LAND AND BUILDING ESTHETICS
COMMITTEE REPORT - DRAFT

The Chancellors’ Strategic Initiative 5.1

June, 2009
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**Committee Charge**

UMASS DARTMOUTH
Strategic Plan Goals and Objectives
Implementation Strategies

**Goal 5:**

An effective physical, technical, fiscal and human infrastructure is in place to support academic activities.

**5.1 Physical Objectives:**

Establish a committee to include, but not be limited to, staff/faculty from CVPA, Public Relations, FPDC to develop goals and standards for renovations and new buildings with a focus on aesthetics, sustainability, signage and the Facilities Master Plan.

**Opening Statement to invite committee members:**

As part of the Chancellors’ Strategic Initiative, a committee shall be established with the assignment of examining architectural and site esthetics on campus.

The Committee will consider new building design standards, renovations, campus site elements (hard and softscapes) and site furnishings (seating, lighting, outdoor eating, plantings, etc.) Environmental sustainability elements will also be integrated with our overall approach to each sub category.

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**Established Vision**

*Embrace, celebrate, enhance and maintain Paul Rudolph’s vision for housing a University community and its only coherent realization in the country. We aspire to realize this bold vision by maintaining Rudolph’s essential design by adhering to its central design principles and featured materials, by adding the bold color the design envisioned, by adding principles of sustainability, by developing a coherent landscape and outdoor living environment for those who visit, work and live at the University.*
Introduction

The committee:

The committee first met in the Summer of 2007. Committee members were choice to include a wide range of constituents throughout the Umass Dartmouth community. A few students had been originally invited to join the committee, but never showed up to the meetings. Four meetings were held in the next year and a half, one of which was an open forum and was advertised and held in the Browsing Area of the Library (image #1).

General Meeting Agenda:

New Building Construction
  - Architecture / Aesthetics / Standards
  - Sustainability
  - Signage
Renovations to Existing Structures
  - Aesthetics / Standards
  - Sustainability
  - Signage
Campus Site
  - Campus Site Aesthetics / Standards
  - Sustainability
  - Campus Signage
  - Landscaping
  - “Gathering Spaces”
  - “Exterior” Food Court
  - Physical and Visual Comfort

Temporary Garden Spot

Campus Aesthetics Forum presents
THE GOOD THE BAD AND THE UGLY

Image #1 - Aesthetics Open Forum Announcement
Executive Summery

As the discussions evolved during committee meetings, it was decided that the focus of this report would concentrate on the exterior elements of the campus. What are the impressions of visitors and perspective students when seeing the campus for the first time? What message is the visual impact of the architecture, the landscaping, and the outdoor living space? Does the university have the opportunity to not only attract student to apply at UMD, but to also to retain those very students.

Umass Dartmouth has an incredible architectural story to tell. Is that story being told correctly, positively? (Image #2) Are we doing all we can to make the university a vibrant, visually exciting, engaging place to be?

This report tries to address these questions and offers a series of recommendations. The overriding recommendation is to procure the services of a professional landscape planner to conduct a master landscaping plan. This plan would act to identify problem areas and subsequent solutions that would be needed to improve the appearance of the campus.

In the current economic environment, and while understanding the goals of the university related to spending limited resources, a less costly consultant fee options should be examined. It is understood, that resources should be directed to line items that has the potential to raise revenue, such as student attraction and retention. This would dictate an investment in moving forward with the recommendations.
of this report. One possible strategy to greatly reduce the cost of hiring a Landscape Consultant may be considered and timely.

It may be beneficial to work with the Landscape Architect that has been hired, and is currently working on the Library Renovation Project. It is likely we could add scope to their contracted work, to continue research they’ve already been retained to complete at a much reduced cost to the university. This potentially, could save thousands in fee’s when related to “starting from scratch” with a separate contract for a landscape architect.

As mentioned earlier, this Report focuses on what the exterior space’s look like, from the outside, or what is seen from the exterior. While items like window treatment is an interior component, it is considered in this report because of the visual impact from the outside. A future committee, administered by FPDC will continue work on the interior standards of the university.

We hope this report will be received as a positive proposal with the overriding objective of helping the university grow and while making the University of Massachusetts Dartmouth a more exciting place to study, work, visit and ultimately stay.
General Recommendations

1. Articulate Rudolph’s vision, both architectural and landscaping, to be used as a guiding principle for long term design decisions. Consult with architectural and landscape professionals that are familiar with brutalist architecture and modern style campus landscaping design. Develop a scope of design services.

2. Maintain focus of the architectural integrity of the campus, by adhering to the Chan Krieger & Associates, architecture design guidelines. Pursue possible historic designations, archival collections of Paul Rudolph and the development of a gallery, dedicated to his architecture.

3. Engage a Landscape Architect to develop our priorities, review existing condition and develop a master landscaping plan, including planting, gardens, art and sculpture, as well as, outdoor communal spaces. This study should also include, an analysis of staffing requirements.

4. At the completion of the master landscaping plan, the university should engage a landscape consultant to carry forward the individual recommendations of the plan and to design and supervise construction/procurement of the specific goals and priorities.

5. That the university takes advantage of all options to fund beatification projects, through fund raising, grant opportunities, and voluntarism.

6. Hire a dedicated landscape professional to advise and maintain "Special Gardens" and elsewhere and to staff division of grounds appropriately.

7. Provide appealing outdoor living spaces for the central campus.

8. Develop an “Adopt a Spot” program, which would include; small gardens that are planted and maintained by an individual, student organizations or departments or even outside the UMD community. (Image 3 and 4)

9. Investigate the possibility of restoring the vista toward Cedar Dell Pond.

10. Develop a plan for and convert fields to a sustainable landscape. Native planting should be specified to encourage sustainable landscapes.

11. Promote the university through communication, possibly a pamphlet on the architecture of the campus and its important history. Provide training to campus tour guides to promote the rich architectural style and vision.
Building Architecture

It is the recommendation of the committee to support the adoption of the Facilities Master Plan “Architectural and Planning Design Guidelines” as the building design standard for the University of Massachusetts Dartmouth. The following is excerpts from the Facilities Master Plan.

Architectural and Planning Design Guidelines

UMASS Dartmouth Master Plan
Chan Krieger & Associates
Architectural and Planning Design Guidelines

Introduction

The original architecture on the University of Massachusetts Dartmouth campus represents the uniquely singular and consistent architectural vision of Paul Rudolph, one of the leading American architects of the era. Preserving the integrity of this architectural vision is an important goal of the campus and facilities master plan currently in progress. Governed by a strong and coherent original master plan by Rudolph, the University is a unique example of a fully executed modern American campus, designed with a signature style of one of the most distinctive architects of his generation.

The specific style and building techniques employed by Rudolph belong to a particular period of American architecture and are not practical by current construction methods or design standards. However, in spite of significant shifts in design approach and execution, it is critical that the spirit and integrity of the original campus be respected and reinforced in the design and construction of future buildings.

Master Plan

The current master plan locates future buildings in a manner intended to preserve the unity of the central campus. Expansion opportunities have been delegated to either beyond the ring road or within the zone between the ring road and the rear of the original buildings. This is a conscious preservation strategy intended to respect and maintain the strong visual continuity of the central campus. An important part of this visual continuity is the open space vista seen from the center of campus toward Cedar Dell pond. The master plan designates that no structures should be built within this corridor, nor should any structures be visible from the central campus along the edges of the vista. The potential residential sites identified along the edge of the vista should be properly screened from the edge of the open space by maintaining in part the dense vegetation that exists along the edge of the open space.
As a general approach to the architectural design of new campus buildings, the master plan recommends that any new development should not seek to mimic the particular style of the original architecture. Attempts at copying the Rudolph designs would not only be impractical from a construction standpoint, but would also undermine the unique qualities of the original buildings. Instead, the master plan guidelines are governed by the principle that any new construction be contemporary in style, in keeping with the modern spirit of the original Rudolph campus. The notion of “contemporary” architecture need not be mistaken for the notion that new buildings must be individualistic or “signature” in the manner that Rudolph’s buildings were considered. On the contrary, the guidelines suggest that the campus would be well served by new buildings that can be thought of as “background” buildings that are simple, understated and unadorned, but still in keeping with a modern and contemporary approach to massing, materials and detailing.

**Materials**

Exterior cladding should be masonry units of a neutral color. Variations can be made in the texture of the units (i.e. split face block, ground face block).

Brick masonry units may be used but only in neutral colors. Brick color ranges that suggest historical or vernacular models should not be used (i.e. Georgian, Colonial styles that traditionally use red brick).

Pre-cast panels may also be utilized, within neutral color ranges. Pre-cast courses such as lintels, sills, cornices or parapet caps shall not have profiles suggesting historical or vernacular models.

Sheet metal cladding may be used in neutral tones such as lead coated copper or zinc.

Metal panels should not be used as exterior cladding unless incorporated into storefront or curtain wall spandrel panels.
Massing:

Buildings shall be 3 to 4 story in height.

Roofs shall be flat or concealed behind a parapet when visibly sloped.

A pitched roof may be revealed if sloped in one direction, such as the roof top monitors on the main campus buildings

Buildings shall not employ traditional or vernacular roof forms such as gables, mansards, hipped roofs or dormers.

Bay projections are encouraged, particularly as a means to represent housing modules. Bays shall not recall historical housing models and shall be constructed of materials identified above.
Special Gardens and Spaces

The Committee hereby recommends that special places on campus remain preserved and maintained. This is best described in the "Campus Gardens" Web Site
http://www.umassd.edu/garden/welcome.cfm and by the work of Jim Sears, Professor of Biology (retired) and Donna Huse, Professor of Sociology.

This committee also concurs with the recommendations of Section-5, "Site and Landscape" of the Facilities Master Plan.

http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf

Furthermore, the Committee recommends:

1. A registered landscape designer shall be consulted with on any major landscape initiative or any modification to the following existing gardens or spaces:
   a. Main Entrance Gardens
   b. The Arboretum (Image 5)
   c. The Entrance Pond (Image 6)
   d. Cedar Dell Vista
   e. And including all garden’s list in the Campus Gardens Web Site

2. That native species of planting material be considered in all campus landscape designs and planting changes.
3. Wherever possible, use reclaimed water (rain water or grey water) for irrigation.

4. That proper financial and human resource is made available to properly maintain existing gardens and landscaped areas.

5. That no major changes shall be made to gardens and landscaped areas without prior approval by the Facilities, Planning Design and Construction Department.

6. Sculptures and garden art be incorporated into existing and planned landscape areas.

Aspin Rock Garden
**Gathering Places**

There are a number of predominant "Gathering Spaces" on campus that are used sparingly or not at all. The architecture with protected nodes, open terraces and seating near food services, clearly allows for these spaces to be used, enjoyed and for the students, to see and be seen. The lack of visual appeal, comfort and amenities could be improved dramatically which would lead to a more vibrant and inviting campus environment.

