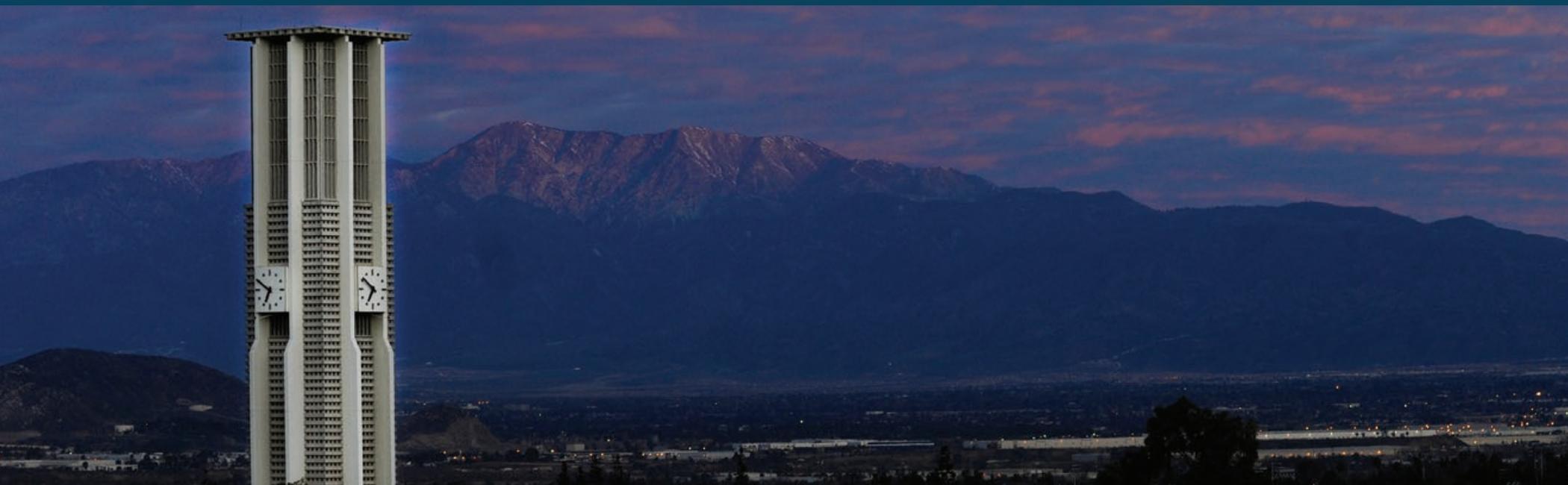


UNIVERSITY OF CALIFORNIA, RIVERSIDE

# Physical Master Plan Study

MAY, 2016





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## A Message from the Chancellor



This is an exciting time at UC Riverside. Guided by the vision and goals set forth in our strategic plan, “UCR 2020: The Path to Preeminence,” we stand as an institution defined by academic excellence, student access, campus diversity and engagement with our community and the world. We have experienced phenomenal growth over the last decade and continue on that trajectory with plans to enroll over 25,000 students and grow our faculty by 300 by 2020. Sustaining this growth requires a thorough alignment of campus resources, with a particular emphasis on our physical environment.

This Physical Master Plan Study represents a comprehensive vision for UC Riverside’s physical campus. Envisioning a campus environment that is functional, attractive and committed to environmental stewardship,

this study defines a methodology and physical structure consistent with our needs, values and aspirations as a world-class university. In so doing, this plan holds the potential of transformative change at UC Riverside.

I deeply appreciate the creativity, commitment and collaboration that has characterized this planning process. As students, faculty, staff, community members and civic leaders, you have all made valuable contributions. I look forward to working with you as we build a legacy for future generations.

A handwritten signature in black ink, appearing to read "Kim A. Wilcox". The signature is fluid and cursive, with a large initial "K" and "W".

Kim A. Wilcox



RIVERA LIBRARY ARCADE

The University of California, Riverside is a highly regarded public university with a strong reputation for research, opportunity, and achievement. As the University enters the next decade, our vision is to build upon our strengths and strategically grow in both size and significance, epitomizing excellence in all that we do: advancing and communicating knowledge through cutting edge research and creative activity; developing and inspiring leaders for tomorrow's world; transforming communities both locally and globally; and demonstrating that diversity is both a measure of excellence and a means of achieving it.

The University has identified achieving the profile of an Association of American Universities (AAU) institution as one benchmark for measuring its success. The ability to achieve the profile of an AAU member requires the campus to accelerate development of its infrastructure in support of research and creative activity and achieve higher levels of success. Modern, attractive, functional, and sustainable facilities play a critical role in recruiting and retaining strong faculty, students, and staff; enhancing research productivity; and improving campus setting.

