

November 18, 2014

**ATTACHMENT A**

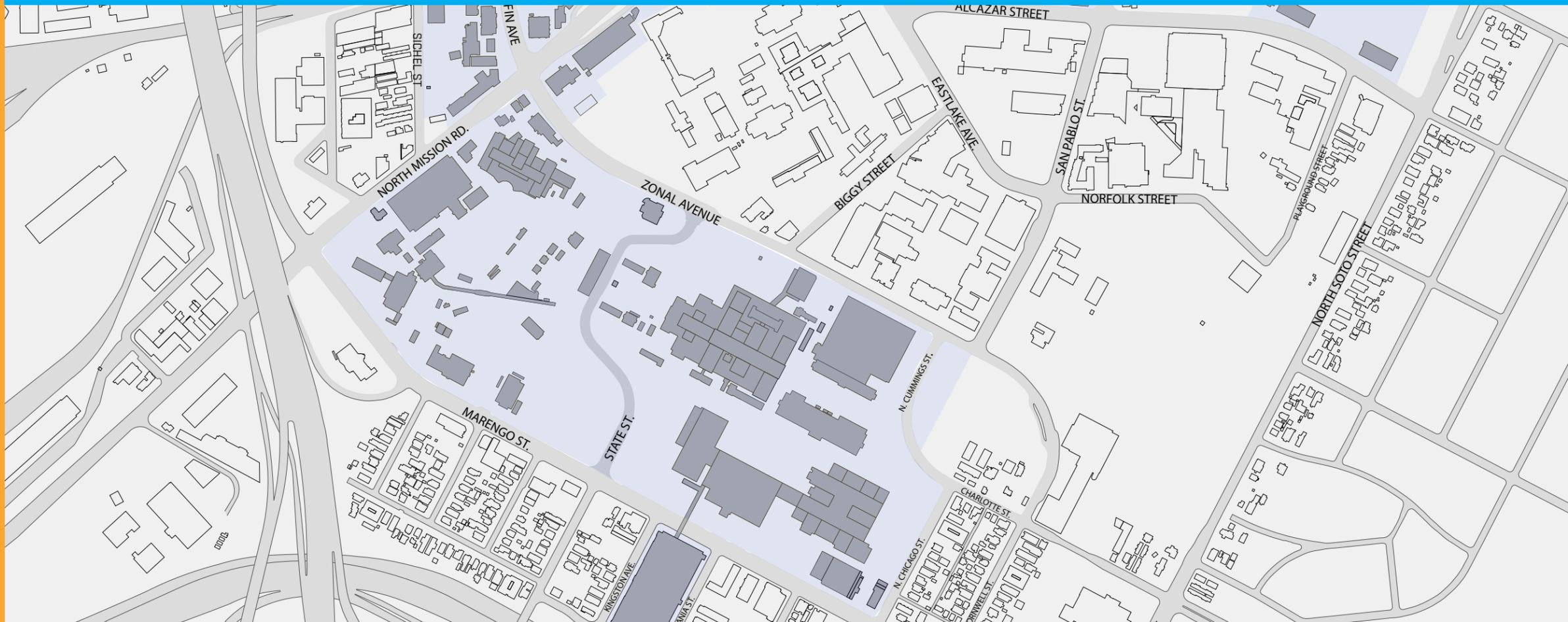
**DEPARTMENT OF PUBLIC WORKS:  
LAC+USC MEDICAL CENTER CAMPUS MASTER PLAN  
CERTIFY THE FINAL ENVIRONMENTAL IMPACT REPORT  
ADOPT THE FINDINGS OF FACT AND  
STATEMENT OF OVERRIDING CONSIDERATIONS  
ADOPT THE MITIGATION MONITORING AND REPORTING PROGRAM  
ADOPT THE CAMPUS MASTER PLAN  
CAPITAL PROJECT NO. 69698**

**LAC+USC MEDICAL CENTER CAMPUS  
MASTER PLAN  
(See Attached)**



# LAC+USC MEDICAL CENTER CAMPUS MASTER PLAN NOVEMBER 2014

# LAC USC<sup>+</sup> MEDICAL CENTER



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## Executive Summary

### Background

LAC+USC Medical Center has a long and storied history providing necessary health and medical services to the residents of greater Los Angeles and beyond. Through many decades of service, its campus and the buildings which support the hospital's mission have continued to change and evolve, with older buildings being removed and new buildings introduced. New programs have been introduced through the years, and other County departments have taken over space and/or buildings on the campus.

This evolution of change will continue as the dynamic nature of healthcare delivery will continue. LAC+USC Medical Center, as with other acute care hospitals and similar providers of health services, must change to meet the needs and demands of its constituents, its markets, and the policy and technological developments of the healthcare industry as a whole.

The LAC+USC Medical Center's replacement, which opened in 2008, culminated over 16 years of planning, design, and construction for the specific goal of establishing a more competitive and modern facility to replace the aging and generally obsolete original General Hospital. The replacement Medical Center project resulted in a new:

- 600-bed Inpatient Tower
- Clinic Tower
- Diagnostic & Treatment Building
- Central Plant
- Parking Structure (Marengo Structure, PS # 9)

While some older buildings on the campus were removed some years ago to clear site for the replacement Medical Center, many existing buildings on the campus remain. Some are in use while others are only partially used. Some buildings appear to be not used at all.

General Hospital remains, with its over 1,400,000 SF of space. With its historic designation, the building will remain on the campus. Portions

of the building (primarily the first floor) are going to be repurposed for community wellness programs. Some portions of floors 1-4, including portions of the basement, are occupied by a number of administrative and/or support functions involving a number of different County departments or constituent groups.

