



University of California, Riverside **East Campus Entrance Area Study**

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Academic Planning and Budget
Capital and Physical Planning

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Section One: Executive Summary



Study Overview

The University of California, Riverside is projecting unprecedented growth in student enrollment in the next decade. To assure that there will be an adequate land base to support that growth, the campus is in the process of updating the 1990 Long Range Development Plan (LRDP), which has served to guide campus growth effectively to date, but does not anticipate the increases in enrollment that UCR now foresees.

An important component of the LRDP update will be the future development of the formal entrance to the East Campus, which is located in the area of the intersection of University Avenue and Canyon Crest Drive. The draft 2003 LRDP identifies this largely undeveloped area of land as the potential site for several public oriented uses such as a Performing Arts Center, an Alumni and Visitor's Center, a Museum and Art Gallery and parking structures, to serve these public functions and campus commuters.

Since the current Athletic Fields located in the study area are not a "highest and best use" of land so close to the land-constrained core campus, this area has been included within the 'Academic Core' for the LRDP update. This dictates that numerous future academic buildings will need to be located here as well.

With direction from the draft 2003 LRDP, the East Campus Entrance Area Study (ECEAS) was launched by UCR staff in Spring of 2003. The study's intent was to create a development plan and funding strategy for the campus entry which articulates a series of goals found in the LRDP draft.

The overarching purpose of the Area Study is to provide a flexible long-range planning tool that updates previous master planning efforts, incorporates current planning guidelines, and reflects stakeholder and community concerns.

The following are some of the key Project Needs established at the outset of the project to highlight important elements for consideration in creating a new East Campus Entrance Area:

- Identify sites for known as well as projected uses to be studied to ensure appropriate placement;
- Determine how the campus circulation system would access and service the facilities;
- Retain views of the Box Springs Mountains wherever appropriate;
- Ensure that the entry to the campus conveys a unique sense of place for the campus.

The East Campus Entrance Area Study (ECEAS) included a public involvement process to ensure that the concerns and insights of community organizations, leaders, neighbors, city staff, and transportation agencies were integrated with campus objectives. A series of stakeholder interviews and a public open-house were conducted to solicit campus and community feedback.

A clear, hierarchical review process was utilized throughout the East Campus Entrance Area Study process. This process was guided by a core Project Management Team (PMT), consisting of key UCR staff from Capital and Physical Planning and the Office of Design and Construction.

Executive Vice Chancellor David Warren appointed an East Campus Entrance Area Study Planning Committee made up of stakeholders in this important area of the campus:

- Patricia O'Brien (Dean of the College of Humanities, Arts and Social Sciences)
- Satish Tripathi (Dean of the Bourns College of Engineering)

- Robert Nava (Interim Vice Chancellor, University Advancement)
- Andy Plumley (Director of Housing Services)
- Richard Block (Chair of the Academic Senate Physical Resources Committee)
- Representatives from Associated Students of UCR and the Graduate Students Association.

This Committee was charged with an active advisory role, providing the consultant team and the PMT with critical feedback and guidance throughout the planning process. With the addition of Jim Sandoval (Vice Chancellor, Sudent Affairs), Kyle Hoffman (Assistant Vice Chancellor, Alumni and Constituent Relations) and Dennis Rice (Assistant Dean, Bourns College of Engineering) the committee worked with the Project Management Team and the consultants to develop the East Campus Entrance Area Study and the future development scheme for the area.



Plan Concept

As the alternatives were generated and reviewed by the Planning Committee, they were then presented to the UCR Design Review Board (DRB) and at a series of Capital Programs Advisory Committee (CPAC) meetings. These meetings served to obtain authoritative approval for the direction of the Study, and to request major decisions from campus leadership.

The following page illustrates the final concept that was approved as the preferred East Campus Entrance Area Plan. The Plan reinforces a clear campus identity and creates positive connections to the city through an enhanced campus approach sequence. An array of arts-related venues welcome visitors, creating a place at the heart of the plan that fosters campus-community interaction.

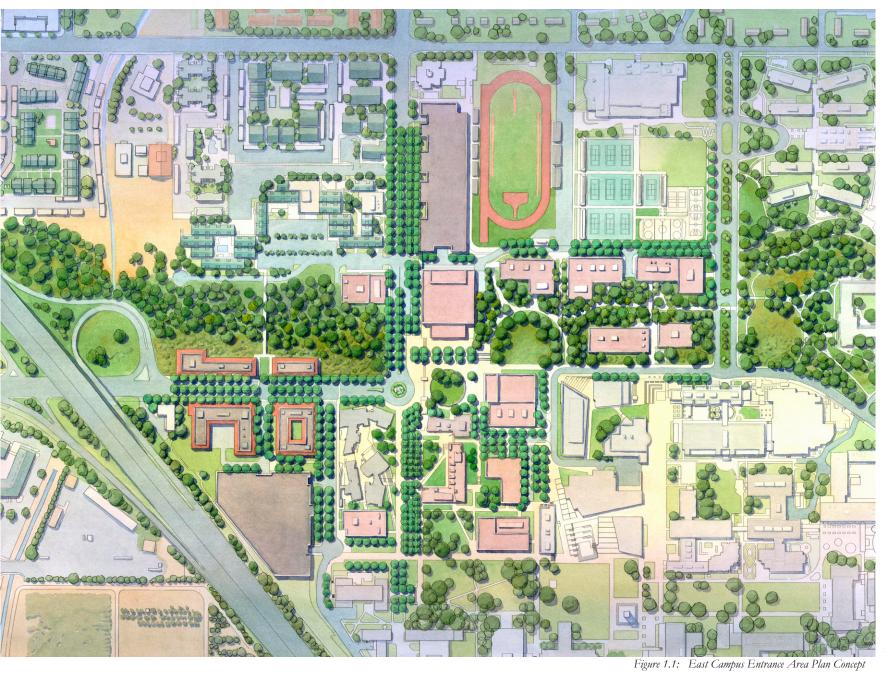
Long viewed as the "front door" for visitors to UCR, the campus approach traveling east along University Avenue is enhanced via the ECEAS plan through the placement of signage, entry monuments, street furnishings and plantings, creating a sense of continuity and highlighting decision-making points. A roundabout at the east end of University Avenue serves as a ceremonial terminus for the approach, providing a visual focal point before the road swings north, continuing as Canyon Crest Drive. The ECEAS repeats these street improvements along Canyon Crest Drive ensuring the same level of wayfinding clarity, continuity and sense of place.

At the heart of the ECEAS, an Arts Plaza serves as a 'welcome mat' for the university and capitalizes on the adjacent art venues to create a space that emphasizes campus-community interaction. In its position at a crossroads on campus, the generous plaza accommodates the overspill of visitors attending evening performances, large-scale campus community gatherings, and small outdoor study groups, as well as the buzzing movement of daily academic life.

Looking east over the Arts Plaza toward the Box Springs Mountains, visitors see glimpses of the powerful arroyo system that drains the range beyond. The ECEAS respects this strong natural feature by creating an open space framework to organize future development and protect the drainage pattern, starting at The Glade area east of Aberdeen Drive, through the Athletic Fields, under Canyon Crest Drive and terminating in the Gage Basin. As the existing arroyo emerges west of Canyon Crest Drive, buildings are located along its perimeter, protecting the integrity of the naturalized channel while capitalizing on its unique visual character as a southern Californian riparian system.

The East Campus Entrance Area Study captures the current values of the campus community in its articulation of identity, promotion of campus-community relationships, and emphasis on environmental respect and stewardship. The ECEAS respects the unique natural characteristics found within this area of the campus, while simultaneously creating a series of development sites necessary to support a sense of campus pride and civic vitality for UC Riverside.





Note: For building identification, see page 32



Section Two: Introduction



East Campus Entrance Area Study

Building upon the extensive planning work to date, the East Campus Entrance Area Study refines planning efforts related to the University of California Riverside (UCR) campus entrance, focusing primarily on the intersection of University Avenue and Canyon Crest Drive and immediately surrounding areas (*Figure 2.1*). This area, mostly undeveloped for the almost fifty year history of UCR's general campus, has been identified by the draft 2003 UCR Long Range Development Plan (LRDP) as the formal entrance to the campus.