Focus areas should include the plaza immediately west of the Campus Center (images 7 and 8), the steps between the Auditorium and the Liberal Arts Building (image 9) and The more intimate plaza just west of the Clair T. Carney Library (image 10).

This committee also concurs with the recommendations of Section-5, "Site and Landscape" of the Facilities Master Plan.

[http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf](http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf)

Furthermore, the Committee recommends:

1. A landscape designer shall be consulted with and to produce options related to improving the focus areas. Color rendering should be produced to allow visualization of these exterior spaces which may also be used for fund raising efforts. The focus areas shall include:
2. The Plaza to the West of the Campus Center
3. The Plaza area and steps between the Auditorium and LARTS
4. The Plaza just west of the Clair T. Carney Library
5. That all gathering spaces be handicap accessible
6. Smaller gathering spaces should also be looked at and furnished/designed accordingly
7. That the University investigates options that will improve the comfort of the concrete seating
8. That planting materials be incorporated to soften the visually hard, colorless surfaces
9. That new site furnishing be procured and incorporated into the space and in accordance with the approved standard (described later)
10. That Lighting is incorporated in new gathering space designs, and where feasible, electrical power is included in new gathering space design for lap top usage
11. That bike racks are install near gathering spaces
Views and Vistas

This committee concurs with the recommendations of Section-5, "Site and Landscape" of the Facilities Master Plan.

http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf

"Preserving of the grand views and the overall visual character of the Central Quad is one of the priorities that should guide the future development of campus."

Furthermore, the Committee recommends:

1. That existing open spaces in the main quad remain open
2. That the Cedar Dell Vista remains open space with the exception of possible wind turbine installation
3. That recreational activity's continue to be encouraged in these open spaces
4. That wooded areas east of the Science and Engineering Building remain wooded
5. That the appropriate landscaping is considered and existing is maintained along the fringes of these spaces
Greening of the Campus

This committee hereby fully supports all efforts related to campus sustainability and to recognize all state regulatory requirements and including the UMD adopted, "American College & University Presidents Climate Commitment" which works toward climate neutrality. http://www.presidentsclimatecommitment.org/

Furthermore, the Committee recommends:

1. Development of a plan to "Revert to Natural Vegetation"
   a) In consultation with a professional landscape architect, develop a plan and determine areas on the campus that can be left "wild", limiting the carbon emissions from cutting equipment and man hours to maintain these areas. Natural vegetation would also encourage the reintroduction of birds and wildlife. (images 11 and 12)
   b) These sustainable plantings are generally composed of native perennials including wild flowers that are generally maintained with once-a-year mowing. The reduction in man hours can then be re-assigned to improve gardens elsewhere.

2. The purchasing of Sustainable Furnishings:
   a) The University shall utilize the best sustainable practices when purchasing site furnishing products.
b) Products shall use recycled materials and wood from managed forests. Manufacturers shall adopt environmentally sustainable processes while producing products and implement energy efficient systems in their manufacturing facilities. Products shall be designed and engineered for long life cycles while limiting the use of cleaning chemicals. (images 13)

c) Require the use FSC Certified Wood if used

d) In addition, all products shall conform to all state "green" initiatives and whenever practical, meet of exceed LEED SS and MR Prerequisites and Credits.1

3. Other sustainable programs and policies should be considered and or enacted:

a) Alternative transportation, bicycle friendly site planning (images 15 and 17)

b) Landscape and exterior design to reduce heat islands

c) Renewable energy (use of photovoltaic where applicable) (image 14 and 16)

1 LEED SS Credit and MR Credit

Is the section in the U.S. Green Building Council’ LEED (Leadership in Energy and Environmental Design” that focuses on Sustainable Site and Material & Resources sections.
d) Recycled content of building products

e) Local/Regional materials, harvesting and extracting locally

f) Institute Environmental tobacco smoke (ETS) controls

4. Promote the use of Wind Turbines if applicable

a) This committee recommends and endorses the use of wind turbines as reasonable and appropriate.

b) Beside the practical generation of electrical power that a wind turbine brings, the committee contends the added benefits of both a research tool and will also bring a strong visual "symbol" of this universities' commitment to "Greening" the campus.
**Alternative Transportation**

**Pedestrian / Public Safety**

This committee concurs with the recommendations of Section-6, "Site and Landscape" of the Facilities Master Plan. 


Furthermore, the Committee recommends:

1. Continue traffic and parking analysis, distribute any reports to the campus community for comment and implement adopted plans as funding become available.

2. Continue to encourage bike use by installing bike paths, bike racks, bike storage facilities at the housing locations, changing room facilities and conform to the LEED SS Credit 4.1 "Alternative Transportation".

3. Promote "Bike to Work" programs and study incentive options to students and staff.

4. Analyze pedestrian traffic and determine where improvements may be made.

5. Continue studying and improving the shuttle program and work with off campus entities to provide service to best suite the needs of of the student and staff members that are interested in utilizing mass transportation.

6. Consider and encourage the use of low-emission & fuel-efficient vehicles by offering preferred parking spaces.

7. Improve lighting on road ways and Pedestrian walks

8. Install CCTV camera security system

9. Install fencing to the back side of the parking lots

10. Add call boxes as appropriate

11. Maintain the shuttle service

12. Encourage late night walk programs

13. Parking control systems

14. Reduction of 'blind" spots around the campus

15. Maintain the newly installed campus wide emergency notification system.

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2 LEED SS Credit 4.1 "Alternative Transportation"^2

Is the section in the U.S. Green Building Council’s LEED (Leadership in Energy and Environmental Design) that focuses on Alternative transportation.
Signage and Wayfinding

This committee hereby supports and recommends funding for the continued effort of the Facilities, Planning, Design and Construction Department in installing exterior signage in accordance with the 2005 Graphic Master Plan.

The exterior signage plan includes:

1. Main Entrance Sign
2. Parking Lots
3. Exterior Way Finding
4. Campus Maps
5. Building Department Identification
6. Building (Ceremonial Building Name) Entrance Identification
7. Regulatory / Traffic Signage
Accessibility (ADA - Handicap Accessibility)

This committee hereby supports and recommends funding for improvements to existing site structures to improve handicap accessibility on the campus.

The university should self identify and prioritize areas that do not meet the America's with Disabilities Act or the State of Massachusetts Access Board.³ This committee also concurs with the recommendations of Section-4, "Accessibility Assessment" of the Facilities Master Plan. http://www.umassd.edu/masterplan/masterplanfiles/ch4.pdf

³ Architectural Access Board, 521 CMR, Handicap Accessibility Code in Massachusetts
Policy, Standardization and Review Standards

This committee hereby supports and recommends the establishment of a policy that addresses the need for a formal review process to ensure compliance with university standard and aesthetic goals and objectives. See Sample of such a policy in the Appendix.

The following language\(^4\) is a sample of what may be the mission of such a policy:

1. Structural / Hardscape Projects

   "Any undertaking of facilities remodeling, altering, renovating or maintenance; or an addition to, demolition of, or new construction of any building or structure; development of the landscape; or the placement of a work of art, exterior signage, banners or other improvement, visual or otherwise of real property" (added) shall be reviewed by the Facilities, Planning, Design and Construction Department for compliance with university standards and to insure coordination takes place related to planned projects that may conflict with a new request.

2. Landscape

   "The design, location, construction or planting of ground cover, shrubs and trees; plazas, fountains, pools, sidewalks, parking lots, roads, drives, bicycle racks, benches, kiosks and other exterior furniture."

\(^4\) http://bf.unl.edu/fmppolicy/AestheticsReviewCommittee.shtml
3. Impact on the exterior aesthetics of a campus

"The visual impact of any exterior change, system of changes or addition to real property owned by the University and located on campus."

Furthermore, the Committee recommends Policies be considered that address:

1. Vehicles on the Inner Campus
2. Functions or Sodexho Involvement (outside food venues)
3. Visual impacts from the exterior of buildings of interior materials, such as window treatment
Specific Elements

This committee hereby supports and recommends that site standards be developed in concert with a registered landscape designer or architect. It is the intent to provide a more unified look when specifying site furnishings. In order to accomplish this, all purchasing should be in accordance with the approved standards and verified for compliance. The following site specific elements shall be the basis of a more formal report that will follow. This committee also concurs with the recommendations of Section-5, "Materials" of the Facilities Master Plan.

http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf

Furthermore, the Committee recommends the following:

1. Concrete Pavement (Pedestrian) Expose Aggregate shall match the existing in all predominate locations in including (image 17).
   a) All patching areas where exposed aggregate already exist
   b) All new walkways within the center campus shall be exposed aggregate

2. Bituminous Pavement shall be used in less predominate locations such as walkways outside of the Ring Road and walks leading from the parking lots toward the center campus (image 18).

3. Crosswalks shall be installed as needed to protect pedestrian traffic at all road crossings. Also, it should be considered, at
heavy use crosswalk the use of "blinking lights and other "traffic calming" techniques. All other crosswalk should include the appropriate signage, stripping and hatching in accordance with State highway regulations.

4. Establish a plan to provide proper walkways that more closely match actual traffic patterns, both pedestrian and vehicular. (image 19).

Site Furnishing

The Committee hereby recommends that Site Furnishings be specified and placed in accordance with the Landscape Master Plan and that these furnishing be sustainable, colorful, durable, costly and offer the ability to be replaced with similar products in tim.

Gathering spaces can be individually designed but should conform to a common theme throughout the campus. This will be further defined in the Landscape Master Plan when developed.

This committee also concurs with the recommendations of Section-5, "Site and Landscape" of the Facilities Master Plan. 
http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf

Furthermore, the Committee offers the following statements:

1. The University of Massachusetts Dartmouth has a strong modern architectural palette and it would be inappropriate to specify ornate furnishings. A standard furnishing should be of a modern style in a retro sense or as an updated rendition of "modern" without being overly trendy. Simple forms, clean
lines, solid and strong are a few attributes that could be considered as appropriate.

2. Materials should "speak" to the original architectural of the campus. Obviously concrete is used throughout the campus and would be an acceptable material. Steel (painted black or otherwise) is used heavily on the campus and found at all window frame/mullion and handrails. Aluminum (usually brushed) is a very popular product in higher end site furnishings. While the original architecture has little aluminum, this material is of the modern or contemporary (industrial) style and may be acceptable. Natural wood product has not been used and should be avoided if at all possible. Incorporating a lively color (possible university branding) palette would also be welcome if used consistently.

3. It is not the intent of this committee to specify actual manufactures, products, colors, etc. Companies change product lines and go out of business. It is also understood that at some point, products do need to be purchased and should be chosen in respect to style, quality and cost, and follow the "standards" for site furnishing that are in place. Consideration should be given to how products "blend" with not only their surroundings but the other site furnishings.
Site Lighting

Much like the statements above, site lighting should complement the esthetic style of the campus. This committee also concurs with the recommendations of Section-5, "Site Lighting" of the Facilities Master Plan. [http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf](http://www.umassd.edu/masterplan/masterplanfiles/ch5.pdf)

Furthermore, the Committee recommends the following:

1. That wherever possible, site lighting should be sustainable or the most energy efficient fixtures available that provide the adequate lighting levels.

