated in the University’s Academic Plan are the following:

- Focus resources on Marine and the Environment; Health; Children, Families and Communities; and Enterprise and Advanced Technology.
- Build a high-quality and diversified student body, staff, and faculty.
- Apply technology to advance collaborative learning.
- Encourage partnerships in support of undergraduate learning and graduate research.

One issue which requires additional discussion is whether or not renting is an acceptable alternative to space ownership. For example, Independence Square is currently rented to support an academic program. An associated concern is the off-site location of programs and activities, either in rented or owned space.

Finally, opportunities to better utilize the Providence campus need to be discussed. For example, could the Dental Hygiene program, which has strong links to CCRI, be located there? If so, it would free up prime space on the Kingston campus for future reassignment. Based on the survey findings, the most pressing academic space issues are office spaces, instructional space, renovations of dedicated space and the need for technology updates in the current space. Administrative issues included office space, storage space, general work space, and a need for private interviewing/advising space. Campus wide, pressing issues included the need for instructional space, technology, parking, office space, renovations, and the need for surge space.

Classrooms

Significant concern was expressed over the quality of existing classroom space, especially instructional space in Independence Hall, the University’s primary classroom building. There also is an apparent mismatch between class sizes and classroom sizes in some instances. Some classrooms have been cited as being over capacity. There were also concerns regarding the quantity of available classrooms. Over time, classrooms have been converted to office space and other uses.

Currently, there are sufficient numbers of classrooms available although the commonly expressed perception is the reverse. Perhaps what is skewing this perception is some combination of the following:

- the lack of quality classrooms;
- the lack of technology-rich classrooms;
- the particular location of classroom space;
- the lack of classrooms at highly desirable times;
- inappropriately-sized classrooms.

It is thought that there might be some validity to the last point, in particular. Although there is a sufficient number of classrooms, many of them are apparently undersized. This would suggest that additional square footage should be allocated to instructional space.

It should also be noted that some classrooms are departmentally controlled. Typically, this means that they are not used as intensively as those that are centrally controlled by the Registrar. In addition there are 35 prime classrooms available at the Providence campus, especially during the day, but distance and logistics prevent their use. A recently administered survey on classroom preferences is currently being analyzed by the Registrar's office.

Given the fact that there is a sufficient number of classrooms currently available, any capital project that removes classrooms from the inventory (either temporarily or permanently) will have an impact on scheduling practices if replacements for the removed classrooms are not provided.

Concern has been expressed that there will be insufficient classrooms when Ballentine Hall is taken off line for renovations. There are 16 classrooms in Ballentine now, and that number will be reduced to 12 when the building reopens. Given that 115 of the 122 classrooms are in use at peak times, it is evident that current scheduling patterns will need to be adjusted and/or additional instructional facilities may need to be found at least in the short-term.

Flexible instructional facilities that are capable of delivering education in new ways are also required. While this implies additional multimedia classrooms to support collaborative learning, there will still be a need for traditionally large classrooms. Opportunities for delivering distance learning also need to be explored, as does the need for student project space to promote collaborative learning.

There is a plan underway to upgrade the technology and overall quality of classroom spaces as it is recognized that most are significantly deficient. New technology, in turn, will be supported by a proposed Center for Teaching Excellence. Such a Center could be housed within an Information Commons situated in the Library.

Recommendations

The identified academic space needs include the square footages listed below. These figures reflect additional square footage required in order to address near-and long-term programmatic needs. Only those individual units with significant needs are shown:

Arts & Sciences: 35,551 NSF

- Art: 2,459
- Biological Sciences: 5,280
- Music: 8,697
- Physics: 8,751
- Theater: 2,293

Engineering: 19,140 NSF

- Chemical Engineering: 4,642
- Civil/Environmental Engineering: 3,966
- Dean's Office: 3,598
- Electrical/Computer Engineering: 3,219
- Industrial/Manufacturing Engineering: 2,085
- Mechanical Engineering: 1,630

Environment & Life Sciences: 15,030 NSF

- Community Planning: 1,246
- Environmental Biotechnology: 1,000
- Fisheries, Animal, Veterinary Science: 2,718
- Marine Affairs: 1,234
- Plant Sciences: 6,692

Human Science & Service: 24,152 NSF

- Communicative Disorders: 1,473
- Dental Hygiene: (2,791)
- Education/Education Policy: 21,720
- Textiles, Fashion Merchandising, & Design: 2,388

Pharmacy: 11,145 NSF

- Dean's Office: 7,077
- Applied Pharmaceutical Sciences: 1,631
- Pharmacy Practice: 1,775

The following summarizes current and projected square footage needs by academic division. It should be noted that previously planned changes, such as Ballentine and Green Halls, have been excluded here.

The total academic space needs are almost matched by the total administrative space needs. The following summarizes the major administrative space needs:

- Athletics: 2,475 NSF
- Career Services: 1,009
- Facilities & Operations: 21,149
- Health Services: 1,774
- Informational and Institutional Technology: 1,918
- International Engineering: 1,529
- Library: 18,737

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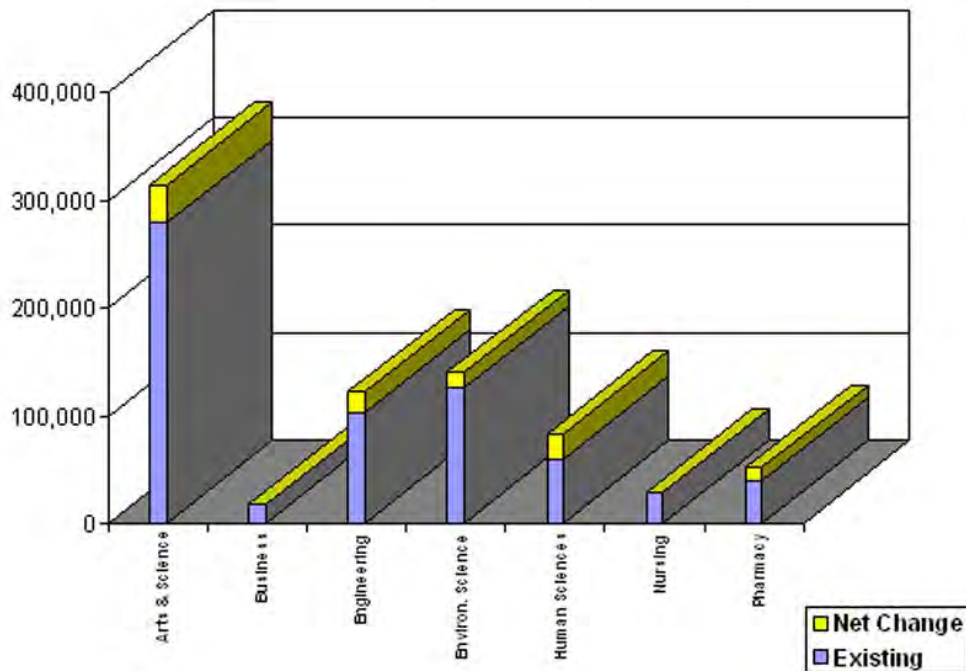


Memorial Union: 10,093
 Networking/Telecommunications: 1,114
 Property/Receiving: 2,530
 Purchasing: 1,190
 Technical and Operational Services: 3,346

Combined, the academic and administrative space needs total 206,054 Net Square Feet. This is in contrast to the 1,590,405 NSF in existing academic and administrative space.

