University of California, Santa Cruz Long-Range Development Plan 2005–2020

October 4, 2004



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Executive SummaryThe University of California, Santa Cruz, Long-Range Development Plan 2005-2020 (2005
LRDP) provides a comprehensive framework for the physical development of the UC Santa
Cruz campus. The 2005 LRDP supports UCSC's academic, research, and public service
mission while maintaining the campus's strong traditions of environmental stewardship
and sustainability.

This document is UCSC's first LRDP update since 1988, and it accommodates a projected fall-winter-spring enrollment of up to 21,000 full time equivalent (FTE) students over the 2020 planning horizon. This is an increase of approximately 6,600 (approximately 45 percent) over the 2003-04 enrollment and 6,000 over enrollment projected in the 1988 LRDP, with associated increases projected for faculty and staff. This projection is based UC Santa Cruz's plans to expand its academic, research, and professional programs and increase its graduate student enrollment. It also reflects the projected higher education needs of California's population.

The 2005 LRDP includes an overview of the context in which it has been prepared, including a discussion of UCSC's academic history and vision; physical setting; planning history; and planning principles. The Long-Range Development Plan 2005-2020 section of the document articulates a program of development and stewardship including a land-use plan that meets the projected needs of campus expansion.

Under the 2005 LRDP, UCSC will continue to maintain significant portions of the campus as natural areas and open space. The plan projects that approximately 65 percent of new development will occur in the already developed portion of the campus through continued carefully sited infill projects, with the remainder allocated primarily to specified areas to the north. Sustainability of resources continues to be a major underlying principle in planning, development, and operations.

The 2005 LRDP continues UCSC's configuration of a concentrated academic core surrounded by the residential colleges, other housing, recreation facilities, and support programs. The projected building program allows for nearly 3,000,000 assignable square feet of additional building space to accommodate the academic, research, and public



service mission as enrollment grows.

The 2005 LRDP promotes a walkable campus by identifying locations for new consolidated parking facilities at the perimeter of the academic core; strengthening pedestrian corridors; and proposing pedestrian bridges to connect new and existing development. Improvements to east/west campus circulation between Heller Drive and Coolidge Drive are also identified to reduce the number of private vehicles in the core and promote shuttle and transit ridership. The 2005 LRDP proposes new circulation improvements, including a road to the north to serve academic and support programs and a new entrance on Empire Grade.

The 2020 planning horizon of the 2005 LRDP intentionally matches the horizon of the City of Santa Cruz's new General Plan. This will allow for better campus-city coordination and underscores the interrelatedness of UCSC and the greater community.

2. Introduction

- a. Purpose and Scope
- b. The LRDP Process
- c. Academic and Research Vision



2a. Purpose and Scope Long-Range Development Plans (LRDPs) are planning documents that serve as "general plans" for University of California campuses. They are updated periodically to meet changing needs and conditions. This process ensures that campus development supports academic, research, and public service goals, while at the same time taking into account UC systemwide policies and projected enrollment demand.

The *UC Santa Cruz Long-Range Development Plan 2005-2020* (2005 LRDP) provides a comprehensive framework for the physical development of the UC Santa Cruz campus over a 15-year period. It includes a building program and land-use map to guide capital construction, infrastructure development, and land use. The 2005 LRDP accommodates a projected student enrollment of up to 21,000 through 2020 (an increase of approximately 6,600 over the 2003-04 enrollment), with associated increases in faculty and staff.

The 2005 LRDP has been developed in cooperation with the City of Santa Cruz, which is in the process of updating its General Plan. The LRDP's 2005 through 2020 planning horizon was selected, in part, to coordinate UCSC's planning horizon with that of the new City of Santa Cruz General Plan.

The 2005 LRDP is accompanied by the *2005 LRDP Environmental Impact Report* (2005 LRDP EIR), as required by the California Environmental Quality Act. The 2005 LRDP EIR is a detailed discussion of UCSC's existing environmental setting, the potential environmental impacts of the 2005 LRDP program, proposed mitigation measures, alternatives, and the cumulative effects of projected campus and regional growth. The 2005 LRDP (as well as a mitigation monitoring program) will be adopted following certification of the 2005 LRDP EIR by The Regents of the University of California.

UCSC's 2005 LRDP does not constitute a mandate for growth, nor is it a detailed implementation plan for development. It does not commit the campus to carrying out development on any given timeline. Each specific capital project proposal will be analyzed individually for consistency with the 2005 LRDP and 2005 LRDP EIR.

The 2005 LRDP addresses only the development of the main UC Santa Cruz campus and the property at 2300 Delaware Avenue, Santa Cruz. It does not include field and research locations off the main campus site, such as Mt. Hamilton Lick Observatory or the Marine Science Campus (which includes the Joseph M. Long Marine Laboratory).

 2b. The LRDP Process
 The UC Santa Cruz Long-Range Development Plan 2005-2020 is the product of a multi-year

 process that involved the faculty, administration, staff, and students of UC Santa Cruz, as
 well as local and regional officials and interested members of the community.

The process was initiated in fall 2003, with the appointment of the Strategic Futures Committee (SFC), which included a broad spectrum of faculty and academic administrators from across UCSC's divisions. The committee was charged with examining various possible enrollment scenarios for the next 15 years, based on the needs of UCSC's academic, research, and student-life programs and State of California enrollment projections.

At the same time, a 2005 Long-Range Development Plan Committee was appointed and charged with overseeing the development of UCSC's updated Long-Range Development Plan. Reflecting UCSC's broad constituency, the LRDP Committee was made up of faculty, administrators, staff, and students, as well as representatives of the City of Santa Cruz, the County of Santa Cruz, the UC Office of the President, the UCSC Alumni Association, and the UC Santa Cruz Foundation.

Collaborating with the SFC, the 2005 LRDP Committee discussed campus land-use options related to various enrollment scenarios, including implications for the surrounding community. Throughout this process, the committee's work was informed by a strong sense of stewardship for UCSC's distinctive natural environment.

The work of these two committees was supported by Cooper, Robertson & Partners, a firm of architects and campus planners, and a team of subconsultants selected by UCSC to assist in updating the campus's LRDP.

The 2005 LRDP Committee held a series of well-publicized public workshops¹ during the 2003-04 academic year, and also consulted with UCSC students, faculty, and staff through a series of meetings, presentations, and town hall gatherings. Topic-based committee work groups prepared white papers² addressing the following key issues:

- Campus and Community
- · Housing and Student Life
- Infrastructure and Technology
- Land Use and Environment
- Transportation and Circulation

The purpose of the white papers was to provide four- to five-page summaries of relevant conditions in the 1988 LRDP, existing conditions, key physical issues, and possible approaches for addressing these issues. The *Campus and Community White Paper*, covering a broader range of issues, had a modified format. In addition, a group of students met informally and developed a *Student Involvement White Paper*, which was presented to the 2005 LRDP Committee.

Throughout this process, regular press releases kept the campus and broader community informed of opportunities to become involved in campus planning, and periodic updates were posted on UCSC's Long-Range Development Plan website.³ The major milestones in UCSC's 2005 LRDP process are reflected in the following timeline.



2005 LRDP TIMELINE

1. Refer to Appendix for a list of public workshops.

2. The White Papers are available at http://planning.ucsc.edu/lrdp/cmte/

3. http://planning.ucsc.edu/lrdp/

2c. Academic and Research Vision

For the 2005 LRDP to be a realistic and effective planning tool, it must support the teaching, research, and public service goals of the campus and reflect the integration and synergy of these key elements of the University of California's mission. UCSC's 2005 LRDP produces a physical planning framework to support the following campus objectives:

- · Develop the breadth and depth of undergraduate academic programs
- Build a fully developed range of focused graduate programs and appropriate professional degree programs
- Expand high-quality, internationally recognized research programs, which emerge from and partner with campus academic and professional programs
- Serve California by providing outstanding educational opportunities for an increasingly diverse population
- Contribute to the state and nation through research and education programs that creatively bridge disciplinary boundaries to address pressing societal issues
- Work in collaboration with the surrounding community to support campus and communitywide goals through public education and outreach; academic and cultural events; and direct service programs

As part of the LRDP planning process, the Strategic Futures Committee (SFC) recommended that the 2005 LRDP accommodate a total on-campus three-quarter-average enrollment of 21,000 full time equivalent (FTE). This projected enrollment includes an increase in the proportion of graduate and professional students to 15 percent of overall campus enrollment.

In developing this enrollment scenario, the SFC identified an appropriate rate of growth to balance the needs of UCSC's academic and research vision with the ability of the campus and to reasonably accommodate growth. The SFC recommended that increased enrollment and campus physical growth:

- Serve UCSC's core academic and research vision, including a strong commitment to excellence in undergraduate education
- Emerge from the needs and priorities of the campus's academic and research programs
- Foster higher education access for a diverse pool of applicants and address UCSC's responsibility to help accommodate of the state's eligible students
- Continue UCSC's tradition of environmental stewardship and sensitive architecture, respecting the unique qualities of the campus lands
- Respect the needs and resources of the surrounding community, working closely with UCSC's neighbors to seek practical solutions to the challenges of growth
- Remain flexible, fostering innovative and effective responses to changing demographics, societal needs and values, and technological developments, as well as to economic conditions and employment opportunities











3. Planning Context

- a. Section Overview
- b. UC Santa Cruz and the University of California
- c. Academic and Research Programs
- d. UC Santa Cruz Physical Planning History
- e. UC Santa Cruz as Part of the Regional Community
- f. Existing and Approved Development
- g. Physical Setting



a. Section Overview This section provides an overview of the UCSC campus, including its history, original vision, physical setting, and achievements. It summarizes UCSC's role as part of the larger University of California system; as a nationally prominent research institution; as part of the greater Santa Cruz community; and as a physical place.

As a public academic institution, the University of California must be responsive to changing demographics, societal needs, technological developments, and economic conditions. Since the UCSC campus was established in 1963, California has developed into the world's fifth largest economy, with the most culturally and ethnically diverse population in the U.S.⁴ The state's population has doubled to approximately 35.5 million,⁵ and the enrollment of the UC system has more than tripled (from approximately 65,000 to more than 208,000).⁶ The City and County of Santa Cruz has also undergone significant growth, and that expansion has been closely intertwined with the development of UCSC.

With California's growing population have come many pressing problems related to housing, transportation, resource use, and environmental quality. The past 40 years have also seen advances that could not have been foreseen by the campus's original planners, including computers, the rise of the Internet, and enormous advances in the technology fields.

In light of these many changes, UCSC's success in realizing the major elements of its original 1963 Long Range Development Plan is a testament to the founders' vision, and it also underscores the success of UCSC's ongoing academic and planning efforts. The challenge of the 2005 LRDP is to develop a cohesive plan, while retaining the flexibility to address unexpected opportunities and changes.



Aerial View of the UC Santa Cruz Campus Looking toward the City of Santa Cruz and Monterey Bay

- 4. State of California Commerce abd Economic Development Program
- 5. U.S. Census Bureau, 2004
- 6. UC Office of the President, Fall 2003

b. UC Santa Cruz and The University of California

Since its founding in 1868, the University of California has become one of the world's premier public universities, establishing a system of ten distinct campuses united by excellence and strengthened by diversity. Within that rich tradition, the UC Santa Cruz campus was established in 1963. At the time, the vision for UCSC was quite experimental and unique to the system—to combine the University of California's renowned strengths in scholarship and research with a strong commitment to undergraduate education. Integral to that vision was a campus structure that offered students the best of both worlds—the resources and academic rigor of a major research university, combined with small residential colleges that provided supportive living and learning communities. The goal, in the words of Clark Kerr (then President of the University of California), was to create a campus that would "seem smaller even as it grows larger."