Other buildings to the east of State Street also remain in service, although the condition and ages of these buildings would seem to indicate that they are near or past their effective useful lives.

It is, however, the areas west of State Street which appear to be most in need for a comprehensive evaluation of site and building use. There are many single story buildings, and modular buildings, which dot the landscape. The former Women's and Children's Hospital lies empty and boarded up, and is an unattractive element on the border of the site facing North Mission Street and Zonal Avenue. The area is generally under-utilized, disorganized, and does not reflect well on the overall campus of LAC+USC Medical Center. That said, there are also some buildings and building elements which appear to have some historic value and which, if possible and cost-effective, should be considered for preservation and/or repurposing.

The site is also challenged with substantial grade changes from the western portion of the site to the areas east of State Street, the main and only public vehicular street through the campus. Refer to Figure 1.01.

### The Challenge

This master planning report is intended to take a holistic view of the entire site, and some of the contiguous County properties, to achieve a plan which can result in greater unity of site elements, useful open spaces, site zones which preserve area for growth of compatible elements. It also needs to accommodate flexibility of building and/or site development based upon program needs and funding, and identify options for orderly and planned growth to meet both Medical Center needs and community needs.

One of the guiding principles of the master plan was to establish a stronger framework for promoting wellness and community health. Partly driven by initiatives of the Affordable Care Act and also reinforced

by emerging attitudes of policy makers and the County's healthcare leadership, there is a strong interest to identify ways in which the campus can positively influence population health through awareness, education, opportunities for positive activities, and community engagement.

To create a master plan that engaged the community, the Master Plan Team organized substantial public outreach efforts which included a series of community meetings/workshops to establish opportunities for dialogue and participation during the master plan process.

### The Outcome

The preferred master plan resulted from input and review by many individuals and County departments. It is a plan that provides a framework for campus growth and development that can be implemented in the short-term as funding and program needs materialize, but also sets the stage for longer-term implementation.

Three distinct phases are identified, although as mentioned previously, if program needs and funding occur out of sequence, these elements can easily be accommodated.

The general building or functional zones established in the master plan preserve areas for:

- Inpatient and outpatient services
- Office/administrative spaces and community programs
- Biotechnology and research-related activities

Within each of these general zones, proposed solutions for parking, site development, open space planning, and landscape/hardscape elements are included. To achieve a successful master plan, or discrete phases of the master plan, all of these planning variables need to be integrated so that there is a thoughtful balance of built and unbuilt elements.

## Acknowledgements

The County of Los Angeles, through its office of the Chief Executive Officer (CEO) and the Department of Public Works (DPW), authorized a campus-wide master plan be developed for the LAC+USC Medical Center site. The report, while addressing site and real estate issues, also required an attention to urban planning variables, programmatic changes in healthcare delivery, community concerns and expectations, and possible options for future growth and development.

### Consultant Team

A planning, design, and consulting team, led by Los Angeles-based Lee, Burkhardt, Liu (LBL) was retained to lead and manage this process. Due to the broad areas of study requested by the County, and the need for a comprehensive evaluation of many campus and urban planning variables, LBL assembled an experienced team of consultants that had the requisite technical knowledge to actively participate in this report. All of the firms are listed below, with the area of expertise which they provided.

- Lee, Burkhardt, Liu (LBL) - Planning and Architecture
- Moore Ruble Yudell (MRY) - Urban Planning & Architecture
- The Camden Group (TCG) - Healthcare Consulting
- Katherine Padilla Associates (KPA) - Public Outreach/Community Advocacy
- ME Engineers (ME-E) - Mechanical/Electrical/Plumbing Engineers
- KPFF Consulting Engineers (KPFF) - Structural Engineers
- Kimley-Horn and Associates (KHA) - Civil Engineers
- C.P. O'Halloran (CPO) - Cost Estimator
- Ahbe Landscape Architects (AHBE) - Landscape Architecture
- Lighting Design Studio (LDS) - Lighting Design
- Fehr & Peers (F&P) - Transportation Consulting
- Sussman/Prejza (S/P) - Signage & Wayfinding
- Soltierra - Sustainability Consulting

### Client Team

The project was managed and directed by a number of County staff who remained engaged during the process and provided direction, feedback, and insights that helped to shape the report's outcomes. Their objective was to ensure that the specific objectives of the County's RFP were met, and that the information gathered and analyzed would be sufficient to answer the most pressing questions for the LAC+USC Medical Center site.

Regular project briefings were held with the County's DPW Project Manager. Additional meetings were held with the Project Steering Committee, which consisted of members of the County's Chief Executive Office, DPW, the County's Department of Health Services, and the First Supervisorial District.

We are grateful and appreciative of the time and quality feedback provided by the County's staff members, particularly the staff members who spent the most time with the LBL team on regular briefing meetings.