As it is evident that these space needs cannot be simultaneously addressed but must be phased. Evaluation criteria are in order to assist in the determination of that prioritization and phasing. Among these potential criteria are the following:

- enrollment or faculty increases
- years since last major capital investment
- regulatory or compliance issues (ADA, OSHA, etc.)
- demonstrable changes in the discipline or practice
- consonance with the University mission
- consistency with Master Plan land use goals



Changes to Academic and Administrative Facilities

An extensive series of renovation and construction projects is already underway on campus, while others will be recommended as part of this master planning process. Short- and long-term changes are identified below.

Short-term Changes

Coastal Institute Building

This facility, presently under construction, is slated for completion in the fall of 2000 or early in 2001. It will contain 36,360 Net Square Feet and will free up some space in Woodward Hall.

Administration to Upper College Rd: URI Foundation/Advancement/Admissions

A series of renovation projects will change the occupants of this area. The former Sigma Nu facility will be demolished and its site will become the new home of the URI Foundation, thereby freeing up 3,300 NSF in Davis. Meanwhile, the former Sigma Chi will be demolished and the site will serve as the home for the Alumni and Development offices, thereby freeing up an additional 4,700 NSF in Davis.



Renovations at Ballentine Hall will take 16 classrooms temporarily (and 4 permanently) off-line.



Historic Ranger Hall will be rehabilitated and available for reassignment.

Ballentine Hall

Ballentine Hall will continue to house Business, but will be substantially altered in the process. Upon completion of the renovation project, there will be 19,000 NSF for the College of Business and 14,000 NSF for 12 general-purpose classrooms in the building.

Ranger Hall

One of URI's landmark buildings, a significant portion of Ranger Hall will become available for reassignment. Among the space to be relocated is 29,600 NSF of space for Biological Sciences, and perhaps 1,100 NSF of Sociology space. This would equate to 30,700 NSF available in Ranger Hall.



Green Hall is undergoing extensive renovations to make it once again the landmark building of the campus.

Green Hall

Space in Green Hall will become available once Geology (12,000 NSF) and Admissions (4,700) relocate. A total of 16,700 NSF will be freed up in as a result of the Green Hall renovation. Geology will relocate to Woodward upon completion of the Coastal Institute facility in fall 2000.

Lippitt Hall

This building occupies a prominent site at the top of the quad and will be substantially vacated as a result of a series of associated renovation projects. Occupants slated to move out include the following:

- 7,500 NSF for MIS potentially relocated to Theta Delta Chi
- 4,900 NSF for Resource Economics relocated to the new Coastal Institute facility
- 5,000 NSF in other

administrative units slated to go elsewhere

A total of 3,700 NSF in Lippitt Hall will remain assigned to Engineering offices while 17,400 NSF of space will become available for reassignment. This represents a significant opportunity given the building's location and the amount of potential space available.



Lippitt Hall will also undergo substantial renovations and offer some space for reassignment.

Davis Hall

Davis Hall, as noted previously, is home to URI Foundation/University Advancement as well as Alumni Development. Combined, these functions will free up approximately 8,000 NSF once they relocate to their new homes. There is an additional 4,600 NSF in other administrative units that may be relocated off of the Quad. This would bring the available square footage in Davis Hall up to 12,600 NSF.



Relocating current uses out of Davis Hall would free up 12,600 NSF, which could be available for teaching programs.

Faculty Club

There is a total of 4,800 NSF of space potentially available in this facility, but this is dependent upon ongoing negotiations with club operators.

Longer-term Changes

Six Identified Building Sites

As noted previously, a new academic building is recommended for URI, given the magnitude of the academic and administrative space requirements vis-a-vis existing capacity.

Six building sites have been identified for possible new academic buildings, as follows:

- between Taft and Davis (12,700 NSF)
- north of Chafee (38,200 NSF)
- north of Greenhouses (36,500 NSF)
- north of Ballentine (32,000 NSF)
- east of Roosevelt, and south of the Library (4,000 NSF)
- between Chafee and White (45,600 NSF), as “opportunity space”

Surge Space

Over the next few years, a number of significant capital projects will be underway on the University’s Kingston campus, as noted above. While some of these projects will result in the development of space above and beyond that which currently exists, other projects are intended to improve and enhance existing space. Consequently, these spaces will be unavailable while under renovation. This Master Plan brings with it yet another series of critical renovations and construction projects that will need to be prioritized and factored in over time.

Major projects coming on-line in the near-term encompass some 82,000 NSF of key academic space. (Some space will be vacated as a result and become available for reassignment.) Meanwhile, additional demand has been identified over the next five to 10 years for 106,000 additional NSF of academic space and 75,000 additional NSF of administrative space. This is new square footage to be added to the campus space inventory above and beyond that which has already been planned for in current renovation projects.

One of the most critical shortages of surge space will be experienced over the next two years, although the issue will remain for a decade or more. The University currently does not have adequate surge capacity for the current and projected renovation and construction projects. Classroom space in particular will be affected in the near-term.

Immediate Recommendations for Addressing Classroom Space Needs

There are presently 122 general-purpose classrooms on campus. A preliminary utilization analysis seemed to suggest that 116 classrooms are required at a minimum as current scheduling practices place URI somewhat below the preferred level of use. A total of 16 classrooms will be lost on a short-term basis while the Ballentine renovation is underway, while four will be lost permanently upon completion of the project.

This also suggests that URI will be short of classrooms during the Ballentine project. One of two things can occur to meet this deficit: either additional classrooms can be physically added to the campus and/or the scheduling of the remaining classrooms can be intensified so that they are used during additional hours over the course of a week. If the latter is the chosen option, then each available classroom will need to be scheduled an additional five hours over and above current scheduling practices. This will mean that less popular times will need to be scheduled, as well as a more intense use of Fridays. This does not take into account the potential impact on “interlocked” schedules or on lab requirements.

Longer-term Recommendations for Addressing Classroom/Office Displacement During Renovation Projects

As renovation projects continue to proceed, and multiple projects are in progress simultaneously, the need for surge space will become more acute. This need will become particularly critical if the pace of renovation accelerates. Surge, or swing space might potentially be available in fraternity houses, “underutilized” buildings or buildings identified in the Master Plan as changing uses, or possibly through temporary modular space. The latter has the advantage of being available almost immediately. Ideally, one new academic facility should be provided. This will provide the greatest amount of flexibility, and will serve the University best in the long run.

The following are two such opportunities to address space needs, as these are buildings that could change use.

Independence Hall

This building is one of the most intensely used buildings on campus given its concentration of classrooms. One proposal for the use of Independence Hall is to renovate it for administrative use, shifting office space more towards the periphery of the campus while pulling academic spaces, both offices and classrooms, back toward the center of campus. The building however, has already been awarded bond funds for renovations associated with its current occupants. The total space in the building is 31,700 NSF. Additional square footage on the order of 500 NSF is required for each of two current occupants: Communication Studies and Languages.

Roosevelt Hall

Roosevelt Hall is a former residence hall in a central campus location. It currently houses administrative offices. While some consideration was given to returning it to its former life as a residence hall, it is suggested here that it would make a good faculty office building with small suites of offices and associated seminar rooms. One option would be to relocate a series of academic offices from Independence Hall where faculty would be more centrally located. Potentially, there is 30,600 NSF available in Roosevelt Hall.

