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The University of California, Berkeley is known for its academic eminence, its physical setting, and the character of its open spaces. The 178-acre academic core known as the central campus is densely developed, with an average daytime population of 44,000 students, faculty and staff. While the campus has a prominent architectural heritage, it is the landscape that firmly establishes the image of the University.

The campus landscape has changed dramatically over the 135 years of its service to higher education. The once sloping, grassy plain embraced by the wooded forks of Strawberry Creek has evolved into a descending chain of glades framed by buildings on terraces and mature trees. As the City of Berkeley developed around it, the campus became a park within the city. Increases in the University's urban population and built density over the last half century have changed the role of the campus open space, and greatly increased its value to the campus and community.

Design Context | The 160-acre rural site was chosen in 1858 by the College of California for its hillside location framed by the wooded forks of Strawberry Creek, the rolling open landscape, and the primary views to the Golden Gate. The University was established in 1868 through a merging of the College of California with an institution formed by the Morrill Act land grant. The campus and adjacent townsite had been named for George Berkeley, Bishop of Cloyne, who had visited the colonies in 1729 with the intention of founding a university.

In 1866 Frederick Law Olmsted was invited to design a plan for the new campus, reflecting the

young college's inspirational ideals. Using the principles of picturesque landscape design, Olmsted aligned the campus axis with the symbolic Golden Gate while utilizing the natural topography to site proposed buildings. The first campus buildings were sited on an upland plain, among trees lining the main fork of Strawberry Creek. This approach set the campus apart from its surroundings while providing views to the Golden Gate.

Through the late 1800s, there was considerable emphasis on agricultural and horticultural development of the campus. This included farm crops, an agricultural experimental station, a forestry plantation, a botanical garden and conservatory, and the establishment of large groves of trees such as the Eucalyptus Grove.

The Phoebe Hearst Competition of 1900 brought a synthesis of landscape and architecture conceived on a grand scale. John Galen Howard envisioned Berkeley becoming the "Athens of the West," and his Plan established the framework of the future campus form. The two main east-west axes were Campanile Way and the Central Glade, with a minor north-south axis along Sather Road. In contrast to the Plan's grand formality of neoclassical buildings set on ascending terraces, buildings near the creeks were designed and arranged with an informal theme. Professor John Gregg guided the landscape development during much of this period and under his direction, the design was based on formal and picturesque relationships.

Campus landscape development largely followed the pattern set by Professor Gregg up to the 1950s, at which time the University experienced rapid expansion with both positive and detri-

The campus landscape is comprised of a typology consisting of five types, used to describe and organize the physical attributes and historic context of the campus open space system. The order of the types below reflects the chronology of their development.

Rustic type - The original campus landscape character featuring native plant dominance, rustic character, low maintenance requirements, and relating to neoclassical or rustic architecture. Example: Founders' Rock

Natural type - A landscape that appears natural in the campus, but has been altered. Native or indigenous plant dominance, low maintenance requirements; may support neoclassical or rustic architecture. Example: Grinnell Natural Area

Picturesque type - The picturesque Olmsted-style landscape of rolling pastoral lawns, informal mixed tree borders, mixed exotic and native plants, high maintenance requirements, and not directly related to particular architectural styles. Example: Faculty Glade

Neoclassical type - Rigid architectural landscape framing neoclassical and Beaux-Arts campus buildings, with typically exotic plants selected to enforce the architectural styling and moderate to high maintenance requirements. Example: Campanile Esplanade

Urban type - Typically exotic landscape plantings in contemporary, geometric urban plazas - popular as places of interaction - with building forms dominant and moderate maintenance requirements. Example: Sproul Plaza



- Rustic type
- Natural type
- Picturesque type
- Neoclassical type
- Urban type

mental effects. During this growth phase, important views were blocked by the insensitive design and siting of buildings such as Barrows and Evans Halls. However, campus planning became a department and a number of significant planning studies occurred including the first (1956) *Long Range Development Plan (LRDP)*, which proposed a program to regain the "green heritage" of the campus. This commitment to open space on the central campus instituted a land acquisition program to accommodate campus auxiliary uses, such as student housing, parking and other service facilities, off-campus. In addition, the plan endorsed a specific commitment to open space protecting Strawberry Creek, Faculty Glade, the Eucalyptus Grove, Observatory Hill, and the Central Glade; while recognizing pedestrian needs by describing pedestrian routes as "the primary circulation network of the campus."