Los Angeles County Supervisorial District 1 - Gloria Molina, Supervisor

- Alma Martinez, Chief Deputy
- Nicole Englund, Director of Transportation & Planning
- Steve Reyes, Senior Legislative Deputy on Health Issues

County of Los Angeles Chief Executive Office (CEO)

- William T. Fujioka, Chief Executive Officer
- Jan Takata, Senior Manager, Capital Programs
- Dawn McDivitt, Manager, Capital Programs
- Christine Frias, Program Specialist IV, Capital Programs

County of Los Angeles Department of Health Services (DHS)

- Dr. Mitchell H. Katz, Director
- Dr. Christina Ghaly, Deputy Director - Strategic Planning
- John Shubin, Capital Programs Division

County of Los Angeles Department of Public Works (DPW)

- Gail Farber, Director
- David Howard, Assistant Deputy Director
- Andy Moey, Senior Capital Projects Manager
- Clarice Nash, Project Manager

### The Community

We acknowledge the contribution of these County staff members mentioned above, as well as the many other County staff and departmental representatives. Many of these individuals participated in the Visioning Session, and assisted in periodic reviews and investigations of existing site and building conditions, data collection, and individual interviews to glean additional operational or planning information.

Just as importantly, we wish to acknowledge the efforts and participation of many community individuals, businesses, and neighborhood organizations which were engaged in this report. These individuals and organizations attended one of more of the community workshops/ meetings, provided forums for discussion about the LAC+USC Medical Center master planning project, or submitted questions or comments, via the project website or through emails to the DPW Project Manager, about the planning process and issues identified.

It is not possible to meet everyone's expectations in a report of this scale and complexity. However, through the community outreach efforts and the transparency with which the project was managed by the County, we believe that all parties were given ample opportunities to express their ideas, expectations, priorities, and concerns. To the extent possible, all questions and issues raised at community meetings were addressed by the Master Plan Team, or were acknowledged to be studied at a later time.

One of the primary objectives of the LAC+USC Medical Center's campus master plan was to engage the local community in the planning of the Medical Center's future. Building upon the existing dialogue and good will of the Medical Center was an anticipated by-product of this engagement. The levels of participation by community residents and organizations are very much appreciated by the County and by the Master Plan Team. Without this participation, this report and its outcomes would not have been as successful.

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INTRODUCTION | 1.0



## General Introduction

This report represents the data collection, analysis, community outreach, client briefings, and study documentation. The LAC+USC Medical Center Master Plan represents a current snapshot of timely recommendations intended to meet current programmatic and/or strategic initiatives.

Conditions influencing the County's healthcare delivery system will undoubtedly change over time, as it has for the 100+ years that the County has been providing direct patient care services. The influence of healthcare reform, now being implemented, will also be a significant game-changer in many aspects of community healthcare and provider services.

This master plan provides a thoughtful approach to site and campus development to meet the anticipated relevant program elements, site needs, and strategic objectives. As market or economic conditions change, it is reasonable to scrutinize this report to determine if corrective adjustments are necessary. The long-term site concepts, however, should be preserved as much as possible because they provide an orderly and desirable change in the campus evolution to embrace open spaces, encourage community interface with the site, provide for programmatic growth options, and focus on the existing strengths of the campus.

## Purpose of the Report

This report, with its companion documents, summarizes the background, key research, findings, observations, and proposals for master planning options prepared by the Master Plan Team. While the breadth of the study was broad, we have assembled a concise final report that focuses on the primary issues, with diagrams and graphics supporting the recommendations of our team.

As originally stated in the County's Request for Proposal (RFP), this campus master planning had several goals, including the following:

- Develop a community-friendly LAC+USC campus to promote healthy lifestyles that meld the needs of the surrounding communities, constituents served, and existing operations

- Maximize access to the LAC+USC Medical Center by the community
- Provide educational/job training opportunities in collaboration with schools and colleges located in the perimeter of the LAC+USC campus
- Incorporate on-campus business opportunities to offer job opportunities in the healthcare area.

This report identifies the key findings and recommendations of our planning team for a course of campus development that can help to achieve these goals. While this master planning effort has focused on broad planning principles and perspectives, we made a concerted effort to identify specific sets of actions or proposals to guide the institution.

The study consisted of community outreach efforts, team investigative studies, research of previous campus planning studies, community meetings and workshops, research of the existing site and buildings by a myriad of technical consultants, numerous meetings with the County, development of campus planning alternatives and options, and documentation of the preferred master planning scheme.

This documentation should serve as a guide for future development of the LAC+USC Medical Center campus. Delivery of healthcare is undergoing tremendous change with the implementation of the Affordable Care Act (ACA). A number of key program initiatives of the ACA will commence in October 2013 and in January 2014. The impacts of those programs on the local healthcare delivery system, in general, and on LAC+USC Medical Center, in particular, can only be speculative in nature.

The Master Plan Team has touched on these ACA programs and has offered preliminary thoughts on how local healthcare may be impacted. This evaluation is presented in this report, in Section 3.

Anticipating the fluid nature of healthcare as influenced by the ACA, and the still evolving financial underpinnings of healthcare delivery, LAC+USC Medical Center, as with the other L.A. County public hospitals, will be challenged to remain competitive while still providing a high level of patient care service.

The direction of the campus master plan, as envisioned by the Master Plan Team, helps to create an environment that promotes the principles of "healthy communities" while still providing the land reserves that allow for flexibility to grow, change, and evolve as institutional functions and priorities change.

## Report Organization

In addition to this master plan report, three additional reports were produced. They have been separately submitted to the County.

- Assessment Report
- Community Outreach Report
- Inpatient Bed Addition Feasibility Study

## Assessment Report

The separate **Assessment Report** summarizes specific areas of study undertaken by members of the planning and design team. We have relied upon many sources of existing information in addition to our own site visits (Figure 1.01) and visual observations of these conditions. The areas evaluated by our team include the following:

- Site and building characteristics
- Signage and wayfinding
- Lighting
- Parking
- Site and adjoining roads
- Open space and landscaping
- Site utility and topography
- Mechanical, electrical, plumbing systems & Central Plant issues

The Assessment Report contains helpful and current information of all known and perceived conditions in and around the LAC+USC Medical Center site. This information has been valuable in informing and shaping the development of the Master Plan.



