Proposed Frameworks for Campus Planning

The Proposed Frameworks for Campus Planning are derived from the analysis of existing campus fabric as described in Chapter 4.1 – Existing Conditions. This series of guiding frameworks articulate the rules governing improvements on a campus-wide level. They are further developed in the Architectural and Landscape Guidelines of Chapter 4.3, which deals with architectural districts and the specific issues of architecture and material selection appropriate to each district.

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LAND BANKS

The Campus Master Plan has identified a number of infill land banks to organize that future development since the University’s needs for future academic, housing, administrative and support space will continue to evolve. When the University chooses to develop projects, these land banks for infill uses will accommodate that need while providing a flexible framework that is adaptable for changing needs. The land banks have also been designed to provide convenient linkages to pedestrian and transit nodes without infringing on existing viewsheds. Adding buildings within this framework becomes a process of infill that strengthens the campus image and fabric. This strategy will help ensure that new building massing will physically relate to both old and new structures.

While all new buildings are to be viewed as part of the overall fabric of the campus, some should generate a new image for areas in need of such a change; and others should respond to the positive architectural image that exists. Some buildings should be treated as “foreground” buildings, while others should be considered campus “fabric” or “background” buildings. The Campus Master Plan district guidelines for specific infill development create a framework that recognizes this distinction within the specific districts of the campus (refer to Chapter 4.3 Main Campus: Design District Guidelines (Landscape & Architectural)).

It is important to note that for the purposes of this Campus Master Plan, "land banks" are defined as sites that have the potential for:

- Accommodating new buildings, with the programs for these buildings and related site development identified and defined in the future;
- Providing circulation needs for pedestrians, bicycles, emergency access, and service vehicles;
- Providing informal recreation space needs; and
- Providing special event outdoor space needs.

In addition, one category of land bank projects contain open spaces as no-build zones.

In all cases, building replacement and new construction must be based on a due diligence analysis that assesses current conditions and the potential for adaptive re-use of existing facilities versus the long-range cost of new construction to meet current and future needs.

Note that all land bank boundaries are fluid in nature and represent general areas for the location of future development and campus improvements. Land bank delineations are not intended to suggest literal footprints of proposed new buildings.
Campus Geometries are the formal mechanisms that achieve the goal of “connectivity” in the development of the campus and guide the physical growth of the campus by suggesting logical forms for new buildings, circulation and open space.

The Campus Geometries are achieved by overlaying the two major campus alignments: the Primary North/South grid and the skewed “Main Street” grid. This geometric construct generates a structure for new architecture based on historically and topographically significant orientations.
The University has several recognizable “architectural districts” each with its own distinct styles of architecture, open space, physical layout and location, focal points, special views, and other characteristics. These special local qualities should be respected and celebrated with any new development. To ensure that future development on campus builds upon such existing character and special qualities, the Campus Master Plan defines nine distinct “architectural districts.” The recognition of each district’s unique characteristics has specific implications for new development.

The Main Campus architectural districts include:

**University Green District:** the historic heart of the campus with both academic and administrative functions.

**Main Street North District:** a hub of student life on campus.

**Trinity District:** the campus of the former Trinity College, which is now a mixed academic and residential district adjacent to the academic core campuses.

**Gateway District:** the primary gateway to the campus with scientific and research facilities.

**University Heights District:** a residential district that offers an amazing panorama of the Green Mountains.

**Redstone District:** an historically and architecturally rich residential district.

**Athletic District:** the center of recreational and organized sports and fitness on campus.

**Centennial Sports District:** the historic sports fields and Stadium north of Centennial Woods.

**Centennial District:** a densely wooded district with an important Natural Area with some peripheral faculty and staff housing.

Specific Architectural and Landscape Guidelines for each of the Architectural Districts are described in Chapter 4.3 Main Campus: District Design Guidelines.
The landmarks identified in Chapter 4.1 Main Campus: Existing Conditions maintain their visual preeminence. Views from vantage points throughout the campus to the Ira Allen steeple and the belfry of Old Mill are preserved. Other landmarks have taken on new meaning in the context of redesigned circulation systems and land banks. The view of Converse Hall from Green Mountain Walkway is framed by infill land banks and the historic water tower on the Redstone District is given new prominence as a visual anchor of the improved Redstone Walkway. The new Wind Turbine joins the Gateway District’s water tower as prominent skyline landmarks.
Chapter 4.2 – Main Campus: Proposed Frameworks for Campus Planning

Property Acquisition & Disposition

The purpose of the Campus Master Plan’s Property Acquisition and Disposition Plan is to identify potential additions to, and sales from, the University’s land holdings that will support the University’s primary educational mission.