The draft LRDP anticipates 25,000 students in the year 2015 and the need for an increased density on the highlydeveloped East Campus (588.5 acres east of I-215/SR-60) and the development of housing and professional level academic uses on the mainly undeveloped West Campus (523.6 acres west of I-215/SR-60). In addition to the increase in student enrollment and the need to increase building density, the ECEAS was further prompted by the desire to strengthen connections between the UCR campus and the City of Riverside, both through the enhancement of physical connections, and through the introduction of a diversity of community interface programs at the East Campus's "front door". The overarching purpose of the Area Study is to provide a flexible long-range planning tool that updates previous master planning efforts, incorporates current planning guidelines, and reflects stakeholder and community concerns.

The following are Project Goals established at the outset of the project to highlight important elements for consideration in creating a new East Campus Entrance Area:

- Develop a unique "sense of place" for the East Campus Entrance Area
- Clarify circulation and signage
- Emphasize the University-Community interface

- Place public-oriented facilities at the campus "Front Door"
- Emphasize the East-West Campus connection
- Support redevelopment of University Avenue as a "Main Street" with mixed-use and an active pedestrian environment
- Enhance open space opportunities within the East Campus Entrance Area: malls, courtyards, plazas, gathering spaces

In developing the goals for the East Campus Entrance Area Study, UCR also identified the following programs assumed to be accommodated within the study area:

- Alumni and Visitors Center
- Campus Museum and Art Gallery
- Recital Hall (350-400 seats)
- Performing Arts Center (1,000 plus seats, changed to 2,000 during the course of the study)

- Parking Structures (2)
- Student Academic Support Services Building (SASS)
- Bourns College of Engineering Expansion (BCOE)
- College of Humanities Arts and Social Sciences Instruction and Research Facility (CHASS I&R)
- CHASS I&R Expansion Opportunities
- Materials Science and Engineering Building (MS&Erelocated during course of this study)

The following significant existing elements within the area were also taken into consideration:

- Carillon Mall
- Arts Mall
- Physical Education Building
- Watkins House
- Bannockburn Student Housing
- Arts Building



Figure 2.1: East Campus Aerial Photo and project boundaries.

Introduction

Process

In keeping with the planning objective of reinforcing the campus-community interface, the East Campus Entrance Area Study (ECEAS) began with a campus and community involvement process to ensure that the concerns and insights of community organizations, leaders, neighbors, city staff, and transportation agencies were integrated with campus objectives. A series of stakeholder interviews and a public open-house were conducted to solicit campus and community feedback.

This feedback was then introduced, along with the initial Area Study goals, as a starting point for a series of interactive committee meetings. A clear, hierarchical review process was utilized throughout the East Campus Entrance Area Study process. This process was guided by a core Project Management Team (PMT), consisting of key UCR staff from Capital and Physical Planning and the Office of Design and Construction. Regular phone conferences were conducted between the consultant team and the PMT at critical points throughout the process to ensure continuity.

A project committee was established to guide the development of the Area Study. This East Campus Entrance Area Study Planning Committee was comprised of UCR faculty, staff and students and sought to incorporate stakeholders of proposed facilities within the study area as well as a diversity of additional campus voices in the process. This Committee was charged with an active advisory role, providing the consultant team and the PMT with critical feedback and guidance throughout the planning process.

As the alternatives were generated and reviewed by the Planning Committee, they were then presented to the UCR Design Review Board (DRB). The DRB's mission is to provide professional advice to consultant teams and planning/building committees, from respected peers in the field of architecture,

landscape architecture and planning, and to ensure that such advice contributes to the development of a cohesive vision for UCR. The DRB met twice to review the ECEAS and provided critical input into design direction (see Appendix A for a complete listing of project Meeting Minutes).

The final level of review from UCR leadership came from a series of three Capital Programs Advisory Committee (CPAC) meetings. These meetings served to obtain authoritative approval for the direction of the Study, and to request major decisions from campus leadership.

This iterative process, in which Committee recommendations were reviewed by the DRB, with feedback then forwarded to CPAC for final review, ensured a process of inclusion and accountability throughout the planning process. This interactive process resulted in numerous unique and invaluable insights that critically shaped the final East Campus Entrance plan concept.



Planning Efforts

One of ten campuses in the renowned University of California system, this rapidly growing campus takes much of its character from the rugged beauty that surrounds it and from the city and people that shaped it. Situated 60 miles east of Los Angeles, the University of California, Riverside lies in the heart of the semi-arid "Inland Empire" region of southern California.

Campus Growth

"Because of its impending growth and the resources associated with that growth, UCR is in a unique position to make dramatic changes during the first decade of the 21st century, changes that can propel it to a position of leadership among American research universities".

(Vision 2010 Planning Outcomes)

Within its 1,112 acre campus, the University of California Riverside currently educates approximately 17,000 (Fall 2003) undergraduate and graduate students. With recent annual enrollment increases as high as 9% (Fall 2001), UCR ranks as one of the fastest growing campuses in the nation. Corresponding increases in faculty positions (up 11% from 2000-2001) and total campus assignable square footage (up 7.5% from 2000-2001) are further evidence of an exuberant campus growth cycle. With an estimated enrollment of 25,000 students by 2015, the University is faced with the need to expand the academic facilities, housing, athletic fields, and infrastructure systems that support this enrollment growth. Not only must continued development provide adequate facilities to accommodate this growth, it must also direct expansion in an orderly manner that continues to enhance and reflect the University's mission.

University Mission

As home to both nationally and internationally respected scientists and scholars, the University of California, Riverside continues to pursue a superior level of academic excellence across all disciplines. It ranks with the top schools in the nation with its record for educating undergraduate students who may then obtain doctorate degrees, while its student population represents a diversity unheard of in most higher education arenas.

As the campus continues to grow, planning efforts must respect the Mission Statement established by the campus community:

UCR is a research university committed to the creation and transmission of knowledge at the highest level, and to the translation of that knowledge for the public good. Our comprehensive programs and services, excellent faculty and staff, and vibrant and attractive physical environment are designed to:

- Provide a high-quality learning environment for undergraduate and graduate students
- Advance human knowledge and accomplishment through research and scholarship
- Enhance the public good through community service and initiatives
- Seek preeminence among U.S. research universities, recognizing UCR's quality in every area.

(from the UCR website)

In the late 1990s, UCR undertook an extensive visioning process that further engaged all of the University's internal and external constituents in discussions about UCR's future possibilities. This document, entitled Vision 2010, articulates the following overarching vision:

UCR is recognized as a world leader in the fusion of teaching and research excellence in a multicultural environment.

The Vision 2010 process also articulated the need for the physical facilities of the campus to support and nurture full participation of faculty, students and staff in the intellectual life of the campus. In this context, a Student Environmental Master Plan (SEMP) Committee was established to identify the highest priority program and facilities needs within the following related areas and to recommend project development strategies and priorities that are consistent with these identified needs.

- 1) Learning Environments
- 2) Student Services
- 3) Housing
- 4) Student Life

The work of this committee further highlighted the need for the continued coordination of physical planning efforts as the University of California, Riverside seeks to fulfill its mature vision.

Given the accelerated growth of both academic programs and the physical environment required to support them, it is imperative that UCR continues to focus on consciously and proactively guiding the University's continued development.



Introduction

Planning Efforts

In addition to the Vision 2010 planning exercise and the Student Environment Master Plan, a series of other planning efforts have taken place over the years and form the foundation for current plans guiding campus development.

Long Range Development Plan

UCR completed a Long Range Development Plan (LRDP) in 1990. This plan provided an overall strategy for the future development of facilities, roads, open space and infrastructure on the UCR campus. Since then, UCR has embarked on a decade of 6 percent annual growth which will result in an anticipated environment of 21,050 students by the year 2010 and the potential for 25,000 students by 2015. This new growth is expected to increase UCR student enrollment by 38 percent in the coming decade. The campus is updating the 1990 LRDP and the accompanying Environmental Impact Report (EIR), the guiding documents for the physical growth of the campus, to accommodate these rapid changes.