1.01 Team Site Visit

## Community Outreach Report

A separate **Community Outreach Report** has been prepared for this project. This report summarizes all of the public outreach and community meeting activities for the study. It identifies the community organizations that were contacted by our outreach consultant, and the levels of participation during the planning workshops.

Given the importance of this Medical Center to the surrounding communities, and the legacy and history of its mission and community role, a public outreach effort was deemed integral to the study methodology. The goal was to encourage community participation in the master planning process, to establish an open and active dialogue with local residents, businesses, and community organizations, and to solicit views, concerns, and opinions about the master plan options and priorities as identified by the Master Plan Team and the County.

There were a number of separate community workshops/meetings held during 2012 and 2013. In the summer of 2012, separate community meetings were held in Lincoln Heights, Chinatown, Boyle Heights, and El Sereno. These introductory meetings presented the study approach to the local communities, and initiated engagement with them about their concerns and expectations for the development of the Medical Center [Figure 1.02].

A community meeting was held at the Medical Center in January 2013. One key objective of this meeting was to report back to the community those issues and concerns that were raised during the community meetings and workshops during the Summer of 2012.



1.02 Initial Community Meeting

Another objective was to present our analysis of key issues and our initial concepts of how the site might evolve over time. Four specific site plan concepts were presented, and the Master Plan Team welcomed critical comments for each of the possible options. By engaging in this type of dialogue early in the planning process, we were anticipating the following:

- Obtain early community ideas, concerns, and expectations for the Medical Center
- Receive critical reaction and comments relating to different conceptual approaches to how the Medical Center site might evolve over time

- Establish and confirm the priority of both open space on the campus, and potential linkages with the surrounding neighborhoods
- Confirm potential services growth and other strategic objectives of the Medical Center

Considerable community input was encouraged and received at this meeting for each of the preliminary concepts presented. The feedback that the planning team received was shared with the County. The feedback also provided the planning team with an indication of support for each of the options presented.

In October 2013, a final community meeting was held to present the County's preferred master plan direction and to discuss how the preferred planning direction addresses the needs and expectations of the County, the Medical Center, and the community at large.

Participants were walked through a collection of renderings, maps, and image boards depicting areas slated for improvement as staff and consultants explained the displays, encouraged comments and answered questions. Attendees were provided a guidebook illustrating the new land use diagrams. Materials were provided in English, Spanish, and Mandarin, and simultaneous translation and bilingual interpreters were available.

Following brief introductions, Ken Lee, Principal of LBL, presented the history of the site and the Master Plan process. He described how input from four community meetings shaped the final Master Plan. KPA's Sam Gennawey provided an overview of the community outreach that was designed to obtain feedback on the initial Master Plan concepts based on shared needs and values previously identified. John Yudell, Principal of MRY, described the process of refinements that occurred as a result of community input which led to the final Master Plan. Mr. Yudell described key ideas that were offered such as an improved Medical Center "front door" along Marengo Street that improves access, vitality and movement.

## Inpatient Bed Addition Feasibility Study

A separate **Inpatient Bed Addition Feasibility Study** was implemented by the Master Plan Team. The results of that study were reviewed and submitted to the County. During the master plan engagement, the County requested that the Master Plan Team validate earlier studies indicating the need for a potential 150 additional beds for the LAC+USC Medical Center. LBL was asked to evaluate specific locations on the site that might be suitable for the inpatient addition. This feasibility study is intended to determine some of the key issues relating to the building of a new bed addition to the current campus.

The study was not intended to be a detailed architecture or engineering study, but rather a conceptual evaluation of key issues including the following:

- Types of beds that might be required in the future
- General assessment of space required to accommodate new inpatient beds
- General assessment of diagnostic and treatment, administrative, and general/support spaces necessary to support the new beds
- Initial sizing of the bed addition building
- Potential servicing of the building for infrastructure support, namely central plant support
- Potential height and building footprint considerations
- Connectivity issues of a new building to the existing Medical Center
- Impact on the existing aviation glide path to the heliport located on the roof of the Diagnostic and Treatment Building
- Preliminary assessment of fire lane and fire truck access
- Assessment of impacts to the existing courtyard space
- Preliminary cost estimates