Aesthetics, accessibility, and functionality of the physical setting are the foundation—literally and symbolically—for campus life. Thus, plans for new and renovated facilities must be consistent with the University's Strategic Plan, UCR 2020: The Path to Preeminence.

As the University population grows, its physical needs will be accommodated through a mix of new construction and strategic renovation across all facility types. These include academic and

research, student life, student-oriented housing improvements as well as enhancements to the campus's public realm. Future growth will enhance and support UC Riverside's teaching, research, and service endeavors, with an unwavering focus on green facilities and sustainable practices.

The Physical Master Plan Study (Master Plan Study) demonstrates how up to 1.5 million square feet of new academic and support space and at least 3,700 additional

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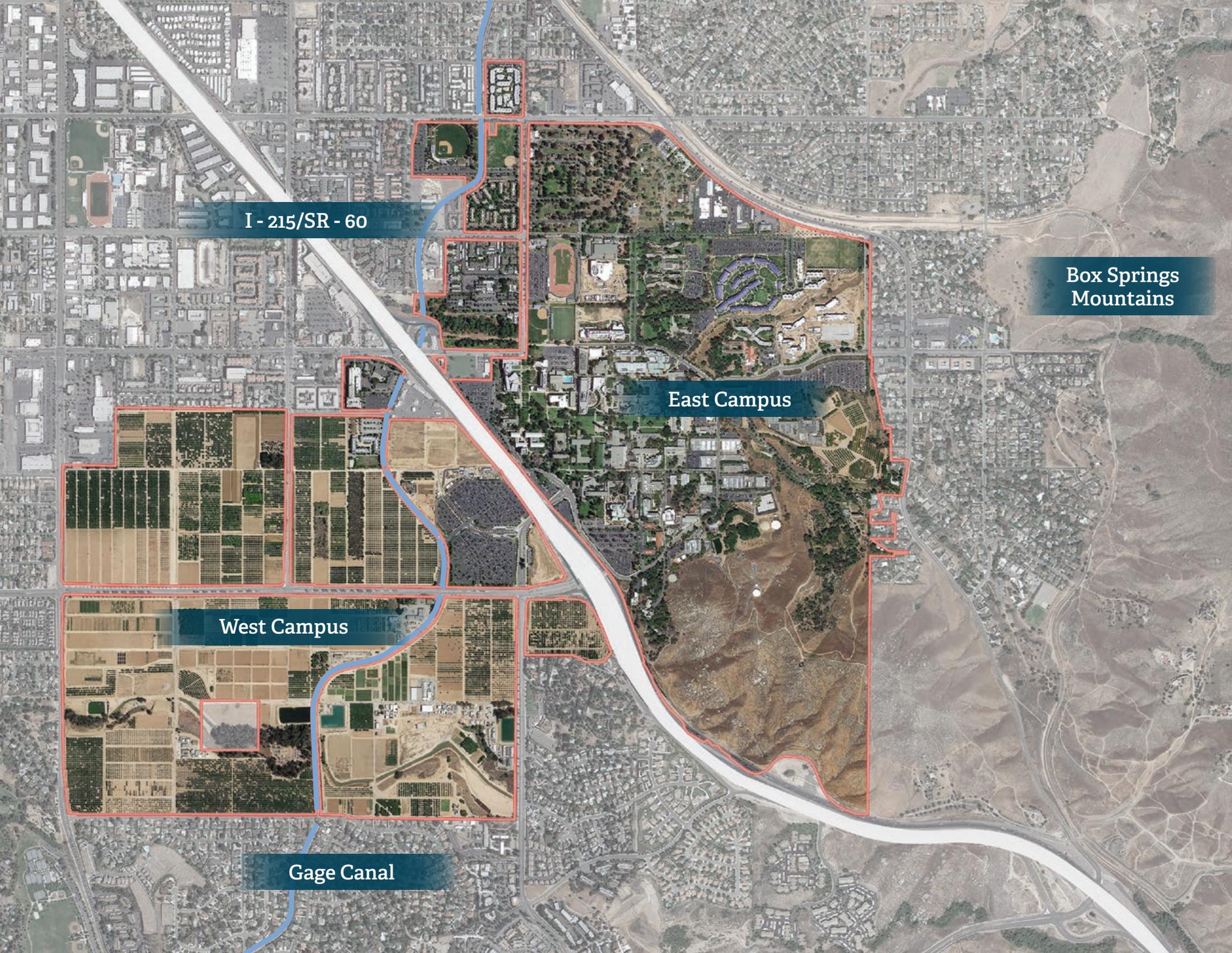
**UC Riverside's enrollment is projected to surpass 25,000 students by 2020, with the further possibility of 30,000 students by 2025.**

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student beds can be added within the existing fabric of East Campus. The development opportunities in this study show ways of accommodating this growth while advancing the planning goals and leveraging land resources in a thoughtful manner.