The site selected for the new campus was a 2,000-acre portion of the historic Cowell Ranch overlooking Santa Cruz and the Monterey Bay. Expansive meadows at the campus's main entrance gradually transition to the rugged redwood forests of the Santa Cruz mountains, providing an incomparable natural setting. Often called the most spectacular university site in the world, the campus landscape has played a vital role in shaping UCSC's physical and academic development.

As part of the University of California system, the UC Santa Cruz campus shares the overarching UC mission to provide teaching, research, and public service for the people of California. Under the California Master Plan for Education, UC draws students from the top 12.5 percent of California high school graduates, making it the state's premier institution of higher education.

UCSC Campus Site Photographs/ Ansel Adams





c. Academic and Research Programs

UC Santa Cruz recognizes that excellent undergraduate education, dynamic research, and strong graduate and professional programs are all essential and mutually supportive elements of a comprehensive modern university. Research excellence provides the intellectual vigor and academic stature necessary to attract top faculty and students. Quality research programs provide optimal training for graduate students and also offer early research opportunities for undergraduates. Strong graduate and professional programs support research initiatives and invigorate undergraduate education.

UC Santa Cruz's founders envisioned a campus that would eventually enroll 27,500 students and include a broad range of graduate and professional programs. However, by the mid-1980s, UCSC had approximately 7,500 students, 370 faculty, and 30 academic programs with limited graduate offerings. While some departments had grown to nearly 30 faculty members, the development of others had been stalled by slow campus growth, making it difficult for them to establish viable research and graduate programs.

UCSC's *Twenty-Year Academic Plan* (1985)⁸ called for the campus to expand programs and enrollments consistent with the goal of becoming "a comprehensive teaching and research institution." That document, which served as the basis for the campus's *1988 Long Range Development Plan*, recommended that UCSC develop existing academic programs to the level necessary to sustain excellent research and graduate programs. At the same time, the campus should launch a modest number of new programs to increase the breadth of overall campus academic offerings. The *Twenty-Year Academic Plan* projected that an enrollment of 15,000 (including an increased percentage of graduate students) would be necessary to achieve those goals.

Since that time, UC Santa Cruz has made steady progress toward achieving its programmatic and enrollment goals. In 2003-04, the campus enrolled approximately 14,400 students (FTE), including 1,300 graduate students, with a total of 750 budgeted faculty FTE. The campus has achieved increased national and international recognition for the quality of its instruction, the stature of its academic programs, and the impact of its research.



Undergraduates pursue 52 majors within the divisions of humanities, physical and biological sciences, social sciences, and arts. Graduate students work toward certificates, master's degrees, or Ph.D. degrees in 33 academic fields. The Baskin School of Engineering, UCSC's first professional school, offers a growing number of innovative undergraduate and graduate degree programs.⁹ Campuswide research programs have expanded commensurately across the divisions, with research contracts and grant awards totaling nearly \$80 million in 2002-03, up from \$35 million in 1988.

- 7. http://www.ucsc.edu/planbudg/chanc/millcom/mcreport.pdf
- 8. http://planning.ucsc.edu/sfc/PDFs/1985_20YrPlan.pdf
- 9. A chart showing the academic organization of the UC Santa Cruz campus is included as an appendix to the LRDP.

One key to UCSC's research success has been the development of interdisciplinary initiatives that leverage existing areas of strength. Through such initiatives, UCSC has pioneered new fields of scholarship, including women's studies, ocean sciences, environmental studies, Latin American and Latino Studies, and bioinformatics. This interdisciplinary approach is reflected in UCSC's impressive array of research centers and institutes, which often evolve into formal academic and research programs. In 1985-86, UCSC had just three active interdisciplinary research programs and units; it is now home to nearly 40.¹⁰

Based on the principles emerging from UCSC's recent campuswide academic planning process,¹¹ UC Santa Cruz will continue to strengthen research and scholarly accomplishment and distinction; expand graduate programs and enrollments; and develop interdisciplinary programs at all levels, building on existing programs and emerging faculty interests across the departments and divisions.



10. http://www.ucsc.edu/research/programs.asp

11. http://planning.ucsc.edu/plans2001/

d. UC Santa Cruz Physical Planning History

In the 1950s, the University of California initiated an extensive search for new campus sites. The historic Cowell Ranch near Santa Cruz was chosen in 1961, and a distinguished team of designers and planners set to work on the new campus. The first UCSC Long-Range Development Plan was completed in 1963, and construction began in 1964.

The 2005 LRDP is the fifth such document produced by the campus. It reflects the basic principles that have guided the planning of the UC Santa Cruz campus since its inception:

- Preserve the natural physical setting to the maximum extent feasible, consistent with the programmatic requirements of the university
- Maintain a central core of academic and research facilities, surrounded by distinctive residential colleges; the colleges provide intimate living/learning communities within the context of a major research university
- Strive for sustainability in planning, architectural design, and infrastructure
- Retain flexibility, enabling the campus to respond to changing demographics, technology, and economic factors, while still achieving a connected and cohesive campus environment

1963 LONG RANGE DEVELOPMENT PLAN

UCSC's *1963 Long Range Development Plan* responded to the opportunities and challenges presented by both the new campus's innovative collegiate structure and the large and geographically diverse Cowell Ranch site. In their thoughtful approach to this task, the early planners established the basic values and stewardship guidelines that continue to guide campus development.

The 1963 LRDP assumed that the campus would grow to an enrollment of 27,500 by 1990 to accommodate the anticipated "baby boom" and accelerated migration into California. It described a campus that would eventually consist of up to 20 residential colleges and ten professional schools extending the full length and breadth of the campus. It called for housing at least 50 percent of the student body and faculty on or near the campus.

The 1963 plan defined the following basic structures and planning premises:

- A moderately dense central academic and research core encircled by lower density development consisting of self-contained colleges and professional schools
- A commitment to environmental stewardship, including the protection of significant natural features (such as the expansive meadow at the base of the campus) and establishment of natural reserve areas
- Ongoing cooperation with the surrounding communities with the goal of "mutually advantageous growth"









1971 LONG RANGE DEVELOPMENT PLAN

The first revision of the original LRDP was adopted in 1971. Like the earlier document, it assumed an eventual enrollment of 27,500, but suggested a longer time frame for achieving that target (2000 or beyond). The 1971 plan also called for a denser central core, with most development planned for the center of the overall UCSC site to increase community cohesion, pedestrian convenience, and environmental protection.

The 1971 LRDP identified significant natural resource areas. It also designated three large Inclusion Areas to accommodate activities that, while not directly related to academic activities of the campus, would provide facilities or services advantageous to the functioning of the campus community.

1978 LONG RANGE DEVELOPMENT PLAN

In the late 1970s, state budget cutbacks and reduced enrollment forecasts resulted in a scaling back of UCSC's expansion plans. The 1978 Long Range Development Plan was set in a framework of more limited projected growth than either of the previous plans. It called for intensification of development in the campus core to enable UCSC to function at an enrollment of 7,500.

Following the lead of its 1971 predecessor, the 1978 plan identified three large Inclusion Areas and added a fourth. Proposed building sites were tightly circumscribed, and much of the remainder of the campus was identified as Reserve Areas. Energy conservation, preservation of the natural environment, and close community relationships were cited as key campus planning objectives.

1988 LONG RANGE DEVELOPMENT PLAN

UC Santa Cruz's most recent LRDP, prepared in 1988, emerged from the campus's 1985 *Twenty-Year Academic Plan*, which established objectives through 2004-05. The academic plan projected an enrollment of 15,000 (including 15 to 20 percent graduate students) by 2004-05. The 1988 LRDP reaffirmed UCSC's commitment to:

- A concentrated, pedestrian-friendly academic/research campus core, surrounded by distinctive residential colleges
- The role of the colleges as important centers of intellectual and residential life
- Preservation of the natural setting

The 1988 LRDP assumed 7.5 million gross square feet of building area; 12 residential colleges; and up to 8,400 parking spaces. It also set out general guidelines that limited development in certain natural areas from development, including establishment of the Campus Environmental Reserve, designed to protect natural features of particular teaching and research value to the campus. Protected Landscapes were established to protect certain environmental resources, including wildlife corridors and vegetation with ecological or aesthetic importance. Campus Resource Land, located primarily in the northern portion of the campus, was designated for possible future development, but was to be maintained almost entirely in its natural state under the terms of the 1988 LRDP.





Legend

100	Campus Core
	Colleges and Graduate Housing
	Family Student Housing
	Faculty Housing
	Campus & Community Support
ALC: NO	Physical Education & Recreation
	Site-Specific Research
1 23	Protected Landscape
	Environmental Reserve
	Campus Resource Land
	Inclusion Area
Р	Remote Parking
_	Major Roadways
	Future Roadways
	Historic Area Boundary
	Campus Roadway



e. UC Santa Cruz as Part of the Regional Community



Regional Context



The UC Santa Cruz campus is located within Santa Cruz County at the northern end of the Monterey Bay, approximately 70 miles south of San Francisco, 30 miles southwest of San Jose, and 30 miles north of Monterey. The campus is surrounded on three sides by open space which is protected in its natural state and administered by California State Parks and the City of Santa Cruz. Of UCSC's 10.6-mile perimeter, 1.75 miles adjoin the developed city. Approximately 53 percent of campus land, including most of the developed area, is located within the Santa Cruz city limits, and the remainder of the campus lies in the unincorporated area of Santa Cruz County.

As state entities, the University of California and its campuses are governed by state law while not subject to local regulations. UC Santa Cruz is an integral member of the regional community, linked by physical proximity, economic interdependence, shared resources and infrastructure, as well as by a rich shared cultural life. UCSC is therefore committed to working closely with local municipalities to address the possible impacts of campus growth.

UC Santa Cruz is the largest single employer in Santa Cruz County and because the majority of the campus's budget is supplied by out-of-county sources, the income spent by university employees is nearly all new to the local economy. Further, the UCSC campus serves as an "economic anchor" for the region, as its funding levels remain relatively stable during difficult economic times.

UCSC's 1988 LRDP called for increased planning consultation and review with the City of Santa Cruz, and that recommendation has led to formal "town-gown" collaboration. Regular meetings are held between the chancellor and the mayor to ensure overall planning coordination, and city and UCSC staff work together on an ongoing basis to address specific issues. The city and UCSC are coordinating the updates of UCSC's long-range development plan and the City of Santa Cruz general plan, both of which cover the same 2005 to 2020 time frame.

The population of Santa Cruz County is expected to increase by approximately 42 percent over the next 15 years, from its current level of 260,000 to more than 370,000 by 2020¹². The projected increase in campus enrollment to 21,000 would result in a campus-affiliated population of approximately 26,500 FTE (including faculty and staff).¹³

As the regional population increases, addressing the following key issues is essential to the planning processes of UCSC and the city.

- Resources and infrastructure capacity (such as water, sewer, and utilities)
- Housing
- Traffic and transportation

12. California Department of Finance, Demographic Research Unit, 2004 13. UC Santa Cruz Planning and Budget, 2004

UCSC site on Monterey Bay





RESOURCES AND INFRASTRUCTURE

UC Santa Cruz receives water and sewer treatment services from the City of Santa Cruz. Water supply has been identified as a key issue. While the City of Santa Cruz water supply system is essentially the same as in 1960, the service population has increased 190 percent and is expected to increase. In normal and wet years, the water supply system is capable of meeting the needs of the current population, but even without population increases, the system is highly vulnerable to shortages in drought years.¹⁴

UCSC's 1988 LRDP introduced a two-pronged approach to water issues — conservation to reduce water usage and University Assistance Measures to help the city improve its infrastructure. In calendar year 2003, UCSC's water usage was approximately 19 percent greater than in 1986-87, a period over which enrollment increased by 60 percent. The successful conservation measures that resulted in this increased efficiency are detailed in the *Infrastructure and Technology Work Group White Paper*.¹⁵

HOUSING



Rapidly increasing housing demand along much of the California coast (including Santa Cruz), coupled with limited supplies and a shortage of vacant land, make housing supply and affordability critical issues for the entire region. UCSC growth increases the pressure on this limited resource, and high housing costs make it more difficult to recruit students, faculty, and staff.