BACKGROUND | 2.0



## Project Description

### Description of Study Area

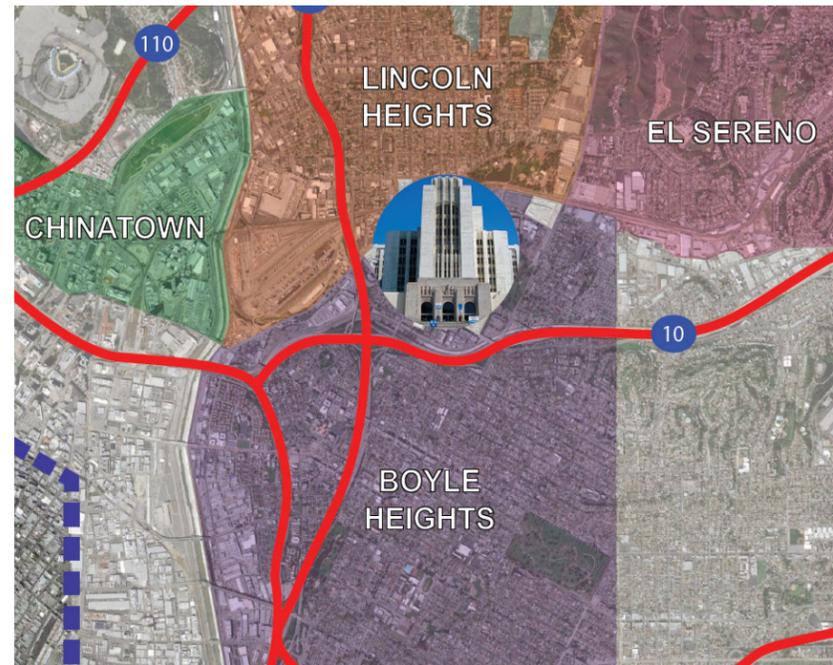
LAC+USC Medical Center is a regional academic medical center that has historically served a very wide geographic area within Los Angeles County. Its range of primary care and specialty care outpatient services, and full-range of inpatient services, has drawn patients from all over the County, and beyond. In particular, trauma care and burn care at LAC+USC Medical Center are specialty services that draw patients from well beyond the local community.

For this report, it was agreed that the target of community outreach would be a smaller geographic area, located closer to the Medical Center. One of the goals of community outreach is to ascertain the healthcare needs/wishes of the local populace, so that specific programs could be considered at LAC+USC Medical Center as a health resource to the local community (Figure 2.01).

In coordination with the County, the Master Plan Team identified a study area consisting of the following communities: Boyle Heights, Chinatown, Lincoln Heights, and El Sereno. These communities directly influenced by the services provided through LAC+USC Medical Center and include the residents who can most benefit by improved programs and services.

With the approval of the County, the Master Plan Team organized a public outreach effort to approach these communities in order to generate local resident interests in this planning report, and to encourage residents to attend the scheduled community meetings/workshops.

Once the study area had been defined, the Master Plan Team began to organize data collection, research, and planning efforts to gain insights into these local communities. The LBL traffic consultant, for example, used the general boundaries of these communities to identify all existing and proposed traffic patterns, street improvements, bike ways, public transportation, and other factors to help inform the Master Plan Team of general transportation issues facing the residents of these communities. Improving access to the Medical Center site is one of the study objectives, and this technical research was instrumental in understanding current conditions.



2.01 Communities Involved with Public Outreach

## Project Goals

As stated earlier, this campus master planning project has several goals, including:

- Developing a community-friendly LAC+USC campus to promote healthy lifestyles that melds the needs of the surrounding communities, constituents served, and existing operations
- Maximizing access to the LAC+USC Medical Center by the community
- Providing educational/job training opportunities in collaboration with schools and colleges located in the perimeter of the LAC+USC campus
- Incorporating on-campus business opportunities to offer job opportunities in the healthcare area

As the study progressed, it became clear that a number of other benefits could be met through this report. Secondary goals included the following:

- Promoting an awareness within local communities that the Medical Center and the County are eager to reach out to the local communities to better understand their concerns and expectations
- Informing local residents of the differences (governance, strengths, mission, locations, etc.) between LAC+USC Medical Center and the neighboring University of Southern California Health Sciences Campus (USC HSC)
- Developing specific master plan options that preserve and enhance the medical care delivery mission of LAC+USC Medical Center, while still embracing opportunities for community health promotion, healthy communities programs, and other community health initiatives
- Involving the community in this planning process, while still managing expectations on their role in decision-making for the final set of recommendations for how the Medical Center might evolve over time

## Project Objectives

To help achieve the project goals, the following tasks were identified:

- Needs Assessment:
  - Identify other sources of needs-based data
  - Public outreach and community meetings to better understand needs and priorities of the community
  - Identify need for licensing and certification documents regarding possible new healthcare services
- Programming:
  - Review community land uses, traffic, and other urban planning issues impacting the Medical Center site
  - Identify community-friendly campus planning features to promote wellness
  - Identify signage and wayfinding strategies to improve existing campus use and identity

- Evaluate proposed first floor uses of General Hospital, as well as other uses of General Hospital
- Interview community institutions and organizations to identify other needs or opportunities for collaboration
- Interview LAC+USC healthcare providers to determine interest in developing on-campus programs
- Conduct interviews with other County departments and the USC School of Medicine to identify other collaborative programs
- Design Guidelines
  - Create general guidelines to be used for future campus or building design and development
  - Address building forms and massing, landscape and open plan design elements, graphics and wayfinding elements, and pedestrian opportunities
  - Address sustainable design concepts
- Public Outreach
  - Establish a public outreach program in order to inform local residents, businesses, and community organizations of the Medical Center campus planning project and to encourage participation in the process
  - Conduct community meetings and/or workshops to solicit community input into the planning process
  - Provide additional opportunities for community participation in and awareness of the progress of the Medical Center master plan through visits to community organizations

## Master Plan Process

### Overview of the Master Plan Process

The campus master plan, as envisioned and implemented by the Master Plan Team in collaboration with the County, was organized to address broad and high-level campus issues, including the following:

- Identify existing uses on the Medical Center site

- Evaluate current campus attributes, including: existing property and land uses, building conditions, basic site infrastructure, perceived life-cycle value of existing buildings, topography, potential building zones, etc.
- Understand local site and neighborhood planning context
- Evaluate relevant urban planning variables potentially facing LAC+USC Medical Center, or being influenced by the Medical Center
- Identify alternative growth and development strategies for the current campus
- Identify a “campus vision” that is both achievable and meets the objectives of the report
- Document a long-term campus plan strategy that extends 20-30 years
- Prepare an initial phasing plan that has component pieces that can be implemented and which, when completed, can demonstrate a thoughtful and sequential process toward the longer-term master site plan

This master plan focuses on broad and high-level campus planning issues. The campus master plan does not address the following:

- Space programming of existing or proposed new services/functions
- Detailed departmental operational assessments
- Design studies or preparation of design documents
- Architectural space programming
- Functional planning at a departmental level
- Move management services
- Engineering studies or drawings
- Detailed cost estimating at a project-specific level

These studies, at a more granular level of investigation, could be implemented by the County following the development of this master plan. They are important components of master plan implementation, but for the purposes of this report are not required at this time.