The draft 2003 LRDP Land Use Map (*Figure 2.2*) anticipates 25,000 students by 2015, but will guide campus development into the future. The new LRDP also establishes planning principles and an overall land use plan for the UCR campus. One key strategy of the LRDP is the consolidation of campus uses to ease campus accessibility for cyclists and pedestrians. The planning process has involved the campus community, city and county leadership and members of the larger Riverside community. The accompanying EIR will be a detailed discussion of the potential environmental effects of implementing the planned campus expansion. Since the projected growth on campus exceeds the buildable land to the east of I-215/SR-60, the updated LRDP proposes a significant campus expansion into the agricultural research fields on the West Campus.

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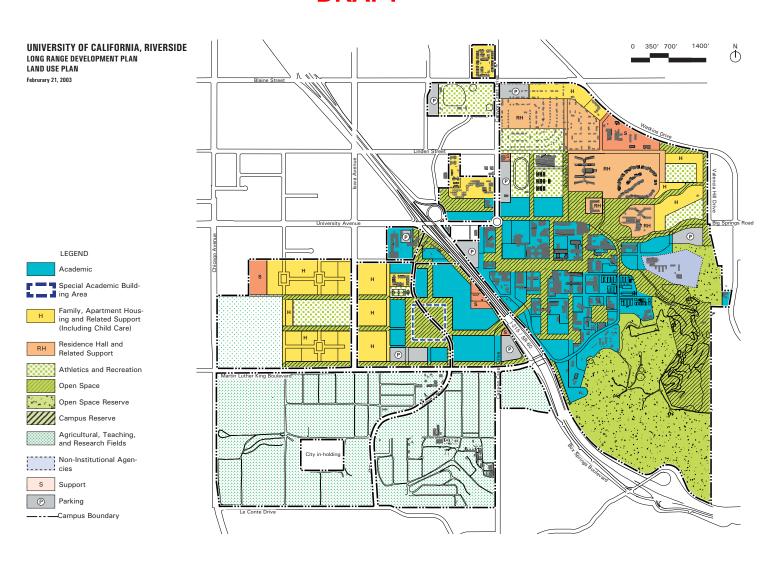


Figure 2.2: Proposed Long Range Development Plan update.

University of California Riverside

Planning Efforts

West Campus Area Plan (2003)

Predicated by the explosive student enrollment growth and increasing scarcity of buildable land, this document "...presents plans and guidelines for the long-term, orderly development of the western portion [West Campus] of the UCR campus." Campus development has been steadily expanding across the I-215/SR-60 freeway, onto University land that has been operated for over 80 years as agricultural teaching and research fields. The West Campus Area Plan tested the capacity of the West Campus according to land use designations in the draft 2003 LRDP. The concept plan (West Campus Area Plan, Figure 3.9) and the Land Use Plan (West Campus Area Plan, Figure 3.11) were consulted to ensure compatibility between West and East Campus plans.

UCR Infrastructure Master Plan (1993) and East Campus Infrastructure DPP (2002)

These two plans were prepared to study the existing adequacy of infrastructure on the East Campus and to ensure that utility provision is maintained at a sufficient level to accommodate anticipated growth on campus. The following systems were addressed and mapped in the most recent plan: Chilled and Domestic Water, Steam, Sanitary Sewer and Storm Drainage, Electrical and Natural Gas. Campus growth was broken down into three time periods, 2002-2005, 2006-2010 and 2011-2015, and existing capacity was compared with anticipated new buildings and facilities to determine key infrastructure projects to meet future load conditions.

University Arroyo Flood Control and Enhancement Plan

Due to anticipated rapid growth at the UCR campus, and a clear lack of available buildable land near the east campus academic core, campus planners focused on an area of the University Arroyo designated by Federal Emergency Management Agency (FEMA) maps as lying within a 100-year floodplain. The University Arroyo (arroyo is a Spanish term meaning a watercourse or channel in an arid region) extends from the east side of the Campus, along the general alignment of the south side of Big Springs Road and North Campus Drive, through the Athletic Fields (partially contained within underground pipes,) and under Canyon Crest Drive to the Gage Basin. Waters collect in the Gage Basin and are released to flow under the freeway and eventually flow into the Santa Ana River west of the City of Riverside.

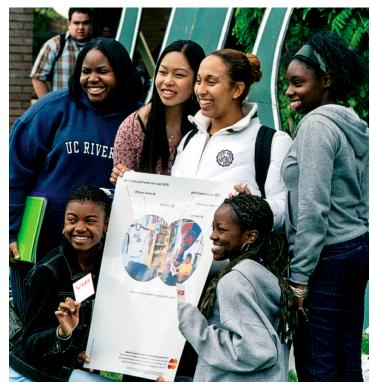
To provide additional areas for development a strategy was devised to reduce the land area contained within the defined 100-year floodplain. An initial version of this plan served as an early concept for the development of the northern edge of the core UCR campus. The current \$5 million project is in the design stage and consists of open channels, detention basins and underground facilities that are contemplated to include a combination of habitat restoration, naturalistic plantings and ornamental landscape along the arroyo. This essential concept has been integrated into the East Campus Entrance Area Study.

Parking Structure at Lot 24 (Esquisse)

A unique, intensive workshop explored potential design options for a multi-level parking structure along Canyon Crest Drive, on the site of Parking Lot 24. The sketches included in the workshop summary document suggested options for including Student Academic Support Services (SASS) in this structure's south end, as well as ways to minimize the building's bulk and activate the street frontage with ground floor retail uses and glass stair towers.

Alumni & Visitor's Center Planning Efforts

Planning efforts for the creation of an Alumni and Visitors Center have explored a number of program alternatives and development scenarios intended to meet the University's varied needs within anticipated funding parameters. Suggested program elements have included meeting space, dining facilities, a formal boardroom, library, conferencing facilities and administrative offices. Based on these program assumptions, and taking into account current funding and schedule parameters, the ECEAS consultant team was asked to review alternative sites within the study area that would enhance access and visibility, while promoting the Center's role in welcoming alumni, students and visitors to the campus.



Introduction

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Planning Efforts

CHASS Instruction & Research DPP

The College of Humanities, Arts and Social Sciences (CHASS) currently enrolls more than half of all undergraduate students and a third of all graduate students at UCR. In response to anticipated campus and program growth, the University completed a Detailed Project Program (DPP) in 2003 to guide the proposed development of a new CHASS Instruction and Research Facility. The DPP identified a preferred site for the facility adjacent to the intersection of the Carillon Mall and the Fine Arts Mall. Subsequent concern was expressed regarding the impact of the proposed facility on the prominent green space adjacent to the Carillon Mall and the ECEAS consultant team was asked to do a detailed study of alternative sites. Through an extensive and interactive process, campus leadership approved an alternative site north of the original location, situated along the Arts Mall. Original program elements have been maintained and design work for the building is now underway.

Materials Science and Engineering (MS&E) DPP

On behalf of the Bourns College of Engineering (BCOE) and the College of Natural and Agricultural Sciences (CNAS) a detailed document was prepared in 2002 for a new Instruction and Research (I&R) building on the east end of the Athletic Fields. There were a number of concept elements in this DPP that conflicted with the emerging East Campus Entrance Area Study, such as the service access shown cutting down the steep slope on the north side of the Athletic Fields, and the visual and physical barrier that the MS&E building implied to a central open space framework reflecting the historic arroyo drainage, which was the preferred direction given by the DRB and CPAC. The project has been slightly revised for this study, with the original program elements maintained, siting alternatives explored, and the final location of the MS&E IR Building reconfigured (see Section IV).