UCSC is working hard to develop the housing needed to keep pace with enrollments—between 1996-97 and 2005-06, the campus will have added housing for 2,153 students and 147 units for faculty and staff. (The campus housed 46.7 percent of its undergraduates in spring 2004.)



14. City of Santa Cruz 2005-2020 Draft General Plan and Coastal Program Background Report, March 2004 15. http://planning.ucsc.edu/lrdp/cmte/WhtPaper/ITWG.03-12-19.pdf

TRAFFIC AND TRANSPORTATION

One of the most critical planning challenges facing the region is the fact that the number of automobile trips continues to increase faster than the growth of the population.¹⁷ Projected increases in UCSC's population will increase pressure on citywide transportation systems, especially on the west side of Santa Cruz. The UCSC campus is served by a handful of streets which pass through residential neighborhoods. Further, the campus core is located more than a mile from the main entrance, and dramatic elevation changes over that distance present challenges for those traveling to the campus by bicycle or foot.

UCSC has taken an aggressive approach to reducing automobile use. It has one of the most successful alternative transportation programs in the country, with more than 55 percent of all "person trips" to and from the campus made via some alternative to a single occupant vehicle. This success has been achieved through a broad range of transportation management strategies, including convenient shuttle and public transportation services; a network of pedestrian and bicycle paths; and a program of incentives to reduce employee and student automobile use.

Parking is a closely related issue and remains a challenge for the UCSC campus. Parking restrictions (such as not providing parking permits for first and second-year campus resident students) have been effective in limiting on-campus automobile use, but have also resulted in the use of neighboring residential streets for parking during the day as well as for some long-term and overnight use. "Student households" that may have many cars per residence also result in on-street parking. The university has collaborated with the city to identify such areas, and residential parking permit programs have been instituted in six neighborhoods.



17. City of Santa Cruz 2005-2020 Draft General Plan and Coastal Program Background Report, March 2004









f. Existing and Approved Development

The developed area of the UC Santa Cruz campus (current and approved) includes 3,161,000 assignable square feet (ASF) and 4,693,000 outside gross square feet (OGSF)¹⁸ in 420 separate buildings within 116 building complexes. This includes existing buildings and projects approved and funded after adoption of the 1988 LRDP. Campus space is classified into eight major program categories, shown below.

Program Classification	ASF
Instruction and Research (I & R)	
Organized Research Units & Organized Research Activities (ORUs & ORAs)	86,700
Academic Support	322,500
Public Services	
Student Services	134,600
Physical Education and Recreation	56,800
Institutional Operations	164,600
Housing and Food Services	1,472,000
Other	8,500
Total On-Campus Space	3,161,000

TOTAL ON-CAMPUS SPACE, EXISTING AND APPROVED



Existing and approved on-campus space is shown by building and program clasification in Appendix A. On-campus space is supplemented with space the campus owns or is currently leasing off-campus, consisting of 471,000 ASF and 618,000 OGSF in 96 buildings within 29 complexes. For informational purposes only, the off-campus space is also shown in Appendix A.

The amount of space that can be used for programs (functions) or assigned to occupants is known as assignable square feet. Outside gross square feet is the sum of all areas, finished and unfinished, on all floors of an enclosed structure, for all stories. It includes the assignable square feet, circulation and mechanical areas, custodial services and public toilet areas, structural elements, and one-half of covered unenclosed areas.



18. 1988 LRDP allowed up to 7.5 million ogsf.



FIGURE 5 EXISTING AND APPROVED DEVELOPMENT



Ν







LEGEND





FIGURE 7 DEVELOPMENT CONCEPT: ACADEMIC CORE AND COLLEGES

g. Physical Setting

The 2,000-acre UCSC campus is located 75 miles south of San Francisco at the northwest extreme of the City of Santa Cruz. Santa Cruz is located on the northern edge of the Monterey Bay. The bay is part of the Monterey Bay National Marine Sanctuary, a federally protected marine environment.

The campus is bounded on the south by the city's upper west-side neighborhoods, on the east by the Pogonip City Park, on the north by privately held land and the Henry Cowell Redwoods State Park, and on the west by Wilder Ranch State Park and the Cave Gulch neighborhood.

CAMPUS SITE SUMMARY

Area	2,030 Acres
Width	1.30 miles
Length	3.26 miles
Perimeter	10.6 miles



Physical Context

CAMPUS LANDSCAPE AND OPEN SPACE

The natural landscape is a powerful formative and iconic element for the UCSC campus and the dominant component of its open space system. Buildings are integrated into the landscape structure of the campus—in clusters between the ravines, hidden within the forest, or lining the edges of the meadows (see Figure 7 - Campus Natural Features). The landscape framework of the campus consists of building clusters connected by pathways through natural open spaces, mainly forest, meadows, and chaparral. Courtyards are the most common type of developed open space. Small and varied in form, they are highly used social spaces, often closely associated with a college or academic discipline, and occasionally with a food service outlet. There are relatively few large gathering areas, such as Quarry Amphitheater, or Quarry Plaza. Field recreation areas include the playing fields north of the East Meadow and the smaller informal fields such as those near College Eight.

A web of pathways connects the many parts of the campus creating a pedestrian experience that is rich and varied. A journey might follow a sidewalk, a forest path, a bridge, an informal trail, a service road, or a pedestrian courtyard street as one passes through a sequence of developed areas separated by "breathing spaces" of natural areas. North/South routes traverse large grade changes, as the campus sits on a significant slope. East/West routes traverse the gulches and are marked by a series of pedestrian bridges.







LEGEND

Ravine / Gulch

▲ 0 1000 N └─── FIGURE 9 ILLUSTRATIVE LANDSCAPE PLAN, CENTRAL AND SOUTH CAMPUS



SURROUNDING OPEN SPACE

UCSC is an important recreational and ecosystem link in Santa Cruz's open space system, surrounded by Pogonip City Park to the east, Henry Cowell Redwoods State Park to the north, and the upper reaches of Wilder Ranch State Park to the west. The University Connection (known as the U-Con) Trail provides a critical east/west link across campus for the Cowell Wilder Regional Trail, used by equestrians, bikers, and hikers.

As a central link between the city and state parks, the campus recognizes its role in conserving habitat continuity. UCSC and the state and city parks have worked collectively to monitor rare species, and create and manage restoration areas.







N







University of California South Central Coast Campus Site Selection Study 1959

TOPOGRAPHY

Topography is a determining factor in the development of the UC Santa Cruz campus. It presents a clear structure that creates the drama of the landscape and directs past and future campus development. From the main entrance at the south, the land elevation rises nearly 900 feet to the far north end of the campus in a series of stepped terraces. The academic core occupies one such terrace. Several drainages have scoured ravines down the slope, which divide the central and south campus into three zones in the east/west direction. In places at Moore Creek, Jordan Gulch and Cave Gulch, these ravines are as much as 70 feet deep and 350 feet wide. The combination of the terraced land and the ravines make the campus setting unique and pose particular challenges for circulation and siting of development.



FIGURE 11 SITE SECTION ACROSS RAVINES (EAST/WEST)



FIGURE 12 SITE SECTION DOWN SLOPE (NORTH/SOUTH)
FIGURE 13 ELEVATION



FIGURE 14 (RIGHT) SLOPES

Legend









FIGURE 15 TOPOGRAPHY OF DEVELOPED CAMPUS

GEOLOGY

The UCSC campus lies on the southeastern end of Ben Lomond Mountain, a major ridge of the Santa Cruz Mountains. Ben Lomond Mountain rises in a series of step-like terraces from sea level in the City of Santa Cruz to an elevation of almost 2,600 feet at the summit to the northwest. The UCSC campus spans a number of these marine terraces.

Campus bedrock consists of two major types: A marble terrane that underlies most of the campus, including the central, developed portion of campus, and a granitic terrane that underlies the area north of the Cave Gulch neighborhood and forms intrusions into marble bedrock in several north-central and southern campus locations. (See Figure 17, Geology) Karst features, including ravines, sinkholes, and caverns, are readily apparent in the lower and central campus, developing as a result of the dissolution of marble along fractures, joints, and faults. This condition can have important implications for building development. Figure 17 shows how the hazard of encountering karst formations varies throughout the campus. "Mima mounds" are an unusual geologic feature found in the northwestern and southwestern portions of the campus. These low, flattened mounds, 30 to 60 feet in diameter, are separated from each other by depressions that form vernal pools during the rainy season, and which remain moist into mid-summer.

Although campus bedrock is highly faulted, there is no evidence that these faults have been active in Holocene times (within the last 10,000 years). Earthquake fault rupture and soil liquefaction are not considered campus geologic hazards. However, campus structures could be expected to undergo severe shaking during earthquakes centered on the nearby San Andreas fault (12 miles to the northeast of the campus) or on the San Gregorio-Hosgri fault system (ten miles to the southwest).

SOILS

Campus soils are characteristically derived from underlying rock. Calera soils are marblederived clay loams found in wooded areas of the western campus. Granite-derived Diamond Springs and Holland loams located in the northern campus and the area immediately south of the Cave Gulch neighborhood support grasses, oaks, and pines. Pinto Loams, derived from Quaternary marine deposits, are commonly found in the lower campus meadows, with scattered patches occurring in the central campus meadows and forests. Sandy loams, derived from sandstone, are found in northern campus lands supporting chaparral, oaks, and pines. Felton loams, derived from mica schists, support both grasslands and forests in the central campus.

FIGURE 16 (LEFT) GEOLOGY







Zone III: Moderate hazard

Zone IV: High hazard





Sinkhole



Sinkhole Formation



HYDROLOGY

It is estimated that the mean annual runoff from the campus varies from eight inches on the lower campus to sixteen inches on the upper campus. In general, drainage on the upper campus is by surface runoff, although some rainfall in that area is captured by a porous sandstone formation that in turn supplies springs and seeps on and off campus. Surface runoff on much of the central and lower campus is significantly less than runoff on other nearby lands due to the subsurface drainage system provided by campus sinkholes and subterranean solution channels.

CLIMATE

The campus climate is characterized by warm, dry summers and mild, rainy winters. High temperatures and low precipitation are the norm from approximately April through August. The months from November through March are dominated by cooler temperatures and heavy rains. Though winters are typically mild, colder winds from inland regions with more continental climates can result in short-term cold snaps. Both summer and winter temperatures are moderated by the marine influence, and summer fog is a common occurrence. Winds are generally northwesterly and seldom reach severe intensities; in addition, much of the campus is sheltered from prevailing winds by hills and trees.

Rainfall averages approximately 30 inches per year. Over the past 25 years, it has ranged from 15 inches in 1989 to 59.8 inches in 1983. Rainfall levels vary considerably on campus with elevation; the lower campus receives an average 30 inches of rainfall annually, while the upper campus receives 40 to 45 inches. Average evapotranspiration is an estimated 36.6 inches (Urban Water Management Plan, 2001).

VEGETATION

Four broadly defined vegetation communities predominate on campus: grasslands, redwood forest, mixed evergreen forest, and chaparral. Other localized and ecologically unusual or regionally uncommon plant communities in the north campus include coastal prairie, dwarf redwood forest, and underdrained depressions and forest springs or seep zones that have been recognized as having sensitive vegetation habitats.