Since that time, the University has continued to produce *LRDP's* (1956, 1962, 1990) and is now preparing its fourth to direct campus development to 2020. Building replacement and infill projects have continued throughout the campus, with landscape improvements generally limited to the areas immediately surrounding buildings. As a result, landscape development has not been guided by an overall landscape planning concept. The current program of large-scale seismic upgrades to University buildings imposes a protracted period of heavy construction throughout the campus. These projects present an opportunity to jointly install landscape initiative improvements in accord with this master plan.

Design Systems | The landscape of the Berkeley campus is composed of unique **natural** and **designed** open spaces. Those of the natu-

ral environment include **natural systems** and **views**, which have evolved from the native, original landscape. The designed systems include **open space elements, circulation elements, and perimeters** and **gateways**. The contrast and interlacing of the natural and designed systems is a powerful signature of the Berkeley campus.

Natural Systems | The campus' physical form and image resulted from the extraordinary richness of its natural setting. The natural systems are the elements of this setting: the forks of the creek, the upper and lower tree canopy, and the topography of the land. The natural quality of these elements enhances the vitality of the campus environment.

Strawberry Creek and its riparian corridors provide unity to the campus organization. The creek was the key element in the siting of the campus, considered a visual, recreational and resource amenity since the early history of the campus. As the creek wends its way through campus, it links and defines a variety of campus open space elements, structuring a dramatic spatial experience. Primary campus pathways, which follow and cross over the creek, derive their gently meandering forms from the creek's course. The creek banks provide places for gatherings as well as secluded spots for reflection or study. Culturally, the creek functions as a link between the present day and past generations of campus users.

The biological habitat associated with Strawberry Creek and the designated Natural Areas is irreplaceable and of special public value in the visual and experiential environment of the

campus. The creek and its environs provide wildlife habitat, ecological diversity and are the focus of field studies for students to learn the workings of an aquatic ecosystem. To perpetuate the health of this valuable resource, this plan proposes a management system for the creek and its associated natural areas.

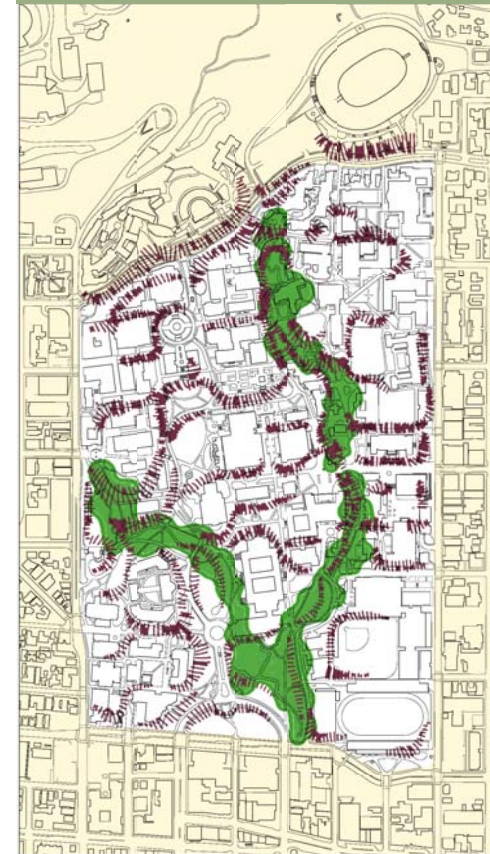
The natural areas of Strawberry Creek are part of the campus' Natural Preserves established by the *New Century Plan* in order to implement a management and phased restoration plan for the creek and its riparian landscape. The natural landscape along the two forks of the creek requires careful ecological management and protection from the impacts of adjacent campus development. The phased plan is based on the coordination of two creek zones. Zone 1, the riparian zone, is defined as a section of at least 100' in width, centered on the stream course along the entire length of the creek (this width may vary due to local conditions). The vegetation includes native and naturalized plants that form dense woodlands along the stream course. Zone 2 is a broader zone and includes other rustic woodland areas adjacent to the riparian landscape, which have a strong complementary relationship to the creek and also often have a strong historic and symbolic identity in their own right, such as the Eucalyptus Grove. This zone consists of large trees with a naturalized understory.