Section Three: Existing Conditions



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Site and Program Review

Setting

UC Riverside exists in a physical landscape rich in cultural heritage and natural beauty. Situated on an alluvial plain at the foot of the Box Springs Mountains, at the eastern edge of the City of Riverside, the campus enjoys spectacular views of nearby mountain ranges including the San Gabriel Mountains to the northwest and the San Bernardino Mountains to the north and the Box Springs Mountains to the east. Natural features such as the Box Springs Mountains and the University Arroyo continue to influence the character of the campus, as does the diverse cultural heritage of the area.

Regional History

Long before Euro-American settlement, indigenous peoples of the Cahuilla, Luiseño and Serrano tribes likely settled in the Riverside area. Hunting small game, they made straw baskets from wild grasses, constructed clay containers and gathered acorns, seeds, wild berries, and roots for food. They were divided into small groups in the foothills, mountains, and desert lands east of the Sierra divide. The Cahuilla population may have numbered as many as 10,000 in the 17th century, with about 5,000 remaining by the late 18th century.

Jesuit and Franciscan missionaries and settlers arrived in "Alta California" in the late 1700s and large land grants were awarded to Spanish "Californio" families who pursued sheep and cattle ranching. Mission San Gabriel was established in 1771, and supported the large 'Jurupa' ranchería, part of which is now Riverside. American settlement in the area intensified after the Mexican-American War and the Gold Rush.

The City of Riverside was founded in 1870, and following the introduction of navel orange trees imported from Brazil in 1873, it rapidly became a center for citrus cultivation. Soon the Riverside area was home to over half of all citrus trees in California, as well as to the University of California Citrus

Experiment Station, founded in 1907. The station was moved to 370 acres at the current UCR campus in 1917.

By 1954, a liberal arts college with 130 students was established on the site, and by 1959 it had grown to become a general campus of the University of California, offering a broad range of graduate and professional studies. Rapid growth in the 1950s and 1960s resulted in the construction of many of the modernist buildings found on campus today. Completion of the first Long Range Development Plan in 1964, for a planned enrollment of 10,000 students, left the study area for the East Campus Entrance Area Study as untouched citrus fields and athletic fields. As the original campus landscape developed, it became an unprecedented showcase for a variety of architectural responses to local climatic conditions, with large shaded pedestrian malls, open arcades and loggias connecting buildings and classroom entrances directly open to the campus or outdoor halls.

Current Academic Programs and Facilities

UC Riverside began as the University of California's first and only liberal arts college. Today, the Campus is widely recognized as one of the world's leading research institutions in the areas of subtropical horticulture and semi-arid agriculture, and offers graduate and professional studies in addition to its continuing undergraduate liberal arts programs.

UCR currently has three colleges, two graduate schools and one division that serve its undergraduate and graduate populations:

- College of Humanities, Arts and Social Sciences (CHASS)
- College of Natural and Agricultural Sciences (CNAS)
- The Marian and Rosemary Bourns College of Engineering (BCOE)
- The Graduate School of Education (GSOE)

- The A. Gary Anderson Graduate School of Management (AGSM)
- Division of Biomedical Sciences

Additional campus resources include the extensive University Library system, the California Museum of Photography in downtown Riverside, the Sweeney Art Gallery, the Botanic Gardens, Cooperative Extension, University Extension, and a comprehensive range of student services and organizations. The University also supports intramural and recreational programs, as well as 14 NCAA sports, and currently houses approximately 4,000 students in campus housing.



Physical Site

Climate

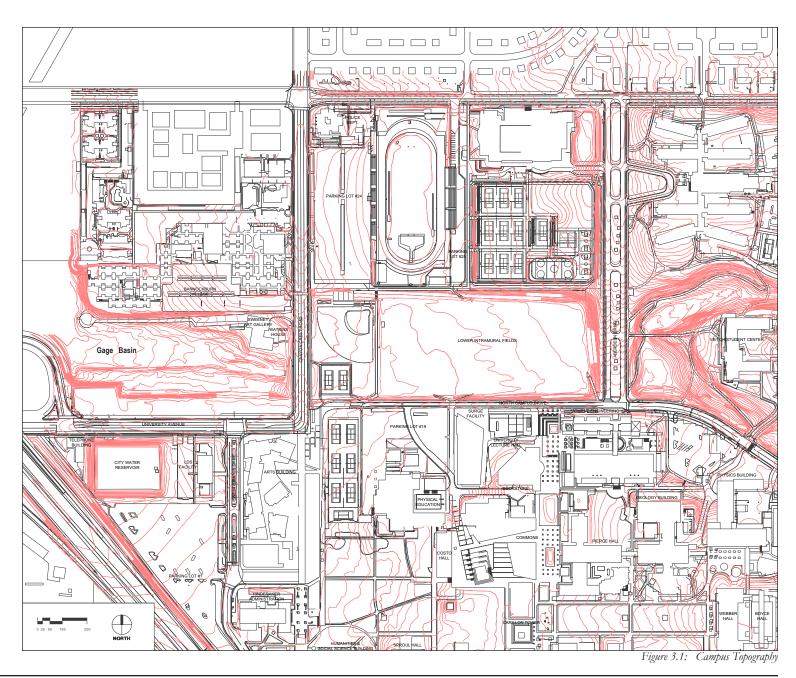
The City of Riverside is located in the semi-arid Inland Empire, and its Mediterranean climate is influenced more by the desert climates to the east than by the Pacific's onshore breezes, making the area extremely favorable for agriculture and horticulture. Riverside's average annual rainfall is 10 inches per year. Predominant winds come from the northwest with occasional Santa Ana winds flowing from the north and east, bringing hot and dry conditions in fall and winter. Summer breezes sometimes arrive from the west. The annual average temperature is almost 79 Fahrenheit. Riverside's seasonal average temperature ranges from 94F in August, to 82F in October, to 68F in February and 75F in April. Temperatures can get over 100F in late summer and early fall. Occasionally there have been atypical episodes of freezing temperatures in winter.

Topography

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The UC Riverside campus lies at the foot of the Box Springs Mountains, on a gently-sloping terrace bisected by a system of drainages or arroyos. The study area appears to be flat, but there is actually a substantial drop in elevation from east to west (*Figure 3.1*). The central area features a large expanse of lawn used for athletic fields, in a basin which sits atop fill that flattened out a drainageway in the 1950s, interrupting the natural flow of intermittent storm water from east to west. The walls of the basin rise almost 20 feet in the NE corner, 16 feet in the SE corner, and decline in height towards the basin's edge at Canyon Crest Drive, where the natural drainageway re-emerges at the Gage Basin. Underground pipes carry stormwater through the Athletic Fields to the Gage Basin.

The study area slopes gently up to the south towards the Carillon Mall, but this is more imperceptible due to retaining walls and structures at the Student Commons and Physical Education Building.



Physical Site

Geotechnical

The City of Riverside is surrounded by three major earthquake faults, the San Andreas, San Jacinto and Elsinore faults. The San Andreas Fault at one point is 14 miles from the UCR Campus, running through the San Bernardino Mountains, capable of producing an 8.3-magnitude earthquake. Closer to the campus, the San Jacinto Fault runs northwesterly through the Box Springs Mountain range, within 6 miles of campus, and is capable of a 7.0 temblor. While the campus is not directly bisected by any active faults, the proximity of these faults could cause considerable damage. Although the threat of liquefaction is minimal within the filled "arroyo" basin, new structures will probably have to excavate fill soils and re-compact soils for foundations and adhere to the Uniform Building Code Seismic Zone 4 standards.

The Santa Ana River which flows to the west of downtown Riverside was once named "El rio de los templores", which means "the river of earthquakes." This name is thanks to the explorers Gaspar de Portola and Father Crespi in 1769, who when passing through this area, experienced a good sized earthquake that threw much of the river's water out of its banks. The name was changed later to encourage settlement of the city.

The geology of the UCR East Campus is simple. Fluvial erosion and deposition has been the major geomorphologic process. Over centuries, the granitic Box Springs Mountains have shed alluvial fans of sedimentary gravel and sand onto the terraces below. Most of the East Campus is old alluvial fan deposits. The channel of the Arroyo drainage through the study area is comprised of younger finer sands. Soils outside the arroyo drainage are well-drained, granular, silty sands. The fill soils within the Athletic Fields basin have slightly more clay content.