Potential acquisitions that neighbor the Main Campus take a priority. Properties with buildings that would be easily upgraded to institutional uses and safety codes are also a priority. Property that could be combined with neighboring landholdings and re-developed, either by the University or a private developer should also be considered appropriate acquisitions. Within these parameters, the University is committed to working with neighborhoods to preserve the residential nature of their community.

The University Board of Trustees has previously identified the following properties for consideration of acquisition should they become available:

- 415 Pearl Street (apartment house);
- 14 South Williams Street (Taft School);
- 28 South Williams Street (professional office building);
- 420 College Street (fraternity house);
- 21 Mansfield Avenue (Planned Parenthood building);
- 25/29 Mansfield Avenue (Chapter House – Red Cross Building);
- 32 North Prospect Street (American National Red Cross Building);
- 172 South Prospect Street (private residence);
- 166 East Avenue - the triangular shaped open land at rear (east) of the property to even off the University’s Centennial Woods Natural Area boundary;
- Sheraton Hotel on Williston Road (the University has first rights of refusal);
- Properties along both sides of Spear Street south to Swift Street with the exception of residential properties north of Miller Research Farm property;
- Property south of the Miller Research Farm and north of the Des Lauriers 1963 and 1980 Tracts and east of the residences between 596 and 600 Spear Street currently owned by Hebert and Couillard respectively;
- Properties along north side of Swift Street contiguous to University property;
- Burlington Country Club properties;
- Burlington Tennis Club on East Terrace; and
- Additional wetland and adjacent areas at Colchester Bog.

Highly recommended acquisitions include: the Taft School (14 South Williams Street), the Mater Christi School, the Sisters of Mercy Convent, Ira Allen School, and two contiguous vacant lots on the corner of Main Street and University Terrace. These properties are of sufficient size and modern construction to be efficiently adapted to institutional uses. These properties also have large parcels of land that would be suitable for additional development should they become available.

In addition, other properties recommended for purchase are the Planned Parenthood at 21 Mansfield Avenue, the Red Cross buildings on Mansfield and North Prospect Street, Fletcher Allen Health Care Parking Lot along Beaumont Avenue, the fraternity house facing Waterman Building at 420 College Street, the large house at the northeast corner of College and South Williams Streets, 415 Pearl Street apartment building neighboring University Health Center, the fraternity house at 440 Colchester Avenue, the State Department of Health, 28 South Williams Street contiguous to the Taft School, the rectangular plot of land connecting the Centennial Sports fields to Colchester Avenue, 172 South Prospect Street, fraternity house at 216 South Prospect Street, and the triangular shaped parcel to add to Centennial Woods Natural Area.

Other potential acquisitions recommended include the Sheraton Hotel, Staples Plaza, Burlington Tennis Club, Burlington Country Club, properties along Colchester Avenue through to Trinity District, and the residential properties on the east and west side of Spear Street.

308 South Prospect Street is the only property at this time that would be considered for disposition.

This is not a static master plan and therefore the list of potential acquisitions or dispositions may change. Should conditions or forecasts change, there may be additional properties that the University would consider acquisition and/or disposition of beyond this list of properties. Unique circumstances, like the availability of the Trinity College campus, may arise in the future and will require a separate campus master planning process.
The University of Vermont continues to take a proactive role regarding stormwater planning and infrastructure with the recent upgrades to the state-of-the-art North Campus and East Campus Stormwater Treatment Facilities. A large portion of the Main Campus is collected and treated in Stormwater Facilities that meet the 2002 State of Vermont Stormwater procedures. Compliance with the 2002 state procedures ensures that the storm basin removes 80% suspended solids and 40% phosphorus. The South Campus Watershed runoff will also be treated and detained to the above reference threshold when the permitted stormwater facility is constructed.

As future projects are developed in watersheds with “2002" Stormwater facilities, stormwater runoff for the project will already be detained and treated in the existing stormwater basins. Under current state permit requirements, the new project will have to remove 20% of its sediment load before it discharges to the stream (Centennial, Englesby, and Potash brooks).

If projects are developed outside the limits of the “2002" watersheds and if they are required to obtain a State of Vermont Stormwater Discharge Permit, a new stormwater treatment and detention basin that meets the 2002 State procedure may need to be designed and constructed.
The campus open space network must be strengthened as a major campus organizing framework that fosters the goals of creating a strong visual character for the campus and a memorable sense of place. This will create a campus environment that is conducive to learning and reinforces the University’s image and identity as a leading institution for research and teaching centered on the environment. Open spaces across the campus strongly reinforce the environmental campus image and form a connective network defined by six main categories:

**Historic**
The University of Vermont is unique in possessing two historic open spaces that define the visual identity of the campus: The University Historic Green and the Historic Redstone Green. Both are major players in the “image of the campus.” The historic character and visual integrity of these historic landscapes is to be respected, protected, and cared for as the campus develops. Underground development on these sites is acceptable, so long as the visual appearance of the Historic Landscapes is not altered.