In any event, space reorganization and phasing should adhere to the following guiding principles:

- minimize the number of required moves
- renovate spaces for their ultimate use (although they may be occupied by someone else on an interim basis)
- keep academic departments and administrative units adjacent, respectively
- provide opportunities for synergy among departments
- remain consistent with Master Plan land use goals

Athletic Space

A survey distributed to the Athletics Department identified the following issues:

Land Use

- Land use conflicts between athletics, research, turf farming, and summer youth programs
- Some duplication of research facilities between existing Plains Road turf science facilities and Peckham Farm facilities
- Proposed Ice Rink site will require relocation of current field users

- Convocation Center construction will also have impact on practice fields

Parking and Traffic

- Existing parking creates some difficulties for use of athletic fields
- Potential safety concern with parking along Plains Road, shared with athletes walking/running along the side of the road
- Pedestrian/vehicle conflicts along service road behind athletic buildings
- Extensive traffic generated by major events on Route 138 and local system

Facilities

- Need for remote locker / restroom / water facility
- Need to provide adequate track and field facilities: usable track, throwing facilities, cross-country trails
- Need for wind blocks to protect fields
- Need to expand weight & training facilities in existing athletic complex
- Need for additional indoor practice field spaces
- Long-term needs: indoor tennis facility
- Provide additional opportunities for revenue generation by using available facilities

Space Recommendations

The survey results and discussions with focus groups were used to supplement an analysis of the campus' spatial organization and terrain characteristics to produce the following recommendations:

Land Use

- Consolidate turf management programs/plant science programs at Peckham Farm
- Reclaim land around turf management facilities for use by athletics
- Reclaim 11-acre parcel off Plains Road for use as prime athletic fields
- Relocate lacrosse field and other users affected by ice rink to current turf management areas
- Shift fields affected by Convocation Center west if necessary

Parking and Traffic

- Create new parking area north of Plains Road dogleg, for use by Convocation Center events and daily use for athletics department
- New parking area should minimize environmental impact:
 - Potentially to be built in "rings" – build only what is minimally needed first, determine if it is enough
 - Use only a binder, "grasscrete", or plastic infill units if possible, instead of full bituminous paving
 - Use lot as opportunity to work with turf management researchers to see if there is a more environmentally appropriate way to build a parking lot near athletic fields
 - Keep maintenance considerations in mind (snow plowing, pooling of rainwater, etc.)

- Move road further from building where possible (southern end) – create additional parking and improve visibility of pedestrian crossings (stop signs, flashing lights, etc.)
- Proposed Plains Road to Flagg Road connector will help streamline traffic flow in this area
- Develop traffic management plans for all major events, not just convocation center events – coordinate traffic management plans with regional transportation study recommendations
- Create campus transportation office or position – coordinate shuttle service (shuttle should serve athletic area), improve parking enforcement, etc.

Facilities

- Construct new turf management facility on Peckham Farm (issues surrounding donor bequest, facility naming, and available funds for construction)
- Renovate existing turf management building as new remote coed locker / restroom facility – facility should be shared among all athletic users
- Construct new track and field facility – potential sites include parcel north of food service warehouse, land now used by turf management, or 11-acre parcel
- Pursue several potential locations for an integrated running / biking trail system: golf course perimeter, combined surfaces along existing regional trail or along proposed South County trail, connections back into University pathway system (along the stream, to the Elephant Walk, etc.)
- Explore possibility of using wind blocks as physical anchors for improved path system
- Seek opportunities to share and/or consolidate training and weight spaces in athletic complex – are there surplus spaces that can be put to better use?
- Design ice rink facility to accommodate potential long-term expansion as shared ice/indoor tennis facility. Place concession, locker, restroom facilities to allow future use in an expanded wing.
- Revenue-generating activities must be individually evaluated to ensure compatibility with the University's mission:
 - Will supplement, rather than displace, current activities for URI students
 - Will not adversely affect any of the other users of URI's land outside the core campus, including plant science research fields
 - Will not generate excessive traffic on local or regional roads
 - Will not create additional maintenance load on URI's facilities department
- Celebrate athletic achievement in the athletic facilities: creation of a "Boulevard of Heroes" along Plains Road, the forecourt of the athletic buildings at the end of the Elephant Walk, etc. Use these opportunities to attract top-quality student athletes

Residential Life

Renovations are currently underway in six residence halls of the Freshman Village, with more buildings slated for later phases. Renovations to the 50s and 60s buildings were greatly needed, will improve the image of the University for parents and prospective students, and will be welcomed by generations of students. Restructuring of residential life is also being addressed through the capital improvements: dormitory buildings with common characteristics – the big six,



Renovations to residence halls will provide more suites, more private bathrooms, and a sense of belonging to different neighborhoods, each with a distinct identity.



New housing could be built to replace Coddington and Burnside Halls, in proximity to the pond.

the little four – and their grounds are being renovated in clusters to foster the idea of villages within the hillside district. The Master Plan supports this approach and continues it in its proposed new building sites.

New Dormitory Sites and Fraternity Locations

The Master Plan has identified four new sites for the potential building of new student housing. Because of their internal configuration and construction type, Coddington and Burnside Halls may be more costly to renovate than to replace. Converting them to office space is not a desirable long term option. The buildings should be demolished and the sites used for new housing. The wooded sites, near the bridged stream that feeds the pond and wetland system, are among the most beautiful on campus and are ideally suited for housing. The realignment of Butterfield Road at the intersection of Alumni Road would create another site for housing, to the east of Aldrich Hall. Both this new residence and a new Coddington Hall could open up interior space for the northern cluster of halls

and enclose the hillside district from Alumni Road. Finally, behind Adams Hall is another potential housing site: aligned with Weldin Hall, a new residence hall would enclose a courtyard space to the west of Adams Hall and create a cluster on the hill's western slope.

The proposed parking garage will by necessity displace Phi Gamma Delta from its current site, if the feasibility study for the parking garage confirms that the site indicated in the Master Plan is in fact the most suitable location for the garage. The costs of relocating the existing fraternity house will need to be included in the project costs for the parking garage. There are two potentially available sites in fraternity circle: one on the abandoned foundation east of Chi Omega, and one directly north of Chi Omega, west of Weldin Hall.

New Mixed-use Buildings in the Marketplace

More upperclassmen and graduate students would remain on campus if housing options were available. The master plan recommends that graduate housing be built above new retail in the marketplace district, adjacent to the Emporium. The needed housing would animate this public area of campus during evenings and weekends, as well as reduce car trips on campus and provide a market for the new retail uses.

New Construction at the Edge of the University's Property

New housing options outside the campus's growth boundary should be considered only when all available sites have been built on campus. Housing south of Route 138 presents pedestrian safety concerns that override site availability. Housing north of Flagg Road would necessitate careful assessment of wetlands, water and sewer connections and traffic impacts on Old North Road.

The Master Plan has identified new building sites within the core campus to accommodate student housing. Prospective third party builders and managers of student housing should be encouraged to explore these sites.



Several locations are being proposed as possible relocation sites for the Phi Gamma Delta house.


Storage & Maintenance Needs

Residential Life has unique storage needs for residence hall furnishings and equipment. Their current warehouse on Alumni Road will be demolished to make way for parking associated with the Convocation Center. A new warehouse could be built on the west side of Plains

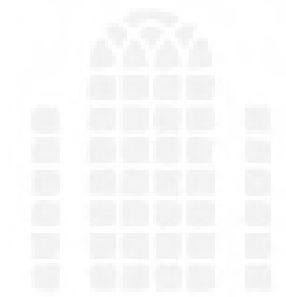
Road, at the intersection with Flagg Road, in conjunction with a new garage for Health Services' ambulance. The two buildings could be designed together to form a consistent edge to the service district, continuing the setback and function of the storage buildings already on that side of Plains, but more in keeping with the style of the Purchasing building.