2. That any road side fixtures be easily replaced cost effective and includes safety (pole break away) features that limit potential injury to vehicular passengers.

3. That inner campus pedestrian light is of a higher quality and more stylistic.

4. That Building lighting be incorporated or re-activated to highlight the architecture as in versioned by Paul Rudolph.

5. That Lighting installation be installed whenever practical, meet of exceed LEED SS and MR Prerequisites and Credits.
Sculpture / Artwork

Much like the statements above, exterior Sculpture and Artwork should complement the autistic style of the campus. The Facilities Master Plan does not specifically mention the use of Sculptures or Exterior Artwork. It is the recommendation of this committee that we indorse and promote the use of Sculptures and Artwork to add visual interest and culture to our outdoor spaces.

Furthermore, the Committee recommends the following:

1. That we believe sculptures represent opportunities to liven, delight, surprise and enrich the daily lives our students, teachers, and community members.

2. That sculpture can add culture and attract visitors to our campus and enrich the cultural and intellectual life of the campus and the surrounding community.

3. That sculptures and artwork add color, vibrancy and excitement to our exterior spaces.

4. That the university takes advantage of all options to fund sculpture and exterior artwork projects, through fund raising, grant opportunities, and voluntarism.
Appendix

Appendix #1 – Umass Dartmouth Facilities Master Plan, Chapter 5

Appendix #2 – Umass Dartmouth Facilities Master Plan, Chapter 6

Appendix #3 – “The God, the Bad and The Ugly” Meeting Minutes

Appendix #4 – Sample Exterior Design Review Policy, University of Michigan – Ann Arbor Campus
SITE AND LANDSCAPE

A comprehensive study of existing site conditions has helped identify critical aspects in need of improvement and opportunities for future development, thus greatly informing the Master Plan recommendations. The site analysis was based on compiled records, site observation, site inventory, and interviews with campus officials.

The following sections present assessment, as well as recommendations pertaining to the topics below.

- Circulation
- Environmental Conditions
- Site Features and Visual Aspects
- Planting
- Materials

An overall Master Plan Concept drawing later in this chapter summarizes the recommendations on a campus-wide level. Finally, several illustrative design studies present ideas for site improvements of key areas on campus.
Circulation

A. Overall Traffic Pattern

The campus circulation can be described as a radial scheme, with the Ring Road encircling the academic campus and vehicular and pedestrian links to the core as the "spokes of the wheel". The circulation scheme, featuring a clear distinction between the vehicular outer ring and the pedestrian core, was compatible with the original commuter college concept with students residing off-campus and commuting to class. With the transition into a residential campus and the addition of dormitories within walking distance to the campus core, the original traffic concept has been challenged with a new layer of pedestrian circulation crossing the Ring Road. With the recent enrollment boom there also appears to be a perceived shortage of parking. (A traffic study conducted in support of this Master Plan has quantified the actual parking needs; for specifics see the Traffic section of this report.)

Within the campus core circulation is exclusively pedestrian. One of the issues here is the inadequacy of the existing outdoor gathering spaces in terms of accessibility, comfort, and contemporary usage, due to their often overwhelming proportions, choice of materials, and lack of shading.

Some overall circulation objectives, such as improving overall safety and wayfinding, reducing the dominance of the automobile, increasing pedestrian circulation within the campus, and meeting the parking requirements, have become especially critical with the continuing growth of the campus.

Below is a more detailed assessment of some existing circulation features and issues, followed by recommendations for improvements.

B. Vehicular Concept

Vehicular circulation dominates the outer belt of the circular campus scheme, specifically the Ring Road and the belt of parking. Vehicular traffic reaches into the campus core near the Campus Center / Dining Hall for dropoff, handicapped access, service access, and Administration Building parking. There are several other service access points into the core as well.

There are several shuttle stops throughout campus and the residential areas for the van service (DART). A regional bus stop (STRA) is located at the campus center. Refer to Traffic section for particulars on the campus public transit.

The circulation scheme was originally designed with the commuting student in mind, to separate traffic coming from out-of-campus (vehicular) from traffic within campus (pedestrian). This scheme had little need for pedestrians to cross the Ring Road and therefore the roads were designed primarily for vehicular traffic. The two major components of the traffic scheme, the entry road and the Ring Road, still connote the predominance of the automobile. The campus entry road resembles a divided highway with its three-lane entry and exit drives, separated by a 45-foot wide planted median. The Ring Road is a wide two-way corridor lined with parallel parking along the outer edge, but no sidewalks; its width and broad curvature encourages motorists to speed.

C. Service

There are several service access lanes to the academic buildings and the Campus Center. Most are designated for service only, except at the Campus Center and the Liberal Arts cluster, where vehicular and service circulation overlap.
The latter also coincide with major pedestrian access points to the campus quad, creating a conflict point with vehicular and pedestrian traffic at this area requiring the highest volume of service.

Along with the formal service lanes, some of the pedestrian paths are used for service access as well. Not being designed to accommodate service traffic, some of the paths display damage such as soil erosion at the Cherry Allée along the Grand Vista. Paving wider paths that allow for service vehicle access at known service routes is recommended for ease of maintenance.

D. Parking

The existing parking forms a circular belt between the Ring Road and the campus core buildings; it is comprised of a series of typical lots clustered together and sharing entry / exit lanes. Coordinated site signage denotes the lot number and the campus building it serves. The parking is screened from the road by a dense wooded buffer. On the inner edge, the parking lots are lined with earth berms for visual screening. Pedestrian pathways intersect the berms, leading towards the campus core.

While the wooded buffer and the berms serve well their intended role as visual screens, from the point of perceived safety, some of the less-used parking lots may feel secluded and unsafe. Additional lighting and emergency call boxes may alleviate this perception.

Interviews with campus officials have established a perceived need for additional parking. The wooded buffer between the lots serving Visual Arts cluster and the Ring Road has been identified as a possible area for parking expansion.

E. Pedestrian Circulation Pattern

The campus core is a pedestrian enclave within the vehicular outer ring. The existing circulation scheme overlays the central quad pedestrian circulation with the more recent pedestrian routes from the residential areas into the campus core. The scheme features radial paths leading from the ring of parking towards individual academic buildings, and within the central quad, a fan-shaped pattern of paths delineating the edges of the lawn plateaus.

The major campus pedestrian routes are:

- from East Campus Residence to the Campus Center / Dining Commons and up to the Central Quad.
- from Cedar Dell Residences along the Cedar Dell Vista (Cherry Allée) and Visual Arts to the Campus Center.
- from Campus Center to the Library and Science cluster.

The outdoor circulation features colonnades at the base of the buildings, stepped plazas, and ramps between different grade levels in the terraced central quad. There are also complex connections within the buildings from one cluster or level to another.

F. Conflict of Vehicular and Pedestrian Traffic

With the addition of dormitories beyond the Ring Road this well-traveled vehicular ring has become a dividing barrier for students walking from the dormitories. Recognizing the need to regulate the pedestrian / vehicular conflict points, a few pedestrian crossings have been marked at major pedestrian routes, and a traffic light has been installed at the crossing from East Campus Residences. Other traffic calming
Entry Area Enlargement

1. Fields and Observatory at Campus entry
2. Arrival from Old Westport Road
3. Entry Sign
4. Entry Lanes - Way In
5. Dropoff Area and View of Campus
6. View to Core from Ring Road
7. Pear Allée
8. View of Campus Center from Pear Allée
9. Campus Center Entry
10. Campus Center Dropoff

Circulation
Visitor Arrival to Campus Center
measures are being planned as well, such as traffic cones, light signals, and "neck-downs" (narrowing the road at crossings). These and others are discussed in a greater detail in the Traffic section of this report.

G. Visitor Arrival Sequence

The campus vehicular scheme is fairly simple and should be very clear to those familiar with the campus. However to first-time visitors there seems to be a lack of direction and destination. The circular scheme inherently lacks a sense of spatial hierarchy that could help with wayfinding; moreover, the wooded buffers along the road obscure the campus buildings and hinder visual orientation. The existing arrival sequence to the Campus Center and Visitor Parking, although of particular interest to visitors, lacks visual prominence as well as spatial guidance.

H. Gathering Places

The campus core features a hierarchy of spaces that have been designed as gathering places. They range from the expansive Campus Center Lawn and the monumental Amphitheater, to the small scale of the council rings. Variations on an amphitheater are repeated at the Stepped Plaza, outdoor cafe, and the Dropoff Plaza. The smaller gathering places, including the "Number 9"-shaped sitting areas feature inward-facing concrete benches. The more recently built Council Rings and Memorial Garden, set in lush vegetation, are more informal in nature.

Most of these outdoor spaces, intended as gathering nodes, seem to suffer from lack of use. Perhaps among the reasons for that are the spatial proportions, choice of materials, the lack of shading in some, and the damp shade of others.

I. Pedestrian Issues

Several pedestrian issues emerge as a result of this analysis and assessment. Their successful resolution, as recommended in this Master Plan, would improve the overall pedestrian experience and would further promote walking rather than driving within campus.

- Interface with Vehicular Circulation is the most critical pedestrian issue. In this campus the separation between the two is quite successful, except at the lower plaza between Admission and the Liberal Arts cluster where pedestrians, handicapped vehicles, and service vehicles share the same paved space. Several created paths indicate the need to separate the pedestrian traffic at this major circulation node.

- Pedestrian Crossing of Ring Road. The need to slow down vehicular traffic and provide increased safety at crossings has been recognized and there are several traffic-calming measures already in place at crossing locations. With the development of the residential campus component, the need for sidewalks on Ring Road along the residential areas has become critical.

- Created Paths indicate logical user-created connections that should be considered into the proposed Master Plan circulation pattern. There are several notable instances as shown on the circulation diagram for the campus core.

- Handicapped Accessibility. As it was built in the early 1970s, the campus outdoor circulation may not fully meet the current, more stringent federal and state accessibility requirements. Nevertheless, there's already consideration for outdoor handicapped access with various ramps provided for access at grade changes. The only two points where this is not the case are the stepped entry points to the central
University of Massachusetts Dartmouth Campus and Facilities Master Plan

Circulation: Gathering Spaces
quad at the Admissions and Administration buildings, where handicapped access is provided through the buildings with elevators. An area of special concern is the stepped plaza in front of the Campus Center. The long extents of steps creates a barrier to outdoor handicapped circulation; in addition the typical step height (about 4") is too low to be comfortable for walking or sitting. This area should be redesigned to create a space that is more accessible and attractive.

- Quality of Pedestrian Experience. While this campus in general provides adequate and logical pedestrian connections, in terms of the quality of experience it leaves more to be desired. Aesthetics, environmental comfort, and perceived safety are the issues that must be addressed to enhance the pedestrian experience.