## PLANNING GOALS

- Build on the current planning theme of “**simple buildings in a dramatic landscape**” to celebrate the campus's unique setting at the base of the Box Springs Mountains.
- Articulate campus gateways to **strengthen campus identity**.
- **Frame views towards the heart of campus** and the Belltower, and outwards to the Box Springs Mountains through the careful configuration of future buildings in the Core Campus.
- Infill strategically located “Opportunity Sites” on East Campus to **increase density and accommodate future growth**.
- **Manage university land and research resources on West Campus as strategic assets** to sustain UC Riverside's excellence long into the future.
- Shape buildings, campus open spaces, and interstitial environments to **promote collaboration and interaction**.
- Address common interests of the campus and community by **creating a safe environment for pedestrians and bicycle riders** at the campus perimeter with managed service and vehicular access.
- **Foster a sense of campus community** by enhancing campus zones and linking them through pedestrian promenades.



I - 215/SR - 60

Box Springs  
Mountains

East Campus

West Campus

Gage Canal

# Building on the Path to Preeminence



## VISION FOR THE FUTURE

UC Riverside's Master Plan Study is a tool to guide future decision-making regarding campus development, in support of the Strategic Plan's academic vision and Long Range Development Plan (LRDP). It defines building development opportunities and their capacity to accommodate anticipated growth, as well as opportunities to improve and better integrate the surrounding framework of circulation and open space.

This Master Plan Study articulates development concepts that will be incorporated into the next update of the LRDP. It is neither a detailed land use plan, nor a commitment to a set of projects. As needs are defined and supporting funding becomes available, specific projects will be developed. While some of the ideas represent completely fresh thinking about campus growth, many others are logical extensions of previously articulated goals and strategies. The intent is that the University continues on a rational course, adjusting where necessary to carry investments forward in an organized and reasonable fashion.

The Planning Team gathered information from a variety of sources to develop an understanding of the campus and its needs.

The University sought to involve a wide range of constituents in the planning process. Students, faculty, staff and community members participated in a series of on-campus workshops where they were asked to identify areas of the campus that worked well, and those that presented challenges. The resulting plan thus represents not just the will of University leadership, but a shared vision of many who hold a stake in the institution's continued success.

The Planning Team also examined previous planning documents and utilized quantitative data on enrollment, housing, and space utilization to formulate recommendations.

Observations of the existing character and condition of various campus zones were recorded.



BELLTOWER AND CARILLON MALL



## ESSENTIAL ELEMENTS

Essential Elements are the major objectives the University desires to achieve directly through the Master Plan Study. They have been profoundly influenced by the values, beliefs, and principles articulated through the

planning process. These broad goals guided the development of the Master Plan Study's strategic priorities.

Interventions into the physical campus were prioritized based on their ability to achieve one or more of the elements.

In the selection of proposed development sites, the Planning Team analyzed relative development costs for the various campus districts. The area within and immediately adjacent to East Campus Drive (Core Campus) was found to offer the greatest discount given available infrastructure and minimal site development costs. The steeply sloping hillsides south and east of Core Campus carry the highest premium, followed closely by West Campus, due primarily to the significant up-front site utility investments required.



# ESSENTIAL ELEMENTS



## IDENTITY

### Enhance Sense of Place

- Strengthen a sense of connection to the campus's natural surroundings.
- Create better-defined and more welcoming open spaces.
- Integrate existing buildings and open spaces with future development.



## COMMUNITY

### Facilitate Engagement

- Strengthen an environment for living and learning.
- Create vibrant spaces that can be used for more of the day and evening.
- Leverage campus open spaces to accommodate varied programs.



## STEWARDSHIP

### Exercise Environmental Stewardship

- Recognize that stewardship is both an environmental and fiscal imperative.
- Create value by leveraging existing campus buildings and infrastructure.
- Reduce demand for energy and pursue less carbon-intensive energy sources.



## DENSITY

### Demonstrate Leadership and Innovation

- Embrace compact development to achieve new capacity for growth.
- Increase connectivity and ease of movement throughout campus.
- Promote synergies among communities, departments, buildings, and open spaces.

# Planning Strategies to Strengthen the Campus

## EXTEND AND REFINE THE OPEN SPACE FRAMEWORK

Open space is composed of paths and places. Paths move people from courtyards to plazas, to malls, and to other spaces. Places encourage people to stay and gather. These outdoor rooms serve many of the same programmatic functions as buildings—academic, social, and environmental.

Campus growth and redevelopment should strive to respect and integrate the natural beauty and agricultural legacy of the region in an enduring way. The Master Plan Study supports strengthening and protecting the character of campus by enhancing connections to its environmental context while improving the public realm.