It is proposed that the management and renewal of zones 1 and 2 be based on ecological principles, including replacing invasive exotic plants with native plants suited to their biotic zone, replacing unhealthy plants and plants at the ends of their natural lives and preserving and enhancing the habitat value of the zone.

In some cases, Zone 2 includes campus glades adjacent to the creek. Glade-creek interfaces should be designed and managed with special care in terms of both plant selection and design features. An example would be when an adjacent glade provides direct access to the riparian woodlands and creek bank, the creek banks must be protected through erosion control and filtering systems.

One of the campus' greatest assets is its mature **tree canopy**. In addition to the bands of vegetation following the forks of Strawberry Creek, a legacy of established native and specimen trees constitute a significant part of the campus landscape. The tall tree canopy imparts a sense of spatial order, visual clarity and a sense of time and grandeur to the campus. A few distinctive trees and groves such as the Eucalyptus Grove have become campus landmarks based on their history and visual prominence.

Much of the campus' tree canopy has reached the end of its natural lifespan. In particular, the Eucalyptus Grove, planted in the late 1870s, the Monterey pines planted in the 1910s, and many older California live oaks are in serious decline. Frequently trees fall into poor health due to the impacts of construction and other human activities. By comparing early campus photographs of Faculty Glade with its appearance today it is easy to see that the number of California live oaks has dwindled through age, disease, summer irrigation, grading and other disturbances. An additional impact is the proliferation of indigenous species that were not native to the original campus. The dominance of coast redwoods along Strawberry Creek exemplifies this trend, where many of the native species are in decline due to crowding.



Legend:
Creek canopy
Terrace slopes



The broad species diversity of the campus tree collection is an outgrowth of the early interest in agriculture and the worldly travel of the faculty. In the last forty years, the collection has dropped from 300 to 200 species due to building expansion and declining campus interest in the collection. New interest is needed in attracting unique specimens to replenish the international character of the arboretum, and install the next generation of successful campus trees.

While the tall tree canopy is visually significant, the **lower canopy** arrangement of groundcovers, shrubs and small trees has a direct impact on our perception of the landscape. The campus' unique sense of place owes much to the repetition and blending of a broad species mixture of Mediterranean, Australian, Asian, and native west coast plants. Certain plant palettes reinforce the landscape types: the neoclassical type uses plant materials commonly found in formal European landscapes accentuating architectural forms; the picturesque type features plants with naturalistic forms; the natural and rustic types are composed of remnants of native vegetation mixed with drought tolerant imports.

While helping form the character of campus open spaces, low vegetation plays an important role in screening unsightly areas. The shrub and small tree layer mask incongruous buildings, utility and service areas and forms appealing barriers. The care of new and established vegetation on campus is, however, compromised by a lack of clearly defined practices, chronic low staff levels and funding support that lags behind comparable institutions. Although the maintenance of the landscape is generally repetitious, plants require constant adjustments for the changing campus uses and horticultural requirements at various

stages of their lives. Emphasizing good maintenance practices is critically important to the health and longevity of the campus landscape.

The campus' impressive **topography** heightens the visual impact of natural and architectural features, and affords a dramatic westward vista to the Golden Gate. This provides the University with an inspirational connection to a landscape greater than the extent of its own boundaries. Through the 1920s, neoclassical campus buildings were placed atop grassy man-made terraces that accommodated the campus' natural topography and created a dignified series of plinths for buildings. This technique of stepping down terraces through the campus, allows for the creation of dynamic open spaces and framed views. While some of this terracing practice has diminished due to the density of campus buildings, it is still an evident attribute of the campus. A challenging aspect of this topography is the adaption to a universally accessible environment. Providing for these needs while preserving the experiential quality of campus topography is an important aspect of planning for future development on campus.