**Recommendations**

A. Reducing the Visual Dominance of Vehicular Circulation

- Modify the Entry Road.
  
  The objective is to abandon the "divided highway look" of the excessively wide right-of-way. One alternative is to narrow down the median to 10' width therefore decreasing the overall visual width of the entry road (see Master Plan Concept Section). The second alternative is to create a secondary entry / exit road through the wooded area east of the campus pond, and to narrow down the existing one to a single two-way road with no median. For specifics on the traffic regulation rationale for the proposed modifications refer to the Traffic Section. From the point of view of aesthetics and experience, both alternatives present an opportunity to create a monumental tree-lined allée that would dramatically improve the arrival experience.

- Create Pedestrian Crossing Zones at Ring Road.
  
  The objective is to visually assert the presence of pedestrians and to slow down traffic for safer pedestrian crossing. In these zones the road should be narrowed, the existing parallel parking should be converted into sidewalks, and driveway may be paved with a different material for visual distinction. Other traffic calming measures and signalization may also be used; for specifics, refer to the Traffic Section.

- Encourage Bicycle Circulation.
  
  The large scale of pedestrian connections may benefit from formalizing the bicycle circulation. The campus officials have mentioned a planned pilot program of communal bicycles that students and staff would be able to borrow to get around campus; if this becomes a reality, bicycle racks should be installed at key campus locations.
B. Improving the Visitors Arrival Sequence

- Locating a Prominent New Visitors Center

  A location near the confluence of the entry drive and Ring Road, would be ideal for a Visitors Center because of its visual prominence, proximity to the campus entry and dropoff area, and the available space for visitors parking. Accompanied with attractive landscape improvements, the new Visitors center would create a favorable initial impression of the campus.

- Creating a View Corridor from the Entry Drive to the Campus Center

  With the proposed expansion of the Campus Center, the building should become more distinguished for better visibility from arrival points. The new vista to the Campus Center, defined by the existing pine grove and a new planting of large trees, would draw visitor's attention to the heart of campus.

- Reconfiguring Centennial Drive

  The existing Centennial Drive leading to the campus center currently drops off the visitors at an uninviting overpass at the Campus Center entry; the driveway then exits through a service area and a parking lot. We recommend a new configuration for the entry road to accompany the proposed new Campus Center expansion. The new drive with a turnaround would terminate at a new plaza in front of the Campus Center serving as dropoff, shuttle stop, and regional bus stop. Service for the Campus Center and Cafeteria would be entirely separated.
C. Encourage Walking on Campus

- **Create a New Pedestrian Ring Trail**
  This informal trail would weave in and out of the wooded buffer along the Ring Road, become a formal sidewalk along pedestrian crossing zones, and meander closer to the heart of campus. This trail would provide an alternative pedestrian route while also enriching the recreational opportunities on campus.

- **Strengthen Existing and Create New Pedestrian Links from Residential to Academic Areas.**
  The existing links needing extra prominence are the walk from west campus through Library colonnade to the central quad, and the cherry allée along the Cedar Dell Vista. The new links include the reconfigured walk from East Campus Residences to the enlarged Campus Center; and the walk from the proposed new dormitories to the campus core. These major routes should be articulated with special paving, new lighting fixtures, benches, and trash receptacles. Pedestrian crossing zones appointed with a range of traffic calming measures should be created where these major pedestrian links cross the Ring Road.

- **Formalize New Walks at Created Desire Lines.**
  The major new connection would be in front of the Campus Center Plaza, where a new path would formalize the existing dirt path bisecting the lawn. Other proposed new walks are the perpendicular paths between buildings in addition to the fan-shaped pattern of the central quad.

- **Resolve ADA Accessibility Issues at Major Pedestrian Routes.**
  Special attention is to be given to the access points to the raised campus quad plateau. Since the grade differential and the available space may not allow for an outdoor accessible path that meets ADA requirements, connections through the Campus Center and the adjacent buildings are necessary and should be clearly demarcated.
- Designate Pedestrian-Only Areas within Residential Quads.

The existing driveway through East Campus Residences dividing the older and newer dormitories should be used only for service, handicapped access, and students moving in and out. All everyday traffic should loop on the outside of the cluster, using existing drives. New parking should be built on the outside of this loop. The open spaces of the East Campus Residences should be redesigned for a clear circulation pattern of direct links from the dormitories to the campus and parking. The new circulation pattern would create better defined open spaces for passive and active recreation.

- Segregate and/or Regulate Service Access at Campus Center and Dining Hall.

Service access to the Campus Center and dining hall should be separated from the visitor circulation. By enclosing the current overpass that links the two, the service area would become a distinct courtyard that can be visually screened.

Service access to the Business Cluster, for lack of an alternative, would continue at its present location, crossing over the pedestrian plaza between the Campus Center and Business Cluster. To avoid conflict, a strict regimen of service times should be established outside of class hours.
- Promote Outdoor Gathering in the Central Quad.

The plaza in front of the Campus Center, with its “sea of steps” is not only an accessibility barrier, but is also poorly suited for sitting and outdoor gatherings. We recommend an improved design of the Campus Plaza and the Library Plaza in order to create outdoor spaces that are accessible, provide better environmental comfort, and promote gathering and informal recreation.

The improved design of the Stepped Plaza would replace the steps with benches, lawn, and paved amphitheaters, and an outdoor café overlooking a garden with shade and flowering trees. The Library Plaza in front of the library expansion would feature shade and flowering trees, low hedges and benches.

- Improve Campus Safety - Actual and Perceived.

Providing good lighting, good visibility, and prominent emergency call boxes are very important to boost the perception of safety. The campus already has an extensive network of call boxes. Increasing active usage throughout the day would provide the informal surveillance that is the best deterrent to crime. Tall shrubs that may create hiding spaces should not be planted near walks and pedestrian areas, and surveillance cameras could be installed in key locations such as the more isolated parking areas.
Approximate Shadow Conditions 9.22.03 9:00 am

Approximate Shadow Conditions 9.22.03 12:00 am

Approximate Shadow Conditions 9.22.03 4:00 pm

From Dropoff Plaza looking South, September 21 3pm.

From Liberal Arts Building looking NW, September 21 3pm.

From Visual Arts looking East to Campus Center, September 21 3pm.

**Solar Orientation and Shading**

Central Quad
Environmental Conditions

A. Solar Orientation, Sun and Shade

Most buildings in the campus core are oriented longitudinally in a north-south direction, with windows opening to the east and west. Violette, the Textile building, and the Visual and Performing Arts are perpendicular to the above building with windows opening towards north and south.

The campus configuration with wide open spaces and wooded areas set back from the buildings should typically result in full solar exposure of the east, west and south facades for at least some portion of the day. However, the building shapes play a very significant role in shading the facades as well. The buildings here have low colonnades on the ground levels and enormously cantilevered upper stories and eaves. These massive building elements cast deep, sharp shadows on the ground and the facades creating dramatic architectural effects. From the point of view of solar exposure, however, it seems that these overhangs on most buildings are misplaced. They don't protect the buildings effectively from overheating by the low late-afternoon sun, as evidenced by makeshift solar screens that appear on some west-facing windows; and they reduce the amount of natural lighting within the building at all times. Some areas at the base of the buildings remain always in the shade, creating cold, damp environments unpleasant to all but algae and mold. In sharp contrast to the deep shadows at the base of buildings, the open lawns and stepped plazas are fully exposed to sun. This contrast of deep shade and bright sunshine strains the eye as it adjusts to the light differences on bright days.

Recommendations

To modulate this lack of transition from bright sun to damp shade, we recommend:

- Introducing vegetation at key areas such as the plaza in front of the Campus Center and the gathering nodes in front of Liberal Arts and Business buildings. Planting of shade trees in these areas would help create better microclimate, better spatial proportions and more pleasant outdoor environment.

- Utilizing sun umbrellas at the area of outdoor café at the Campus Center Plaza. A typical café umbrella should be selected and consistently used.

- Closing the dark and damp Library colonnade and converting it into expanded library indoor space.
B. Wind

The wind analysis has been based on on-site observations, wind charts (The New England Wind Resource Map, http://truewind.teamcamelot.com/ne), and interviews with campus staff. The later have been given the most weight, because year-round users have the best insight on the specific site wind conditions that can greatly be affected by local topography, vegetation, and building configurations.

The effect of wind on campus is felt the most in the wide-open lawn areas of the campus core. In the surrounding wooded areas the wind effect is dampened by vegetation.

The prevailing winter winds come from north-east direction, and are funneled down between the quad buildings. In summer, the prevailing winds come from the Cedar Dell Lake and are channeled up to the campus quad through the Cedar Dell Vista corridor. While in summer the cooling effect of breezes from the water are desirable, more critical is the unpleasant effect of the cold winter wind that sweeps down the quad and is magnified by the configuration of the buildings creating a wind tunnel effect. This effect occurs also in several other locations, mostly as a result of temperature differential between the sunlit and shaded portions of the building, such as at the entry colonnades next to the campus center and the library.

Recommendations

Reducing the wind tunnel effect must be considered in improving the campus core environment.

- Windblock planting may help alleviate the wind effect in the quad area. A row of trees from the existing dropoff to the Business cluster could serve this purpose, enclosing the quad with a tall tree mass that would deflect the wind over the building "funnel". However, the location of any planting should also be considered in relation to existing visual concerns such as the campus vistas and landmark buildings that define the campus character, as well as the overall design vision for the campus.

- Glazing the library colonnade would not only block the wind tunnel through this little-used outdoor area, but would also create valuable indoor space for library expansion.

- Introducing trees at the campus plaza would alleviate the wind tunnel at the east entry to campus plaza by diminishing the overheating of structures and temperature differential that cause the wind effect.
C. Topography and Drainage

The present topography is a result of extensive grading that accompanied the campus construction. Two linear wetlands flank the site from east and west, connecting to a watershed system that extends southward beyond the site. The campus sits on a slight ridge between these wetland swales. The highest portion of the campus is near the entry, elevation 165.0, and the lowest point on the Ring Road is near the athletic track, elevation 103.0; from there the land slopes down generally towards south and west.

Within the campus core, land has been shaped to accentuate landmark elements: the sloping Cedar Dell Vista and the terraced central quad. The Cedar Dell Vista highlights the most visually memorable topographic feature, a cleared swath of land sloping down towards Cedar Dell Lake and offering an impressive view from the heart of campus. The central quad has been shaped as a series of earth terraces, with fan-shaped pattern of walks delineating the edges of the plateaus. The surrounding buildings serve as retaining structures for the terraced lawn; the grade difference between inside and outside edges is up to 12’. An elaborate system of steps and ramps connects the various levels on the ground and within the buildings.

Between the string of buildings and the Ring Road the landforms are more utilitarian. The berms along the parking lots serve as visual screens. The parking lots are graded to drain effectively towards a substantial drainage swale as deep as 6’ along Ring Road, which eventually outlets into wetlands and created detention basins beyond the Ring Road.