University Arroyo

The University Arroyo is a drainage system for a 1,500-acre watershed on the Box Springs Mountains. Runoff from these mountains is often rapid after storms, and as such, there are portions of the University Arroyo that lie within the 100year flood plain as defined by FEMA. After filtering through Islander Park at the base of the mountains, the Arroyo cuts through a residential neighborhood and flows over Watkins Drive before entering the UCR campus via Big Springs Road. Including all tributaries, the total length of the Arroyo through campus is over 2 miles. The University Arroyo Restoration/ Storm Drain/Flood Control Project (February 1995) defined seven 'reaches' of the Arroyo through Campus. (Figure 3.4) The East Campus Entrance Area includes two of those reaches. The University Terrace Reach runs from The Glade east of Aberdeen Drive, through the Athletic Fields (Figure 3.2) in a closed 39" culvert. An additional 72" pipe carries stormwater from Valencia Hill Drive across the Athletic Fields. The Basin Reach is the natural area from Canyon Crest Drive west to the Gage Canal (Figure 3.3) also known as the Gage Basin.

Water from the arroyo system then flows into a culvert under the Gage Canal and eventually empties into the Santa Ana River which flows to the Pacific Ocean. The Arroyo Restoration Plan has not been implemented to date, but a recently-completed study, the University Arroyo Flood Control and Enhancement Plan 'Alternative G', examined the conveyance of the arroyo culvert under the University Terrace Reach. This plan considers the addition of a box culvert or pipe which will increase the flow carrying capacity beyond that of the existing two pipes (39" and 72") in order to adequately convey stormwater and avoid flooding. The alignment of this new box culvert presents constraints on the location of buildings on the south side of the Athletic Fields. Alternative

G will determine future building setbacks from the alignment. The storm drain improvements are currently in design and scheduled for completion in summer 2005, providing additional "buildable" lands in the Athletic Fields as identified in the 1990 and draft 2003 LRDPs.



Figure 3.2: View Northeast across athletic fields. Underground culverts of 39" and 72" run east-west the length of these fields, beyond the chainlink fence shown here.



Figure 3.3: Vegetation in the Basin Reach of the University Arroyo.

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Physical Site

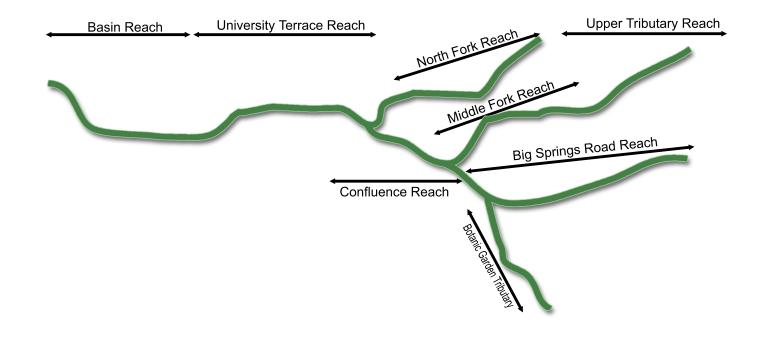


Figure 3.4: Reaches of the University Arroyo

Vegetation

Natural vegetation in this area before European settlement consisted of Coastal Sage Scrub species such as Sagebrush, Buckwheat and Cheatgrass. There are remnants of the original riparian woodland vegetation of the University Arroyo through the western edge of the study area, although this is degraded by invasive species. Navel Orange trees were imported to the area in the late 1800s, and Riverside's ideal growing conditions coupled with new irrigation projects such as the Gage Canal led to the area's growth and prosperity as the agricultural center of what would later be known as the 'Inland Empire.' The University began as a Citrus Experiment Station amid huge expanses of orange groves, remnants of which are still visible on the West Campus. Landscape plantings from the 1950s and 1960s, commonly of sycamores, pines and eucalyptuses, have matured with full canopies providing shade to campus open spaces.



Access and Circulation

Entry

There are a limited number of ways to enter the East Campus of UCR, for pedestrians, bicycles, transit, and other vehicles. This is due mainly to the topographic barrier of the Box Springs Mountains to the east, and the physical and visual barrier of the I-215/SR-60 Freeway to the west. Most visitors arrive on campus from the principal entry on the west along University Avenue, and from Exits #32 and #32B on south and northbound I-215/SR-60. A lack of directional signage and a vacant streetscape offer limited clues to assist visitors in finding their specific objective. Many drivers continue through the "elbow" of University Avenue, turning left onto Canyon Crest, and exiting the University without penetrating the campus proper and finding their destination, while others reverse direction in the midst of oncoming traffic. Pedestrian access along this route provides challenges of its own, with narrow sidewalks, limited street crossings and no amenities connecting the East and West campuses. The need to cross the off-ramp intersections of I-215/SR-60 presents additional safety concerns and the narrow underpass restricts potential pedestrian movement along the north side of University Avenue.

In October 2002, the California Department of Transportation (Caltrans) began implementing operational and safety improvements for the "60/91/215" interchange a mile north of the campus. The accelerated regional growth over the past two decades has resulted in increased commuter and interregional traffic, making improvements necessary to relieve congestion and improve mobility. This \$312 million project is scheduled for completion in 2006 and will include partial redesign of the University Avenue off-ramps. It is anticipated that the alignment of the intersection of this off-ramp with University Avenue can be designed to improve pedestrian comfort, and enhance the sense of arrival at UCR.

Transit

UCR Transportation and Parking Services (TAPS) operates a free campus shuttle service for the campus community. During academic sessions, the Highlander Hauler (*Figure 3.5*). operates two routes, with the Blue Line servicing the area south of the campus and the Gold Line providing service to the north. The Hauler provides transportation between main campus and University Village, University Extension, the Canyon Crest Towne Centre and the numerous apartment complexes surrounding UCR. The Hauler operates on a reduced schedule during summer sessions.

TAPs also offers the Point-to-Point evening shuttle service during the regular academic sessions. This service is provided free to UCR faculty, staff and students.

Riverside Transit Agency (RTA) provides bus service to western Riverside County and offers the campu community several route options. The UCR Route 1 stop is located at Big Springs and Watkins, providing transportation to the Downtown Riverside Metrolink Station. The UCR stop for Route 16 is located in Parking Lot 30; the Downtown Riverside Metrolink Station is included on the service route. Route 14 stops within walking distance of the UCR campus, at Rustin Avenue and Linden Street. These RTA lines service Riverside neighboring cities.

Parking

The UCR Transportation & Parking Services department operates a website (www.parking.ucr.edu) that details parking regulations for students, staff and visitors. Currently, there are two large surface parking lots in the East Campus Entrance Area, Lot 24 and Lot 1 (*Figure 3.6*) with capacity for 352 cars and 349 cars, respectively. It is anticipated that both of these lots will eventually become Parking Structures as campus growth proceeds.

The surface parking Lot #19 to the north of the Physical Education Building will be altered due to construction of the CHASS (I&R) Building, and will be used as a staging area for the CHASS (I&R) as well as the Commons expansion project. Residents and visitors to Bannockburn Village use parking lots to the north and south of the complex, and these lots are slated for reconfiguration as part of the proposed redevelopment of Bannockburn Village. Finally, there is a linear, informal parking lot stretching west of Watkins House, and a linear lot running south into the Athletic Complex from Linden Avenue. There is some on-street parking near campus, but not on University Avenue or Canyon Crest Drive in the area close to campus. However, there are impromptu pick-up and drop-off zones at various places, including the 'elbow' at Canyon Crest Drive and University Avenue.