Views | Given the spectacular setting of the campus on a gentle west facing slope at the base of the Berkeley Hills, views have always been a defining element of its plans. The primary example is the alignment of the campus' historic core with the view of the Golden Gate. The growth of the campus in terms of building density, placement, and mature tree cover has reduced opportunities for views down to a few key corridors. Many views are now only enjoyed from the upper floors of buildings in comparison to the early days on campus of ground-based views.



The grove of California live oaks near Faculty Glade enrich this area of the campus.

While many inspiring views have been compromised over the years, several remain and must be protected. Views are categorized as: views into the campus from the community; views within the campus as internal wayfinding devices; and the views out from the campus. The campus will continue to look for opportunities to re-open views that have been closed, while actively managing current and future projects to retain and enhance available views.

Views into campus from its gateways and beyond define the University image, and help orient visitors. Sproul Plaza is a front door of the campus and the most heavily used gateway. The vista through Sproul Plaza and along Sather Road is defined by classical architecture, formal terraces and axes of pollarded London Plane trees. The view of campus from the West Crescent is where the image of the "campus park" is the strongest. The view includes stately trees, a glimpse of the Central Glade and the wooded hills forming a dramatic backdrop. The view through the formal North Gate invites visitors to the primary pedestrian route down Observatory Hill into the heart of the campus. The views in from East Gate and College Avenue are less significant than other gateways, but clearly draw the observer's eye into the campus core.

Views within campus emphasize orientation, scale, sense of space and the framing of important elements. The vista through the Central Glade encompasses many of the campus' historic landmarks as well as some of its principal academic facilities. The view corridor from the foot of Sather Tower, down Campanile Way, defines a primary route of travel through campus and emphasizes the tower's central place as a cam-

pus landmark and wayfinding device. The view of Sather Tower from Faculty Glade enhances this key campus historic and ceremonial open space. An expansive view from inside North Gate serves as an important wayfinding device - encompassing Memorial Glade, Doe Library and the Campanile - it frames the campus' spatial and symbolic core.

Views out from the campus lead the viewer to the connections beyond the campus. The view from the base of Sather Tower towards the Golden Gate serves to set the campus in its regional context. This breathtaking vista of the bay was one of the primary amenities considered when the site was selected in the 1860s. A second important view from the upper Central Glade also aligns the viewer with the Golden Gate, creating a powerful connection to the world beyond. This ground view has been compromised by Evans Hall, Moffitt Library and the growth of redwoods from Strawberry Creek to Memorial Glade.

Open Space Elements | Campus open spaces provide settings for a variety of activities as well as the common social fabric for the campus community. These elements are part of the designed systems on campus. The types of open spaces are categorized broadly as glades, woodlands, places of interaction and greens. One experiences the campus as a sequence of diverse spaces, linked by paths and roads, which contrast dramatically in their scale, mood and materials. Even the briefest walk on campus can take one through dense urban plazas, leafy woodlands, open glades and serene formal esplanades. This careful sequencing of contrasting spaces is a defining quality of the campus experience.



- Views out of campus
- Views within campus
- Views into campus



Traditionally, a **glade** is defined as a grassy clearing in a forest. Glades on the Berkeley campus are characterized by open expanses of lawn defined by a naturalistic perimeter of trees. Berkeley glades typically have an organic form in plan, framing gently rolling topography. The glades are key elements of the campus landscape. They have been a constant unifying element in all major campus landscape plans. They provide a place for individual passive recreation, informal and ceremonial gatherings and a setting that complements the campus' diverse architecture. The Central Glade, including the West Crescent, West Oval and Memorial Glade, forms an axial sequence of open spaces that define and spatially unify the central campus. Faculty and Grinnell glades are more intimate spaces separate from this central axis. They have a distinct and rich sense of place about them which derives from their topography, venerable plantings and the high quality of the surrounding architecture.