The land beyond the Ring Road has been shaped to allow the creation of athletic fields and residential areas.

D. Site Slope Analysis

The objective of this analysis was to identify areas that may impair circulation in light of current accessibility requirements. The analysis plan illustrates four categories of terrain slopes. The 0 to 5% slope corresponds to the ADA accessible walks; the 5 to 8% corresponds to accessible ramp slopes; and 8% to 15% represents slopes that are still acceptable for vehicular access. Although the plan illustrates "the big picture," a much closer look is necessary for a full assessment of ADA compliance on a case-by-case basis.

Most campus paths, parking, roads, and open space have slopes within the 0 to 5% category. The two stepped access points into the central quad next to the Campus Center are the biggest obstacles to accessible outdoor circulation.

Recommendations

In general the terrain does not create significant obstacles to circulation, except at two access points to the campus core.

- On a macro-scale, radical changes to overall existing topography and drainage pattern are not recommended, due to the vast scale of the campus.
- On individual developments, sustainable techniques for runoff management should be used and designed to become attractive features in the landscape.
- Consideration for universal accessibility should be one of the priorities in shaping the terrain on all new projects and developments. The critical areas that have been identified to impede accessibility due to existing topography should be more closely studied.
Site Features and Visual Aspects

A. Site Features

Despite several changes to the landscape over the years, the campus still stands as a modernistic enclave within the rural environs of North Dartmouth; surrounded by dense woods and connected to the outside world by a single access point from Dartmouth's Old Westport Road.

The heart of campus (Central Quad) is comprised of two clusters of academic and administration buildings, with a terraced lawn in between. A stepped concrete plaza west of the Main Auditorium overlooks the terraced lawn. A concrete communications tower resembling a slender obelisk anchors the central quad; an impressive grass amphitheater is located next to it. A grand swath of cleared land, (the Cedar Dell Vista), slopes down from the Campus Center towards Cedar Dell Pond to the south-west. The Central Quad and the academic buildings are surrounded by concentric rings of vegetation, parking, woods, and a circular road (University Ring Road). Spoked pedestrian paths extend from the Central Quad buildings towards the parking and the residential areas beyond the Ring Road.

The area within the Ring Road comprises the campus core. Residential areas, athletic and maintenance facilities are located beyond the Ring Road. The original campus had no residential components; the East Campus Residences and the Cedar Dell Village dormitories were built at a later date as campus satellites, east and southwest of the campus respectively. The campus athletic facilities, south of the Campus Core include an athletic center, fitness center, paved tennis courts, and various athletic fields. Other facilities beyond the Campus Core include the Boiler Plant, Public Safety building, and storage yards. A small observatory is located in the open field between the Core Campus and Old Westport Road to the north.

B. Views and Vistas

The campus core has been conceived around the idea of grand views and strongly defined vistas. Pictures only partially capture the strong character of the campus.

The most characteristic view is down the Central Quad when standing at the entry road dropoff area. The view is framed by the sculptural buildings, with the campus tower as a vertical focal point and the Visual Arts cluster as the backdrop. This view is iconic of the University of Massachusetts Dartmouth campus and should be preserved in any future development.

The Cedar Dell Vista remains a critical element that has driven the original spatial concept for the campus. This is the view defined by a cleared swath of land framed by woods and extending from the plateau in front of the campus center, down towards Cedar Dell Pond. Originally the cleared land extended all the way to the pond and included the pond as part of the vista. Over the years, the lower third has been taken over by vegetation that has blocked the view to the pond. The view towards the hills beyond is still impressive enough to merit the vista preservation for the future.

Recommendations

- Preserving of the grand views and the overall visual character of the Central Quad is one of the priorities that should guide the future development of campus.
- Defining a new vista from the campus entry road towards the expanded Campus Center is necessary for the visual appreciation of site and improved wayfinding.
Visual Aspects
Views and Vistas
University of Massachusetts Dartmouth Campus and Facilities Master Plan

Campus Planting
General Plant Cover

Mixed Hardwood Forest

Coniferous Grove

Wetland (Shrub Swamp)

Specimen Trees

Ornamental Plantings

Successional Meadow

Maintained Lawn
Several garden plantings throughout campus enrich the restrained plant palette. Improving the sense of place, creating gathering nodes, and offering educational opportunities have been among the objectives of these gardens. These landscapes however, with their small scale, are overpowered by the monumentality of the campus. For example, the existing allée planting along the Centennial Drive is comprised of Callery Pears that are spaced too far from the road and each other to create the desired monumental impact. The intent and ideas presented in some of these plantings are valuable in formulating the planting concept and recommendations for the Campus Master Plan.

**Recommendations**

The development of a planting concept to guide the master plan is among those physical elements that have the best potential to change the character of place, yet take the longest time to achieve. This is especially true on a site with such vast proportions. Continuous plant maintenance, regarding scale and quality, must be also taken into consideration and integrated into the Master Plan to make the planting concept successful over time.

- The dense wooded buffers along the Ring Road should be maintained with selective clearing or planting to reinforce some of the desired sight-lines and screening.

- The existing wooded buffer between the parking lots and the campus core should be made stronger over time as a dense wooded ring of mixed hardwoods and pine trees. Of special note is the existing pine grove near the Liberal Arts cluster, which would help define a new sight line focusing on the new Campus Center building.
Library Plantings

Cherry Tree Allée

Tower Memorial Garden

Campus Planting
Distinctive Plantings in the Campus Core
The open space between the wooded buffer and the campus core buildings should be a transitional zone, a setting of informal plantings and gardens. The existing Memorial Garden, a new Arts garden near the Visual Arts Cluster, new courtyard gardens, and the campus arboretum would fit well here.

The existing Arboretum groups the more exotic species together in a courtyard setting. This idea of arboretum on campus has had a long tradition on many university campuses; here it should be formalized with a systematic planting of diverse specimens enriching the plant collection over time. Mapping and marking the specimens with their common and Latin names should accompany the development of the plant collection.

The existing Memorial Garden is currently comprised of small flowering cherries shading a few granite benches, commemorating late students and faculty. Again this idea of memorial trees is quite traditional, and it should continue in an organized form in the future as well. Future funds could be pooled to finance some of the other campus landscape improvements; a memorial donation and plaque policy should be developed to guide in the selection, distribution, and demarcation of memorial elements.

The campus core area should be maintained with tightly cropped lawns and hedges. The aging evergreen shrubs in planters should be replaced with new shrub and perennial plantings.

The Cedar Dell Vista, one of the strongest element of the original campus plan, should be maintained in its present configuration by regularly mowing the lawn and preserving the abutting densely wooded buffers that define the corridor.

Two special areas within the campus core - the Stepped Plaza and the Library Plaza, should be redesigned with integrated paved areas, plantings, and shade trees. The trees would soften the existing harsh transitions between buildings and landscape, provide seasonal interest and shade, and formulate new patterns of movement. Planting would enrich the space aesthetically, improve the microclimate, scale, and usability of these outdoor spaces.

Reverting the lower overgrown areas of the original Cedar Dell Vista back to the original cleared form may not be feasible due to conservation and wetland regulations. However, without maintenance, it would soon become a wooded area through plant succession. Our recommendation is to maintain it in the meadow stage of succession by periodic mowing.

Introducing wetland planting in drainage swales should be explored as a more sustainable alternative to slow down the runoff rate and help with its natural cleansing. This could be accomplished by modifying the drainage swales to retain the water for a longer period of time thus creating the conditions for wetland plant growth; once the wetland planting is established, its periodic maintenance would be much less frequent than the required regular mowing of the existing swales.
Materials

A. Paving and Site Structures

The range of materials on Campus is predominated by concrete on buildings, paving, walls, and furnishings.

- Buildings: the buildings are articulated in exposed concrete, inside and out, on floors and walls, combining several flat and striated finish patterns.

- Paving: there are virtually only two types: bituminous concrete, and exposed aggregate concrete. Bituminous concrete is used at all roads, parking, and most pathways outside of the central core. Exposed aggregate paving is used on all pathways, steps and plazas within the central core, as well as throughout the buildings, unifying the indoor and outdoor spaces. Over the years the concrete has achieved a warm patina. At many locations the original exposed aggregate has been patched up with a slightly different concrete mix.

- Curbing at the vehicular areas is conventional, consisting of mostly vertical granite and occasionally rolled bituminous concrete.

- Steps are consistently concrete with exposed aggregate finish. Most have prominent nosings that create a nice shadow line; however there were many instances of broken or patched up nosings. Throughout the campus, the steps typically have a wide profile with a shallow riser of 4" to 4 1/2" - which is too low for comfortable walking or sitting.

- Site walls within the campus core are made of exposed concrete with various striation patterns. At the Campus entry, a series of dry-laid stone walls recall a pastoral New England image in contrast to the campus modern architecture style.

Recommendations

The limited materials palette on one hand unifies the campus but on the other does not distinguish between general and "special" areas, indoor and outdoor spaces, and creates a monotonous spatial experience.

- As a general guideline, the exposed aggregate should continue to be used on walks within the campus core.

- Special places, however, such as the Campus Center Plaza and the Library Plaza, could introduce different paving materials such as concrete pavers, granite, and different finishes for cast-in-place concrete.

- For maintenance of the existing exposed-aggregate paving, a specific technical specification should be used as a standard for all repairs. The specified concrete mix should be developed to match the existing paving as much as possible, and should prescribe the exact material mix, source, color and additives.

- Outside of the campus core, bituminous concrete should be used consistently at existing pedestrian walks and the trails through the woods.

- Major pedestrian routes, such as those between residential areas and the campus core, should be paved with special paving and furnished with matching benches, trash receptacles, and light fixtures.
Trash and Ash Receptacles

Seating

Planters

Site Materials Inventory
Site Furnishings
B. Site Furnishings

The palette of site furnishing on campus falls within two distinct categories: those that were original to the campus when it was first built, and various site furnishings that have been supplemented over time. The first category displays a range of standardized site elements, such as concrete benches, concrete light bollards, and aluminum light fixtures. These original site furnishings are still quite consistently present throughout the campus. The second category of later-added site furnishings consists of elements with varying style and materials, such as mismatched trash receptacles and benches, and a few different light fixtures.

Recommendations

Updating the look of the campus, and providing improved comfort to users are objectives in reference to site furnishing and lighting. Providing a unified look can be accomplished by selecting from a designated set of typical site fixtures in order to achieve a singular campus aesthetic. This set of typical fixtures should comprise a catalog including:

- Site benches;
- Site café chair and table;
- Café umbrella;
- Trash / ash/ recycling receptacles for outdoor use;
- Bicycle racks;
- Traffic bollards, and
- Site lighting fixtures

The range of choices should be limited to a few types of site elements for a few possible applications, and they should be used consistently. For example, there could be a common campus bench for general use, and a special campus bench to be used at more prominent areas such as the Campus Center plaza and the Library plaza.
Proposed Site Furnishings
Benches
Proposed Site Furnishings
Tables, Chairs, Trash Receptacles
Lighting Inventory
Campus Core
C. Site Lighting

The lighting inventory revealed that the campus has a fairly good distribution and consistent use of site light fixtures. The typical fixture is an aluminum pole light with a conical hood; it is used at parking, roadway, as well as pedestrian applications, with varying heights of poles and spacing to achieve the required illumination levels. There were only a few exceptions to the use of typical site pole lights.