Figure 3.5: UCR Transportation System

Access and Circulation

Service

The UCR East Campus academic core is served by a discontinuous perimeter road, Campus Drive, which currently provides for local vehicular travel around most of the East Campus. Service roads branch from this perimeter into the heart of campus. The perimeter road becomes North Campus Drive at Aberdeen Drive, ends near the NW corner of the Surge Building and becomes a service-only road as it angles south and east into the rear of the Commons. At this point, the service road crosses the Commons Mall and accesses the Pierce Hall loading dock. Service access is also found at a number of locations along Canyon Crest Drive. Maintenance vehicles access the west end of the University Arroyo and the Gage Canal from Watkins House Drive. The only significant loading docks for large trucks currently in the Study Area are the angled one at the rear of the Arts Building, and the docks for Physical Education, Commons, Bookstore and Pierce Hall. (*Figure 3.6*)

Emergency

With a daily population of about 23,000 students, faculty, staff, and visitors, UCR is comparable to a small city, and as such, experiences periodic emergencies. The campus Police Department is located at 3500 Canyon Crest Drive, to the north of Parking Lot 24, in the East Campus study area. Any police, fire, or medical emergency on campus can be reported using a variety of methods, including campus Emergency Call Boxes (ECBs), campus emergency phones, or by walkin reporting to the Police Department. Emergency access to the East Campus is primarily along University Avenue and the Campus Loop Road, but if this is congested, emergency vehicles may use Blaine Avenue or Linden Avenue, and access the campus core via Canyon Crest Drive or North Campus Drive. Landscaped malls on campus are wide and open enough to be used by emergency vehicles if necessary.

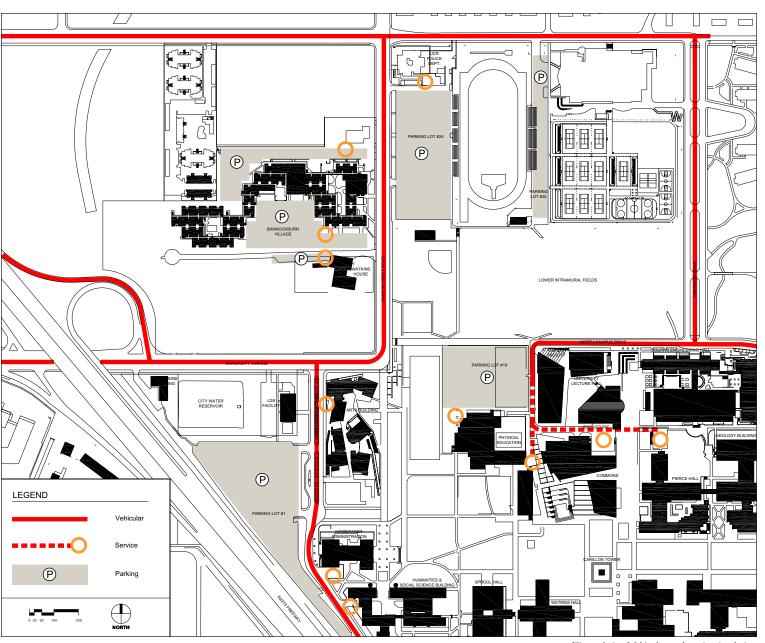


Figure 3.6: Vehicular and service circulation

Access and Circulation

Pedestrian Access

The East Campus academic core is pedestrian-oriented, with formal malls and informal pathways and courtyards (*Figure 3.11*). The draft 2003 LRDP aims to make the core East Campus an automobile-free zone. Although the 1990 and draft 2003 LRDP describe a pedestrian campus, there are deficiencies and/or gaps in the sidewalk system in the East Campus Entrance Area. Most glaringly, University Avenue has only a 6'-wide sidewalk from the I-215/SR-60 overpass to West Campus Drive, and walkers often have to queue behind slower walkers or pass on the planting strip or lawn of the City water reservoir (*Figure 3.7*). The north side of University Avenue only has a short stretch of sidewalk from the corner of Canyon Crest Drive to the crosswalk at West Campus Drive (*Figure 3.8*).

The sidewalk along the west side of Canyon Crest Drive is currently adjacent to the paved right of way, and weaves to avoid a large tree (*Figure 3.9*). Pedestrians coming from the north must cross at the signalized intersection at Bannockburn Village in order to access the East Campus. They can cross at West Campus Drive, but this is an indirect route. Pedestrians



Figure 3.7: Narrow sidewalk on south side of University Avenue

usually jaywalk between crosswalks, waiting in the turn lanes on Canyon Crest Drive and University Avenue. There is a crosswalk at the signalized entry to Bannockburn Village off Canyon Crest Drive, and cyclists heading south will often cross at this point and ride south on the wrong side of the road to get into campus, because the elbow at University Avenue is so unsafe (*Figure 3.10*). Adding medians to these turn lanes, would help to make the pedestrian and bicycling environment safer.

Bicycles are sporatically accommodated on roadways and on pedestrian ways. There are painted bicycle lanes on University Avenue, Canyon Crest Drive and Aberdeen Drive but not on the campus loop road. The University currently runs an Alternative Transportation program, offering incentives for cyclists and walkers such as showers and lockers in the Physical Education Building.



Figure 3.8: There are no sidewalks on the north side of University Avenue.



Figure 3.9: Narrow sidewalk along west edge of Canyon Crest Drive



Figure 3.10: Cars turning West from Canyon Crest Drive onto University Avenue often impinge on bicycle lanes.

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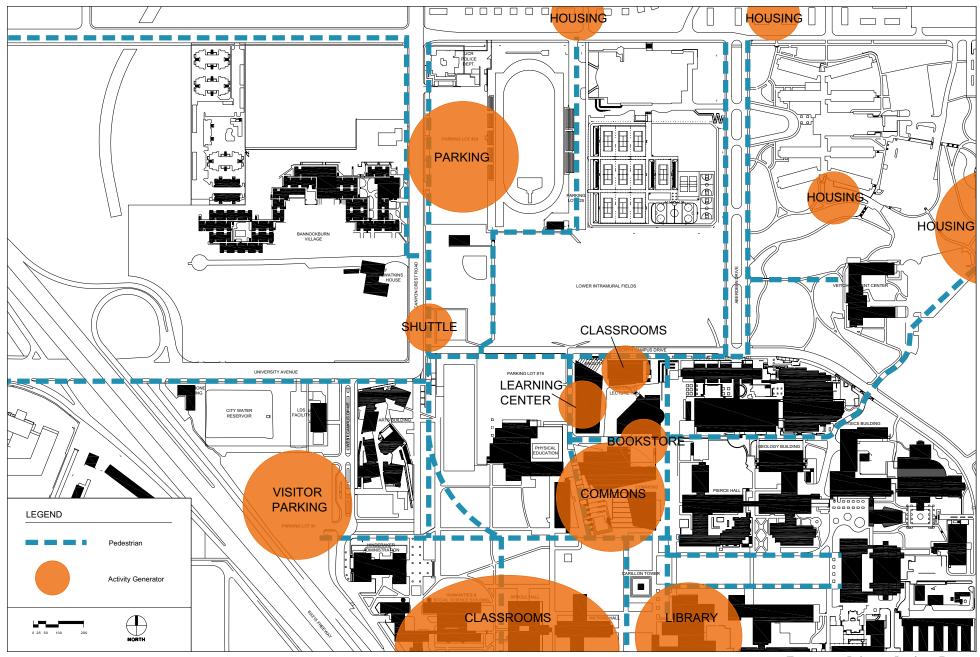


Figure 3.11: Pedestrian Circulation Diagram

Utilities

The UCR Campus has over 50 buildings with more than 3 million gross square feet overall, with an additional 8 million square feet projected. This requires significant expansion of utility infrastructure. A Detailed Project Program (DPP) was prepared for the East Campus infrastructure in June 2002, detailing existing utility lines, and projected requirements to accommodate growth up to 25,000 students. There is a large utility tunnel running under the Carillon Mall, serving the Arts Building, Physical Education and Commons with chilled water, steam, electricity and gas. This will continue to serve new buildings located in the vicinity of Carillon Mall. Utilities not in the tunnel such as potable water, sewer and telecommunication run underground along road rights of way such as University Avenue and Canyon Crest Drive, and along open spaces and pedestrian malls such as the Arts Mall and North Campus Drive. As such, they should not pose major constraints to the location of major future buildings in the Study Area. (Please refer to the aforementioned DPP and the 2003 LRDP update for detailed information on campus infrastructure.)