11. SIGNAGE


Current Conditions



There are many signs and inscriptions on campus that reflect the original character of the historic Quadrangle. The carved seals on Edwards Hall and Lippitt Hall and the carved building names on Green Hall, Ranger Hall, Quinn Hall and Washburn Hall are excellent examples. However, the dominant signs on campus are the blue freestanding signs, more in keeping with the 1970s period of campus building rather than the turn-of-the-century designs that help define the image of the historic Quadrangle. These newer signs do little to enhance the appearance of the campus. The freestanding signs in fact have a negative impact: they are too numerous, often display too much information, are worn and in some cases, damaged. Unfortunately, they are also necessary since there is so much vehicular use of the campus. The addition of the Convocation Center and the new academic buildings will only increase the difficulties.



There are many opportunities to strengthen and unify the identity of URI, not all of which are currently used. Each entrance to the campus is identified in a different way: Main Entrance, Lower College Road Entrance and Athletics. The two entrances off Flagg Road (at Upper College Road and Heathman Road) are not currently identified. They will become increasingly important in the future as traffic is directed onto Plains Road and Flagg Road. The historic entrance gate at Upper College Road and Campus Avenue could be improved with appropriate signage.



While most streets are identified with street name signing, there are many gaps in this signage, particularly along Butterfield Road and West Alumni Avenue. There are no map displays on campus (with the exception of a worn, outdated map at the Information Center) to aid orientation and provide a sense of unity.

On a positive note, it is clear that the Facilities Services has worked very hard to keep regulatory signs to a minimum. There is less of the sign clutter generated by reserved and restricted parking that plagues other campuses. Clearly, less is more.

Signage forms part of a visitor's first impression of the URI Campus; in an increasingly competitive market for higher education, these first impressions are very important. There are many opportunities to enhance the character of the campus and to provide a sense of visual unity through improved signage and graphics. These improvements, fully integrated into the architectural and landscape Master Plan for the University, can be implemented in the short term and can reflect the original character of the historic Quadrangle.

Signage Recommendations

The goals of the signage program are to strengthen the sense of the University's identity and to make it easier for first time visitors to find their way around the University. We also want to make the campus more welcoming and accessible. The sign program will provide information clearly and only where necessary, minimize the number of signs on campus and enhance the appearance of the campus.

The design of the signage is based on the new URI Visual Standards Guide prepared by the URI Publications Office, using the Green Hall logo. The serif typeface for the signage is Adobe Minion and the dark blue color for the signs is a slightly deeper version (for exterior use) of the standard URI Dark Blue. The design has a traditional academic appearance, in keeping with the historic buildings facing the Quadrangle. The black iron detailing of the sign structures ties them to the iron light posts, benches and railings so that they become part of the campus design vocabulary. These elements can all work in concert with the landscape treatments to tie the campus together.

The first step of the program will be identification; uniting the campus entrances in a consistent manner and labeling the buildings (the entrances to the Library and Memorial Union, for example, are not currently identified from the pedestrian walkway). Buildings will be identified with freestanding signs or fascia-mounted letters depending on the architectural character and siting of each building. These signs will complement those buildings that are now identified in a handsome and appropriate manner—Green Hall, Washburn Hall, Quinn Hall and Ranger Hall are good examples.

Since there are hundreds of destinations on campus, it is impossible to provide directional information to all of them. Therefore, priorities must be established and the focus must be placed on the needs of the first-time visitor. Destinations with the highest frequency of first-time use should be emphasized: Admissions (Green

Hall), the Quadrangle, Athletics, Convocation Center, Fine Arts, Public Parking, etc. Directional signs should be limited to four or five messages in order to be legible. Street name signs should also be provided across the entire campus; they will aid in orientation, reduce reliance on directional signs and reinforce the 911 access program.

Site maps placed near the entrances and adjacent to the main parking areas will help orient visitors, provide information-in-depth (including handicapped access) and complement the hand map which is frequently sent to visitors prior to their arrival on campus. The Information Center should be upgraded.

The Sign Program has been separated into categories by function: Identification, Information, Direction and Regulation. The program is designed as a kit of parts to be initially fabricated and installed by an outside Sign Contractor, and to be maintained and updated by the Facilities Services sign shop. Materials, finishes and manufacturing processes for the signage have been designed with long-term maintenance requirements in mind.

Finally, while the signage kit of parts is extensive, it is the goal of the program to install signage only where it is absolutely necessary. The signage should enhance the appearance of the campus and form a positive first impression.

Signage Design Concepts for the URI campus are shown on the following pages.

Signage Budget

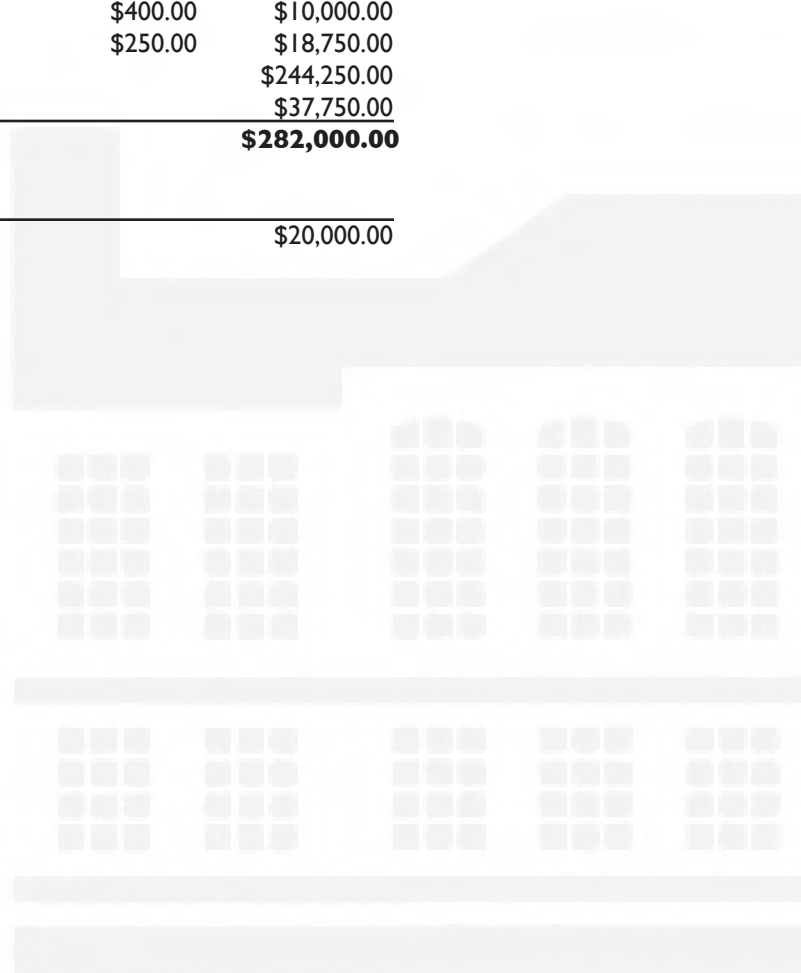
The budget pricing for the full implementation of Exterior Signage is shown below. This work may be phased or bid as one construction package. Software, equipment and training for Facilities Services for updating and maintenance of the signage could also be purchased as part of the implementation package.