**Primary**
Primary open spaces include spaces that serve as gathering places for students, and often as important intersections. Primary open space may be paved plazas, traditional quadrangles, spaces with lawns and walkways, and open green spaces that allow for passive and active recreation. Primary open spaces are major contributors to the image and memory of the campus.

**Secondary**
Secondary open spaces are those spaces that have some open space presence but lack spatial definition. This includes under utilized space around buildings and space on the campus edges. Typically these spaces are not considered gathering places, but they contribute significantly to the impression made by the campus “green setting.” Consolidating and marginalizing the campus parking will contribute to the creation of more and better quality secondary open spaces.

**Connective**
Connective open spaces serve as primary routes or walkways from one district or building to another. Connective open space may be paved or a combination of paved and green space. Although these spaces are smaller in scale and provide fewer opportunities for gathering or socializing they are a major component of both the connectivity and the legibility of the campus.

**Recreational**
Recreational open space consists of ball fields, practice fields, soccer fields and tennis and basketball courts, both varsity and intramural. These open spaces contribute to the green setting of the University and provide for active recreation.

**Natural Areas**
The Natural Areas on the Main Campus are an educational resource and an important piece of the University’s open space system, and contribute to the image and identity of the University as an institution committed to the study of, and care for, the natural environment. University policy prohibits above or below ground development within these Natural Areas.

**Undeveloped**
Undeveloped open spaces are open spaces that are currently undeveloped and offer sites for potential expansion.
Open Space Windows are sites at the periphery of the campus designed to frame views into campus and serve as major points of access for the pedestrian circulation system and open space network. These spaces provide a point of orientation for the visitor, project a positive and welcoming image of the University, and encourage community and neighborhood use of University Open Space.

The Campus Master Plan open space framework concentrates on six major Open Space Windows: the University Historic Green, the new Fleming Green, which faces Colchester Avenue and marks the northern terminus of the Green Mountain Walkway, the University Gateway Arboretum, the Dudley H. Davis Oval, the Redstone Walkway, and Redstone Historic Green.

While the design of each Open Space Window must take into account its existing character and use, the integral role Open Space Windows play in supporting the campus Open Space Connections System is paramount. A consistent and coherent language of wayfinding and orientation is a key component of the design of Open Space Windows.
A consistent vocabulary of design and materials for the significant vehicular entrances to the campus will clarify traffic routes on and around the campus and create a stronger public image of the University and its campus. A system of gateway marking, as outlined in Chapter B – Design Goals & Strategies, has been developed that will result in the design of gateways that create a unique and cohesive image for the University.
Campus Lighting Guidelines will continue to follow the Campus Lighting Guidelines established by Campus Planning Services and Physical Plant. Further technical specifications regarding luminaire types, energy efficiency standards, and foot candle measurements are included in Chapter 8 – Design Goals & Strategies.

The design of exterior lighting must provide for adequate illumination with minimum operating costs and must provide for the ability to light various areas of the campus effectively and consistently depending upon use patterns and conditions.

The University considers the following factors in its assessment of lighting on campus:

- uniformity ratio
- light intensity (brightness)
- light color
- glare
- distribution of light (even lighting)
- open landscaping
- safe walking surfaces
- surveyable surroundings.

In addition, because many University properties abut residential neighborhoods, the balance of light levels between University properties and neighbors must be comfortable while still providing security lighting for pedestrians; shielding is used where appropriate.

The design can make use of building facades, tree canopies, other aspects of the landscape, and reflecting properties of surfaces to arrive at a lighting solution that allows good visibility for the conditions and task and enhances both the site and its buildings and the pedestrian aspect of the campus.

The University follows the lighting guidelines established in the American National Standard for Safety, “Practice for Industrial Lighting.” The Illuminating Engineers Society (IES) Standards is used as a benchmark for comparing the University’s lighting in relation to the standards offered by IES guidelines.

The University contracts with Burlington Electric Department (BED) for some of the (leased) pole mount lighting fixtures that light areas on campus.

**Ambient Open Area Lighting** is kept to a minimum that maintains a sense of safety, while giving a sense of privacy from the public areas of campus.

**Pathway Lighting** is to be kept above a minimum of 1 footcandle to maintain a sense of safety and security after nightfall.

**Plaza Lighting** maintains a similar intensity to pathway lighting, allowing for these spaces to be used intensively at night for informal gathering and socializing.