There are two major infrastructural facilities along University Avenue that constrain the future mixed-use development that this plan proposes. Next to the I-215/SR-60 freeway, the small "Telephone Building" on the south side of University Avenue houses the hub for all campus telecommunications. There are no plans to relocate or renovate this building. To the east of this building, there is a buried City of Riverside water reservoir (*Figure 3.12*). Built in 1936 to serve the original agricultural station, this 5-million gallon concrete tank was cleaned in 2002 and is in excellent condition and continues to be more than adequate for the Campus water supply. There is an associated pump station, with valves and meters at the edge of the existing tennis courts at the east end of the 'elbow' at University Avenue and Canyon Crest Drive. This pump station will be adjacent to the NW corner of the new CHASS (I&R)

Building. Discussions with city staff from the Public Utilities Department identified that a pump station to the west of I-215/SR-60 lifts water up to this reservoir from the City supply. The reservoir does not need to be at this precise location, but it cannot go much higher than 1077' above sea level (it currently sits at 1037'), due to constraints on the aforementioned pump station's existing pumps located near the intersection of University and Chicago Avenues which were renovated in 1999. If relocated, the reservoir could be downsized to 4 million gallons if necessary, which would require a tank of approximately 150' in diameter. If the reservoir is to be relocated to provide a site for a mixed-use building, it will cost roughly \$4-5 million dollars, must meet the above conditions, and be within close proximity to the existing site. It could be located entirely underground, under the proposed Central Plaza, for example, at the end of University Avenue.



Figure 3.12: Eastern edge of reservoir from Parking Lot 1

Another challenge to East Campus development is the system of storm drain culverts associated with the University Arroyo, running east-west under Aberdeen Drive along the south edge of the Athletic Fields and across Canyon Crest Drive. These pipes (39" and 72" diameter), with the proposed addition of a box culvert, may be consolidated into a new configuration to handle Arroyo flooding, but will still require a 30'-40' setback for new building construction, although plazas and open spaces may be located above the facilities. The new Arroyo storm drain design will determine the required building setback from the underground pipes.

The southwest corner of West Campus Drive and University Avenue belongs to the Church of Latter-Day Saints (*Figure 3.13*). Although not under UCR jurisdiction, the site could be coordinated with campus mixed-use development to activate University Avenue between the "elbow" and the freeway. This would being people and activity to a current open space area that can be intimidating to pedestrians, especially after dark and on weekends.



Figure 3.13: Eastern facade of the Church of Latter Day Saints

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Open Space Framework

Natural Features

The University Arroyo system runs generally east to west from the Box Springs Mountains, presenting the main natural feature on the UCR campus (other than the southeastern hillsides.) Remnant pockets of a riparian system exist along this arroyo. The original native sage-scrub landscape has only survived on campus in the foothills of the Box Springs Mountains to the south and east. In addition to the Arroyo and the southeastern hills, the maturing landscape on campus provides a level of natural bird habitat within the campus openspace.

Viewsheds

The most dramatic views in the study area are revealed as one travels east on University Avenue from I-215/SR-60 and approaches the left-hand turn onto Canyon Crest Drive. The Box Springs Mountains rise up suddenly from behind the campus tree canopy, forming a rugged visual boundary to the eastern horizon of campus. This view of the Box Springs is consistent throughout campus, but is particularly prominent from the basin of the Athletic Fields (*Figures 3.15 & 3.16*). The Mountains are still viewed as one continues north on Canyon Crest Drive.

Traveling south on Canyon Crest, the Box Springs are a consistent feature, but two prominent campus landmarks, the Carillon Tower (*Page 38, Figure 5.12*) and the Humanities and Social Sciences Building (*Figure 3.14*) also add visual interest. Within the grassy, landscaped malls of the UCR campus, linear views to buildings are framed by mature trees. Clear winter skies allow long-range views of distant mountains such as the northern San Bernardino Mountains and the northwestern San Gabriel Mountains as well as local hills such as Mt. Rubidoux in downtown Riverside and the Box Springs Mountains.

The I-215/SR-60 freeway presents a visual and noise barrier and blocks views along University Avenue from the developing mixed-use district on the West Campus, although the underpass murals and large identity sign (*Page 34*, *Figure 5.2*) help to ease the visual impact.



Figure 3.14: The Humanities and Social Sciences Building as seen from Canyon Crest Drive looking south down the Arts Mall



Figure 3.15: Box Springs Mountains as seen from the basin of the Athletic Fields

Gathering Spaces

There are a number of shaded planted courtyards throughout the core campus, providing relief from summer heat. Wide grassy pedestrian malls are often used for impromptu gatherings or outdoor classes. The existing Athletic Fields in the Study Area are a large expanse of open playing field, with little relief or shade. New campus development has tended to replace parking lots, grass lawns and ornamental plantings with xeriscaping and drought-tolerant species, however the existing Malls are an important element of the LRDP (*Figure 3.18*), and will be maintained in close to their current turfed state. New Malls such as the Recreation Center Mall may be combined with Arroyo restoration in a more naturalized landscape style.



Figure 3.16: The Box Springs Mountains as seen looking down North Campus Drive

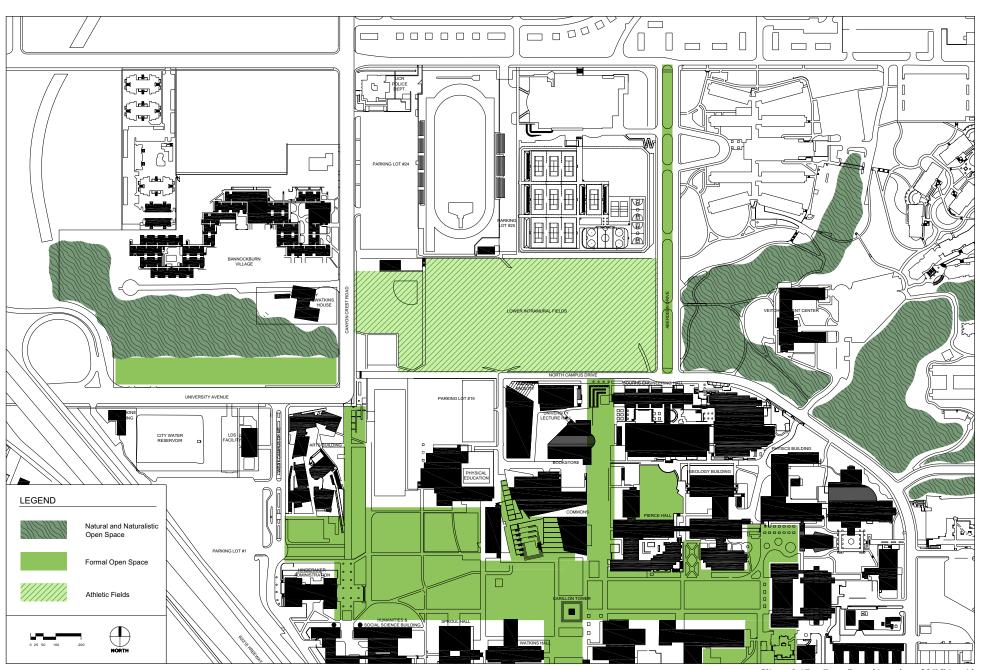
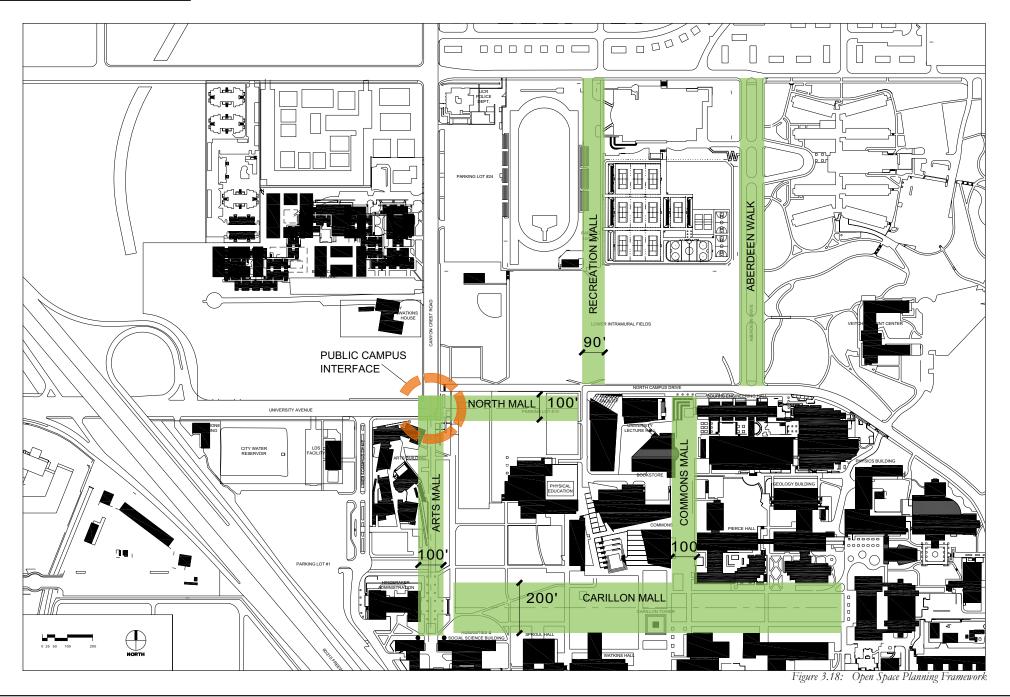