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Table 11.1 Signage Cost Estimates

Item	Qty	Unit	CostTotal
Guide Sign (Off Campus)	3	\$1,500.00	\$4,500.00
Entrance Identification	5	\$4,000.00	\$20,000.00
Entrance Gate	2	\$1,000.00	\$2,000.00
Building ID, Freestanding	25	\$2,500.00	\$62,500.00
Building ID, Fascia Mounted	20	\$1,500.00	\$30,000.00
Street Name	15	\$1,000.00	\$15,000.00
Directional	15	\$3,500.00	\$52,500.00
Map Display	6	\$3,500.00	\$21,000.00
Vehicle Regulatory	20	\$400.00	\$8,000.00
Parking Area ID	25	\$400.00	\$10,000.00
Parking Restriction	75	\$250.00	\$18,750.00
Subtotal			\$244,250.00
Contingency			\$37,750.00
Signage Total			\$282,000.00
Options			
Equipment and Software			\$20,000.00



12. BUILDING SYSTEMS

Systems Assessment and Audit

A general field survey of the Kingston and Narragansett Bay campuses revealed that representative buildings contain different mechanical and electrical building systems. These systems include, but are not limited to, energy sources, system types (i.e. central to independent), locations (i.e. on the roof, in mechanical or electrical rooms, above hung ceilings, etc), control systems (i.e. pneumatic, electric or electronic), manufacturers, energy efficiencies, etc) in similar type buildings. It was also discovered that there were some very specialized buildings (i.e. marine research) that require specialized building systems that are not typical at industry standards and are more difficult to design.

It should be noted that unless there are facility technical standards, it is a common industry standard practice for Consulting Engineers to design MEP systems which they commonly provide since their production costs are less (i.e. – standard details, system riser diagrams, etc). Some Mechanical/Electrical/Plumbing (MEP) firms will only design systems they are familiar with since they do not want to invest any additional time against the service fees investigating and designing alternate MEP building systems.

The foremost goal of a systems audit is to maximize system performance and to minimize the life cycle costs by providing a cross-referenced database to benefit the entire facility management staff (designers, O&M and end users). Some of the benefits are as follows:

- Improve preventive maintenance
- Reduce the time and costs associated with ordering replacement parts
- Quickly obtain outside service
- Anticipate replacement / upgrade requirements
- Reduce energy consumption and costs

All of these reductions lower the life cycle cost of the building systems to the University in the long term.

The primary benefit at this time of recommending a systems audit is the development of computer software programs that are inter-related but share the same databases. For instance, the industry standard computerized drafting software (AutoCAD) can be used during the Architect/Engineer (A/E) facility design phase to begin the facilities equipment database. Information can be downloaded to Facilities Management (FM) software from the AutoCAD files.

Therefore, as the building systems are being designed their pertinent data are being developed for subsequent FM use without the FM staff “key punching” the necessary data, which is a very labor intensive activity.

The existing MEP building systems recommended for system auditing include the following:

Mechanical Building Systems

Heating, Ventilation and Air Conditioning

- type of system
- capacity of system and equipment
- list of major equipment with pertinent Operation and Maintenance (O&M) information
- type of automatic temperature controls (ATC) system with pertinent O&M information
- contact information on outside O&M vendors
- list of existing HVAC drawings

Plumbing

- type of system
- capacity of system and equipment
- list of major equipment with pertinent O&M information
- plumbing alarms (i.e. – high sump alarm)
- list of existing plumbing drawings

Fire Protection

- type of system
- capacity of system and equipment
- list of major equipment with pertinent O&M information
- list of existing sprinkler drawings

Electrical Building Systems

Power Distribution

- type of system
- capacity of system and equipment
- list of major equipment with pertinent O&M information
- list of existing electrical drawings

Power Generation

- type of system
- capacity of system and equipment
- list of major equipment with pertinent O&M information
- list of existing electrical drawings

Fire Alarm

- type of systems
- type of detectors, signaling devices, enunciators, control panel, master box, etc.
- list of major equipment with pertinent O&M information
- contact of O&M outside O&M vendor
- list of existing fire alarm drawings

Lighting

- types of lighting fixtures
- type of lighting controls
- list of major equipment with pertinent O&M information
- contact of lighting supplier(s)
- list of existing lighting drawings

Security

- type of systems
- type of detectors, door controls, etc.
- list of major equipment with pertinent O&M information
- contact of outside O&M vendor

Telephone, Data and TV Video

- type of systems
- type of utility services
- list of major equipment with pertinent O&M information
- contact information on outside O&M vendors

Average Building Systems Auditing Estimated Cost = ±\$0.50 / SF

Considering the extensive nature of the buildings systems information, it is recommended that the work be completed in phases over time. It should be noted that the data which would be contained in the FM database is intended to be used primarily for operation and maintenance (O&M) purposes first, and secondarily for future facilities' design.

The first step toward implementing a systems audit program is the FM software research phase. Since there is a significant time and cost investment in field investigations and data processing, no facility management resources should be allocated until a decision is made on computer software including implementation and end-user training.

The second step is to determine the critical data which are required to be input into the FM system since this represents a large time effort. The staff must develop a practical list with the most important data listed first and the less important data listed last. To be the most cost effective, the focus should be on the major data items which provide the most useful data elements.

Building Systems Design Standards

Following the field inspection of representative building systems, the consultants observed a variety of different mechanical and electrical systems, even in similar buildings. This was most pronounced, for example, on laboratory hood HVAC systems. It was determined that there were at least three different types of laboratory hood HVAC systems. Unfortunately, according to the University personnel, only one of the hood systems performed to the satisfaction of the end-user.

From an equipment control viewpoint, each building contained different HVAC automatic temperature control (ATC) systems. Since these types of building systems vary in nature, their installation costs, operating knowledge, maintenance costs and energy controls combine to make their overall system life cycle costs very high. The facility personnel contacted indicated end-user complaints were numerous, which required additional O&M costs that increased the hood's life cycle costs. Hood HVAC design standards would certainly increase equipment performance and reduce O&M costs.

One of the primary goals of the facility management staff should be to minimize the life cycle costs of the building systems, and this can only be attained by reducing each building system's maintenance and operating costs.

To reduce maintenance costs, the FM staff should only have to maintain building systems that fall into the same category (i.e. 2 to 5 story classroom building). There would be less training of staff, less spare parts to store, quicker repairs, etc. The acceptable number of equipment manufacturers should be limited to three, which is the federal mandated procurement number in order to promote equality in the public bidding procurement system.

Since the campus' capital improvement projects vary from small to large remodeling and from small to large new construction, the development of building systems design standards would reduce the life cycle costs of the building systems. Since life cycle costs are more important than initial costs, the payback on the investment on building design standards would cost effective in the long term.

The recommended procedure for developing design standards is to develop master Construction Specifications Institute (CSI) -based technical specifications for representative types of projects. The specifications would include recommended systems types, lists of acceptable manufacturers, design criteria, operating features, documentation requirements, etc.

Since all Architects and Engineers follow the CSI specifications numbering sequence as an industry standard, the design standards which use these same numbers will easily be used by the designers and the FM staff.

From a facility staffing perspective on implementing design standards, we would recommend to contract this task out to an A/E consultant through an RFP process. The facility staff must provide overall guidance but probably does not have sufficient personnel staff to devote the resources. In addition, the master specifications (design standards) must be written by technical specialists.

As an example for mechanical HVAC, there could be a technical specialist for the hydronic systems, a specialist for air systems and another for automatic temperature control systems. However, once the master specifications and design standards were written, a general mechanical engineer at the facility could enforce the standards.