The grasslands on campus are primarily found on the lower campus, which is dominated by rolling, gently sloping meadows divided by two north-south canyons with densely forested slopes. These meadows, originally composed of native perennial bunch grasses, now contain mostly introduced Mediterranean annual grasses. The native grasslands in this area are synonymous with the coastal prairie mentioned above, and are considered a sensitive habitat type. Meadows or openings in the redwood forests of the north campus also support coastal prairie communities.

FIGURE 18 (LEFT) CAMPUS WATERSHEDS

FIGURE 19 (RIGHT) VEGETATION

Legend





Closed canopy redwood forests predominate in areas between buildings in the developed core campus, with patches of grassland and mixed evergreen vegetation also occurring. Mixed evergreen and redwood forests, with an associated highly diverse understory, are found on the steeply sloped land immediately to the north of the developed campus, and numerous springs and seeps in the area support distinctive assemblages of plant species. Virtually all of the redwoods are second-growth trees, since old-growth stands were heavily logged from early settlement times until the early 1900s. Mixed evergreen forests on campus are dominated by coast live oak, California bay, tanbark oak, madrone, and Douglas fir.

Santa Cruz Manzanita



A band of chaparral vegetation occurs to the north of the area described above. This community is dominated by dense large shrub stands of manzanita, with ceanothus, coast live oak, and knobcone pine also present. The remainder of the undeveloped north campus lands is vegetated primarily with mixed evergreen forests, although stands of dwarf redwood forest, redwood forests, and grasslands also occur.

One plant listed by the State of California as endangered, San Francisco popcorn flower (Plagiobothrys diffusus), is reported to occur in meadows on the north campus. No other rare or endangered plant species listed by the state or under the federal Endangered Species Act are found on campus, although two, Gairdner's yampah (*Perideridia gairdnerii*), and Santa Cruz manzanita (*Arctostaphylos andersonii*), may meet the California State

Department of Fish and Game criteria for classification as rare or endangered under the California Environmental Quality Act (CEQA). The yampah has been reported in the lower campus in the Mima mound area of coastal prairie (native grasslands). The Santa Cruz manzanita is widespread but unevenly distributed in the chaparral communities of the north campus area.

WILDLIFE







Top: Ohlone Tiger Beetle Middle: California Reg- Legged Frog Bottom: Burrowing Owl

The UCSC campus supports a wide range of wildlife.¹⁹ Various wildlife species are associated with the distinct plant communities found on campus. Campus mixed evergreen forests support a range of mammals, reptiles, cave species, and birds. The redwood forests are visited by many wildlife species. Campus grasslands support rodents, rabbits, and insects, which in turn are preyed upon by birds (including raptors), bats, and terrestrial predators (including coyotes and mountain lions). The chaparral supports reptiles, small birds, and predators such as the bobcat and the gray fox.

Two important bird species which are known to nest and forage on campus in limited numbers are the golden eagle (Aquila chrysaetos), protected by federal law and found primarily in the southern end of campus near large open grasslands, and the burrowing owl (Athene canicularia), a federal species of concern (FSC). Both of these species are found in association with the open grasslands in the southern portion of the campus.

The Ohlone tiger beetle *(Cicindela ohlone)* is a federally endangered species and occurs in scattered patches of native grasslands (coastal prairie) located on both the northern campus and in the mima mound area of the southern campus. The California red-legged frog (Rana aurora draytonii) is a federally threatened species that breeds in a pond at the Arboretum and occurs in the Moore Creek drainages.

Special-status species known or expected to occur in the UCSC region include the monarch butterfly (*Danaus plexippus*: wintering habitat protected by CDFG), and raptors such as the bald eagle (*Haliaeetus leucocephalus*: federally protected); white-tailed kite (*Elanus leucurus*: FSC); American peregrine falcon (*Falco peregrinus*: FSC and state endangered); Cooper's hawk (*Accipiter cooperi*: California species of special concern CSC); sharp-shinned hawk (*Accipiter striatus*: CSC); northern harrier (*Circus cyanus*: CSC); and merlin (*Falco columbarius*: CSC). With the exception of merlin, which are only expected to occur in the area during winter, all of these raptors could potentially be found nesting and foraging within the UCSC campus area in grasslands (or other open country), riparian, open water, and/or wetland habitats.

19. Ferris, 1986

SCENIC RESOURCES

UCSC occupies a magnificent site that provides a broad spectrum of visual images. Longrange views are impressive and memorable, both from the forest edge on the upper campus looking downward to the ocean and the city and from the lower campus looking upward. From most viewpoints along the forest edge on the upper campus, sightlines are unbroken and sweeping. Prominent upper campus viewpoints are the Cowell College plaza, Baskin Visual Arts, University House, the knoll at Porter College, and the field at Oakes College. From the lower campus, points along Empire Grade, Coolidge Drive, and Hagar Drive offer panoramic views across the grasslands to the forested background. In addition, the campus is regarded as an important visual resource for the city, especially as an open backdrop to the developed areas of western Santa Cruz. Short-range views on campus are influenced by topography and vegetation type, with the visual impression formed not from broad panoramas but from relatively close-range detail.



PREHISTORIC CULTURAL RESOURCES

There is evidence of human activity on the campus lands as far back as 1,200 to 5,000 years ago. While the seasonal hunter-gatherer lifestyle of the Ohlone people left little in the way of built or structural artifacts, the Ohlone did practice centuries of yearly brush burning. This practice encouraged the growth of preferred food sources and reduced the risk of larger forest fires. It also created the strongly delineated line between forest and meadow that remains the seemingly natural landscape we see today. There are other signs of the Ohlone people's presence throughout the campus lands,



including shell middens, small artifacts, burial grounds, and village sites. While this LRDP has avoided known cultural resources areas when planning development sites, they are not mapped here in an effort to protect them from disturbance.

HISTORIC CULTURAL RESOURCES

In 1851 Isaac Davis and Albion Jordan purchased a 160-acre site in Santa Cruz County, near the corner of Bay and High Streets, and constructed three limestone processing kilns still extant on the UCSC campus. Lime was a primary ingredient for mortar and plaster, important building materials in the nineteenth century.

A successful limestone operation hinged on several factors including a good supply of limestone, a local fuel supply for the kilns, a means of transportation, and most importantly a local market in which to sell the products. Santa Cruz was an ideal location, offering excellent limestone deposits, extensive strands of redwood trees, proximity to water and land routes, as well as access to a port city, San Francisco. By the 1880s, the Davis and Cowell Lime Company was the largest limestone operation of its kind on the West Coast, employing 175 workers.

By the beginning of the twentieth century lime was in lesser demand, and its production costs were increasing. Several factors contributed to the decline of lime production, including deforestation. No large virgin redwood trees remain on campus as a result of commercial lumbering and lime production.

In 1906, the enterprise closed its kilns at the Bay and High Street Santa Cruz location, though the land continued to be used for agricultural purposes until the establishment of the University of California, Santa Cruz, in the 1960s. The extant clusters of historic mining and lime-production-related buildings on the lower campus serve as a reminder of the industrial history of this site.









4. Physical Planning Principles and Guidelines

- a. Section Overview
- b.Land-Use Patterns
- c. Natural and Cultural Resources
- d.Access and Transportation
- e. Campus Life
- f. Sustainability
- g. The Santa Cruz Community



a. Section Overview

Throughout the history of UC Santa Cruz, the campus's physical planning approach has carefully balanced its academic, research, and service mission with a commitment to careful stewardship of the resource entrusted to the campus. The Long-Range Development Plan 2005–2020 will be guided by the planning principles outlined below. These principles are designed to protect the campus's extraordinary natural and cultural features, while at the same time incorporating those features into a built environment that maintains UCSC's unique character, community, and quality of life. The principles in this section are not intended to serve as planning restrictions, but will guide future planning of individual projects wherever feasible.

At the heart of UCSC's approach to physical planning is a commitment to sustainable development. The campus will continue to strive for sustainability in planning, architecture, infrastructure, and operations. It will incorporate sustainable design measures in new and existing buildings whenever economically feasible, and will actively explore and implement new technologies and strategies that promote resource sustainability for the campus and surrounding communities.

b. Land-Use Patterns

Respect the natural environment, preserving open space to the maximum extent possible: Development will rely on careful infill and clustering of new facilities to promote efficient land use, retain valuable visual and environmental amenities, and encourage a pedestriancentered campus. Within the overall context of infill and clustering, siting will provide a reasonable "buffer" between new buildings and major roads where possible.

Integrate the natural and built environment: New development will maximize the aesthetic benefits of UCSC's unique natural environment through development patterns and architecture that are visually sensitive to the natural setting.

Maintain UCSC's core configuration: Development will follow UCSC's traditional land-use pattern, which is a core of academic and administrative buildings surrounded by the residential colleges and other housing and support facilities. This pattern facilitates pedestrian and bicycle travel and maximizes interaction among members of the campus community. New colleges will be located as close to the core as possible.

Promote sustainability and efficiency in building layouts: An effort will be made to reduce building footprints and increase building height. In forested areas, buildings should generally not protrude above the surrounding tree canopy; in visually sensitive areas, interruption of prime viewsheds and viewpoints will be minimized.



c. Natural and Cultural
ResourcesRespect major landscape and vegetation features: Development will be sensitive to
preservation of UCSC's distinctive physical features, including major grasslands, chaparral,
and areas of redwood and mixed evergreen forests.

Minimize interruption of wildlife continuity zones: To the extent possible, development will minimize interruption of wildlife continuity zones, fragmentation of habitats, and disruption of ecotones.

Design exterior landscaping to be compatible with surrounding native plant communities: As much as possible, landscaping will favor the use of native (or closely related) plants, as well as non-invasive, drought-tolerant, and fire resistive species.

Minimize changes to existing hydrological conditions, maintaining as much as possible the natural surficial drainage flows: UCSC will use financially viable sustainable design strategies to manage storm water, thereby preserving groundwater supplies, major springs, seep zones, year round springs, and major drainage channels, while at the same time preventing slope erosion.

Protect Historic and Prehistoric Cultural Resources: UCSC will protect recorded archaeological sites from development and protect historic resources, including reuse or adaptation of structures in the original Cowell Ranch Historic District.



d. Access and Transportation **Minimize automobile use to and on the campus:** UCSC will continue to expand its comprehensive program of Transportation Demand Management strategies to encourage alternatives to single-occupant vehicle use.

Consolidate parking facilities at perimeter campus locations: To promote non-automobile transportation options in the core, the campus will continue to encourage the use of peripheral parking facilities with frequent shuttle service.

Promote a walkable campus: The campus will provide facilities for pedestrians, bicycles, and transit, combined with frequent internal shuttles and connecting off-campus bus service to facilitate campus pedestrian circulation. New bike routes and bike parking will be developed to encourage bike travel around campus.



e. Campus Life

Enrich the academic experience for all students: Enrich the campus experience through the development of campus life facilities that support a variety of intellectual, educational, social, and recreational programs. UCSC's residential colleges will continue to provide supportive living/learning communities with a range of undergraduate services within the context of a major research university.

Offer university housing opportunities for students, faculty, and staff: In addition to the residential colleges, UCSC will provide a diversity of housing options for students and employees, strengthening the campus community and relieving stress on the broader regional housing market.

Create an array of facilities that enrich the quality of university life: The campus will provide facilities that may be utilized to provide programs and activities for all members of the university community. The campus will develop student services facilities and academic support facilities which enrich the university experience and complement the residential colleges.



4. Physical Planning Principles and e. Campus Life Guidelines

f. Sustainability

Sustainability refers to principles of physical development and institutional operation that meet the needs of present users without compromising the ability of future users to meet their needs — particularly with regard to the use of natural resources...

Promote sustainable practices in campus development: The campus will strive to balance concentrated development with sensitivity to the natural environment.

Promote sustainable practices in campus operations: The campus will continue to promote sustainable practices including recycling, energy conservation, alternatives to single-occupant-vehicle transportation, and water conservation, among others.