The Carillon Mall is the signature open space, and the anchor of the open space framework. Secondary and tertiary open spaces connect to it to form a network that extends to the outer edges of the campus. The Master Plan Study strives to strengthen campus open

spaces by locating new buildings to form clear edges to open spaces that are special places to relax, work, and/or gather.

The campus landscape can be significantly improved, in some cases, by removing existing buildings that interrupt the open space framework.

### **Key open space strategic priorities:**

- *Connect existing malls and walks*
- *Create a network of shaded walkways*
- *Increase priority for pedestrian use of open spaces and paths*
- *Improve links to the center of campus*
- *Orient new building entrances to address the pedestrian environment*
- *Create a landscaped buffer zone against the freeway*

# PHYSICAL MASTER PLAN STUDY ILLUSTRATIVE



LEGEND — UC Riverside Property Line   ■ Future Building Opportunities   P Future Parking Structure   T Future Mobility Hub   E Future Events Center



## ENHANCE THE CAMPUS PERIMETER

The perimeter of the campus is the public face to the world, and often the first impression for those who visit. Creating a strong identity at its interface with the surrounding community communicates institutional pride.

Oftentimes, campus property is indistinguishable from non-University land, and first-time visitors have difficulty navigating from perimeter parking lots to destinations in the heart of campus. Clearly defining campus gateways strengthens campus identity and aids in navigation. Enhancing the primary gateway at the intersection of University Avenue and Canyon Crest

Drive—the University Avenue Gateway—will provide a sense of arrival and introduces visitors to the unique visual identity of campus. Two additional secondary entrances will be defined on the northern and southern sides of East Campus—Blaine Street at Canyon Crest Drive to the north and West Campus Drive at Canyon Crest Drive to the south.

“Campus nodes” are intersections of particular importance, primarily around the campus perimeter. By prioritizing these areas for upgrades to paving, lighting, and landscaping, the University will achieve a stronger return on investment, as the prominence of these intersections magnifies the value of such improvements. Other opportunities include better management of traffic and service activities, improving

landscaping and wayfinding at campus edges, and creating a safer environment for pedestrians and bicycle riders.

## CONNECT TO UNIQUE FEATURES

**Experiences, history, and cultural identity are what make a place memorable.**

Development of the University’s institutional identity begins with respecting its rich history through recognition of the role that key buildings and open spaces play in defining a sense of place.

### Criteria for evaluating historic significance:

- *Age*
- *Significance to the campus*
- *Architectural character*
- *Responsiveness to climate*
- *Contributions to adjacent open space*

Visually strengthening the connection to the Box Springs Mountains to the east and the citrus groves on West Campus is a primary goal. Proposed development sites are located to preserve and enhance views to these iconic natural features. The theme “simple of buildings in a dramatic landscape” guides the new planning framework as it seeks to bring the natural and built environment into balance.

## TRANSFORM THE CORE CAMPUS

The current Master Plan Study departs from previous studies in the decision to

consolidate new growth on East Campus and retain existing uses on West Campus in the foreseeable future. Higher-density development with a diverse range of academic and administrative programs in close physical proximity will encourage programmatic synergies and promote sustainable development. Higher population density will increase the effectiveness of public transportation and the likelihood of spontaneous social interaction. Utilizing existing utility infrastructure will save on site development costs.

**Analysis of the existing campus resulted in identification of high-value development zones—referred to as “Opportunity Sites”—with the greatest potential to accomplish the University’s key planning goals.**

An Opportunity Site is a discrete area found to be underserving the campus relative to its potential.

### **Categorization of Opportunity Sites:**

- *Undeveloped or underdeveloped sites or those only requiring minor demolition*
- *Sites with high potential to advance the University’s vision for its open space framework*
- *Buildings which are inefficient or programmatically inflexible*
- *Buildings not contributing to the campus’s desired character*