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To enable the FM staff and the University's end users to understand building systems, each new project should include a preliminary design submittal. The preliminary design submittal for an upgrade project would first include a general walk-through field survey of the existing facility or similar existing building. The A/E would generally describe the existing systems, capacities, current codes compliance, operating problems, design limitations, etc.

After the existing field survey memos are completed, preliminary design memos for each building system's technical discipline (i.e. – HVAC, plumbing, fire protection, power, lighting, fire alarm, etc) would be developed which relate the existing conditions to the proposed revisions or new system. The memos should generally describe alternate and recommended systems or would refer to the master specifications and/or design standards.

After submission of the preliminary design memos, a meeting would be scheduled for general discussion with the facility managers including both the O&M staff and the end user staff. This reduces the problems of not meeting the expectations of both the O&M staff and the end user staff.

Facilities Management Software

In order to efficiently manage the enormous amounts of data associated with multi-building and multi-site mechanical and electrical systems, the University should review their information technology (IT) systems requirements with regards to building design, construction, operations and management needs. Based on an investigation of the University's current facility data, it was discovered that information has been recorded in both electronic spreadsheet and paper media formats. The information generally included building information, such as size (sf), room names, etc, which are more commonly used for facility space planning and building costs accounting needs rather than future design and/or operating and maintenance requirements.

To automate the information associated with building systems, the University should review its facility design, construction, operations and maintenance needs. The software is only a sophisticated tool to enable the facility managers to more efficiently manage their systems. Effectiveness will be reduced if the tool is not properly integrated into the present computerization of the department activities. For instance, if the existing facility drawings records were to be put into a relational

database, the facility department would have to determine the important attributes which should be input into each building's drawings files for further cross-referencing. For example, if the number and type of laboratories are important for planning, design, and construction, the drawings information would have to include these attributes.

Furthermore, if the University required the listing of laboratory chemicals and their quantities at each laboratory for town fire department hazardous material response, this information would have to be added to the database.

The highest consideration (especially for first time implementation) of any relational database, is deciding what critical information is required to be recorded and easily accessed and cross-referenced. There is a large cost to develop relational databases therefore early planning is paramount to their success as measured by their usefulness as a tool to the facility staff in receiving vital information quickly and accurately which results in lower facilities costs.

Since a majority of the FM information resides on the contract documents (i.e. drawings and specifications), the second most important decision on the software selection is verifying that the FM software integrates with the electronic drawing files. This assumes the drawings have been standardized in a CAD package such as AutoCAD. AutoCAD allows the Facility Managers to add attributes to the drawings which generates a database. By having integrated drawings and FM software the existing attribute data can be directly imported into the facility software for queries, the creation of reports, investigations, etc.

For example, for the management of long term product warranties such as roofing which has 20 year guarantees, the facility management software could access the building's roofing information which would contain the installation date, the roofing contractor, the manufacturers information, and the warranty period including any annual or semi-annual inspections that may be required to maintain the warranty. If there were required field inspections these could be automatically scheduled as part of the facility's O&M preventive maintenance activities.

Therefore, to achieve success in any FM software, an integrated software package must be researched, pilot tested and phase implemented. It should be noted that after software selection, the largest and hardest task would be its implementation into the existing on-going facility operations. The end-user training task is a project by itself since the new tool is only as good as its use by the staff.

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A general investigation of the available software products clearly indicated the market is flooded with all types of packages. Many of the products are geared toward specific tasks such as documents management, projects scheduling, purchasing, preventive maintenance scheduling, reports generation, space management, personnel management, equipment management, voice /data systems management, leases management, etc.

All of the software promotion makes statements on performance and time /money savings. However, the prevalent features of some packages (O'Brother Software Inc.) utilizes AutoCAD drawings, relational databases (Microsoft Access) and MS Windows-based integration. The claimed management productivity increases are based upon faster access to required information in order to minimize the FM tasks.

The general benefits of any FM software should be as follows:

- Increased accuracy of information on building systems.
- Faster responses to system or equipment inquiries.
- Decreased operation and maintenance costs.

The real cost of software is not the per licensed copy cost but the total life cycle costs which includes the software cost, the implementation (data basing) time, the end-user staff training time and the obsolescence costs of outdated /replaced software. Since the computer hardware and software business is very dynamic with new innovations occurring every six months, the selection of the software vendor must involve consideration of their past track record, length of business operation, capitalization, and financial statements in order to verify the longevity of the software supplier. Checking of references for similar projects is one of the key areas of product research.

From the end-users viewpoint, the time and money to implement and train on software should be a building block procedure so that any software enhancements would not negate the prior end-user time /costs investment. For example, every new release of MS Windows generally improves the product which only slightly affects the end-users ability to upgrade their implementation of the product based upon their prior products use.

Therefore, the selection of software for facility management must be coordinated with other software currently used in the Facilities department. Any selected software must seamlessly integrate with existing packages.

We recommend that the investigation, selection and installation of facility management software, with its associated staff training, be approached and implemented as a distinct and high priority University project.

13. IMPLEMENTATION AND FUNDING

As noted in the Executive Summary, the success of this Master Plan will stem not from the breadth of its vision for the future nor the strength of its analysis of current conditions, but rather from the implementation of its proposals: the extent to which the various projects outlined here are built and effectively operated and maintained. Successfully developing projects arising from the vision of this Master Plan will require consensus among decision-makers on campus around convincing programmatic needs, and a sound decision-making infrastructure, including the human and technological resources necessary to plan, build, repair and manage the URI campus over the next ten to fifteen years.

Adopting the Campus Master Plan

This report contains Goody, Clancy & Associates' final recommendations about the future of the Kingston campus. The University's President and his administration will consider the recommendations in their context of existing and future needs, translate them into phases in the Capital Improvement Program and adopt the plan formally as the URI Kingston Campus Master Plan. Once the plan is adopted, to remain relevant it must become part of the decision-making process for developing projects on campus. Thus Colleges, departments, or programs interested in renovating existing facilities or constructing new facilities should be asked to consult the Master Plan, to review the criteria by which projects will be evaluated and to ensure that the proposed project is compatible with the goals described in the Master Plan.

Modifying the Campus Master Plan

Even with a relatively limited 10-year horizon, the Master Plan presents the perspective of a single moment in time, the 1999-2000 academic year. Academic models, technology, and the state and local economy can all change substantially during the 10-year horizon of the Master Plan, so there must be an effective and flexible process for updating the plan to address new challenges facing the campus as they arise. Goody, Clancy & Associates recommends an annual review of the plan by those charged with its implementation, to ensure that the goals, physical recommendations, and policies described here continue to be relevant and

appropriate. If necessary, these reviewers should publish an annual update to the Master Plan, distributed to the same members of the University community who participated in its creation, so that everyone involved understands that a Master Plan is a living document and a road map to the future, not a fixed representation of an end state.

Implementation and Management

The Master Plan has compiled, with the URI community, a list of desired changes to the campus, and has identified sites to build the facilities represented on that list. Now the University must undertake the necessary subsequent work of creating fundable programs for each of the projects represented here; of setting priorities for which facilities and policies to implement first; and of building consensus among various stakeholders on campus for each major decision emerging from the Master Plan. Some of the decision-making structure is already in place; in other cases, the Master Plan recommends that the University create a new office or function to manage the implementation of a particular aspect of the Master Plan more effectively.