The original lighting scheme of the central quad had featured incandescent soffit lights that highlighted the architecture for a dramatic night effect in combination with the low-level light cast on the walkways by bollard lights. Regrettably this lighting scheme had been abandoned due to high maintenance. The concrete bollard lights, which were originally located along all pathways within the central quad, have largely been removed because of damage during plowing. The quad areas are now illuminated by building-mounted floodlights that provide adequate site illumination but lack any dramatic effect.

Recommendations

- Systematic replacement of the dated light fixtures with new, more energy-efficient luminaires. Changing all at once would be cost prohibitive; the replacement should prioritize the more prominent areas.

- Fresh approach to illumination for the central quad. This could be a contemporary variation on the original lighting scheme, by updating the accent lighting to bring back the aesthetic effects of the building illumination.

- Removing all remaining concrete bollard lights and replacing them with contemporary metal bollard lights along the paths within the central quad.

- Using contemporary pole lights at distinctive places within the campus core, such as the new Campus Center, Library and Visitors Center plazas.

Proposed Light Fixtures
Site Materials Inventory
Signage and Wayfinding
C. Signage and Wayfinding

Several types of signage occur on campus:

- Entry Signs
- Parking Signs
- Building Signs
- Memorial Signs
- Orientation Signs

Concrete, the dominant campus material, appears again in the signage in combination with enameled metal panels at parking signs and with metal lettering at the entry sign. Fiberglass appears at most building signs and orientation panels and is showing signs of weather damage and vandalism. Bronze is used occasionally at memorial signs.

In general the parking signage throughout campus is consistent, easy to read, aesthetically compatible with the buildings, and is in fairly good shape. The building signage is less consistent and often inconspicuous.

Recommendations

- New building signage should be designed to be more easily readable and should be installed consistently on all buildings within campus.
- A plaque and signage policy should be developed for consistent use of memorial signage.
- New orientation signs with a campus map and an illustrative panorama should be installed at key locations such as the Visitors Center, Campus Center, and entries into the central quad.
Master Plan Concept
Overall Campus
Master Plan Concept

A. Overall Campus

The following plan is a visual summary of the development recommendations brought in various sections of this report. Items of note are the following:

- Proposed academic buildings and expansion of existing buildings, shown in bluish purple (to distinguish from existing buildings shown in lilac).
- Proposed areas for long-term campus expansions, shown as dashed rectangular blocks.
- Proposed areas for development of student residences.
- Vehicular circulation improvements: the reconfigured Entry Road and Centennial Drive with dropoff / turnaround.
- Proposed areas for parking expansion.
- Pedestrian Circulation Improvements: new major pedestrian links from residences to campus core, pedestrian crossing zones, and a new trail around the campus core.
- Overall planting and vegetation scheme: maintained lawns, wooded buffers, and intermediate zone of gardens and courtyards.
- Areas of design intervention: plazas and courtyards.
B. Areas of Design Intervention

These are specific areas identified in this study as the key locations with the greatest potential to improve the campus character. The design studies presented here feature ideas for creating a vibrant environment for education and socializing.

Legend

1. Entry Drive
2. Campus Center Plaza
3. Library Plaza and Courtyard
4. Arboretum
5. Courtyard at Science Building Expansion
6. Centennial Drive and Plaza
7. East Campus Open Spaces
Area of Intervention 1: Entry Drive

The reconfigured entry road features a greatly narrowed profile, with two-lane entry and exit drives divided by a planted median. A separate lane brings visitors by a control booth, associated with the proposed Public Safety Building, where they can pick up permits for on-campus parking. This scheme also features an improved intersection with the Ring Road, and an improved dropoff near the proposed new Visitors Center.

A grand allée of large trees planted along the road creates a strong first impression. The relocated entry signs and the existing lush gardens flanking the entry road complete the welcome.

Legend

1 New Campus Sign
2 Reconfigured Entry Drive
   (Narrowed entry, exit lanes and median)
3 Proposed Tree Allée
4 Relocated Control Booth
5 Proposed Public Safety Building
6 Existing Lawn
7 Existing Stone Wall
8 Existing Gardens
9 Dropoff
10 Visitors Center Plaza
11 University Ring Road
Area of Intervention 2: Campus Center Plaza

The new Centennial Drive ends at the prominent plaza and new Campus Center entrance, also featuring a dropoff area and bus / shuttle stop. New, wider steps lead up to the Central Quad. The former Stepped Plaza is reconfigured to allow for informal gathering, performances, and outdoor study on its paved and lawn amphitheaters and benches. Shade trees and a colorful garden enrich the space. Visitors can enjoy the views of the campus and its surrounding from these plazas and the outdoor cafe.

Legend

1. Campus Center Expansion
2. Campus Center Main Entry
3. Proposed Open Space
4. Dining Hall
5. Dropoff / Turnaround
6. Auditorium Plaza
7. Main Pedestrian Route to East Campus
8. Bus / Shuttle Stop
9. New Stairs to Central Quad
10. Auditorium
11. Auditorium Terrace / Performance Space
12. New Steps and Benches
13. Lawn Amphitheater
14. Paved Amphitheater
15. Cafe Terrace
16. Garden
17. Tree Planting at New Walk
18. Screened Service Court
19. Lawn
20. Campus Tower
Area of Intervention 3: Library Plaza and Courtyard

The Library passage is glazed on both sides and converted into a library space overlooking two proposed gardens. Both gardens borrow the rhythm and strong geometry from the buildings, for a formal landscape to be both viewed from within the library and enjoyed outdoors. The plaza at the library entrance is a contemporary parterre of lawn, clipped low hedges, and small flowering trees. The bosk to the west repeats the rhythm of the building columns, creating an outdoor room for study or rest.

Legend

1  Existing Library
2  Library Expansion (in former colonnade)
3  New Library Entry
4  Existing Textile Building
5  Proposed New Academic Building
6  Paved Plaza
7  Garden
8  Benches
9  Major Walk to Parking
10 Handicapped Ramp
11 Existing steps
12 Bosk
13 Existing Service Lane
Area of Intervention 4: Arboretum

With the addition of a new proposed academic building, the existing semi-enclosed Arboretum becomes a fully enclosed interior courtyard. Already an informal oasis in the landscape of monumental proportions, the cloister-like space could become a destination for those seeking a place for quiet contemplation. The existing collection of exotic specimens should in time be enriched to buffer the adjacent buildings to create an intimate green setting.

Legend

1 Existing Textile Building
2 Existing Violette Research Building
3 Proposed Academic Building
4 Arboretum (Existing and Future Collection)
5 Walk to Parking
Area of Intervention 5: Courtyard at Sciences Building Expansion

The proposed new buildings for academic research, next to the Science and Engineering Building, create the third courtyard west of the Central Quad. Like the Library Courtyard and the Arboretum, it could also become an intimate outdoor room for the students and faculty, offering lawn, shade trees and an orchard-like planting of flowering trees.

Legend

1 Existing Science and Engineering Building
2 Proposed Academic Building
3 Garden
4 Walk to Parking
Area of Intervention 6: Centennial Drive and Campus Plaza

The new configuration of Centennial Drive opens up a swath of land for a greater visibility of the Campus Center and Auditorium. The vehicular traffic is separated from the major pedestrian route from East Campus, but they both converge at the Campus Center’s new entry. The plaza at this major destination point offers a strong sense of arrival, emphasized with special paving, furnishings, planting, and new ceremonial steps leading up to the Central Quad Plateau.

Legend

1. Expanded Campus Center
2. Liberal Arts and Business Cluster
3. Future Campus Buildings
4. New Centennial Drive with turnaround
5. Designated Visitors Parking
6. Dropoff Plaza
7. Proposed Open Space
8. Major Pedestrian Route to East Campus
9. University Ring Road
10. Pedestrian Crossing Zone
11. East Campus Residences
Area of Intervention 7: East Campus Open Spaces

In the current configuration, the interior open spaces of the East Campus lack spatial clarity while the vehicular circulation disrupts the recreational use of the open spaces. With the proposed reconfiguration, vehicular circulation is removed to the outer edge of the East Campus, with only occasional vehicular access to the interior for service and during moving periods. The grounds are redesigned to allow for clear wayfinding, distinguishing the major routes to the academic campus and parking. The network of interweaving paths creates variety of open spaces - “commons” that could integrate playgrounds and courts, and landscaped gardens next to the residences.

Legend

1 Existing Dormitories
2 Proposed Dormitories
3 Existing Parking
4 Parking Expansion
5 New Pedestrian Axis to Campus Core
6 University Ring Road
7 Pedestrian Crossing Zone
8 Reconfigured Open Spaces
TRAFFIC AND TRANSPORTATION

As part of the master plan effort, traffic, parking, and pedestrian information, including traffic flow counts were assembled in order to identify the existing access and circulation patterns within the campus. The existing data was used to identify access and circulation issues as well as to identify the transportation recommendations incorporated into the Master Plan.

Regional and Local Access to Campus

Dartmouth is located in the southeastern portion of Massachusetts, approximately 2 hours from Boston. The UMD campus is less than 5 miles from both I-195 and Route 140 (see Figure1) and is also accessible via state routes 6, 88, and 177. The campus is located off of Old Westport Road.

Vehicular access within the campus is mainly provided from Ring Road, a circumferential road with a diameter of approximately one-half mile. Driveways provide access to the 17 faculty/staff/commuter parking lots on the interior of Ring Road. Driveways to the Cedar Dell Apartments, Residence Halls, Tripp Athletic Center, and Power Plant are also located off of the Ring Road.

All vehicles must enter the campus from the north via Old Westport Road. The entrance to the campus is three lanes – two lanes provide through-access to the eastern portion of Ring Road and the pick-up/drop-off area in front of the Dion Science/Engineering/Nursing Building; one lane serves as a right-turning lane to the western portion of Ring Road. The campus exit is also three lanes – two left turn lanes to Old Westport Road eastbound and one right-turn lane to Old Westport Lane westbound.

During peak hours, the majority of campus traffic was observed to enter the site via a left turn from westbound Old Westport Road (70 percent in the arrival peak and 85 percent in the departure peak). Approximately 90 percent of vehicles during peak hours turn right on Old Westport Road to leave the campus.

Ring Road is one lane in each direction with parallel parking spaces on the outside edge of Ring Road. Ring Road provides access to all of the commuter lots within the campus (Lots 1 – 17), the Cedar Dell campus apartments, the Residence Halls, and vehicular access to the Athletic Fields.