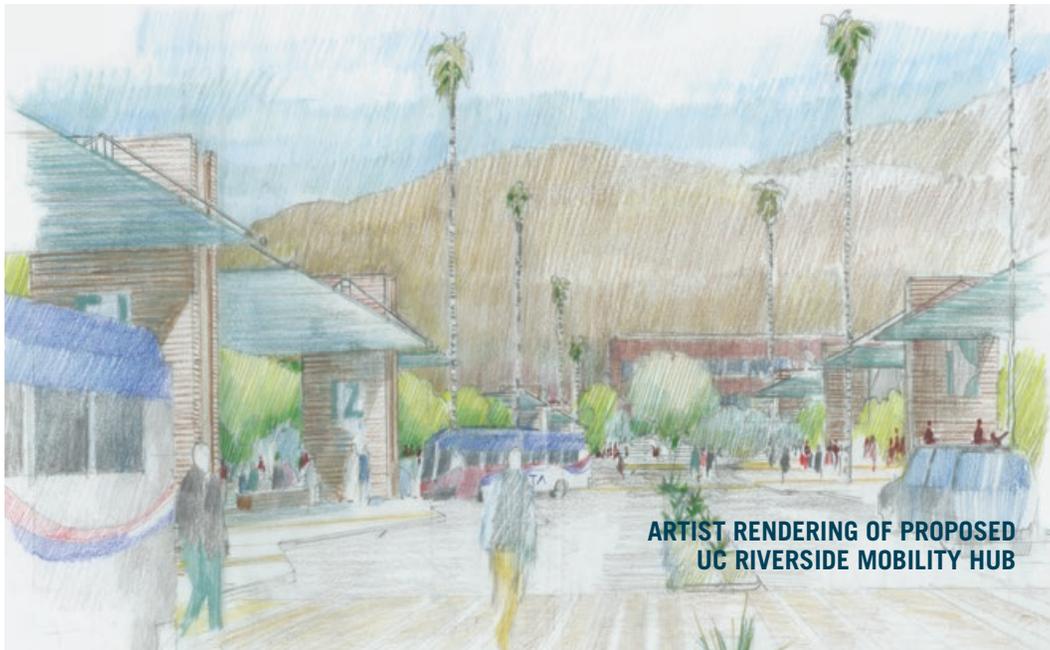
# Enhancing the Public Realm

Public Realm Opportunity Sites include broad improvements to campus open space systems and associated infrastructure, focusing on circulation, landscape, stormwater management, identity, and wayfinding.

## UNIVERSITY AVENUE GATEWAY

The proposed University Avenue Gateway holds tremendous potential to transform the

campus. It creates a welcoming experience at the primary entry point to the campus—the intersection of University Avenue and Canyon Crest Drive. At the campus edge, better management of all forms of traffic means a safer environment for students, faculty, staff and visitors. The proposed Mobility Hub will improve access to public transportation, reducing reliance on personal vehicles. Close proximity to student life



**ARTIST RENDERING OF PROPOSED UC RIVERSIDE MOBILITY HUB**

programs will further enhance safety and extend access to the campus into the late hours.

## RECREATION MALL

Significant new program areas north of Linden Street will require new connections to the Core Campus to ensure that the campus feels cohesive. Pedestrian and bike improvements to Canyon Crest Drive and Aberdeen Drive are important components of this connectivity, and a new open space — Recreation Mall — will run parallel to these streets, between Blaine Street and the west edge of the Materials Science & Engineering Building. The mall will be designed to be shared with bicycles, having a substantial central paved walkway. Pedestrian amenities such as benches and lighting will be placed along the outer edge. On either side of the central walkway, generous landscaped zones will provide transitions between the walkway and adjacent building entries and generous planting areas for shade trees that provide pedestrian comfort. Stormwater treatment will be provided through linear swales in these zones, treating building runoff as well as runoff from the central walkway.

# PUBLIC REALM ENHANCEMENT OPPORTUNITIES



## **P-1. University Avenue Gateway**

Create a primary campus gateway experience at the intersection of University Avenue and Canyon Crest Drive. Integrate the proposed Mobility Hub and its associated program elements, as well as upgraded amenities for pedestrians and bicycle riders.

## **P-2. Connection to Existing Student Housing**

Reconcile vehicular, service, and pedestrian flow from the residence halls into the heart of campus.

## **P-3. Canyon Crest Drive Streetscape**

Create a safe and pedestrian-friendly mixed-use street.

## **P-4. Recreation Mall**

Link the Core Campus to the North District.

## **P-5. Aberdeen Axis**

Visually extend the Aberdeen Drive axis into the North District as a pedestrian pathway with limited vehicular and service access.

## **P-6. Citrus Mall**

Restore the Citrus Mall axis by reconfiguring the adjacent open spaces and the surface parking around Anderson Hall.