The completion of the master plan should provide the County with a general road map that can provide key decision-making criteria for initiating future building or land use changes with an understanding of the longer-term impacts of such decisions.

The preferred master plan illustrates a recommended scale and development language that meets the objectives of the report. Specific implementation of initial projects should be designed separately within established budgets, schedules, functions, and scale established for these projects. However, to the extent possible, future project development should follow, in principle, the guiding direction of the campus master plan and design guidelines illustrated in this report.

### Project Schedule

The project was initiated in March 2012.

In the second half of the study period, the scope of the LAC+USC Medical Center campus planning study was amended by the County to evaluate the need for, and potential impact of, a new inpatient tower building on the campus. The new inpatient tower building was initially proposed as a 150-bed medical/surgical bed addition. The actual range of beds, types of beds, and location analysis are summarized in a separate report.

## Background of Medical Center and Campus

### History

The LAC-USC Medical Center has played an active and integral role in the health of Los Angeles County since the mid-1800s, increasing its presence and services as the need for quality healthcare grew with the county’s population. The County’s role in healthcare began in 1856, when nuns from the Daughters of Charity of St. Vincent, from Emmitsburg, Maryland, traveled to Los Angeles to open an 8-bed hospital. This hospital would later become St. Vincent’s Hospital (Figure 2.02).



2.02 Original Wood Frame Hospital

The County purchased medical services from this hospital for indigent patient care, which had become the responsibility of the County under the Pauper Act of 1855. In 1878, under mounting costs to care for the medically indigent, the County opened its own 100-bed facility called the Los Angeles County Hospital and Poor Farm. The hope was that direct ownership of a hospital would lower or at least control mounting costs of providing indigent care.

During the first part of the 20th century, the mounting incidence of infectious diseases became such a public health concern that the County decided to build a new hospital. The new hospital's cornerstone was dedicated on December 7, 1930. The new 1,680-bed Los Angeles County General Hospital opened in December 1933 (Figures 2.03 and 2.04).

For much of its history, General Hospital has had a strong tie with the University of Southern California's (USC) Health Sciences programs. For almost 150 years, USC has operated a medical school, and almost from the inception, there has been a formal affiliation between USC and the County of Los Angeles to work together to provide medical training and clinician resources to the County's hospital where General Hospital was the primary facility training ground for physicians and other clinical staff members from USC.

During World War II and its aftermath, General Hospital was able to flex upwards of 2,200 beds in order to handle the growing inpatient demands from servicemen returning from the war.

In 1998, the County embarked on a replacement of General Hospital that would prove to be successful. Since the 1960s, there have been numerous studies and proposals to replace the aging General Hospital. Changes in medical delivery and technology, infrastructure demands, code and fire life-safety requirements, and changing patient expectations were just some of the factors generating the need for a replacement of the original General Hospital.



2.03 Construction of General Hospital, 1928



2.04 Near Completion of General Hospital, 1932

The initial replacement called for a 600-bed LAC+USC Medical Center facility, and a significant amount of the funding for this project came from the Federal Emergency Management Agency (FEMA), after General Hospital suffered building damage from the 1994 Northridge earthquake.

Completed in 2008, the new LAC+USC Medical Center provides trauma, inpatient, and primary and specialty outpatient care services for Los Angeles County. Over 25% of the County's trauma care is provided at LAC+USC Medical Center, reinforcing its key role as a local and tertiary care acute care provider (Figure 2.05).



2.05 New LAC+USC Medical Center, 2008

The anticipated introduction of the Affordable Care Act (ACA) will undoubtedly influence the services and operational priorities of LAC+USC Medical Center in the upcoming years. Expansion of health insurance to some 34 million persons is expected by 2019. This will be achieved through increases in eligibility for Medicaid (Medi-Cal in California). Some analysts are predicting that when the ACA is implemented in 2014, it will cause a spike in U.S. health spending of 7.4% over the 2013 levels.

The resultant challenges facing LAC+USC Medical Center, as well as other L.A. County hospitals, will be even greater than private sector hospitals, because of the Medical Center's role as a safety-net hospital. Public governmental hospitals, clinics, and nonprofit community health centers

represent much of a community's safety-net system. They provide necessary medical care services for uninsured, under-insured, and low-income persons who may or may not be covered by Medicaid.

Many safety-net centers also provide essential medical and allied health professional education and training, and are affiliated with local academic institutions. In addition, many of these facilities, like LAC+USC Medical Center, provide tertiary care services that historically lose money (for example, burn services and trauma care) but are also necessary services for the community, because most private hospitals do not provide these costly services.

The incentives and conditions of the ACA will require substantial organizational behavior adjustments of LAC+USC Medical Center, as well as at the other County-owned hospitals. The conditions of the ACA will also force a rethinking of campus development to focus on the provision of efficient outpatient services, and the implementation of operational systems and information systems to help improve patient outcomes and patient experiences.