The campus **woodlands** function both as elements of the campus' picturesque park landscapes and its more rustic natural areas. Three major woodlands have been designated as natural areas: Grinnell, Goodspeed and Wickson. These natural areas follow the course of the two forks of Strawberry Creek as it runs through the central campus. Campus woodlands incorporate remnants that approximate the appearance of the landscape before the advent of the University, as well as some exotic survivors from the campus' first Botanical Garden. These include groves of coast redwoods and giant sequoias brought from their native coastal range, and exotics planted by the agricultural station - which includes the landmark Eucalyptus Grove. Campus woodlands are utilized for field studies

by a variety of undergraduate and graduate level courses. They serve as buffers between the creek and the campus helping to maintain its viability as a natural habitat and preserving its sense of calm respite. Spatially, the woodlands function as screens that create distinct landscape elements, and mitigate the impact of large buildings on the campus landscape.

The campus' **places of interaction** are architectural and social spaces, including plazas and esplanades. Plazas are defined as centrally located paved open spaces that facilitate social interaction. Esplanades are unique to the Classical Core and are circulation spaces with a formal structure of pathways and plantings. Places of interaction play a vital role on campus by creating a sense of community, fostering new academic initiatives through casual interactions and facilitating campus safety through the activation of outdoor spaces.

Neoclassical places of interaction, such as the Campanile environs and Gilman-LeConte Way, derive their character from the work of John Galen Howard and his collaborator, John Gregg. They feature elements from traditional European landscapes such as axial pathways, terraces, flat planes of lawn and allées of pollarded London Plane trees. These spaces accommodate heavy foot traffic and limited service access within well-defined areas of hardscape complemented by regularly placed plantings.

Modern places of interaction, such as Dwinelle Plaza, the Sproul Plazas, Spieker and College Avenue Plazas, serve as entry courts and casual breakout spaces for large modern academic facilities. These places of interaction provide ample opportunities to sit with café amenities and

direct adjacency to important pedestrian pathways. These spaces generally feature broad paved areas, with limited plantings confined to beds or raised planters. They successfully promote a lively sense of common space and exchange, which is often lacking within adjacent large, vertically organized buildings. Designed in a format similar to urban plaza prototypes, modern spaces of interaction support the density of campus gatherings.

Campus **greens** are the recreational play fields intermixed within the central campus. Some of the greens are located within the larger athletic/recreational zone of campus and others are remnants of historical uses. Edwards Stadium and Evans Diamond are within walled structures while Maxwell and Hearst North are open fields. The greens may consist of natural or artificial turf and often make use of field lighting.

These greens are vitally important to the health of the campus population, including the physical education program, intramural sports, club sports, intercollegiate athletics and the marching band. Access to these facilities is limited and in high demand.

Circulation Systems | Berkeley's campus circulation system includes pedestrian, universal access, bicycle, vehicular and service routes. Providing convenient and safe access to campus facilities while enhancing the campus landscape is becoming a greater challenge as the campus density and hours of operation increase. The safety and convenience of the pedestrian is the primary consideration in campus circulation. Bicycles are a convenient and sustainable mode of travel within campus and their use should be encour-

aged on designated routes. Private vehicular access to the campus is limited by traffic control bollards.


The meandering character of many **pedestrian pathways** on campus belies the inherent logic and flow of the network. The serpentine forms of many campus paths are an important link to the picturesque type. In contrast, the axial pathways and avenues of the Classical Core are the legacy of the campus' classical type. Together these two systems create a very diverse visual experience. The pedestrian paths are comprised of a variety of materials, but there are a large number of asphalt paths intermixed with specialized paving in areas of higher significance. The dominant use of asphalt for pedestrian pathways is based partly on its original use for roads, but also because of its uniformity, low cost and convenience. The landscape would benefit from a consistently applied hierarchy of surface materials that clearly define plazas, pedestrian pathways, vehicular and shared routes. Use of modular, replaceable materials for campus paving applications is desirable to support sustainable design.