Encourage broad-based sustainability initiatives: The campus will continue to develop campuswide sustainability awareness through education and outreach programs. The campus will work to form partnerships with the City of Santa Cruz, the County of Santa Cruz, and other communities to identify shared strategies to address common goals.



* For Example, Blueprint for a Sustainable Campus, 2003.

g. The Santa Cruz Community

Communicate and collaborate with the surrounding community: Ongoing communication and collaborative planning will enable UCSC and the surrounding communities (especially the City of Santa Cruz) to anticipate and address particular challenges and work together toward common goals. UCSC will continue distribution of the campus's mitigation reports and explore other mechanisms to ensure periodic appropriate reporting of mutual obligations of the city and UCSC.

Encourage the economic health of the surrounding community: Identify opportunities for encouraging business activities that generate local employment and expand the tax base. Investigate ways to minimize decreases in city revenues from UCSC actions.

Provide an accessible and welcoming public-service environment: UCSC will continue to welcome public participation and continue to provide opportunities for the public to enjoy performing arts and lecture programs and make use of the University Library, Physical Education and Recreation amenities, and other physical resources.



5. UC Santa Cruz Long-Range Development Plan 2005–2020

- a. Section Overview
- b.Enrollment and Population
- c. Building Program
- d.Land-Use Plan
- e. Landscape and Open Space
- f. Circulation and Parking
- g. Utilities and Infrastructure
- h. Housing and Student Life



a. Section Overview

The following section provides an updated framework for the development of the UC Santa Cruz campus as it expands to a projected enrollment of up to 21,000 FTE students (fallwinter-spring three quarter average). The Long-Range Development Plan (LRDP) reflects UCSC's academic, research, and service priorities and goals, as well as the campus's longstanding commitment to environmental stewardship and sustainable development. UC Santa Cruz is also dedicated to long-term community partnerships with the City of Santa Cruz, the County of Santa Cruz, and other municipalities and agencies to help build a productive future for the entire region.

The following topics related to projected campus expansion are covered in this section:

- Enrollment and Population: Describes UC Santa Cruz's projected expansion in the context of the state and the region, including a discussion of past and projected demographic trends
- **Building Program**: Delineates the projected space needed to support expansion of UCSC's campus academic, research, and service functions
- Land-Use Plan: Indicates locations for projected campus development and areas to remain undeveloped during this LRDP
- Landscape and Open Space: Describes how projected development can be effectively integrated with the unique physical characteristics of the UC Santa Cruz campus
- **Circulation and Parking:** Discusses projected expansion of campus roads, parking facilities, bicycle pathways, and pedestrian circulation
- Utilities and Infrastructure: Addresses projected development of the physical frameworks required to meet future needs
- Housing and Student Life: Identifies programmatic goals and physical planning considerations related to housing, a critical issue for UC Santa Cruz and the surrounding community

a. Enrollment and Population

The 2005 LRDP accommodates an increase in student enrollment to a three-quarter average of 21,000 FTE by the year 2020 (of which graduate and professional enrollments are anticapated to comprise of 15 percent). This number reflects an average of the total number of FTE students enrolled at UC Santa Cruz during the fall, winter, and spring quarters of the academic year (FWS 3-quarter average). This enrollment projection includes only those students enrolled in programs on the main campus, and is exclusive of students who attend in the summer and attend programs at off-site locations. Total enrollment was approximately 14,400 in 2003-04 (2003-04 FWS 3-quarter average). Growth to 21,000 students would represent an increase of approximately 6,600 students. Additional faculty and staff will be hired to accommodate the growth in students and research.

DERIVATION OF THE ENROLLMENT PROJECTIONS

UC Santa Cruz has consistently articulated a campus vision that encompasses a breadth and depth of undergraduate academic programs, a fully developed range of graduate programs, appropriate professional programs, and a vibrant research enterprise. In addition, UCSC has a regional role as the UC campus serving Santa Cruz, Monterey and Santa Clara counties. Each of these elements results in drivers for future UCSC enrollment. The growth projections articulated in this LRDP were derived after careful consideration by the Strategic Futures Committee (SFC) of both internal programmatic aspirations and external drivers.

Analyses that take into account the demand for a UC education suggest that UC Santa Cruz enroll 25,000 FTE students by 2020. However, the campus has selected a slower growth rate to 21,000 FTE- which it believes it can accomplish using a careful, responsible, and strategic approach that is consistent with its internal academic processes and can be undertaken in partnership with its surrounding communities.

ACADEMIC PROGRAMS AS A DRIVER

A primary factor in assessing future growth is ensuring UCSC's role as a comprehensive public research university within the University of California system. This requires continued evolution and expansion of existing programs, maturation of others, and implementation of new areas of inquiry. An assessment of potential academic program was developed after careful consideration of recently concluded 10-year divisional plans, new and existing program development, and faculty input.

STATE DEMOGRAPHICS AND ENROLLMENT DEMANDS

Enrollment pressures on the UC system are driven by a combination of factors including the number of high school graduates, their eligibility, participation rate (percent of eligible students who elect to attend a UC campus), transfer enrollments, and demand for graduate and professional education (both by students and employers). Consistent with its intent to honor the state Master Plan for Higher Education, the UC system is committed (assuming appropriate funding) to accepting students from the top 12.5 percent of California's high school class as well as accommodating the top four percent of each high school. Each UC campus shares in this responsibility and seeks to accommodate an appropriate proportion of those students who have worked hard to meet the university's eligibility requirements.

GROWTH IN SUMMER ENROLLMENT

UC Santa Cruz plans to grow its summer programs in order to accomodate increased student demand and to provide opportunities to develop specialized programs. Students enrolled in the summer term are drawn primarily from the campus fall-winter-spring population, thus they do not add to the total number of students enrolled by the campus. Summer enrollments do create additional faculty workload and generate additional faculty positions.

Summer student population for 2004 is estimated at about 750 student FTE (about 3,300 individual students) spread out over multiple sessions throughout the summer.

GROWTH IN STAFF AND FACULTY

The number of faculty is projected to increase by about 360, in a direct relationship to expanded enrollment. On-campus staff growth (which includes researchers and non-teaching academic positions) is expected to increase at roughly the same rate as faculty.



b. Building Program The LRDP Building Program includes projections of the additional space (by division and space classification) that UC Santa Cruz will need to implement its academic, research, student life, and housing programs as the campus enrollment expands to support programs associated with 21,000 FTE. The campus's current buildings (existing and approved development) total approximately 3,161,000 assignable square feet (ASF) and (4,693,000 outside gross square feet (OGSF). The additional space needs described in this section total 2,857,000 ASF²⁰ (4,271,000 OGSF).

Projected growth in new and existing academic and research programs will drive UCSC's space needs over the period envisioned by the 2005 LRDP. In addition, UCSC is currently short of space to meet the needs of its existing enrollment, and the Building Program also reflects these unmet space needs. The property at 2300 Delaware Avenue may be appropriate for housing some projected space needs.

Facilities that directly support the university's academic mission—such as divisional space (Arts, Humanities, Physical and Biological Sciences, Social Sciences, and School of Engineering), classrooms, libraries, and support space—are primarily state-funded (although some of these facilities may also be gift- or grant-funded). Facilities that are ancillary to the campus academic mission—such as housing and food service space, recreation space, and student services spaces—are not traditionally or historically funded by the state.

PROJECTED CAMPUS SPACE DEMAND						
	Actual and Approved Space		Net Additional Space		Estimated Total	
	ASF	OGSF	ASF	OGSF	ASF	OGSF
Academic						
& Support	1,693,000	2,664,000	1,585,000	2,597,000	3,278,000	5,261,000
Housing	1,468,000	2,029,000	1,272,000	1,674,000	2,740,000	3,703,000
Bedspaces	6,322		3,311		9,713	
Units	316		219		535	
Total	3,161,000	4,693,000	2,857,000	4,271,000	6,018,000	8,964,000

20. ASF numbers are predicated on 100 pecent of the California Postsecondary Education Commission guidelines. Actual built area may deviate from projected space.

Given the unique characteristics of the colleges and the significance of housing as a whole for the campus, the Building Program for housing is described in a separate section. The residential college is one of UCSC's most distinctive features, and under this LRDP the residential college will remain a modular unit of campus growth.

INSTRUCTION AND RESEARCH

Additional space projected for Instruction and Research and Organized Research Units and Organized Research Activities total approximately 965,000 ASF. This accounts for divisional space for the Arts Division, Humanities Division, Physical and Biological Sciences, Social Science, and School of Engineering.

GENERAL ASSIGNMENT CLASSROOMS AND COMPUTER LABORATORIES 31,000 ASF

General Assignment Classrooms is projected to be approximately 26,000 additional ASF and will continue to be built in conjunction with projects throughout the campus as enrollment increases warrant. The need for non-departmental computer laboratories is projected at 5,000 ASF; these will be built with college and academic core projects as needed.

UNIVERSITY LIBRARY

65,000 ASF

965,000 ASF

The additional University Library space need is projected at approximately 65,000 ASF according to Library Standards. Additional library space is projected to be located near the Science and Engineering Library.



ACADEMIC SUPPORT

Most of the projected space needs for Academic Support are included in the categories of Divisional Space and University Library. The remaining projected need of 24,000 ASF includes space for college administration and the Graduate Division, space for Media Services, and space for the Arboretum.

182,000 ASF PHYSICAL EDUCATION AND RECREATION

Physical Education and Recreation will need additional space of approximately 182,000 ASF. This includes a 5,000-seat Events/Recreation Center and indoor facilities including a dance/yoga studio, martial arts studio, craft/pottery center, recreation offices, equipment rental/storage rooms, pool storage, classrooms, small recreation gym, gym studio, showers, and multipurpose rooms.

STUDENT SERVICES

Student Services will require approximately 147,000 additional ASF to meet existing shortages of space and to provide for growth. Of this, about 130,000 ASF will be in noncollege facilities and 17,000 ASF will support new colleges. Included in the non-college facilities are an addition to the Cowell Health Center, a new student union building, and expansion of the Bay Tree Bookstore. Future college space will include student activity facilities, coffee shops, and college counseling offices.

PUBLIC SERVICES

The projected space need for Public Services totals approximately 57,000 additional ASF, including facilities under construction such as the Monterey Bay Nature/Orientation Center and the Center for Agroecology and Sustainable Food Systems.



24,000 ASF

147,000 ASF

57,000 ASF

INSTITUTIONAL SUPPORT

114,000 ASF

Projected space needs for Institutional Support total approximately 114,000 additional ASF, including 28,000 ASF for campus administration and 86,000 ASF for general services. The campus administration projection assumes that leased off-campus space will continue to be available, or that some or all of the units leasing space would move to UCSC's property on 2300 Delaware Avenue. Additional space would be located at Kerr Hall, Hahn Student Services, a new administrative facility near Kerr Hall, and/or additional off-campus facilities.

In addition to general services projects, an Environmental Health and Safety Facility and a Child Care Facility are currently being planned. These facilities may need future expansion to accommodate growth. Space for other units located throughout the campus will need evaluation for the location of future buildings or the reassignment of space.



5. UC Santa Cruz Long-Range Development Plan 2005–2020

c. Land-Use Plan

Similar to the 1963 founding plan for the campus and subsequent UCSC LRDPs, the 2005 LRDP Land-Use Plan identifies the need to expand north to meet the academic, research and housing needs of the campus as it matures. The plan balances development opportunity with conservation of natural resources and open space by clustering new potential development areas and recognizing that additional density can be added to existing developed areas. The Land-Use Concept plan, Figure 20, shows how the academic core expands north, with an arc of colleges and housing on the opposite side of a new loop road. Land between developed areas is left in a natural state to act as a buffer and provide continuity of habitat for wildlife. The center of the expanded core, a generally sloping area known as the Seep Zone, is reserved for natural resource education and research.