Decision Infrastructure

One of the first issues confronting those charged with implementing the Master Plan will be the quality, accuracy, and availability of critical information about the campus, needed for making informed decisions. A wide range of information will be necessary to evaluate all aspects of complex decisions; the quality of the databases available at the University varies widely. New initiatives, such as the implementation of PeopleSoft, a comprehensive scheduling and reporting program, should greatly streamline the process of retrieving vital data and generating reports to answer particular questions, but not all systems were included in the PeopleSoft implementation.

The University's facility management database is built on 15-year-old software, and the information it contains is inaccurate and incomplete. (In the information received by the master planning team, for example, both Chafee Hall and the Biological Sciences buildings, among the largest buildings on campus, were missing). Asking simple questions of this database is not an easy process, and requests must be filtered through the central MIS office, resulting in needless delays.

Other database systems and management tools that will be essential to the effective implementation of the Master Plan include:

- A comprehensive facilities audit and associated database, to determine the quality of existing spaces, the extent of deferred maintenance needs, and cumulative code compliance issues;
- A classroom utilization study, to determine the availability of 'slack' in the current campus inventory and to evaluate more effectively the ability of the inventory to absorb impacts from major renovation projects that remove classrooms from the inventory for an extended period;
- A building systems and utilities audit and associated database, to evaluate the systems currently used to provide facilities with water, heat, ventilation, electricity and communications, and to devise efficient ways to upgrade, consolidate and manage them;
- A technology audit and associated database, to assist technology decision-makers on campus in determining the extent of change required to campus networks and hardware and software inventories;
- A parking permit database, to determine the exact number of faculty, staff and students by class who are issued different types of permits at the Kingston campus;
- A traffic safety and enforcement database, to identify safety 'hot spots' on campus, and to help determine where improved signage, lighting, or traffic control systems are required;
- Most importantly, **integration** among the various databases, to eliminate redundant data that are often incorrect or misleading, and to ensure that changes made in one administrative unit or department are reflected throughout the campus.

Databases alone will not implement the Master Plan, however. The various committees charged with making recommendations to the President and his team must be empowered with accurate information, with a clear understanding of their charge, and with a broad overview of the committee's role in improving the campus and implementing the Master Plan. Most of the necessary committees listed below already exist in some form.

Planning and Zoning Committee

This committee does not currently exist at URI. Its charge would be to evaluate all proposed physical projects on campus (new buildings, additions, renovations, roadway changes or landscape changes) to ascertain the project's compatibility with the Master Plan goals and with current needs on campus. It would need a regular, reliable schedule of meetings; a consistent and fair method of bringing a project before the committee; and the ability to make substantive recommendations to the President.

Transportation Policy Committee

This committee currently exists on campus as the Traffic and Parking Committee. Its charge would include review of all aspects of transportation on campus: traffic control, parking, and the shuttle system. If a new transportation office were created, as recommended below, this committee would work closely with that office to develop campus-wide transportation policies.

Academic Policy Committee

Technology, the changing demographics of URI's student body, and rapid changes in the national and regional economies may require fundamental changes in how the University delivers its educational services. These unforeseen changes in academic policy may in turn have significant effects on the University's physical environment, requiring changes in classroom technology, or entirely new facilities to seize on new pedagogical opportunities. Thus the Academic Policy Committee should coordinate regularly with the Planning and Zoning committee to ensure that the campus continues to serve the University's academic mission effectively.

Design Review Committee

The design review committee should review and refine the Master Plan architectural design guidelines, the landscape standards and the signage standards for the campus, and coordinate them with other aspects of the University's public image. The committee should meet at established points in the design process with consulting architects and engineers designing facilities and open spaces on campus, to ensure compatibility with the University's design standards. The design review committee should also coordinate with the ad hoc building committee established for each project, to ensure that as the design evolves the basic intentions of the design standards are met.

Ad Hoc Building Committees

Each major building project on campus, be it a new building, or the comprehensive renovation of one of the older buildings, should have its own building committee. This committee, made up of representatives from the users of the facility, the Planning Office, Capital Projects and Facilities and Operations, would be the primary client oversight group for the architects, construction managers, and contractors through the design and construction phases. During design, the

building committee would clarify program elements, such as proximity and adjacency within the building, and serve as the arbiter of any value engineering that must occur. The group would meet less frequently during construction, convening regularly to hear status reports from those involved in construction and resolving outstanding program issues as they arise.

Transportation and Parking Function

An Office of Transportation and Parking Management should be established, either as supplementing the existing transportation and parking function within the Office of Public Safety, or as a separate office. Its roles would be to:



Visitor parking, particularly for prospective students and their families, is a critical element of the campus circulation system.

- establish and enforce parking fees and campus parking zones for faculty, staff and students by class;
- establish transportation fees;
- manage the operations of the Parking Garage, either directly or through a private operator;
- coordinate with the Convocation Center to manage traffic and parking during events;
- manage the operations of the campus shuttle;
- coordinate with RIPTA on establishing, monitoring and adjusting bus routes and other shuttles serving the campus;
- work with students to establish and manage a high occupancy vehicles parking lot, student-operated shuttles and other traffic demand management initiatives;
- work with the Transportation Policy Committee to develop and implement policies and initiatives that will improve traffic and parking on campus;
- work with Capital Projects and Facilities and

Operations to coordinate capital improvements and maintenance of campus roads and parking areas;

- work with the Board of Governors and state legislature to restructure the share of parking violations revenue that accrues to the University of Rhode Island.

Physical Planning Function

To bridge the roles of charting the general course of the University on the one hand, and implementing specific capital projects on the other, ranging from routine repair to major renovation and construction, an Office of Planning should be established. Either as a function of Strategic Planning or as a separate office, the Office of Planning would:

- serve as the advocate for the Master Plan and oversee its implementation over the next ten years – addressing deferred maintenance, renovating buildings and landscapes and building new facilities;

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The Office of Planning would bridge the roles of strategic and facility planning, and oversee the implementation of the master plan.

- translate the vision and institutional direction set forth by the President and Board into manageable, prioritized projects that are consistent with the long-term Master Plan goals;
- work with Strategic Planning to regularly review investment priorities set in the Capital Improvement Program against the University's institutional and research goals: ongoing activities, new directions, new opportunities and initiatives;
- work with specific projects' Building Committee to develop the space program and cost estimates of new construction or renovation projects, either through external services or in-house, and articulate the implications of each space program on the rest of campus space and operations;
- with the Planning and Zoning Committee and individual Building Committees, balance the space and funding needs of specific projects against those of the overall campus;
- work with Capital Projects and Facilities and Operations to coordinate the design review, cost management and maintenance of capital projects;
- quantify and qualify future space needs by maintaining and updating the University's space inventory, adopting a new system if necessary to ensure that the inventory is accurate, complete, responsive to queries and capable of producing relational reports;
- maintain and update other databases and information systems necessary to assess needs, make project decisions and produce accurate reports.

Design Review Function

Within the Office of Planning, or as part of Capital Projects, a Design Review function should be established. Design Review staff should be trained and experienced in a design profession and perform the following tasks;

- work with the Design Review Committee to refine and adopt the Master Plan's design guidelines, including architectural design guidelines for different districts within the Kingston campus, and design standards for landscape architecture and signage;
- review all major capital projects – buildings and public spaces, new construction and renovation – at the schematic and design development stages, to ensure their compliance with the University's design guidelines;
- work with the Building Committee of specific projects to coordinate design development and resolve early in the process any design issue that may arise;
- review all signs – building identification, campus orientation, traffic and safety; minor capital projects of exterior renovations to building envelope; and landscaping projects of paths, parking areas, plantings and site furnishings, to ensure their compliance with the University's design guidelines.
- coordinate with Facilities and Operations staff to ensure that installation, replacement, and maintenance practices adhere to the University's design guidelines.