**Gateway Area Lighting** serves a dual purpose of illuminating nearby outdoor spaces, and highlighting signage elements for passing motorists.
Outdoor Art on Campus

A diverse and high-quality outdoor art collection is central to the creation of an inspiring and stimulating environment for teaching, learning and working. The University’s effort to expand its art collection through the Exterior Public Art Program is an important initiative in the overall improvement of the campus. This effort should be supported, whenever the budgets allow, by including art elements within the scope of new capital projects. Ideally, new art works should be integral elements in the design of new buildings that express in their choice of subject the nature and use of the facility for which they are commissioned.

The University should also continue to pursue aggressively both permanent gifts and temporary loans of public art for the campus. These efforts should be coordinated with the Fleming Museum, making greater use of the campus to display its collections and capitalizing on its institutional knowledge and reputation. The membership of the Sculpture Committee should be expanded to include students from the University’s Art Department and representatives of the local arts community to better engage students and the Burlington area’s vibrant art scene in shaping the aesthetic character of the campus.

The Campus Master Plan sets out a broad set of categories to describe art works best suited for specific open space types: Icon Elements are large architectural or sculptural pieces that contribute to the major open spaces such as Open Space Windows, Campus Gateways, and historic Open Spaces. These works are of a size to serve as wayfinding landmarks and to shape the identity of the campus; Site-specific Art is of a smaller scale and texture, executed in response to a specific environment or condition on campus; Commemorative Works are pieces that commemorate or evoke moments or persons that have shaped the history of the University; Temporary Installations are works by contemporary artists that have been loaned to the University, or student works.

The Campus Master Plan identifies specific open space sites as appropriate and desirable for the placement of public art. In general, the Campus Master Plan has identified sites that are outside of the University Historic Green to allow those spaces to preserve their existing character and showcase the historic collection. In the placement of new outdoor art, spaces that are integral parts of the open space connectivity network have been given priority.
As part of all review processes, if any facility is over fifty years old, a historical review analysis should be conducted to determine best next steps to be in compliance with U.S. Secretary of Interior’s Standard for the Treatment of Historic Properties.

A number of the buildings on campus are recommended for renovation because their deferred maintenance requirement costs are particularly high (see Building Condition Assessment in Chapter 4.1: Existing Conditions). The Waterman Building, for example, has a high maintenance and repair backlog for its mechanical and electrical systems. Other buildings such as Billings Center are candidates for renovation because they are being considered for new uses once the Dudley H. Davis Center is completed.

Additions to existing buildings need to be considered with the same level of planning as a new building. A number of factors need to be considered.

- How will an addition affect existing campus spaces and walkways?
- Can the host building support an addition?
- If the existing building is a historic structure, can it be added to without losing any of its architectural character?
- How will an addition impact existing spaces, circulation, structure and utility systems?
- Are the proposed programmatic spaces appropriate for an addition, or are they better off in another location?
- Spaces such as lobbies, lounges, offices, classrooms, laboratories and storage spaces each have different requirements that will affect an addition’s location and size.

Buildings such as the Fleming Museum and the Bailey/Howe Library are recommended for additions because their programs need to expand, and there is an opportunity to improve the campus fabric in that area. The Fleming Museum addition will help the Museum and the University reconnect to Colchester Avenue. A Bailey/Howe addition could help make the University’s main library feel more open and inviting, particularly with the new Davis Center nearby.

Some of the buildings are also being recommended for removal. For example, C-B-W residence halls, are being recommended for removal because their demolition will allow for significant new campus residential developments to improve and upgrade student housing options in the 2015-and-beyond phase of the Plan.

The University is currently assessing the removal of the Pomeroy Barn and the Villa located within Trinity District.
It is recognized that the historic buildings, structures, and sites of the University contribute to an understanding of its identity and history. The stewardship shown to these resources reflects on the stature, the quality, and the very integrity of the institution.

The University embraces its responsibilities and stewardship to maintain and respect its historic resources in accordance with local, state, and federal regulations, standards, and guidelines. In that light, the Director of the Historic Preservation Program or a qualified historic preservationist consultant will be consulted whenever necessary, and for major projects, included as a member of the project team.

Fleming Museum, Wadhams House, Given Medical Building, Perkins Building, Coolidge Hall, and the John son House are recommended for nomination to the National Register of Historic Places.

The University has conducted an inventory of historic garages and carriage houses and is in the process of expanding the University Green Historic District. Refer to Appendix for the listing of historic facilities, including buildings over 50 years old.
CHAPTER 4.2 – MAIN CAMPUS: PROPOSED FRAMEWORKS FOR CAMPUS PLANNING

CONSOLIDATED STUDENT SUPPORT SERVICES

A goal of the Campus Master Plan is to unite student services in a central, accessible location for quality customer service and efficiency of support services, providing one-stop shopping. Central locations for the Center for Health and Wellbeing, culture and diversity functions, and other student support services will facilitate the ability to do cross referrals between service providers and be better integrated in the daily life of the campus for students, faculty and staff.