The Land-Use Plan, described below in text and in the land-use map, is based on the campus physical planning principles. It assigns program elements to designated land-use areas and describes general objectives that will guide development within those areas. In some cases, program elements may be assigned to more than one land-use category in order to offer the campus opportunities to combine and integrate program elements.

ACADEMIC CORE (AC)

The LRDP expands the academic core north to encompass approximately 134 acres; this will provide space and flexibility for future expansion in the north campus for needs anitcipated under this plan, including potential professional schools and research functions. The boundary of the Academic Core is defined by Heller Drive to the west, Meyer Drive and the Great Meadow to the south, Hagar Drive to the east, and a new loop road to the north. Facilities to accommodate the following program elements will be the principal projects sited in the Academic Core: Instruction and Research, Organized Research, Academic Support, Libraries, Student Services, Public Services, and Institutional Support.

CAMPUS SUPPORT (CS)

Five separate areas totaling approximately 79 acres are designated Campus Support. The largest of these, at the south entrance to the campus, will accommodate both public functions and operations-oriented functions in the corporation yard. To the extent feasible, some facility and operational corporation yard functions will be relocated under this LRDP, primarily to a new corporation yard on Empire Grade of approximately eight acres. The goal of the relocation will be to enhance of the south entrance area for public-oriented and visitor services and to improve efficiency in operations.

Three Campus Support areas will expand. The Quarry Plaza area north to McLaughlin Drive provides expansion space for future Student Service functions and the Cowell Student



FIGURE 20 LAND USE CONCEPT



Health facility. The area housing the Fire Station will expand to meet projected future needs. The Central Heating Plant area will be expanded to permit expansion of these facilities. The area accommodating the University House (the Chancellor's residence) remains unchanged.

COLLEGES AND STUDENT HOUSING (CSH)

The college arc surrounding the academic core, is designated Colleges and Student Housing and is 214 acres in this LRDP. The area occupies land to the east, north, and west of the academic core and will accommodate the construction of new colleges, expansion of existing colleges through infill, and new undergraduate and graduate student housing projects. In addition, recreational amenities will be provided in Colleges and Student Housing. This area may also include family student housing units. Residential facilities may include both residence hall, apartment style, and various suite-type accommodations. (For additional information on college and housing program goals, see section 5g. Housing and Student Life.)

The principal program elements permitted in Colleges and Student Housing include Housing and Food Services, related recreational amenities, Student Services, Academic Support, Family Student Housing, and Physical Education and Recreation. While some facilities for the academic divisions are located in the colleges, it is anticipated that new colleges will house a small amount of Instruction and Research space. Campus Resource Land may be used to accommodate additional student housing.

FAMILY STUDENT HOUSING (FSH)

Approximately 25 acres west of the campus core is designated Family Student Housing in this LRDP. A goal for this LRDP is to redevelop this area to increase capacity and replace obsolete housing stock if funding permits. The principle program elements to be included in this area are Housing, Food Services, and Student Services, along with associated parking and recreation amenities. Some additional Family Student Housing units may be located in other areas that permit student housing.

EMPLOYEE HOUSING (EH)

Approximately 70 acres encompassing existing development and undeveloped land are designated as Employee Housing in this LRDP. Existing employee housing near the south entrance, including Ranch View Terrace, occupies approximately 42 acres. A second area to the north of 28 acres has been designated for future development of employee housing. Housing for faculty and staff, child care facilities, and related accessory buildings are consistent with this land use, together with associated parking and recreation space. Additional development could be located on Campus Resource Land.

PHYSICAL EDUCATION AND RECREATION (PE)

Approximately 89 acres of relatively level land in three areas of the campus are designated Physical Education and Recreation (PE) in this LRDP. Two of these areas, located east and west of the Campus Core, already accommodate PE and Recreation facilities. The western area, approximately four acres, does not have sufficient remaining undeveloped space for expansion of PE and Recreation facilities. The east area, of approximately 71 acres, has adequate space for additional indoor recreation facilities, playing fields, and courts. A third area of approximately 14 acres to the north is currently undeveloped and could accommodate a significant increase in indoor facilities, playing fields, courts, and other recreation facilities, thereby providing a more balanced distribution of recreation opportunities across the campus. This land-use designation can also accommodate parking and transit facilities. A future recreation and events center could be located within this land use.

CAMPUS RESOURCE LAND (CRL)

A total of 364 acres of undeveloped land located primarily in the far north campus and the Coastal Zone west of Empire Grade is designated as Campus Resource Land. These areas will generally be maintained in their natural state. Campus Resource Land could be considered for development of academic, housing or campus and community support program elements during the timeframe of this LRDP following appropriate environmental review.

CAMPUS NATURAL RESERVE (CNR)

The Campus Natural Reserve (CNR) was established in the 1988 LRDP to protect some of the campus's natural features and processes for teaching and research. The boundaries have been drawn to include a variety of habitat types and representative species. The CNR also includes some major campus drainages, geological features, archeological sites, and wildlife continuity zones, particularly those that are rare, endangered, or locally unique.

A total of 420 acres is designed as Campus Natural Reserve in this LRDP. Lands within the CNR will be maintained in their natural state as much as possible. Construction—except as required for maintenance of the area as a teaching and research reserve, and the limited construction of roads, bridges, or below-grade utility access—is prohibited in the CNR. The CNR will be managed in consultation with the Campus Natural Reserve Committee and, where there are common borders, the Arboretum.

PROTECTED LANDSCAPE (PL)

The natural landscape of UC Santa Cruz has been recognized from the campus's inception as a unique asset that distinguishes UCSC from other universities. In addition to the 420

acres in the CNR, approximately 492 acres of land have been designated as Protected Landscape in order to maintain special campus landscapes for their scenic value and to maintain special vegetation and wildlife continuity zones. To the extent feasible, Protected Landscape will be retained in an undeveloped state as the campus grows. Any development within Protected Landscape will not impinge on its overall character.

The meadows south of the developed center of the campus will be maintained as undisturbed grassland. In these meadows, no building will be allowed. Agricultural research that maintains the visual quality of the lower meadows may be allowed.

SITE RESEARCH AND SUPPORT (SRS)

Three areas totaling approximately 152 acres are designated for Site Research and Support in this LRDP. The first of these areas in the south campus includes land currently used by the Center for Agroecology and Sustainable Food Systems (CASFS) and the UCSC Arboretum. The second area in the far north includes 33 acres. The Chadwick Garden at the east end of McLaughlin Drive is another area, encompassing four acres. The development of new buildings associated with these and future approved research programs is permitted within these designated areas. The principal program elements associated with these projects are Social Sciences, Physical and Biological Sciences, Student Services, and Public Services.

CAMPUS HABITAT RESERVE (HAB)

Two areas on campus are designated as Campus Habitat Reserve. Thirteen acres of land at the southwest corner of the campus adjacent to Wilder Creek are identified in perpetuity as Campus Habitat Reserve. The location and extent of this reserve was established in an Implementing Agreement between the U.S. Fish & Wildlife Service and The Regents. A second Campus Habitat Reserve, 12.5 acres, is located in the southern portion of the campus near the main campus entrance and is proposed as a management site to improve habitat for the Ohlone tiger beetle, a federal endangered species. The area was designated as part of the development of the Ranch View Terrace employee housing project. Campus Habitat Reserve lands will be maintained in a natural state with no development other than that permitted by the terms of the Implementing Agreement.

COWELL RANCH HISTORIC DISTRICT

The Cowell Ranch Historic District (CRHD) is an overlay district that encompasses cultural resources of particular significance from the original Cowell Ranch. The Cowell Ranch constitutes a landmark that helps define a strong and unique "sense of place" for UC Santa Cruz. The overlay district is in a Campus Support land-use area. The CRHD is eligible for listing on the National and State Registers of Historic Places. A CRHD Management Plan

governs development of structures and landscape in and around the CRHD.

PARKING

Surface parking is permitted in Academic Core, Campus Support, Colleges and Student Housing, Family Student Housing, Employee Housing, Site Research and Support, Physical Education and Recreation, and the Cowell Ranch Historic District. The Parking Structure designation is an overlay area in the land-use plan. It represents the general area within which possible future parking structures could be located, and not a specific site and garage configuration.

2005 LRDP LAND USE



d. Landscape and Open Space

LANDSCAPE FRAMEWORK KEYPLAN



OPEN SPACE

The 2005 LRDP builds on the current pattern of development clusters carefully placed through a balance of programmatic need and ecological sensitivity. The open expanse of the Great Meadow will be maintained, with new buildings confined to the forest edge and developed as infill. New development in the East Meadow between Hagar Drive and Coolidge will be minimized to maintain the overall sense of an open meadow landscape. Within the current core (bounded approximately by Meyer, Hagar, McLaughlin and Heller Drives), the ravines, Kerr Meadow, the Shakespeare Glen, and other areas will be retained as natural open space-"breathing spaces" between development clusters. New development parcels to the north of the existing core will be sited sensitively and will maintain this pattern of development clusters surrounded by undisturbed landscape. The far north campus, above the "neck", will remain as undeveloped open space in its current natural state.





FIGURE 22 LANDSCAPE FRAMEWORK: CORE AND NORTH CAMPUS

Landscape Structure: Topography

The LRDP, in its patterns of open space and development, uses the topographic "structure" of the land-its series of stepping terraces punctuated by ravines- to define the unique form of the UCSC campus. The relatively level areas of the current developed campus will be used for carefully-sited infill development. New academic and research facilities needing proximity to related existing facilities will primarily be sited on the "peninsulas" of the academic core and in an area north of engineering identified for core expansion. New infill student housing projects will be located on relatively level areas in the vicinity of existing colleges and housing.

The campus north of developed areas rises in a hill to a relatively level terrace (see Figure 23, Landscape Structure: Topography). Use of this level area is integral to this LRDP to support 21,000 FTE students. New housing and recreation space is located outside a new loop road. New core expansion space is located inside the loop road for program elements that do not require close adjacency to existing core functions such as new graduate or professional schools. The terrace occupied by the camper park, which is within easy walking distance of the core, is identified as a location for colleges and student housing.

Landscape Framework and Pedestrian Circulation

The LRDP encourages careful collaboration with the natural landscape context and character of each site. Significant existing vegetation, topography, and drainage patterns will be protected as much as possible, and will inform site, building and landscape design. New landscaping and plant material should be chosen to blend with the natural




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Relative Elevation
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environment. The plan reinforces the developed landscape framework of the core by enhancing the two major circulation corridors which run north-south through its developed areas. The first of these is the corridor on the west side, which begins at Oakes College and runs north of the Engineering buildings. This LRDP will reinforce this significant landscape and circulation element and extend it north across a new bridge to a new core expansion area near Engineering.

The second circulation corridor on the east side of the core focuses on student life. It currently connects Cowell Health Center to Quarry Plaza to Hahn Student Services Building and the OPERS facilities. As these pedestrian corridors traverse significant elevation change, they will be strengthened with infill development along their edges, with well-defined and generously designed pathways, and with a series of developed open spaces along their length, particularly at junctions with east/west pathways or other gathering places. East/west pedestrian circulation, which typically stays at a certain elevation, is only possible with bridges which provide critical connections across ravines to fully integrate all program functions of the academic core.