Two major pedestrian paths cross the campus from south to north: one from Sproul Plaza to North Gate, and the second from College Plaza, past the Campanile Esplanade to North Gate. The major west/east artery runs from the West Crescent, through the Grinnell Natural Area, along Campanile Way and South Drive to Haas School of Business. The second west/east artery runs from West Crescent to West Circle, skirting to the south of the central glades, to East Gate. Dozens of secondary routes expand off of these major arteries, or traverse corners of the campus completely distinct from them.




Sproul Plaza - the heart of the campus and a vibrant place of interaction.





 Primary pedestrian routes

 Primary bicycle routes

The provision of **ADA access** within a hilly historic campus environment is a challenge. The current campus condition includes provisions for disabled access, but the system is by no means comprehensive and is in need of improvement. The University has completed a detailed study (2002) to address this challenge through a program of measures that will be implemented over time. The focus of the program is to provide access to campus programs, services and activities through the regular campus network of paths, parking facilities and transit services. In some areas of the campus, primarily the northeast quadrant, steep topography and a lack of open space require the use of building elevators to create accessible connections. This condition is minimized to the extent feasible, so that as campus facilities are renovated and constructed, a passive accessible network can be incrementally implemented. These pathways, along with an informative signage system, and a network of accessible parking spaces and transit service, provide the comprehensive system needed for universal access on campus.

Bicycles are an increasingly popular, practical and efficient means of getting to and around campus. The campus has a south to north designated bike route from Spieker Plaza to Tolman Hall and a second route planned from College Plaza to North Gate. The designated bike paths define and encourage use on these cross-campus collector routes in order to improve pedestrian safety on campus. The campus' bike system has been planned to coordinate with the City of Berkeley's extensive network of designated bike lanes and bike boulevards. Bicycle parking is provided in lighted areas throughout campus. Where the parking demand is the greatest, such as in the Dwinelle and Wheeler Hall area, con-

solidated bike parking is planned to alleviate clutter and congestion around building entrances.

Private **vehicles** have limited access to the central campus. The East and West Gate entrances are controlled by gatehouses with University Drive forming the connection between them for shuttle buses and service traffic. Along this route, limited private vehicular traffic is allowed for access to parking areas. Four major city routes form the edges of the central campus and traffic is routed around the campus on these streets. The limited vehicular access systems are managed through an arrangement of removable traffic controls, which allow for extended access for fire and other emergency service vehicles.

The campus **shuttle** system circulates on the four major routes surrounding the central campus, University Drive through the core, and extends to adjacent residential and research campus properties such as the Clark Kerr residential campus, the Hill research units and Strawberry Creek recreational area. The campus shuttle is supplemented by an extensive network of AC Transit buses, which serve the regional area surrounding the campus. Campus access to the larger Bay Area is provided by BART, the Bay Area Rapid Transit system.

Service access is provided by the four major routes surrounding the central campus, combined with the use of University Drive and additional access points within the campus. While the campus has extensive service needs ranging from small maintenance trucks to large delivery vans, the current arrangement is problematic where pedestrian use and service access needs overlap in confined areas. University policy restricts service vehicles to a limited number of

access points and destinations, however the campus would benefit from better operational management. Not only do these vehicles pose a hazard to pedestrians and the disabled community, particularly on busy routes, they also damage paving and the landscape, which the campus rarely has resources to repair.

There are limited **parking** areas within the central campus; parking structures and lots are provided on the periphery. The number of parking spaces within and adjacent to the central campus falls far short of the demand. While an adequate supply of parking is critical to the effective functioning of the University, the limits of the urban setting and available funding underscore the need for alternative strategies. The evolution from widespread vehicular access to limited parking mainly at the perimeter of the core, has enhanced the park-like and pedestrian-friendly qualities of the campus. The overall access strategy is addressed in detail in the *New Century Plan*. The essential elements include:

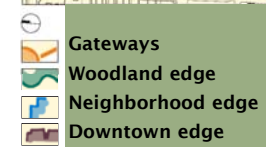
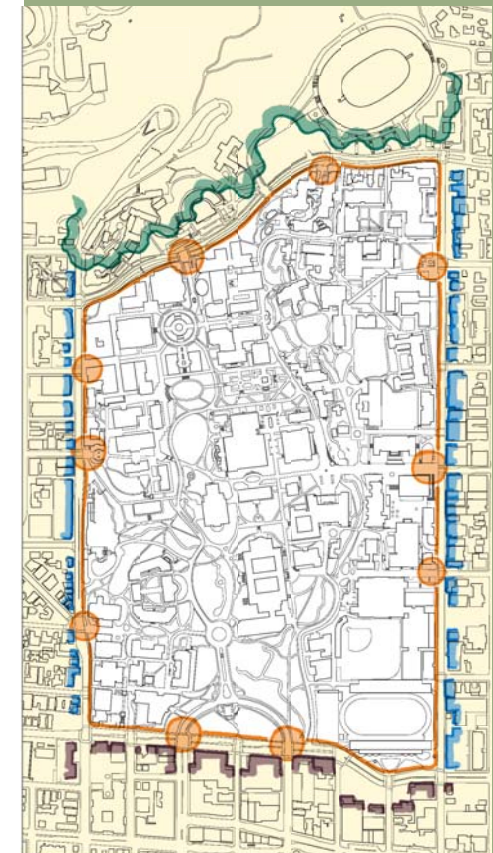
- Ensuring housing and access strategies are integrated
- Collaborating with the city and transit providers to improve service to campus
- Providing additional incentives through trip-reduction and car-pooling systems
- Addressing replacement and consolidation though limited parking construction
- Implementation of the campus bicycle plan

Perimeters and Gateways | The central campus is the academic center, while auxiliary uses such as housing are sited within the larger

campus context. This separation of academic and residential facilities differs from the traditional paradigm of the residential campus where these facilities are intermixed. To support the relationship between the academic center and auxiliary uses, the campus edges are porous and open to the surrounding community. Today the campus edges form an intensely used space accommodating a constant flow of people entering and leaving through the campus gateways. The commercial districts adjacent to the edges at Bancroft Way, Center Street and Euclid Avenue, have assumed a central role in the day-to-day life of the University.

The **perimeter** of the central campus is established by public roads on four sides. The campus faces a different context on each edge. To the north and south are neighborhoods that are primarily residential. Northside maintains the leafy appearance of an Arts and Crafts community, while the Southside has developed a lively mixed-use character with small stores and large University housing complexes. To the west is Berkeley's central business district, with large buildings on a city grid. To the east of the campus are wooded foothills with University housing and the Lawrence Berkeley National Lab.

The campus' **gateways** define the University's image and emphasize the campus' sense of place. The Southside gateways along Bancroft Way reflect the lively context and the intensive flow of pedestrian traffic accessing the campus. Sproul Plaza and College Plaza are broad open spaces with heavy foot traffic. The gateway at Spieker Plaza is greener and less frenetic. The west gateway is a ceremonial entrance with lush plantings and mature trees which screen the University from downtown Berkeley. This formal





The impressive view of Sather Tower dominates the vista along Campanile Way.

entrance retains the park-like character envisioned by early plans for the campus. On the north side, the gateways at Tolman Plaza and North Gate reflect the quieter, residential flavor of the neighborhoods they face. A recently added neoclassical gateway and plaza at North Gate give this entrance a stately appearance. The east campus edge along Gayley Road fuses the campus' densely developed east end with the rustic scenery of the foothills. East Gate has lower pedestrian use than other campus gateways and serves largely as a vehicular gateway. The east side's most accessible and well-articulated pedestrian gateway is the pedestrian route through the courtyard of the Haas School of Business.

The preceding description of the natural and designed landscape systems summarizes their current composition, condition, use and issues facing management of the campus's outdoor environment. The following sections, Policy Framework and Landscape Initiatives, present policy guidance and the future vision of renewal for twenty-nine initiative areas on the central campus.