## **P-7. Canyon Crest—South Streetscape**

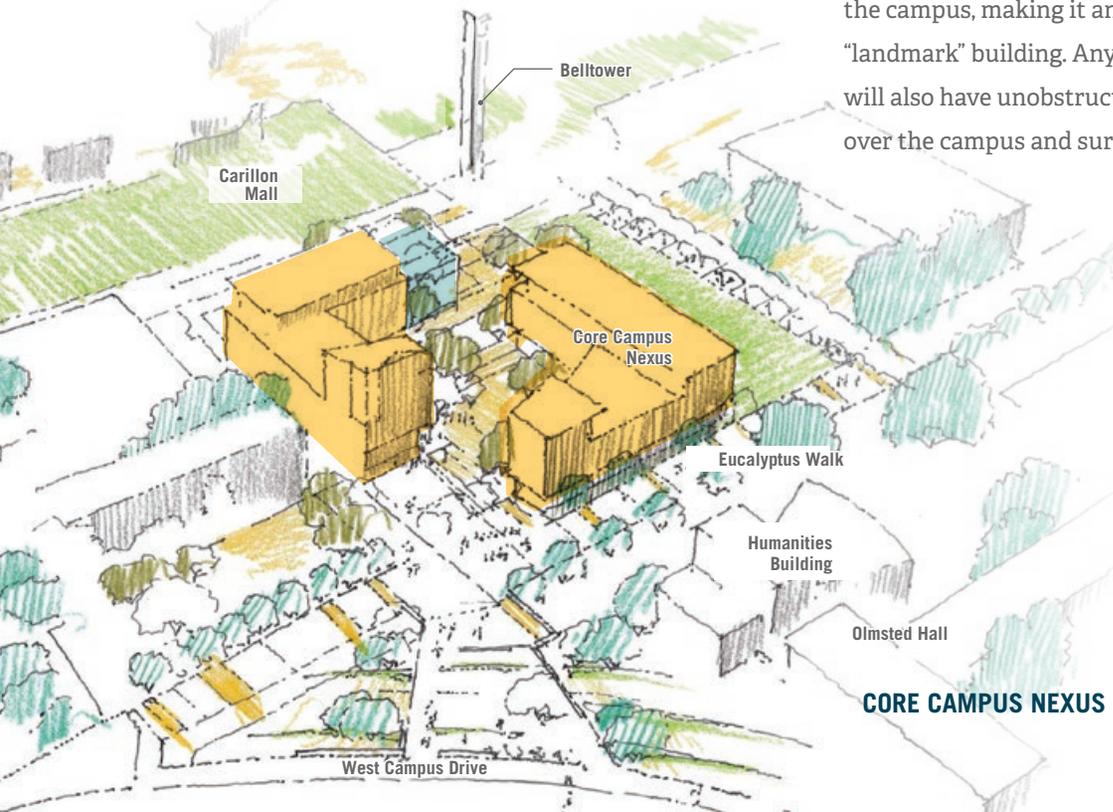
Define arrival into campus through enhancements to the pedestrian experience, including upgraded landscape, lighting and paving.

# Opportunities for Future Growth

Building Opportunity Sites define priority locations for future buildings, including those with the highest transformative potential. In the Core Campus they are mainly reserved for research and academic functions, while those in the North District are better suited to housing, retail, recreation, and culture.

## CORE CAMPUS SOUTH EXTENSION

The hillside just above the southern edge of Core Campus has great potential to enhance institutional identity. The site is highly visible both from the freeway and from the rest of the campus, making it an ideal location for a “landmark” building. Any structure on this site will also have unobstructed views outwards over the campus and surrounding landscape.



## PLANT GROWTH ENVIRONMENTS

UC Riverside is a national leader in the fields of crop and agricultural systems biology. Modern plant science facilities will be key to maintaining this status in the future. Currently, the University’s supply of greenhouses and support spaces are distributed between two main sites – one along East Campus Drive and the other, on West Campus south of Martin Luther King Blvd. Facilities in both locations are in immediate need of upgrade or replacement. Re-envisioned, the land area to the east of East Campus Drive has the capacity to hold the University’s entire greenhouse program, along with support facilities.

## CORE CAMPUS NEXUS

The present location of Watkins Hall, if redeveloped, has the potential to dramatically impact the campus’s open space network, having frontage on the Carillon Mall, Library Mall, and Eucalyptus Walk. By leaving the site open on a northeast-southwest axis, the Belltower will become visible from the Canyon Crest-South Gateway, contributing to wayfinding and campus identity.

# FUTURE BUILDING OPPORTUNITIES



- LEGEND**
- UC Riverside Property Line
  - Future Building Opportunities
  - Future Building Opportunities in the 2016-2026 Capital Financial Plan
  - T Future Mobility Hub
  - E Future Events Center
  - P Future Parking Structure

## CORE CAMPUS

- 1. Carillon Mall West**  
Shape the intersection of Arts Mall and the Carillon Mall on the site of Hinderaker Hall.
- 2. Gateway Link**  
Modifications on the Athletics and Dance Building site to create a connection between the Mobility Hub and Carillon Mall.
- 3. Core Campus Nexus**  
Create new lines of sight into the heart of campus from the perimeter.
- 4. Eucalyptus Walk Science Area**  
Transform a “back door” into a “front door” at the perimeter of East Campus.
- 5. Picnic Hill Science Area**  
Reframe a popular outdoor gathering space.
- 6. Core Campus South Extension**  
Enhance institutional identity on the southern hillside.
- 7. Citrus Walk Portal**  
Create a portal to Citrus Walk from Carillon Mall to frame views to the south.