Accordingly the following concepts are proposed:

- The preferred option (red circle) for locating a consolidated Center for Health and Wellbeing is at the Johnson House on the corner of Main Street and University Heights Road with an addition to the south to meet the needs of a modern health center. A second option (green circle) would be a facility at the southeast end of the C-B-W Quadrangle/Land Bank.

- Work is underway to consolidate many of the student academic support functions, such as Financial Aid, Student Accounting, and the Registrar within the Waterman Building to provide one-stop shopping for students.

- Along with the relocation of student life functions within the new Dudley H. Davis Center, relocating multicultural functions to the Living/Learning Center is recommended for the consolidation and to improve access to programs.

- Campus Police Services and Emergency Services remain in their current location with expansion. This location is strategic allowing ready access to the campus, including Trinity District to provide protection and emergency services.
The implementation of a truly pedestrian campus is a key vision and one of the primary goals of the University of Vermont Campus Master Plan. A range of interrelated initiatives are proposed to accomplish this goal. These include multi-modal pathway networks to reinforce the north-south circulation spine of the campus, design enhancements and amenities for pedestrian and bicycle travel, further improvements to the popular successful Campus Area Transportation System (CATS) shuttle service, and an emphasis on serving the bulk majority of the parking in peripheral lots located at the perimeter of the campus.

The Campus Master Plan also identifies priority landscape projects to significantly improve the open space network by building a coherent pedestrian experience across campus (refer to Chapter 4.4 Master Plan Development for further information). Priority projects proposed include the transformation of the University Place road into a pedestrian plaza; the Green Mountain Walkway that provides a connective green space that creates a system of linkages through the core of the campus, connecting the south and north through to Trinity District; additional landscape improvements to the Redstone Walkway providing smaller pocket spaces that are more usable while maintaining the important institutional buffer with the residential neighbors; and bringing forth an important concept that has been discussed since the 1960s, creating a “land bridge” to connect the north and south portions of the campus across Main Street. This proposal will place Main Street under a “land bridge” for a short distance, creating a pedestrian at grade level connection across Main Street.

Important to note is that there is sufficient parking space availability to serve all proposed building projects and anticipated parking demand associated with faculty/staff increase growth and projected student enrollment through 2015. The following pedestrian, transportation and parking plans in this section chapter also present a conceptual approach as to how parking and transportation programs and facilities will address and accommodate the University’s complete build out as envisioned for the next 50 years or beyond.
PEDESTRIAN & BICYCLE CIRCULATION

The University has developed a hierarchical system of pathway designations for the future delineation of vehicular, bicycle and pedestrian routes on campus. This approach will guide the implementation of new pathways as well as the reconfiguration and rehabilitation of existing pathways.

The proposed pathway network includes:

**Multi-Use Paths** – 20’ to 24’ in width to accommodate shuttle, service, and emergency vehicles such as will exist at University Place and Green Mountain Walkway. In all cases multi-use pathways will be shared roads assigned to accommodate limited service vehicle and shuttle traffic. Surfacing will be primarily asphalt, but textured lanes for bicycle and pedestrian travel on one or both sides of the vehicular travel way should be considered as a design option.

These pathways will be designed in accordance with American Association of State and Highway Officials (AASHTO) standards for pathway geometry and design and built in conformance with Vermont Agency of Transportation (VTrans) construction specifications.

**Primary Walkways/Bikeways** – 8’ to 15’ in width and should support bikes and pedestrians with limited service vehicular use for access to utilities, such as steam lines. At utility access points extra coverage should be built in to prevent vehicle damage to lawn areas. These paths would comprise part of the bicycle network so logically, they should connect with each other across campus. New technologies such as patterned/textured paving or porous paving approaches that allow stormwater infiltration, such as honeycombed concrete pavers will be considered. Another approach will be to use porous paving surfaces that have grass as the finished surface but have structural elements below grade (as per VTrans construction standards) which provide stability and support to allow limited vehicular use.

**Secondary Walkways** – 5’ to 8’ and primarily for pedestrian use only. These are typically city and limited-use sidewalks. These are almost always of concrete construction and where they follow or relate to the municipal networks, the surfacing should remain concrete. Note that all pedestrian and bicycle facilities should follow where appropriate the guidelines and standards that are contained in the Vermont Pedestrian and Bicycle Facility Planning and Design Manual, which is published by the Vermont Agency of Transportation.

Entry Areas and Plazas will also continue to be an integral part of the pedestrian campus when located as part of a building entry or to provide outdoor gathering spaces. These areas will be constructed of similar materials already being used around campus, concrete pavers, native stone or patterned concrete. Brick should be used as accent elements rather than as the primary surfacing material. Accessible entryways will be another important consideration in the design of these plaza and building arrival areas.