LAC+USC Medical Center is part of the larger Los Angeles County Department of Health Services (DHS). To understand the importance of LAC+USC Medical Center, it is also relevant to comprehend the scale of operations and the mission of the entire DHS delivery system. Key attributes (as of February 2011) of the DHS delivery system are summarized below:

- Operates 4 hospitals
- Organized around 3 healthcare networks
- Of the patients served by DHS:
  - 70% are uninsured
  - 22% are Medicaid beneficiaries
  - 4% are Medicare beneficiaries
  - 4% have third-party insurance
- There is a diverse patient population:
  - 62% Hispanic
  - 13% Black

- 10% Caucasian
- 6% Asian
- Over 50% of patients speak a language other than English.
- The median income level of DHS patients is between \$5,000 and \$10,000.
- Chronic medical conditions are prevalent.
  - 34% of patients have hypertension
  - 31% of patients have high cholesterol
  - 22% of patients have diabetes
  - 14% of patients have depression
- Nearly 50% of DHS patients are new each year.
- DHS serves a disproportionate percentage of special-population patients (i.e., homeless, mentally ill, under the jurisdiction of child welfare agencies and/or law enforcement agencies).

With these and other patient demands and characteristics, the operational and disease management issues facing DHS facilities are substantial. As the core of the Los Angeles County healthcare safety net, the importance of these facilities and of DHS cannot be overstated.

This perspective is important, because it helps to inform both challenges and opportunities facing DHS, in general, and the LAC+USC Medical Center, in particular.

### Previous and Relevant LAC+USC Medical Center Planning Studies

During the almost 80-year history of LAC+USC Medical Center, there have been numerous planning studies performed for the Medical Center. This is especially true over the past 40 years.

The Master Plan Team has reviewed some of the more recent studies, to determine the relevance and/or applicability of these studies to the campus master plan being prepared by its team. At a minimum, these

studies further illustrate some of the threats, challenges, or opportunities currently facing the Medical Center.

LBL's summary of these reports follows.

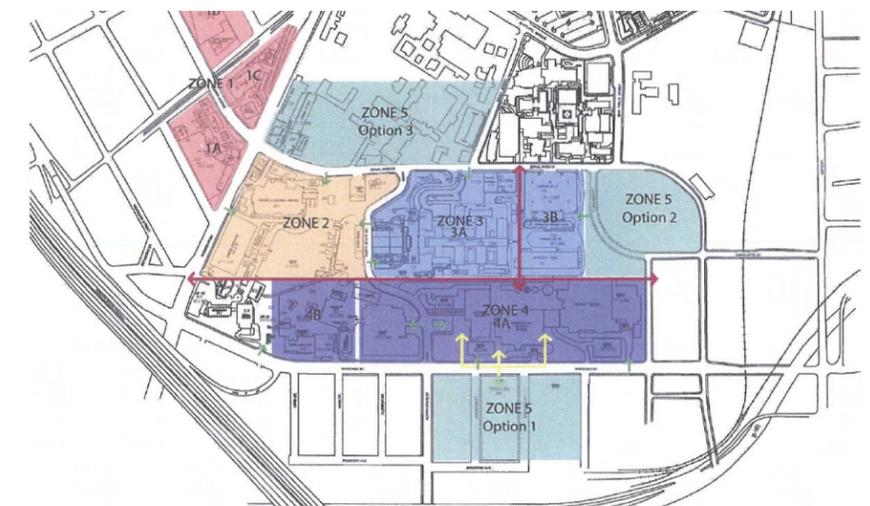
#### March 2007

#### LAC+USC Medical Center: Site and Facility Reuse Study, by Hamilton Klow Associates

Hamilton Klow Associates (HKA) prepared a site planning study for the Medical Center site that identified potential future campus zones and areas for growth and/or redevelopment. This study was performed before the new Replacement Medical Center opened in November 2008.

HKA had also performed in a 2005 preliminary site zoning study. This study proposed four specific campus zones:

- A zone dedicated to the Medical Center and its expansion
- A zone with the existing General Hospital to become a high density mixed-use center
- A zone established for a medically related research complex
- A land bank zone for use when the Medical Center needed to eventually replace itself



2.06 HKA Master Plan Study, 2007

The 2007 study proposed a campus master plan that would establish an overall direction for facilities, and site development. The plan charted a course of development for the next twenty years (Figure 2.06).

This plan anticipated the development of two distinct campus zones:

- A primary zone for Medical Center facilities as well as an expansion area for future development
- A secondary zone to contain new buildings for education, conference, and medical faculty offices

It was anticipated that these two zones would be organized around a pedestrian path that would strengthen the connection between the two campuses.

In the 2007 proposal, the existing General Hospital would be preserved as a historic building and developed as a mixed-use complex containing retail stores, restaurants, health club, and offices, along with a significant number of residential units. The existing ground floor of the extant General Hospital would also become a major pedestrian circulation link and provide spaces for different types of public services.

The HKA study provided insights into existing building conditions, and the cost-benefits of remodeling existing buildings. Its assessment was that the existing original General Hospital and the existing Outpatient Clinic Building (OPD) would each require extensive remodeling to achieve a repurposing function. **Each of the buildings, because of age, condition of infrastructure, code compliance, etc., would require remodeling costs in excess of 50% of the cost of replacing these facilities.** This indicates a high-cost premium of renovation to already old facilities in order to repurpose them.