- 8. Science Area Greenhouses**  
Consolidating the greenhouse program on a contiguous site adjacent to plant based research.

**Sites 9 to 15**  
Additional sites on East Campus for future buildings

## NORTH DISTRICT

**Sites A to G**  
Future student housing, recreation, retail and Campus Events Center

## WEST CAMPUS

**Sites H**  
Outpatient Pavilion

**Site I**  
Areas on West Campus to prioritize future development

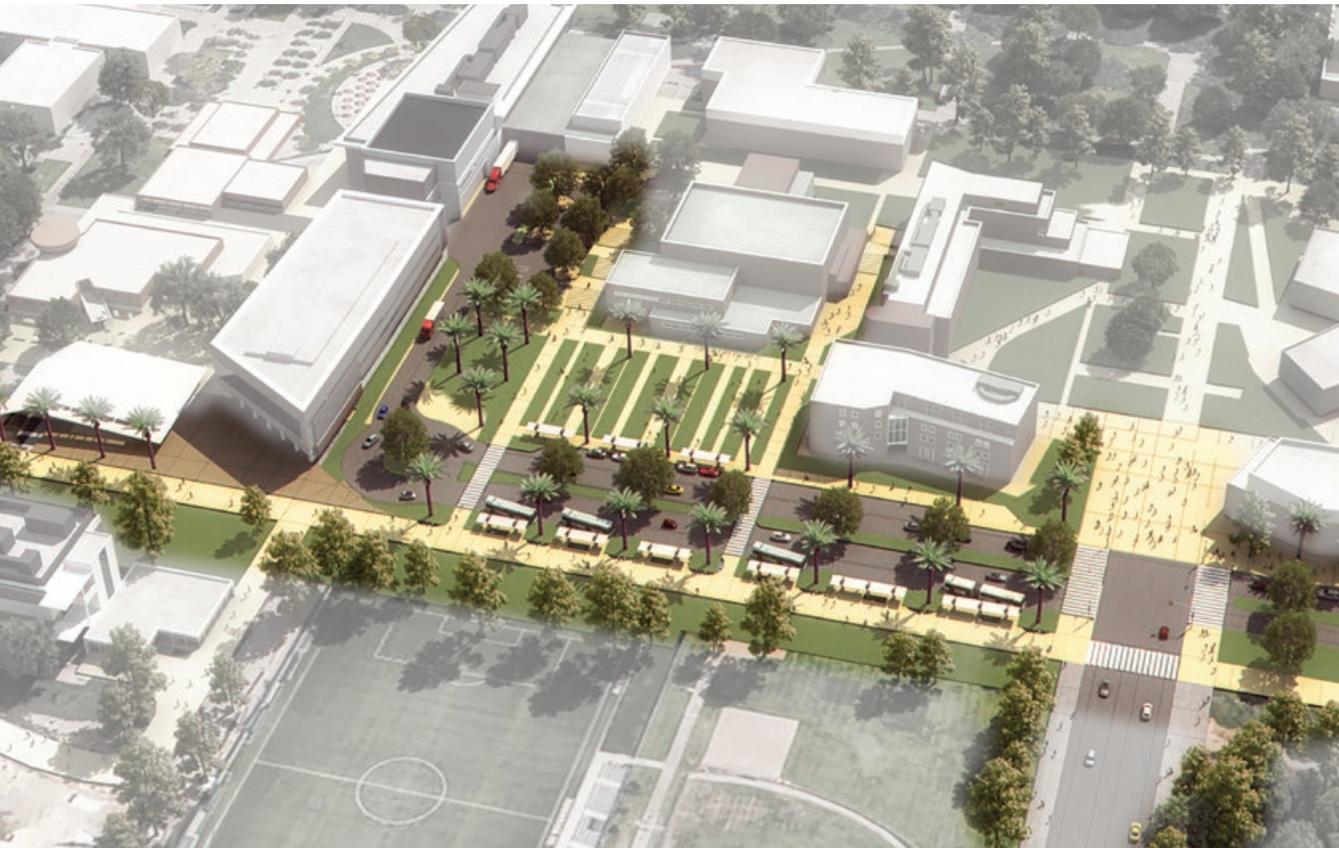
# Integrated Planning

Integrated Planning is the linking of vision, priorities, people, and the physical institution in a flexible system of evaluation, decision-making, and action. The Master Plan Study examined not just the locations of buildings and open spaces, but also integrated considerations of transportation, utility infrastructure, environmental stewardship, and fiscal responsibility.