FIGURE 23 LANDSCAPE STRUCTURE: TOPOGRAPHY While the two major corridors act as the pedestrian circulation system's primary structure within the campus core, the full pedestrian circulation system is an organic web of pathways, roads, and trails. In the core, this web can be understood as a "warped-grid" system. Currently, there are "lack of" gaps in this campus circulation system. The most obvious of these is the lack of connection of Meyer Drive to Hagar Drive. Extending Meyer Drive to Hagar can connect to the With the northward expansion of the core, as well as infill in the upper levels of the existing core, the need for additional east/west corridors across campus is apparent. Components of two routes are already in place. Connection bridges are needed between Chinguapin Road and Colleges Nine and Ten, as well as between Colleges Nine and Ten and Communications, to complete the more southern of these corridors. To the north, additions and upgrades to the existing unpaved roads, Spring Road and Fuel Break Road, could form another east/west route between the core expansion parcels. Important east/west pedestrian connections from the expanding East Remote parking and OPERS to the peninsula of land with the Hahn Student Services Building, the student services corridor and the central core of campus, as well as the traffic reduction possibilities (discussed further in the transportation section) make this dual bridge project a priority.

RECREATION FACILITIES

Approximately 18 acres of new playing fields are needed to address a current deficit and to serve the projected population. A portion of the north campus has been allocated to Physical Education and Recreation for this purpose, including additional facilities such as courts, a swimming pool, and indoor recreation facilities. Additional playing fields could be developed in the vicinity of the East Remote lot. New colleges will also include recreation amenities such as tennis or basketball courts.





FIGURE 24 PEDESTRIAN CIRCULATION FRAMEWORK

area

5. UC Santa Cruz Long-Range Development Plan 2005-2020

e. Landscape and Open Space

e. Circulation and Parking

As the UC Santa Cruz campus matures and expands, expanded circulation and parking infrastructure wil be essential. The 2005 LRDP proposes a comprehensive transportation system that combines improved campus connectivity, parking collection points, transit hubs, pedestrian, and bicycle-focused routes. This system provides the needed flexibility to support careful expansion into the north campus, as proposed in earlier LRDPs, and promotes an academic environment designed for convenience, contemplation, and interaction, violated as little as possible by auto traffic. The circulation and parking system must be flexible enough to accommodate a variety of strategies for improved campus access from the surrounding community.

ACCESS

As most of the campus is bounded by parkland, all campus traffic is channeled through residential neightborhoods of the city's upper westside. The campus currently has only two entrances—the main entrance at the south campus and the west entrance. The 2005 LRDP proposes adding a third entrance to provide additional egress for fire safety, to support future campus expansion, and to support relocation of some service functions away from the "front door" of the campus at the south entrance to a new corporation yard on Empire Grade on the upper west side of the campus.

NEW ROADS

The vehicular circulation system in the 2005 LRDP is generally consistent with the 1988 LRDP. Several proposed roads identified in the 1988 plan are included in this plan to provide access to new areas of campus, improve cross-campus connections, and improve the efficiency of shuttle access to parking facilities. These roads will also provide traffic relief on existing roads, creating safer pedestrian and transit-friendly areas. New road improvements include:

Chinquapin Road

This extends Chinquapin Road to serve growth areas north of the campus core, including the proposed relocation of the corporation yard. The alignment will respect the terrain and sensitive environmental areas of the north campus.

- Heller Drive
 Heller Drive is extended past the existing parking lot to connect with Chinquapin
 - Road. This provides easy access from the new corporation yard to the core.
 - *Empire Grade Acess* This road provides an emergency campus egress to the west, allows easy service access for corporation yard functions, and access for potential employer housing. The road bridges the ravine at Cave Gulch.



FIGURE 25 ACCESS

Legend



5. UC Santa Cruz Long-Range Development Plan 2005-2020

f. Circulation and Parking

Meyer Drive Extension

This proposed new road with two bridges will provide a critical cross-campus connection from Meyer Drive's existing terminus at the Music Center to Hagar Drive. The road will be aligned to minimize visual impacts, relieve traffic on McLaughlin Drive, and introduce a new route for transit vehicles. By bridging to the Hahn peninsula, the extension will serve the Hahn Student Services building, the library, and parking areas. It will thereby enable vehicle restrictions on Hagar Drive between the Meyer Drive extension and McLaughlin Drive, improving pedestrian and bicycle safety and reducing auto traffic at the student hub at Quarry Plaza. The Meyer Drive Extension will have a flexible design with the ability to serve general traffic circulation or to restrict access to pedestrian, bicycle, transit, and service vehicles by gating the westernmost bridge. This flexibility is achieved as long as the connection to the Hahn peninsula provides a vehicular turnaround.

Hagar Drive to Coolidge Drive Connection This new road will be located along the south edge of the East Remote parking facility. It will improve the efficiency of ingress and egress at the parking facility and supports the proposed new transit hub in this vicinity. This connection supports restricted access on the Hagar Drive (between the East Remote Parking Lot and McLaughlin Drive) as Coolidge Drive/McLaughlin Drive becomes the primary vehicular route accessing the campus core.

With Coolidge Drive serving as primary access to the central campus, automobile traffic would be restricted on some roads within the core such as portions of Hagar Drive. Service and transit vehicles are permitted, but these roads would emphasize pedestrian and bicycle travel.

PARKING

UCSC has been highly successful in reducing single occupant automobile use. As of 2004, only about 40 percent of students, faculty, and staff drive alone to the campus. The campus today has nearly 5,000 car parking spaces. While various areas on the campus experience higher demands than others, on average, 70 to 80 percent of the campus parking supply is occupied on weekdays.

The growth projected in the 2005 LRDP will increase demand for auto travel and parking. Continued implementation and improvement of Transportation Demand Management measures and additional on-campus housing can reduce this demand.

In order to serve the needs of faculty, staff, and students, fulfill the programmatic needs of the campus, and preserve the natural setting of the campus, the development of as many as 3,100 new parking spaces is proposed (net increase, including spaces lost to development).



5. UC Santa Cruz Long-Range Development Plan 2005-2020 The parking strategy in the 2005 LRDP revolves around a system of zoned parking and parking collection points with high-frequency transit and shuttle service from parking facilities to the campus core. In addition, the plan recommends programmatic and policy measures to reduce parking demand on campus. Expansion of peripheral parking facilities and strategically located parking structures will accommodate the majority of the increasing parking demands, with implementation linked to actual and projected parking utilization rates. Individual colleges and buildings will continue to provide limited parking close in for critical access needs, such as disabled access, deliveries, and service. With infill development on campus, the number of close-in parking spaces will likely be reduced.

The plan proposes locating a series of new parking structures at the periphery of the campus core , thereby promoting a more pedestrian-friendly environment in the campus core. The shift towards additional structured parking reflects a number of factors, including the scarcity of sites for new parking facilities, the likely decrease in surface lot spaces from continuing infill development, and the need to reserve buildable land for the academic program. Since parking is self-funded, economic viability will need to be considered.

The 2005 LRDP proposes expanding the capacity of the East Collector Lot (formerly East Remote) by constructing one or possibly two decks over the existing surface lot. This would result in an increase of approximately 2,000 additional spaces. This facility would be the campus's primary parking collection point served by regional transit and the campus shuttle system at an adjacent transit hub. A new road connecting Hagar Drive and Coolidge Drive will improve ingress and egress. On the west side of the campus the West Collector Lot would function in a similar fashion.



Another parking collector lot will be a new parking structure located near the arts center, accessible via Heller or Meyer Drive to serve daily and arts events parking needs. An addition collector parking structure could be located north of Cowell and Stevenson and accessed from McLaughlin Drive. Each of these structures could have approximately 500-700 spaces.

Surface parking will also be provided for new facilities to meet accessibility requirements and to accomodate critical access needs. The location, amount and type of surface parking will be carefully considered to address storm water and environmental concerns.

TRANSIT/SHUTTLES

The campus transit system is a crucial component of the comprehensive transportation system. The transit system will continue to emphasize regional transit service provided by the external Santa Cruz Metropolitan Transit District (SCMTD) and an internal campus shuttle system serving the entire campus with transit hubs locatedat the east and west periperal lots at parking collection points linking parking to campus shuttle systems. The 2005 LRDP relies on a frequent and reliable full-capacity shuttle and transit system that utilizes existing and proposed roads to serve the campus' growth areas. The 2005 LRDP envisions that the existing transit system will be expanded and configured to take advantage of the campus's concentric loop road system through overlapping loop routes linked at parking collection points. The SCMTD provides a local and regional transportation alternative to single occupancy vehicle trips.



PEDESTRIAN CIRCULATION

Walking is the primary mode of travel for students within the campus core and within and between colleges. The pedestrian system is made up of a network of paths connecting individual buildings within colleges and inter-connecting colleges. Most of the roads in the campus core have sidewalks on at least one side of the road, and new roads will have sidewalks on both sides. Crosswalks are provided at intersections.

As described in the Landscape and Open Space section, north/south pedestrian travel is concentrated along two pedestrian spines. The 2005 LRDP reinforces and expands on these primary pedestrian spines by providing additional pathways along direct routes between destinations, including new pedestrian bridges. For east/west routes, new pedestrian bridges are proposed to enhance circulation to existing and new facilities.

As the campus grows, conflicts between pedestrians and vehicles along roads at key crossing points will increase, particularly along McLaughlin Drive at Science Hill and south of Colleges Nine and Ten. Because of the volume of pedestrians flowing between the upper and lower portions of the campus core between classes, McLaughlin Drive will require innovative solutions to balance vehicular and pedestrian travel.

One of the challenges will be balancing pedestrian flow with transit schedules. High volumes of pedestrian crossings can impede transit vehicle travel speed. The plan recommends consideration of potential transit priority measures such as queue jump lanes, allowing buses to bypass vehicle backups at intersections, or traffic signals which can be triggered by transit vehicles as they approach intersections.



BICYCLE CIRCULATION

Bicycle travel remains an important mode of transportation on campus despite the terrain, and bicycle travel is expected to grow as on-campus housing increases. The plan strives to improve the effectiveness and safety of bicycle travel by completing the campus's bicycle facility system and improving the safety of existing facilities. The bicycle circulation plan calls for Class II bike lanes on major roads throughout the campus, both new and existing. Where constraints such as topography limit the ability to widen roads, bike lanes will be installed in the uphill direction, and bikes and vehicles will share the downhill travel lane, specifically northbound on Heller Drive between Meyer Drive and McLaughlin Drive.

Class III bike routes, where bicycles and vehicles share travel lanes, are proposed on McLaughlin Drive and Steinhart Way. As a result of the Meyer Drive extension, Hagar Drive between Meyer Drive and McLaughlin Drive will restrict automobile traffic, allowing only transit vehicles, pedestrians, and bicycles. With this improvement, pedestrian and bicycle conflicts with vehicles will be significantly reduced at Quarry Plaza.









f. Utilities and Infrastructure

WATER

Adequate water supply is a primary issue for UCSC and the City of Santa Cruz given future anticipated shortfalls under drought conditions. Water is supplied to the campus by the City of Santa Cruz Water Department. The campus proposes a water management strategy that builds on existing programs for conservation and explores options for new source development in partnership with the City of Santa Cruz.

The water supply system is a complex network with four connections to the City of Santa Cruz system and eight separate pressure zones. Facilities in the campus core will likely require localized pipe upgrades and campus development north of the existing developed campus will require new piping and infrastructure elements such as booster pumps to augment pressure and new storage capacity.

The campus has implemented a range of conservation programs to reduce water consumption as the campus has grown. The 2005 LRDP calls for continuing these measures with additional improvements such as continued education efforts, retrofit of existing buildings with more efficient plumbing fixtures, use of ultra-low-flow fixtures in new buildings, and use of rainwater and/or recycled water if feasible for irrigation, cooling towers, and other non-potable uses. In additon, UCSC may explore the viability of possible on-campus water supply sources subject to test pump and aquifer capacity.