Interior Circulation - where possible new construction will consider circulation routes and their connectivity. The goal is to create alternative options within the interior of buildings for pedestrian use during the winter months and inclement weather. A number of additional considerations and initiatives will further support the goal of creating the complete pedestrian campus. For example, future routing of pathways will serve land bank areas as they are developed. “Trunk routes”, the primary circulation network through the campus will be consistently signed and surfaced to better accommodate skateboarders, bicyclists, and pedestrians together on one route. These could be developed as part of the new Green Mountain Walkway as well as the Catamount Walkway. Future or refined bicycle routes will need to be reviewed by the involved constituencies such as Local Motion, the Burlington Bicycle Council, the Metropolitan Planning Organization and the local municipalities. Overall accessibility for pedestrians will also be an important consideration in pathway location and design.

Transition and conflict areas must be dealt with consistently via the use of signing, policies or avoidance. Bike lanes and routes might also employ color treatments as an approach to better “signing” the routes. However, maintenance must be considered with regard to the surface coloring. Service and shuttle roads can also accommodate bicyclists, and shuttle stop pullovers may be necessary to avoid conflicts in flow, particularly with increased shuttle headways over time. Bicycle routes from peripheral lots need to be reinforced and added to as in the case, for example, of the route to and from the Commuter lot located in the Centennial District. Bike racks should be appropriately located at new buildings and key destinations on campus. Current bike rack locations and conditions should be revisited. Bicycle amenities such as route maps, improved signing, undercover storage and perhaps even a commuter bike facility with lockers/tools/showers are to be considered as improvements in the future.

Ultimately the overall goal for the future bicycle and pedestrian network on the campus is to provide the safest, most logical and engaging circulation system for pedestrians and bicyclists, and to sustain a seamless connection with all modes of travel including the CATS shuttle system as well as external vehicular access and parking.
PEDESTRIAN CIRCULATION

(Note all secondary walkways are open to bicycles)
All on-campus bicycle routes are part of the regional bikeway system.
The circulation routes outlined in the Campus Master Plan strategically reorganize service and emergency vehicle routes throughout the campus to minimize the impact of vehicles on this now predominately pedestrian campus.

Service access and loading docks must be organized within an efficient network that will serve all buildings. Service access will penetrate the campus as needed, with appropriate loading docks at designated buildings. Where service access penetrates beyond automobile access into the pedestrian campus, access route design will signify that transition. The service access areas within the campus interior will not appear to be roads; they will look like pedestrian ways but will accommodate service vehicles with the proper paving support, truck turning radii, access width and length, and temporary service vehicle parking areas so that turf and landscaping are not damaged and pedestrian access is not blocked.

Emergency access is important in maintaining the safety of the University. Emergency access routes, therefore, have been designed to serve emergency vehicles in the most efficient manner possible.

The following standards were established to accommodate this priority.

Emergency vehicles will have access to the interiors of all districts. This traffic will be the most infrequent vehicular traffic on the campuses but will involve large emergency vehicles. Therefore, the most critical issue is that the emergency access routes allow for the turning movements of these vehicles as defined by the local municipality’s Fire Marshal.

All buildings will be accessible by emergency vehicles from two sides. Emergency access routes will be designed with 20-foot wide minimum horizontal clearance on hard surface. Routes will also be designed with minimum outside turning radii of 41-feet to allow for the requisite turning movements of emergency vehicles. Surfaces will be reinforced pedestrian pavements in the most heavily traveled areas of campus to support the weight of the emergency vehicles. Any changes to or construction of new emergency access routes will be reviewed and approved by the local Fire Marshal.
Although vehicular circulation will continue to be an important component of the campus circulation network at the University of Vermont, it is clear that over time there will be fewer vehicles on campus and less emphasis on cars. Automobile access by the public and the University community will be focused primarily at the perimeter of campus with access to and from visitor parking and the peripheral lots within the core campus. Thus shared use roadways or pathways will form the spine of the campus circulation network for use primarily by shuttles and service vehicles. While vehicular circulation will be restricted in certain areas, the network will still accommodate emergency access with a consistent system of removable/collapsible barriers or bollards. In addition, access to handicapped parking spaces will be maintained and located near to accessible building entries.

The current roadway network which is accessible for limited use public access will be developed and managed as Multi-Use Pathways. These are routes which are or will be 20’ to 24’ in width to accommodate shuttle, service, and emergency vehicles. Examples of multi-use pathways will exist at University Place and Green Mountain Walkway. In all cases multi-use pathways will be shared roads assigned to accommodate limited service vehicle and shuttle traffic. Bicycle routes will be co-located with these multi-use pathways.