Looking southwest across the Main Entrance from Old Westport Road
Traffic Conditions

Vehicle traffic volume and pedestrian counts were collected to develop a base traffic network for the study area representing peak-period conditions. Campus traffic peak hours were identified through the placement of 24-hour automatic traffic recorders (ATRs). ATR data were collected on the Ring Road and at the main entrance to the campus on Wednesday, October 15, 2003. Traffic flow variations along the Ring Road and at the campus entrance are shown in Figure 2 and Figure 3, respectively. Peak traffic periods on the campus roads occur from 8:00 a.m. to 10:00 a.m. and from 2:00 p.m. to 4:00 p.m.
The following five intersections were chosen for full turning movement counts:

- Old Westport Road/Campus entrance;
- North Dorm Driveway/Ring Road;
- Centennial Drive/Dorm Crosswalk/Ring Road;
- South Dorm Driveway/Ring Road; and
- Cedar Dell Driveway/Ring Road.

Vehicle turning movement and pedestrian counts were conducted at all study area intersections on Wednesday, October 29th, 2003. The ATR placement was configured to approximate turning movements between the campus entrance and Ring Road. Together these locations account for all vehicles entering and exiting the main campus. Movements to and from individual parking lots were not recorded.

Count data were collected from 8:00 to 10:00 A.M. and from 2:00 to 4:00 P.M. The morning peak-hour occurred from 8:00–9:00 A.M. and the evening peak-hour was observed to occur between 2:30 P.M. and 3:30 P.M. The highest traffic periods occur during the fifteen minutes prior to the start of classes, i.e. 8:45 to 9:00 a.m.

From the Cedar Dell driveway, a traffic “spike” occurred during the fifteen minute count-period between 8:45 and 9:00 a.m. The timing of the spike directly corresponds to the start of 9:00 a.m. class period. Because the apartments at Cedar Dell are more than one-half mile from the campus, students drive from the Cedar Dell apartments to the parking lots within Ring Road. Another, less drastic spike was observed during the 15 minutes before the 10:00 a.m. class period. The 10 a.m. spike was accompanied by an increase in entering traffic – which may be associated with either students returning from 9:00 a.m. classes (9:00 a.m. to 9:50 a.m.) and/or students being picked up for their 10 a.m. class.
From 8:00 to 8:45 a.m., approximately 25 vehicles exited Cedar Dell every fifteen minutes. In the 15 minutes from 8:45 to 9:00 a.m., 75 vehicles exited Cedar Dell.

From 9:00 to 9:45 a.m., approximately 25 vehicles continued to leave Cedar Dell every fifteen minutes. Between 9:45 and 10:00 a.m., 51 vehicles exited Cedar Dell.

The 9:45 to 10 a.m. exiting spike was accompanied by an entering spike of 33 vehicles arriving (an average of 8 vehicles arrived every fifteen minutes between 9:00 a.m. and 9:45 a.m.).

**Pedestrian Conditions**

Sidewalks are provided throughout the campus with most pedestrian activity occurring on the main campus within Ring Road. Campus buildings located outside of Ring Road include the residential dormitories and the athletic center. No sidewalks are provided along Ring Road except for a small section near the entrance booth used for drop-off and pick-up. Crosswalks across Ring Road are provided at five locations; the entranceway of Cedar Dell Village, two at the East Campus Residence Halls, and two at the Tripp Athletic Center. A sidewalk located on the north side of the roadway connecting Ring Road to Cedar Dell Village serves residents walking to

*Figure 4: Existing Conditions (2003) Traffic Volumes, A.M. Peak Hour (8.00 - 9.00 A.M.)*

*Figure 5: Existing Conditions (2003) Traffic Volumes, P.M. Peak Hour (2.30 - 3.30 P.M.)*
campus. On Centennial Drive, a sidewalk is located on the north side. This sidewalk provides access to campus for students walking from the East Campus Residence Halls. A flashing yellow traffic signal is located at the Ring Road pedestrian crossing to Centennial Drive.

Pedestrian counts were conducted at the study area intersections in conjunction with vehicle counts. Existing A.M. and P.M. peak-hour pedestrian volumes appear in Figure 6 and Figure 7. Approximately 440 and 600 pedestrians cross Ring Road at Centennial Drive and 180 and 210 pedestrians cross at the South Dorm Drive during the A.M. and P.M. peak hour, respectively. No pedestrians were observed to cross the Ring Road at the North Dorm Drive.

For residents living in the Oak Glen Hall and Pine Dale Hall, a crosswalk at South Dorm Drive and Ring Road is provided; however, students are observed to create a more direct path to campus. This desired path crosses diagonally across Ring Road from South Dorm Drive and then cuts through the woods and Lot 5 to connect with an existing sidewalk.

No pedestrians were observed at the entrance to the campus at either Old Westport Road or Ring Road.
Figure 8: Public Transportation
Transit Services

The campus operates an intracampus van service and a shuttle service to the College of Visual and Performing Arts in New Bedford. A map of transit routes serving UMD is provided in Figure 8.

Van service is provided throughout campus starting at the campus center and making stops at residential halls, the library, and the gym. Service runs daily from 5:00 P.M. until 2:15 A.M.

Shuttle buses provide service between the main campus and the UMD College of Visual & Performing Arts Star Store building in New Bedford. Buses pick up or drop off students at Cedar Dell Road, Centennial Way, and the Campus Center. Shuttles are provided between 8:00 A.M. and 10:20 P.M. on Mondays and Wednesdays. Tuesdays and Thursdays shuttles start at 9:00 A.M. and stop at 10:20 P.M. On Fridays, the shuttle leaves the UMD campus only once at 8:00 A.M. and arrives back at campus at 3:20 P.M.

The Southeastern Regional Transit Authority serves the towns of Dartmouth, New Bedford, Westport, and Fall River and connects all buildings related to the UMD campus. Buses run between 5:30 A.M. and 8:00 P.M. on Mondays and Fridays and between 7:00 A.M. and 8:00 P.M. on Saturdays. No service is provided on Sundays.

Parking

There are approximately 4,600 parking spaces on the UMD campus to serve a daytime population of nearly 8,600 faculty, staff, administration, and students. Parking spaces are assigned by permit-type within all of the parking lots on the campus. The following table summarizes the various types of permits issued and the number of spaces available to each permit-type within the campus.

<table>
<thead>
<tr>
<th>User Group</th>
<th>Permits</th>
<th>Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff</td>
<td>1,500</td>
<td>730</td>
</tr>
<tr>
<td>Administration</td>
<td>205</td>
<td>120</td>
</tr>
<tr>
<td>Commuter Students</td>
<td>2,400</td>
<td>2,044</td>
</tr>
<tr>
<td>Cedar Dell</td>
<td>700</td>
<td>565</td>
</tr>
<tr>
<td>Residence Halls</td>
<td>1,030</td>
<td>931</td>
</tr>
<tr>
<td>Handicap</td>
<td>26</td>
<td>129</td>
</tr>
<tr>
<td>Rideshare</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Visitors</td>
<td>Temporary Permits</td>
<td>74</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,863</strong></td>
<td><strong>4,595</strong></td>
</tr>
</tbody>
</table>

Any faculty, staff, or student of UMD may apply for a parking permit. Approximately 5,860 permits were issued for the 2003-2004 year. There is no cost for a parking permit. The parking office does attempt to verify that vehicles registered to Cedar Dell and Residence Hall residents are owned by the resident applying for the permit. The following are some of the restrictions and allowances that are associated with specific permits:

- Vehicles with administration permits are allowed to park in faculty/staff spaces.
- Cedar Dell and Residence Hall permitted vehicles are allowed to park in the commuter spaces.
- Vehicles with Cedar Dell permits are not allowed to park at the Residence Halls.
- Vehicles with Resident Hall permits are not allowed to park at Cedar Dell.
- Commuter permitted vehicles are not allowed to park at either Cedar Dell or the Residence Halls.

Observations indicate that typically particular core lots fill beyond capacity (vehicles are parked on the lawn and in unmarked spaces) while other core lots and Ring Road spaces are not completely filled. Lots 3, 13, 16, and 17 were filled beyond their capacity while spaces were still available along Ring Road and in Lots 1 and 15.
**Existing Transportation Issues**

Single access point to campus creates following issues:
- Significant queues for high left turn volumes from Old Westport Road into campus in the morning peak hours;
- Vehicles exiting the campus from eastbound Ring Road must cross multiple entering lanes at Ring Road/Entrance Drive;
- Single entrance/exit point for emergency access/egress. No secondary access route to campus.

**Wayfinding/signage issues:**
- Lane configuration at entrance/exit unclear to visitors;
- There are no signs directing visitors to visitor services or visitor parking at the entrance of campus or within the campus Ring Road.

**Pedestrian access:**
- Crosswalks do not always exist within pedestrian desire lines (i.e. students crossing the Ring Road from the South Dorm Driveway do not use the existing crosswalk but cross to Lot 5 to Centennial Drive);
- There are no sidewalks adjacent to the Ring Road for recreational pedestrian/bicycle use.
- Residence halls and Cedar Dell are beyond a five-minute walk from campus core. Resident halls and student apartment locations encourage residents to drive to core campus.

**Parking:**
- Parking demand is not equally distributed throughout parking lots – some core lots are more desirable for parking than other core lots.
- On-campus residents who drive and park in the commuter lots take up desirable commuter spaces.

**Transit:**
- Infrequent van service between residence halls and campus center
- Congestion at Campus Center where vans, shuttles, pedestrians, cars, and service vehicles vie for loading/unloading space.

**Recommendations**

**Front Entrance.** Improve operations at campus entrance. Reduce amount of pavement to increase intersection efficiency and safety. Visitor information booth could be located along entrance to direct visitors to parking and destinations.

Two front entrance alternatives were developed as part of the master plan process:

**Option 1 – Unsignalized.** This alternative consolidates the Old Westport Road/Campus Entrance intersection. Intersection operations will be more efficient and safety will be improved by reducing the area where vehicles can enter and exit the campus to Old Westport Road. This alternative preserves the three lanes exiting the campus; the existing median would be narrowed to 10 feet. The three lanes entering the campus would be shifted approximately 30 feet to the east to the space previously occupied by the median. Left turns would be allowed from both Old Westport Road westbound travel lanes (Old Westport Road would become one exclusive left-turn lane and one shared left/through travel lane). Left turns into the campus would be channelized by pavement markings on the roadway. Old Westport Road eastbound would become one through lane and one right turn lane. (See Figure 9)
OPTION 1
NARROW ENTRANCE/EXIT CROSS-SECTION

- IMPROVES SAFETY
- SOME LEVEL OF SERVICE IMPROVEMENTS
- CLARIFIES LANE-USE
A visitor information island would be accessed through a pull out area accessed from the right lane. The visitor booth could be located in the island to provide drive-up information for visitors needing parking information, campus maps, or directions to visitor destinations.