ENERGY

Over the past decades, UCSC has actively pursued energy conservation through energyefficient new construction practices and energy retrofit programs. The campus will continue to promote energy efficiency and consistent service quality by demand-reduction strategies, compliance with the UCOP Energy and Green Building Policy, and selfgeneration when financially viable.

Campus natural gas and electrical service is supplied by Pacific Gas & Electric (PG&E). The campus-owned electrical network is comprised of 21kV primary service lines and 12kV distribution lines. This network is mostly buried and has a PG&E service connection northeast of the Hagar Court employee housing complex. Recent campus upgrades have increased feeder capacity. Future campus growth will increase demands on the campus electrical infrastructure and require localized upgrades and line extensions in addition to demand reduction strategies. Reliability of the power supply is particularly important to UCSC's mission as a research institution and will be a key element of future upgrades.



The natural gas distribution system is owned by UCSC and fashioned as a "ladder" system with primary piping extending up Heller Drive and Hagar Drive with cross connecting "ladder rungs" along Meyer Drive and McLaughlin Drive. Recent analysis has indicated a





Legend

-	New City/UCSC reservoir
	Proposed New Pipe
	Upgraded Pipe
-	Pressure Reducing Valve
	Meter
ō.	City Pump Station
ŏ.	City Reservoir
ž	UCSC Pump Station
	Assumed City Water Main
	6" Existing Pipe
	8" Existing Pipe
	12" Pipe
	14" Pipe



need for the repair of deteriorated or constrained areas of the network and the replacement or upgrade of system components to improve network stability and service. The 2005 LRDP will require extension of service to new development areas and a third pressure regulating station. In conjunction with demand reduction strategies, these infrastructure improvements will seek to ensure adequate infrastructure capacity for the plan.

SANITARY SEWER

The existing on-campus sanitary sewer system was sized for 27,500 students and will have adequate capacity for the proposed new development. There are two major trunk sewers on the UCSC campus, one on Empire Grade and the other along Hagar, that combine into a single sewer at the Cook House, which discharges into the city's sewer system at Bay and High streets. New construction will be limited to repair, maintenance, limited upgrades, and extensions to areas of new development.

STORM DRAINAGE

The UCSC campus is unequal in relying on a series of natural drainage courses and sinkholes for storm drainage. Storm water drains via a network of pipes into four drainage arroyos—Jordan Gulch, Moore Creek, Cave Gulch and San Lorenzo River— which lead to a series of sinkholes (except San Lorenzo and lower reach of Moore watershed). Detention basins and settling tanks serve localized building clusters. While this system meets current overall capacity requirements, there are localized areas of concern. Recent analysis has documented surface flooding, concentrated flows, and associated erosion in some locations. The long-term effect of sediment load on sinkhole capacity is not known and is difficult to determine. Future development will seek to minimize changes to existing hydrological conditions and utilize financially viable sustainable design strategies to manage storm water. These strategies may include minimizing point-source discharges from buildings and paved surfaces by using infiltration drainage techniques when feasible; recycling rainwater collected from impervious surfaces for irrigation or other non-potable uses; or collecting rainwater for controlled aquifer recharge.

DATA NETWORK AND TELECOMMUNICATIONS

Providing data and telecommunications infrastructure with adequate capacity and flexibility to support the educational and research mission of UCSC is a central element of the 2005 LRDP. This technology will serve the campus itself, link it to off-site facilities, and provide new opportunities for students, faculty, and staff through initiatives such as distance learning. Data and telecommunication infrastructure will need to be upgraded to meet short- and long-term needs for bandwidth/density and reliability. New data and telecommunications infrastructure should be flexible enough to accommodate new and emerging technologies.

5. UC Santa Cruz Long-Range Development Plan 2005–2020

CENTRAL PLANT

As the campus grows there will be a need to increase the capacity of the central plant system to provide hot and chilled water. The likely infrastructure requirements for the expansion of the hot water system include upgrade/construction of hot water piping and construction of a secondary heating hot water plant in the campus core. This secondary plant would be connected to the existing plant to provide flexibility in meeting peak demands. Additional chilled water capacity will also be required for cooling. This could entail installation of a new cooling tower near the existing central plant, or in another location with appropriate pipe connections to the campus system.

FIGURE 29 ELECTRICITY INFRASTRUCTURE



- MF1 Feeder (21kV)
- MF2 Feeder (21kV)
- A1 A1 Feeder (12kV)
- FICProposed A1 Feeder (12kV)
- New A2 Feeder (12kV)
- Ptt:Proposed A1 Feeder (12kV)
- B1 B1 Feeder (12kV)
- Ptt:Proposed B1 Feeder (12kV)
- B2 Feeder (12kV)
- Proposed B2 Feeder (12kV)
- SulSub-Feeder (12kV)
- Point of Connection





5. UC Santa Cruz Long-Range Development Plan 2005–2020 FIGURE 30 NATURAL GAS INFRASTRUCTURE



Legend

Gas Pipes

4" Regulated 15 PSI
4" Proposed Regulated 15 PSI
6" Regulated 15 PSI
6" Proposed Regulated 15 PSI
8" Regulated 15 PSI
8" Unregulated 50 PSI
Point of Connection

LP: Low Pressure (Nominal 15 PSI) MP: Medium Pressure (Nominal 50 PSI) PRS: Pressure Regulating Station Note: Smaller pipes are omitted for clarity.



g. Housing and Student Life

University affiliated housing supports the academic mission of UC Santa Cruz by fostering recruitment, transition, retention, development and graduation of both undergraduate and graduate students. Residential life, academic life and student life are the three elements of the UC Santa Cruz college system, the cornerstones for creating dynamic live/learn communities. Additionally, availability of affordable housing serves to recruit and retain faculty, staff, and other members of the university coummunity.

Because campus housing is self-funded, adequate demand must be substantiated to produce on-campus housing. Student housing demand is dependent on several factors that include the student market, product cost, regional housing inventory and amenities. The character of on-campus student housing should reflect the preferences of students and their diverse needs. In general, on-campus student housing should be available, accessible to the academic core, diverse in respect to product type, and integrated with other services (dining, childcare, recreation, parking, and transportation) whenever possible.

New on-campus housing development will strive to maximize density, recognizing the value of campus natural lands and the goal of minimizing sprawl. Increased density is consistent with sustainable design principles and with the vision of the original 1963 LRDP, which predicted an increase in the average building height as the campus matures. The appropriate height and density of new housing development will reflect several factors, including economic viability, 2005 LRDP Physical Planning Principles, and the particular considerations of each site and its views. Considering the large proportion of the overall development program that housing represents, achieving appropriate density is important not only to promote sustainable development practices but also to preserve future opportunities beyond the time frame of this LRDP. The land area identified in the 2005 LRDP for housing uses assumes 50 percent of undergraduate students, 25 percent of graduate students, 25 percent of faculty, and 3 percent of staff could be accommodated in those areas.







The following section describes the program for various types of campus housing. Given that the ability to produce housing depends in large part on market factors beyond the control of UCSC, these are goals that the campus will strive to attain if economically feasible.

5. UC Santa Cruz Long-Range Development Plan 2005–2020

UNDERGRADUATE COLLEGES AND HOUSING

The colleges are essential to the UC Santa Cruz undergraduate experience. All undergraduates are affiliated with a college, including those living off-campus. Under this LRDP, each of the ten residential colleges will have an average of 1,500 affiliated students. The plan anticipates the development of two new residential colleges. These may have up to 750 beds each with a possible distribution of 50 percent traditional residence hall space and 50 percent apartment, studio, or suite space. The new colleges will cluster to share support facilities such as food services, recreation facilities, study space, and services (mail room, wash room).

The campus will develop additional infill housing in or near existing colleges where appropriate. New infill housing will be affiliated with the adjacent residential college if possible, and will likely be apartment-style. Economic factors will be considered in determining minimum viable project size.

Undergraduate apartments will likely be needed in addition to the new residential colleges and infill units. These may be located on undeveloped land north of the core and will also include support functions such as student services and academic support facilities.

GRADUATE STUDENT HOUSING

Increasing the graduate student population has been identified as an important element in meeting UCSC's academic and research goals. To accommodate this population, a new graduate student village will be considered to provide graduate students with a sense of identity and a collegial and supportive residential environment. The majority of this housing would be apartment-style to reflect market preference. If possible, the graduate student village would be located in relative proximity to family student housing, as these groups have related programmatic needs.

FAMILY STUDENT HOUSING

Family student housing serves undergraduate and graduate student couples with and without children, as well as single parents. Family student housing units are included within the undergraduate and graduate housing goals above. Existing family student housing facilities (199 units) are reportedly near the end of their useful lifespan. Phased redevelopment of this area is projected during this LRDP to provide improved replacement facilities and better utilization of the site. Additional family student housing units may be developed in other locations, preferably on the west side in the vicinity of existing facilities. Close proximity to recreation space and childcare is important.

EMPLOYEE HOUSING

Providing housing opportunities for faculty and staff is an important element of the 2005 LRDP. Currently there are 274 units of existing housing including the approved Ranch View Terrace project (80 units). On-campus employee housing should be accessible to campus perimeter roads and also integrated with other services such recreation, childcare, parking, and transportation.

STUDENT LIFE FACILITIES

Student life facilities and student academic support services are integrated with housing and enrich the university experience of undergraduate and graduate students. These facilities, programs, and services support the development of a vital intellectual community; promote full engagement in university life; and positively impact recruitment, retention, and graduation. To further enhance the overall quality of student life, appropriate social, cultural, and recreational spaces and facilities will be developed to complement the colleges, while also providing a more defined central hub for a wide variety of student activities, sports and recreation, and academic support services.



5. UC Santa Cruz Long-Range Development Plan 2005–2020

Acknowledgements

LRDP COMMITTEE MEMBERS

Tom Vani - Chair Gene Arner Tamara Belknap Donna Blitzer Mike Bolte Harriet Deck Peggy Delaney Pamela Edwards Amy Everitt Margaret Fusari Alison Galloway Gary Glatzmaier Wlad Godzich Gary Griggs Gail Heit Francisco Hernandez Karen Holl Bill Hyder Elizabeth Irwin

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EDAW Jacinta McCann Marcia Tobin Richard Nichols Megan Walker Megan Gosch Charlane Gross	Environmental and Landscape Architect
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Arup Aidan Hughes Gary Lawrence Cole Roberts Grant McInnes Annie Kammerer Andrea Fernandez	Utilities, Infrastructure, and Sustainability
<i>Mack5</i> Mark Kelley Fernando Espana	Cost Analysis
Victoria Bolam	Editor

5. UC Santa Cruz Long-Range Development Plan 2005-2020

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Appendix A ASF Summary of Existing and Approved UCSC Space

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Appendix B

Public Workshops

Wednesday, 11/5/03 6:00-9:00pm UCSC Inn, Sierra and Dawn Rooms • LRDP Background Cooper, Robertson & Partners Background • Key Topics for the LRDP Discussion Tables Wednesday, 2/25/04 6:00-9:00pm UCSC Inn, Sierra Room Overview of LRDP Process • University and Community Work Group • UCSC Site Strategic Futures Committee Update Preliminary program/Scenario testing • Sustainability • Question and Answer Wednesday, 4/21/04 6:00-9:00pm UCSC Inn, Sierra Room • Update from Strategic Futures Committee • Update from Campus and Community Work Group • Enrollment Scenarios - Site Design Studies Preliminary Transportation Assessment • Campus Housing Program · Background on City's Housing Element • Question and Answer

Wednesday, 6/9/04

6:00-9:00pm

UCSC Inn, Sierra Room

- Campus Development Options for Draft Enrollment Scenario
- Sustainability and Infrastructure
- Report from Campus and Community Work Group
- Question and Answer

Wednesday, 10/20/04

6:00-9:00pm

UCSC Inn, Sierra Room

• Overview and Discussion, First Draft LRDP