Primary Walkways/Bikeways are to be 8’ to 15’ in width and should support bikes and pedestrians with limited service vehicular access to steam line utilities. Extra coverage will be built in at utility access points to protect vehicle damage to grass. These paths will connect with each other across campus to provide a logical pedestrian and bicycle network. Refer to Pedestrian & Bicycle Circulation sections in this chapter. New technology will also be employed for certain areas where short term vehicle access or parking is necessary such as porous paving and underground stabilization systems that allow movement on grassed areas without negatively impacting the condition of the surface areas.

Note that there will also be limited areas where service access is maintained to key buildings and these areas which are currently used for this purpose are identified in the existing conditions map in Chapter 4.1 Main Campus: Existing Conditions that delineates campus service access. This access will need to be accommodated in the future although the extent and nature of service vehicle movement and vendor access to facilities can be made more efficient by co-locating access points and consolidating service locations, as well as, developing policies which address where and when vendor trucks can move about campus.

Another transportation initiative which has been forwarded as part of this Campus Master Plan is the proposal to construct a “land bridge” across Main Street to connect the University campus, which is currently bisected by the four lanes of Main Street. This is a proposal which was first proposed by Landscape Architect Dan Kiley in the 1960s and was again considered when Main Street was reconstructed in the late 1990s. The land bridge would connect the campus at existing grade level which would consequently require Main Street to travel through a short tunnel below this land bridge. A successful model of a campus land bridge connection can be seen at Harvard University, where busy Cambridge Street was placed underground, allowing Harvard’s pedestrian campus to be connected with an at grade land bridge.

The overall goal for vehicular circulation is to limit the presence and frequency of vehicles on campus and continue to progress towards a complete pedestrian campus where circulation systems are integrated, creating a seamless network of shuttle routes, pedestrian walkways and bicycle routes.
VEHICULAR CIRCULATION
The Campus Area Transportation System (CATS) will continue to be the backbone of the University’s transportation system. This type of transportation is critical for a campus that spans well over 1.5 miles from the Redstone District to the Trinity District. The CATS buses will be the key strategy of the transition to a pedestrian campus. This will allow commuters, faculty and staff to park at the campus perimeter in the peripheral lots and travel safely, comfortably, and in a timely manner to their University destinations. Furthermore, in a move towards a more sustainable environmental operation, on-campus buses will continue to be powered with Compressed Natural Gas (CNG), and route locations will serve the expanded pathway system and peripheral lots with a more efficient and amenable network of pedestrian pathways and bicycle routes.

The CATS network will continue to be based on ridership needs and thus have a certain level of adaptability in terms of routing and stops designed to serve the campus districts and the land bank areas as they are developed. Thus shuttle routes need to be flexible and adaptable over time, and will continue to serve the key campus destinations.

Co-location of internal shuttle routes and service roads currently exists and will continue where possible. These routes will continue to serve bicyclists as well, reinforcing the internal shared roadway network. This network should be continually redeveloped over time so that roadways reflect consistent widths, surfacing, signing, and are designed with alignments that are more fluid to better accommodate traffic flows. Another need with regard to enhancing the shuttle system will be to improve and/or upgrade shuttle stops to provide better protection from inclement weather. Students currently wait in or under cover of adjacent buildings until the shuttle arrives. This practice should continue where appropriate. In locations where this opportunity does not exist, the University should build shuttle stops with coverage and amenities so that students can wait safely and comfortably.

Funding for shuttle system improvements could be obtained through new development projects which result in the need for changes to the system. It is envisioned that the CATS shuttle system will connect effectively with the evolving regional transit system as well, to promote commuting via public transit. It is possible that the shuttle system will eventually expand outside of the Main Campus to serve satellite campuses and the parking located at these campuses as de facto intercept lots.

The shuttle bus system will continue to be integrated with the other University circulation systems, i.e., pedestrian, bicycle, and vehicular to ensure that movement around the University campus is a seamless experience.
FUTURE PARKING INVENTORY
BY CAMPUS ARCHITECTURAL DISTRICTS

The proposed parking distribution for the future pedestrian campus reflects the full envisioned build out of the campus based on the 2005 Paulien Study projections. The University has sufficient parking for all anticipated build out, enrollment and faculty/staff growth through 2015, and the projects on the Capital Project list.

The majority of parking demand in the future will be served by the existing and proposed Peripheral Lots. Future parking spaces that will need to be retained within the campus core will be accommodated in structured parking and limited smaller surface lots, where possible and appropriate. Co-locating service spaces is desirable to reduce future spaces, while visitor and handicapped parking will be retained in the core parking areas. The overall intention will be to move the parking spaces removed from each District into the peripheral parking area nearest to that District.