Funding

In the past, capital budgets for URI projects often proved to be inadequate when construction bids were received. The gaps resulted either because construction costs had been underestimated in the first place, or yearly inflation had been insufficiently factored into the Capital Improvement Program, or both. In the latter cases, the line item budget of a project at the time of its initial feasibility study remained the same several years later when the project had moved through the CIP pipeline and was ready for design and construction. Asset protection funds were sometimes used to complement insufficient capital budgets. Although this practice was possible incrementally, at a slow rate of growth, and produced miracles of accomplishment against odds of insufficient funds, it has also produced enormous costs of deferred maintenance which can no longer be ignored. Above all, this practice cannot be used at the rate of growth and scale of projects envisioned in the Master Plan.



The greenhouses gardens are among the most meaningful spaces on campus for generations of alumni and potential donors.

- All capital project cost estimates should account for the full development costs of the project: site preparation, construction, equipment and furnishings, and soft costs of design and other fees. Per square foot construction costs should reflect current standards in the industry for each building type found on campus: classroom, lab, library, office, residence, etc.
- A cost escalation should be included and adjusted yearly in all project budgets of the Capital Improvement Program, to project true costs over time and protect the University, bond holders and tax payers not only from ordinary inflation but also fluctuations in the Rhode Island labor market.

To complement education and state bonds, capital fundraising campaigns should continue to be organized, as they rally and gauge early support around projects, strengthen ties with alumni and other networks, and protect public funds. Of particular promise for fundraising campaigns are landscaping projects, which can transform the campus in more dramatic, imageable ways than individual facilities, improve the image and function of the campus for more users and visitors and attract the attention of a great number of small donors.

Earmarking a percentage of project budgets for contributions to the “civic space” of the campus is another effective way of funding landscaping projects. It has been used by other state universities to implement major improvements to public spaces important to the campus image, such as quads, courts, pedestrian malls, trails and linear parks, which fall beyond the immediate project boundaries of individual buildings.

The Master Plan recommendations by district should be used to illustrate distinct fundable projects, demonstrate how they fit within the long-range future of the campus, and attract investment interest.

Implementation Strategies for Priority Landscape Projects

Landscaping and Capital Improvement Projects

Set aside 5% of every Capital Improvement Project should be set aside and used strictly for above-grade landscape improvements (separate from utility improvements) to provide a fair and generous contribution to the civic landscape. At Ohio State University, this required a change in state legislation.

Realistic site improvement budgets should be established, according to the master plan recommendations, and incorporated into the Capital Improvement Plan Budget. As is the case at many universities, initial site budgets are chronically underfunded and usually shrink further during construction to absorb construction cost overruns. It is important to keep adequate funding in place so that the landscape can be restored to a consistent level of quality.

Site Repair Mechanism

Set aside an escrow for site work prior to construction, and hold payment to the contractor until site repair has been satisfactorily completed. Facilities management staff is often frustrated by the damage done to the landscape by outside contractors, often without any recourse. Currently there is no adequate measure to assure post-construction site repair, and facilities management staff must often complete the work themselves.

Fund for Civic Landscape

The 5% set aside for Civic Landscape in Capital improvement Projects should be paid into a University-administered fund, to be used for significant landscape projects not directly connected to a building construction project. The fund should be used for general site lighting, site furnishings, restoration of mature vegetation, or other types of campus-wide site improvements.

Donor Opportunities

The Planning and Design Staff should coordinate with the URI Foundation to establish potential donor opportunities for landscape improvements, for a variety of dollar amounts. Examples of small projects (\$5,000 - \$15,000) include:

Benches should include funding for the purchase of the bench (or benches), the recommended bench pad, trash or recycling receptacles if appropriate, the installation of each, and ongoing maintenance.

Trees should be selected based on the University Landscape Architect's five-year plan for tree replacement. For example, the University has a good relationship with local nurseries that donate trees. If the restoration of the quadrangle is planned for 2004, the Landscape Architect should inform the nurseries soon so the plant material is available when needed and could be donated to the University.

Projects that are unlikely to be included in the Capital Improvement Plan (because they are more primarily aesthetic improvements to the campus) could be funded in pieces through smaller contributions of discrete design elements. For example, individual donations to purchase a set of stairs could assist in funding the Elephant Walk, or for a walkway across the quadrangle, or the purchase or donation of a piece of art, etc.

Repair, Renovation and Maintenance Budgets

These budgets should be used to educate staff in maintenance procedures, the impact of soil compaction on vegetation, etc. They can also be used to purchase necessary equipment for ease of ongoing maintenance requirements that are currently difficult with existing equipment or are contracted to outside contractors

Renovation and maintenance budgets can also provide funding to establish a tree management plan and continued maintenance program. A tree maintenance program that assesses the location, caliper, age, and condition of the trees on the

main part of campus would be useful in determining the true value of the campus landscape as a resource, and would help the Facilities Management department respond quickly to losses due to storms or construction. The Urban Forester of the State of Rhode Island could assist with this project, or the horticulture department could use this project as an educational opportunity.

Special Event Assessments

Assess on and off-campus users of the campus landscape for the costs of landscape restoration (as a fee for use of the land), to support a general fund to be used by the University Maintenance Department to repair and maintain the landscape

Project Evaluation Criteria

Part of the implementation of the Master Plan will consist of evaluating proposals for new projects from external sponsors. Some proposals in the past were accepted and implemented on the basis of their merit as stand-alone projects, or in the absence of competing uses, at that time, for land and buildings. The Master Plan's goals, policies and major recommendations should now provide a framework for evaluating such projects, as well as projects internal to the University.

In addition, to obtain consistent and comparable information from project proposals, and provide the basis for objective evaluation, the Master Plan has developed Project Evaluation Criteria, contained in the Appendix. Project sponsors are asked to describe their proposal according to the benefits and costs that would accrue to the University. This information is similar to what would be provided to the planning and zoning boards of a town or to file a project notification form with the state. The University then uses this information to assess the relative merits of the proposal and make a decision to accept or reject it, or accept with conditions. The Master Plan proposes that this decision be a two-step process where the proposed Planning and Zoning Committee evaluates the proposal and makes a recommendation to the proposed Office of Planning which makes the final decision, subject to the President's approval. In the interim, the Project Evaluation Criteria can be used by a Project Evaluation Committee made up of representatives from Strategic Planning, Business and Finance, Capital Projects, and Facilities and Operations.

The first part of the Project Evaluation Criteria is filled out by the sponsor and requires information on the following:

- project summary description: type and size of facility or operation
- sponsor qualifications
- benefits to URI
- benefits to the larger community
- project requirements and impacts
- site requirements
- facility requirements
- traffic and parking
- infrastructure needs
- operations
- construction and total development costs
- maintenance
- land lease or other terms desired

The second part of the Project Evaluation Criteria is filled out by the Planning and Zoning Committee for the Office of Planning, or by a Project Evaluation Committee of the administration, and uses a rating system to assess the merits of the proposal in the following categories:

- benefits to URI
- benefits to the larger community
- traffic and parking impacts
- land use compatibility
- site availability
- environmental impacts
- infrastructure needs
- facility design
- operations
- financial plan

The project needs to demonstrate a net contribution to the mission of URI, and be consistent with the goals, policies and direction of the Master Plan.



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