The Ring Road/Campus Entrance intersection could be improved by implementing a southbound free-right turn from the entrance road to the Ring Road and by channelizing the eastbound Ring Road right turn.

Option 2 – Signalized. This alternative creates a new campus entrance to the east of the pond and as part of the existing Old Westport Road/Cross Road intersection. The Old Westport Road/Cross Road intersection would become a four-legged, signalized intersection and the primary entrance to the campus. The existing driveway would be maintained to provide access to and from the west. The existing driveway would be consolidated to two exiting lanes and one entering lane. (See Figure 10)

A visitor information island would be located at the western access. The visitor area would be accessed through a pull out area accessed from the right lane. The visitor booth could be located in the island to provide drive-up information for visitors needing parking information, campus maps, or directions to visitor destinations.

A comparison of existing intersection operations with the proposed signalized operations is provided in the Appendix.

Pedestrian Zone. Create a pedestrian zone in the area between North Dormitory Drive and South Dormitory Drive. This zone will include Centennial Drive, the critical connection between the Ring Road and the core campus. The pedestrian zone should include:

- narrowed travel lanes
- gateway visual cues to identify the pedestrian zone to drivers
- crosswalk enhancements (neckdowns, in-pavement flashers, or other safety improvements) to increase visibility of pedestrians within the zone
- removal of Ring Road parallel parking to eliminate students crossing between parked cars.

(See Figure 11)

Transit Opportunities. Increase transit frequency and improve reliability. Shuttle opportunities exist between residence halls and the core campus. Transit can also connect students to jobs, remote parking lots, and the town of Dartmouth.

Ring Road. Create sidewalks or trails along the Ring Road to encourage walking and recreational opportunities for students, faculty, staff, and visitors. Sidewalks and/or trails will improve the connectivity around the campus.

Emergency Access Road. An emergency access road could provide a secondary access route to and from the campus at Chase Road. The emergency access road would not be open to public access at any time. The emergency access route would provide a secondary means of access to the campus for emergency purposes only for campus evacuation or emergency access to campus by emergency personnel (i.e. fire, police, or paramedics). The emergency access road would connect the existing roadway located behind the Public Safety building to Chase Road. The existing roadway would need to be paved and widened. The emergency access road is not appropriate for daily campus traffic due to its proximity to the Chase Road neighborhoods.
OPTION 2
NEW ENTRANCE/EGRESS

- IMPROVES SAFETY
- IMPROVES LEVEL OF SERVICE
- SIGNALIZES INTERSECTION
- ACCOMODATES PEDESTRIANS
- REDISTRIBUTES CIRCULATION
- SECONDARY EGRESS

Figure 10: Front Entrance Redesign Option 2
**Future Housing.** Locate future housing within a 5 minute walking radius of campus (1/4 mile). Housing location will encourage additional walking on the campus and provide better access between student housing and classes and student life.

**Future Parking.** Based on existing student, faculty, and staff parking ratios and the proposed growth in on-campus housing, the campus will need an additional 600 spaces by 2010. The majority of this parking is associated with the transition from
commuter students to resident students. By 2010, the master plan forecasts 6,000 resident students (compared to the existing 3200 residents); the additional resident students will require approximately 1400 parking spaces. However, some of the resident parking will be available as fewer commuter spaces are needed.

*Future parking needs of the campus are summarized in the following table:*

<table>
<thead>
<tr>
<th>Users</th>
<th>FTE</th>
<th>Spaces/FTE</th>
<th>Future Spaces/FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty/Staff/Administration</td>
<td>1050</td>
<td>0.9</td>
<td>893</td>
</tr>
<tr>
<td>Commuter Students</td>
<td>2650</td>
<td>0.4</td>
<td>1060</td>
</tr>
<tr>
<td>Resident Students</td>
<td>6000</td>
<td>0.5</td>
<td>3000</td>
</tr>
<tr>
<td>Handicap</td>
<td>—</td>
<td>—</td>
<td>150</td>
</tr>
<tr>
<td>Rideshare</td>
<td>—</td>
<td>—</td>
<td>10</td>
</tr>
<tr>
<td>Visitor</td>
<td>2</td>
<td>—</td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,595</strong></td>
<td><strong>5,188</strong></td>
<td></td>
</tr>
</tbody>
</table>

Detailed parking projections are provided in the Appendix.

Additionally, on-campus parking rules and regulations should be enforced. Resident students should not be allowed to park in commuter spaces during core-campus hours. The University may want to consider implementing parking fees to encourage carpooling and discourage single occupant vehicles. The revenue collected could be used to fund additional parking enforcement and patrols.

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1 Parking ratios based on existing parking ratios and parking space needs cited in *Parking for Institutions and Special Events* (Eno Foundation). *Parking for Institutions and Special Events* cites average parking needs of 0.3 spaces/commuter student; 0.7 spaces/daytime staff; and 0.5 spaces/resident student.
MEETING MINUTES

PROJECT: Land and Building Aesthetics
LOCATION: Library browsing section
MEETING NO.: The Good, the Bad & the Ugly
DATE: 02.25.2009
FROM: Crystal Harris
ATTENDING: Members, Staff, Faculty, Students

Student - Once you park in the parking lot, you have a hard time finding the door to your class, or even the hallway. Maybe have colorful banners.

Peter - We are moving forward with signage - starting from parking lots inward to the center of campus. The original intent of the signage was to be color-coded - new system is all UMASS colors.

Student - likes trees in field - the memorial

Peter - We would like to bring in a Master Planner so that when we are doing small projects, we can know what materials we should be using and work toward the Master Plan.

MET tower is measuring wind speed to see if we can put up wind turbines

Bruce Barnes - described the idea of the architecture - emphasized that spaces were to feel enclosed so that you would be impressed by how open and grand another space is - such as group 1 / 2 lounges.

Student - provide spaces for small activities inside center of campus - skate park, soccer, frisbee, hack-y-sac

Peter - the dorms have basketball courts, roller hockey

Faculty - landscaping was nice - is now being ruined - needs to be maintained - hire someone to maintain it

Peter - idea for 'adopt-a-spot'
- Farmer's market is nice, but trucks dig up grass
- suggest exterior eating area - with tall trees

Student - likes trees - nothing to block the wind

Peter - Bike racks and bike path
- Pasteurizing fields - 1 time fee of tearing up earth - put down wildflowers & let go natural
- Solar powered lighting

Student - light up sides of building - use color to differentiate buildings

Peter - Existing lighting - including up lighting - fixtures have broken over time

Student - lights in bollards - change to a warm fixture so it is more pleasing - add lighting so that people are enticed to eat outside at night

Peter - ramp slopes are not to code - need updates
Tensile structures - would add color & shade and definition to spaces adjacent to buildings
Student - use concrete, but use different textures, colors, finishes
2 students - do not like that idea - keep things same as original - but add color, vegetation & flags or something
Faculty - flags of different nations - up for graduation
Student - seemed confused about usability of campus - looking for tours, etc.
Student - really likes landscaping behind Group 6 - organic landscape that has been let go looks great in front of the in-organic nature of the buildings
Student - need more trash cans / ash trays
Peter - how do students congregate outside?

Student ideas:
- when sitting on grass - feels exposed
- dirt paths - make into actual paths with trees, lighting & provide safe footing
- add labels to sculptures, add colorful sculptures - maybe permanent sculptures - would need to be able to withstand harsh weather
- thick black hand rails are unattractive
- permanent grills to Bar-B-Q on - suggests impromptu meetings between faculty, staff & students
- need more pedestrian signage - color-coded system
- need to be able to read signs from far away - signs need to be larger - at least be able to differentiate between buildings from far away
- one student likes the old signs - they were color-coded but had the same format
- everyone seemed to agree that the signage in Group 1 is the best interior signage on campus
- move food stations outside to free up congestion inside - adds color & interest to exterior

All formal comments to be e-mailed to Peter.

What I took from this meeting is that people want more color, landscaping, lighting, trash cans, ash trays, wind-blocking, congregating areas, pathways & signage
Wayfinding is definitely a problem & we are working on signage, but differentiating between buildings with permanent features would help a lot.
Most people liked the idea of some sort of color-coding - but it could possibly be done in a discreet manner?
I think a master landscape planner would be a huge help because most of these issues could be addressed more easily by looking at the whole picture. It would also help in answering questions and concerns by having a plan to refer to.
Guidelines
The Exterior Elements Design Review Committee (EEDR) is charged with reviewing designs for projects which affect the exterior of buildings or any aspect of the university grounds. The exception is for capital projects, which go through a standard review process through Architecture, Engineering & Construction (AEC). EEDR review is primarily for compliance with campus planning principles, aesthetics, and appropriateness for visual impact on campus, but is not meant to be a review of mechanical, electrical, structural, security, OSEH, etc., issues, which are reviewed through a standard process through AEC.

Projects which typically require EEDR review include, but are not limited to, the following:

1. Exterior building elements – new, replacements, repairs: EEDR would review such characteristics as materials, colors, style, design, location, etc.
   - roofs
   - windows
   - doors
   - cladding materials
   - railings
   - ramps
2. Landscape and grounds elements: EEDR would review such characteristics as appropriateness for location, scale, materials, colors, compatibility with neighboring landscapes and other elements, etc.
   - planting plans
   - plaza designs
   - walkways and bikeways
   - fences
   - outdoor furniture
   - seatwalls
   - kiosks
   - emergency phones
3. Exterior mechanical units: EEDR would review such characteristics as location, visibility, materials, noise, etc.
   - exhaust vents, cooling towers, air-handling and condensing units
4. Miscellaneous
   - public art – proposed location and methods of installation reviewed only
   - banners on light poles or buildings – proposed locations and designs reviewed
   - flagpoles – proposed locations, height and color reviewed
   - antennas – proposed location, material, color, size, etc., reviewed
   - mailboxes – proposed location, materials, size, color, etc., reviewed
   - portable and temporary structures – proposed location, size, materials, color, etc., reviewed
• procedures affecting exterior elements: EEDR reviews proposed procedures and
guidelines but does not administer the procedures; examples include:
  • tree protection policy
  • banner guidelines and procedures
  • public art procedures
  • building signage guidelines

Procedures
1. Projects which may affect the exterior of buildings and/or the university grounds should be
   forwarded to the University Planner’s Office (UPO) for a determination of whether EEDR
   review would be required. The UPO can be reached at 764-2455 or jmtruett@umich.edu.
2. Once the UPO has determined that a project requires EEDR review, it will be scheduled for
   review at the next EEDR meeting. EEDR Committee typically meets monthly.
3. The project design manager or individual who is bringing the project forward should attend
   the EEDR meeting and present the project. Illustrations adequate to show the proposed
   work, location, design, materials, etc., should be provided for review.
4. The EEDR Committee may voice support for the project, or request additional information,
   which the UPO will follow up on.

University Planner’s Office
July 1, 2004