In order to achieve the goal of a pedestrian campus and accommodate the future parking demand, the University needs to consider the following potential strategies:

- Decreasing core parking numbers in applicable districts through the following methods:
  1. revisiting student parking policy and numbers by district;
  2. adding new parking in small scale lots where possible or appropriate within the district or at the edge of the district;
  3. placing the shortfall in peripheral lots; and/
  4. reconsidering visitor/service handicapped parking locations and numbers.

- The University will continue to use and expand as intensively as possible Transportation Demand Management (TDM) approaches.

- The University will need to further develop and expand the peripheral lots. This is the critical core element of the future parking distribution and location strategy. The future shuttle system routes will need to be modified to serve the peripheral lots.

- Work with the appropriate local, state and regional entities to continue to use and further develop the regional intercept lots similar to what is currently occurring at the Lakeside facility (Gilbane). Regional transit in the long term should serve these lots and the University in a coordinated manner.

- Support and work through Campus Area Transportation Management Association (CATMA) with Chittenden County Transportation Authority (CCTA) and others as appropriate to improve regional transit service and continue to provide incentives for ridership. All CCTA routes are available to University faculty, staff, and students free. Bus rapid transit along the Route 2 corridor is one future possibility that might be effective and in the future the critical mass may warrant reviving the commuter rail system regionally.

- Further develop faculty staff housing (through public/private partnerships) close to campus so that these residents can walk/bike/shuttle to their workplace, thus reducing parking demand on campus.

- Address how to best manage student parking to include:
  1. identify which students are allowed to have cars;
  2. consideration of long term car storage options; and
  3. placement of student cars in peripheral lots.

- It is also important to note that as the University expands into external campuses or leased spaces elsewhere in Greater Burlington area or regionally, parking demand on Main Campus may be consequently reduced.

This is the long term vision for the University’s parking system and realization of a pedestrian campus. The University will continue to explore innovative approaches and solutions to effectively address the needs for campus parking while relocating parking from the core campus to the periphery and/or off-campus.
FUTURE PARKING INVENTORY
BY CAMPUS ARCHITECTURAL DISTRICTS

- University Historic Green District
- Main Street North District
- Trinity District
- Gateway District
- University Heights District
- Redstone District
- Athletic District
- Centennial Sports District
- Centennial District
- Centennial Woods Natural Area
- Land Bank
- Peripheral Parking Site
- UVM Property Lines
- City Lines/Boundaries
Parking will be relocated to Regional Parking Intercept Park & Ride Lots strategically located on high-traffic approaches to campus. These intercept lots are connected to campus destinations with a reorganized and expanded shuttle system.

The percentages noted on the diagram represent a percentage of the total number of commuters projected to drive to campus on each major route on any given day.
One key element in the overall transportation planning framework for the University is the viability of Transportation Demand Management (TDM) as a means of reducing vehicular traffic and parking needs on campus. The Campus Area Transportation Management Association (CATMA), which serves Fletcher Allen Health Care, American Red Cross, Champlain College, as well as the University, has already initiated successful and award-winning TDM Programs.

Currently the University offers several TDM programs to encourage its employees and students to carpool and use public transportation.

- **RidesWork Program**
  - Confidential carpool matching service
  - Commute Smart Card
  - Also registered in the Guaranteed Ride Home Program - Free taxi ride home in an emergency

- **Bike/Walk Reward Program**
  - Currently over 200 active participants
  - Downtown Burlington gift certificates for people that walk or bike to work at least two days per week for four consecutive weeks
  - Also registered in the Guaranteed Ride Home Program

- **Unlimited Access Program**
  - UVM faculty, staff, and students can use CCTA service at no charge
  - UVM ID card can be swiped on the bus
  - Resulted in 20,000 trips per month from the University
  - Used by 2,500 individuals

The University, through CATMA, will continue to encourage cooperative efforts between the University, cities, and region to implement TDM programs as well as improve public transit, regional bike routes and intercept parking facilities. These efforts will further reduce commuting in private vehicles and on campus vehicle numbers and the consequent parking demand.
All additions to the Campus Utilities infrastructure will be sited to avoid the future infill land banks defined in this chapter’s Land Banks Designations. Refer to the Utilities Master Plan for coordination of new utilities and more information on existing conditions and specifications available through Physical Plant.

Systems improvements include:
- Develop chilled water system;
- Develop combined heat and power;
- Maximize the use of the steam system;
- Minimize demand charges from local utilities;
- Invest in distribution and central systems;
- Design and build for contingencies;
- Use fuel that maximizes the benefit for the environment;
- Use systems as an educational model; and
- Maximize opportunities with current capital projects.

Continuous planning for utilities is important for many reasons including reliability, safety, cost effectiveness, capacity for growth projections, minimizing the environmental impact, and both short and long term maintainability.