Figure 3.17: Open Space hierarchy at UC Riverside

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Planning Context

LRDP Considerations

UCR has experienced several years of 6 percent estimated annual growth and anticipates a total of 21,050 students by the year 2010 and the potential for 25,000 students by 2015. This new growth is expected to increase UCR student enrollment by 38 percent in the coming decade. The campus is updating the 1990 Long Range Development Plan (LRDP) and an accompanying Environmental Impact Report, the two guiding documents for the physical growth of the campus.

The 1990 LRDP planned for growth up to 18,050 by the year 2005. This plan identified "Designated Open Space" roughly along the route of the University Arroyo, which was the impetus for the large open space 'arroyo' area which forms the core of this East Campus Area Study. The 1990 LRDP also "zoned" the land along the north side of University Avenue for graduate school uses, and proposed that the "elbow" at the corner of University Avenue and Canyon Crest Drive be designated a significant space with accompanying traffic circle to distinguish this formal entry to campus. The College of Humanities, Arts and Social Sciences and Student Academic Services were to have a prominent place at the East Campus Entrance. While these priorities are being reviewed for the LRDP update, there are still strong reasons for these earlier LRDP choices, and they will be retained in some form.

The draft 2003 LRDP anticipates 25,000 students by 2015. The planning process has involved the campus community, city and county leadership and members of the larger Riverside community. The LRDP is a general physical 'blueprint' or guide for the future development of facilities, roads, open space and infrastructure and a land use map. The accompanying EIR is a detailed discussion of the potential environmental effects of implementing the planned campus development.

UCR Cooperation with City of Riverside

Although the University is exempt from local planning and zoning jurisdiction, the campus nevertheless considers local input on all major projects. UCR has been cultivating a collaborative relationship with City of Riverside municipal planning and redevelopment staff to ensure that the campus land uses are compatible with City planning and land uses. Currently, the UCR campus is entirely within the City's "O" Zone, or "Official", which is one of the most permissive zones in the City, allowing "Official and public uses of property and related activities...". Although no city review is required, UCR continues to make an effort to review plans of improvements to campus property with the City.

General Plan Update

The City of Riverside has just begun updating its General Plan, Zoning and Subdivision Ordinances. The process, which was initiated in April of 2003, is anticipated to take approximately 18 months. As part of this process, a Community Visioning project was conducted to gather public input, and resulted in 5 Strategic Goals for the City of Riverside, all of which affect UCR in some form:

Goal One: Preserve and improve our quality of life (making Riverside a "dynamic arts and cultural center)

Goal Two: Reduce transportation congestion and improve traffic flow

Goal Three: Address Riverside's social concerns with community involvement

Goal Four: Beautify the City (with particular emphasis on 'entryways')

Goal Five: Increase investment in youth and children

The eastern portion of University Avenue corridor is part of the University Community Plan area which contains all of UCR and is bounded on the north and east by the City limits, on the south by Central Avenue and on the west by Ottawa and Kansas Avenues. This area connects UCR with a mixture of residential housing types from hillside housing to apartments and Box Springs Mountain Regional Park.

Over the years, a number of plans and studies have been undertaken directly affecting the University Area. The chronology of evolution in these studies underscores the great importance which has been attached to the role of University Avenue and UCR within the overall urban fabric of Riverside. The various efforts include the following efforts.

University Community Plan

This plan, first adopted in 1960 as a subcomponent of the City's General Plan in anticipation of the annexation of 3500 acres to Riverside, including the UCR campus, focused land use and related issues on the unique character of the University environment. This plan is being updated simultaneous to the draft 2003 LRDP.

Eastside Community Plan

Prepared in 1974, and a functional companion to the University Community Plan, the Eastside Community Plan narrows the focus of the General Plan to the unique needs of this long established and historic residential community bordering the north and south sides of University Avenue. The plan's boundaries underscore the importance of viewing revitalization of University Avenue in the context of its synergistic role with the adjoining, long-established Eastside community.

Planning Context

University Avenue Strategic Development Plan (1990)

Commissioned by the City's Redevelopment Agency, the strategic plan's purpose was to outline an overall vision for University Avenue and prepare a strategic plan of action to guide the Agency in its revitalization efforts. The plan established key parameters for development along University Avenue allowing flexibility for the Agency to respond to changing market, economic, institutional, and other conditions.

University Avenue Streetscape Concept (1991)

Recognizing the need for physical improvement to the appearance and vitality of University Avenue, the Streetscape Concept defines a program for capturing the majesty of previous tree planting efforts while enhancing the Avenue's appearance recognizing contemporary economic goals. The concept is intended to be the means by which civic, business and property interests can work together for the physical renovation of the Avenue.

University Avenue "University Village Center" Specific Plan (1993)

This plan set up Development Standards and Design Guidelines for redevelopment along University Avenue. These regulations will apply to campus-related development on the western edge of campus.

University Community Plan Update

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The City of Riverside is preparing an update to the University Community Plan, which will be incorporated into the new General Plan. This Community Plan includes studies of housing opportunities, transportation and retail, as well as student/community conflicts through single-family home conversions to multi-family student housing with its attendant parking issues. It is being updated in parallel to the draft 2003 LRDP.

Environmental Considerations

The University of California system is committed to the practice of sustainable design in campus expansion and redevelopment. Buildings are by far the largest users of energy, through construction and daily use. The California State Title 24 Energy Code is also one of the strictest in the United States, so new buildings at UC Riverside should incorporate green design to an unprecedented degree, and will be "among the most explicit demonstrations of the campus' ethos and vision."

The LRDP process includes the preparation of an Environmental Impact Report, as mandated by the California Environmental Quality Act (CEQA) and the University of California CEQA Guidelines. This is a detailed examination of all environmental impacts of campus growth over the projected lifespan of the LRDP, as well as a proposal for mitigation of such impacts. The University anticipates that this EIR will revise the EIR prepared for the 1990 LRDP. It will include in-depth analysis for those areas not considered as such in the 1990 plan (West Campus) and update those areas (East Campus) where the existing context may have changed since 1990. According to UCR documents, the LRDP Update and subsequently the EIR will:

- support the University's academic goals recently updated during a Vision 2010 planning exercise;
- enhance the design of the campus; and
- contribute to its sense of place.