## EMPHASIZE MULTIMODAL TRANSPORTATION

The University Avenue Gateway concept integrates a Mobility Hub, a proposed partnership between UC Riverside and the Riverside Transit Agency (RTA) to enable all of its service routes to the campus to converge at a single location. Clearly defined pedestrian and bicycle connectivity, safe and attractive drop-off facilities, and an inviting environment will all contribute to making the University Avenue Gateway the much needed front door the campus presently lacks.

The campus and its immediate surrounding areas are generally conducive to walking, but can be improved upon. University Avenue, Canyon Crest Drive, and Aberdeen Drive can benefit from landscape buffers in between the sidewalk and the roadway. Obsolete service access points should be eliminated to reduce conflicts between service vehicles, pedestrians, and bicycle riders. The proposal to create a connection between the Mobility Hub and Carillon Mall accomplishes several of these objectives in a functional and attractive manner.





ARROYO RESTORATION AT  
GLEN MOR STUDENT HOUSING

## ENVIRONMENTAL STEWARDSHIP

Environmental stewardship is a key tenet of the Master Plan Study, the two critical areas of focus being carbon neutrality in operations and stormwater management.

UC Riverside's buildings are the single greatest contributor to greenhouse gas emissions by way of energy use. Therefore, reducing demand for energy is the first step towards carbon neutrality in operations. The Master Plan Study sets target Energy Use Intensity (EUI) for new building performance well beyond what is required by the current California Energy Code. The University should strive to meet these targets through the application of appropriate energy efficiency measures that include high performance building envelopes, climate control systems and lighting, as well as passive strategies for shading, daylighting and ventilation.

To achieve carbon neutrality in operations by 2025, the University will need to meet its energy

needs from alternative sources such as wind and solar. The University envisions strategic partnerships with utility companies to further reduce the carbon footprint of purchased electricity. On-site rooftop solar arrays can provide buildings with a portion of their energy demands and create capacity on the campus electrical grid. Even with reduced demand and on-site generation, off-site utility-scale wind and/or solar arrays will be required to achieve full carbon-neutrality in building energy use.

A third of the campus's carbon emissions are a result of burning natural gas. Because gas is a carbon fuel source, neutrality will only be achieved through conversion to sustainably-generated electric power or the purchase of carbon offsets.

Stormwater management on new development sites will strive to mimic the natural, pre-development hydrology patterns to reduce erosion and stormwater pollution. On-site treatment of stormwater is envisioned through vegetated swales and like strategies that slow

the flow and promote infiltration recharging ground water reserves. Reduced stormwater flows will prevent existing detention basins from being overwhelmed. New buildings will implement water conservation strategies such as stormwater and greywater reuse, high efficiency fixtures, and water-efficient landscaping. Similar measures will also be considered when renovating existing buildings.

Rooting future development decisions in environmental stewardship will yield innovative solutions to present-day and future challenges. Design which responds directly to Riverside's unique natural environment will truly connect the campus to its surroundings.

## Steering Committee

**Paul D'Anieri**, Co-chair: Provost and Executive Vice Chancellor

**Maria R. Anguiano**, Co-chair: Vice Chancellor, Planning & Budget

**Ron T. Coley**: Vice Chancellor, Business and Administrative Services

**Jay Eastman**, AICP: Principal Planner, City of Riverside

**Rob Gayle**: Associate Vice Chancellor, Campus Architect

**Ashley Harano**: President, Associated Students of UCR

**Jeff Kaplan**: Associate Vice Chancellor, Capital Assets Strategies

**Cindy Larive**: Interim Dean, College of Natural and Agricultural Sciences

**Nafi Karim**: President, Associated Students of UCR

**Jeff Kraus**: Director, Office of Government & Community Relations

**Janna M. Le Blanc**: Asst. Director Human Resources – CPSU Engineering Dean's Office

**Richard A. Luben**: Faculty Senate, Professor of Biomedical Sciences and Biochemistry, Emeritus

**Kenneth J. Mueller**: Director, Physical Plant

**Nosang Myung**: Professor and Department Chair Chemical/Environmental Engineering

**Jocelyn L. Nakashige**: Chief Financial and Administrative Officer, School of Medicine,

**Charles J. Rowley**: Associate Vice Chancellor, Chief Information Officer

**Robert Slater**: Interim Director, Physical Plant

**Preston Williams**: President, Graduate Students Association

**Todd Wingate**: Assistant Dean of Students, Student Affairs

**Marylynn V. Yates**: Dean, College of Natural and Agricultural Sciences

## Consultants

**Moore Ruble Yudell Architects & Planners**

**Walker Macy**

**BuroHappold Engineering**

**Brightworks Sustainability**

**PSOMAS**

**The Capital Projects Group**

**Fehr and Peers Transportation Consultants**



**CITRUS EXPERIMENT STATION (C. 1930),  
NOW KNOWN AS ANDERSON HALL**

UC RIVERSIDE UNIVERSITY OF CALIFORNIA