#### October 2010

##### Capital Options for Reducing Emergency Department Patient Overflow at County Hospitals, by HDR Architecture

Issues of overcrowding and excessive wait times at the County's three Emergency Departments (located at LAC+USC Medical Center in Los Angeles, Harbor-UCLA Medical Center in Torrance, and Olive View Medical Center in Sylmar) led to a request by the County's Board of Supervisors

for a study of issues that were possibly impacting the throughput of emergency departments for these facilities.

This study, performed by HDR Architecture, also evaluated the current uses and potential need for additional medical/surgical beds, as this was a possible explanation for the excessive wait times that the emergency departments were experiencing.

One of the findings of the HDR report involved the potential needs at LAC+USC Medical Center.

The HDR study had other recommendations involving Harbor-UCLA Medical Center and Olive-View Medical Center, but only the conclusions involving LAC+USC Medical Center are summarized here.

Within the Emergency Department, the number of available ED beds is 132, with a then-current demand ranging from 108 - 113, which indicated a potential surplus of 19-24 ED beds.

The current license of inpatient beds at LAC+USC Medical Center is 600 beds, with a then current inpatient demand ranging from 575 - 697 beds, indicating a potential deficit of 97 total beds. This was converted to a potential deficit of 106 medical/surgical beds. One explanation given at the time was that with overburdened medical/surgical beds, it was difficult to transfer LAC+USC Medical Center's Emergency Department patients from the ED to a medical/surgical bed. This resulted in an overcrowding of the ED since patients had to be held in the ED until a medical/surgical bed became available.

A number of other operational variables were identified by HDR which could significantly influence the potential need for medical/surgical beds. For example, at the time of the 2010 study, Harbor-UCLA and Olive View Medical Centers had a combined 170 beds available for use that were not budgeted to be staffed. Other scenarios included contracting with private sector providers to off-load the peak demands, and/or divesting some service lines that were chronically under-utilized or strategically consolidating Centers of Excellence (COE) to gain more productivity and efficiency of the available beds within the system.

HDR's evaluation of possible expansion sites led to their initial assessment that the LAC+USC Medical Center site was the most

appropriate site to add new inpatient beds, if that was the desired outcome. Adding beds on this campus would address the local need for medical/surgical beds, and also help to reduce the patient transfers out of LAC+USC Medical Center to Rancho Los Amigos.

HDR's initial recommendation was to build a new Bed Tower in the location of the existing OPD (Outpatient Clinic Building). This inpatient structure could accommodate 32-36 beds/floor, for a potential total of 144 new medical/surgical beds if 4 new floors of nursing services were provided. The existing OPD would need to be demolished and replaced elsewhere on the campus.

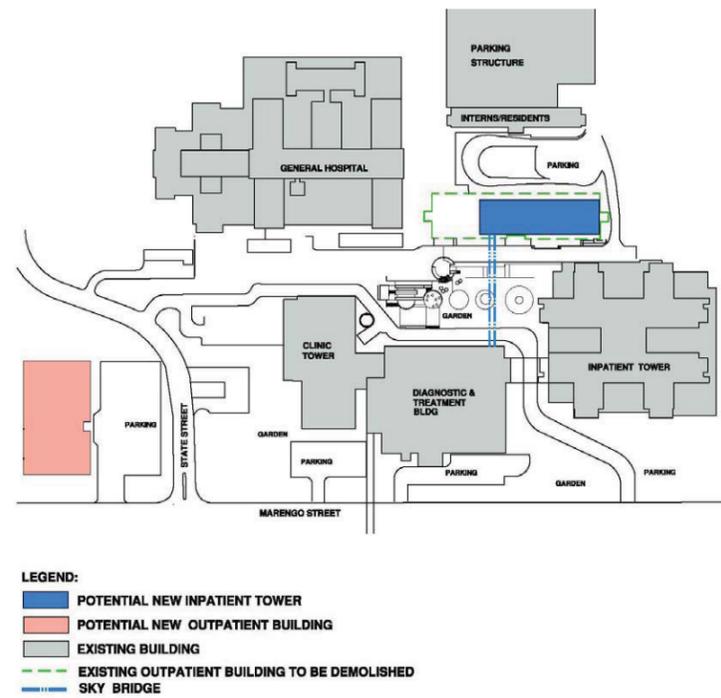
The perceived strengths of a new bed tower at LAC+USC Medical Center included the following:

- The area available for a building footprint may allow an optimal-sized patient unit on one contiguous floor, thereby achieving higher levels of staff productivity.
- Views from the upper floor patient rooms will be attractive, with view of local mountains and adjacent open areas.
- The existing courtyard could remain. If the new building footprint impacts the existing courtyard, then it may present opportunities to alter some elements of the courtyard that are not that effective. The existing courtyard is generally seen as an asset that provides visual relief to all campus users and helps to soften the urban setting.
- The available area may also allow for expanded support functions that will be necessary to support the new inpatient beds.
- There is other space in the area in which to expand in the future.

Possible weaknesses of this strategy include the following:

- The site is not immediately available and will require the demolition of the existing OPD. HDR's assessment of the OPD was of a building that did not have any aesthetic value and which was not contributing to the health and wellness of its users.
- There is added cost to relocate the OPD.
- The OPD location, while allowing for bridge connections, will result in a longer than ideal travel distance from this location to the existing Diagnostic & Treatment Building.

Presented below is the diagram prepared by HDR to illustrate the location of a new bed tower in the location of the existing OPD (Figure 2.07).



**POTENTIAL NEW PATIENT TOWER OPTION  
LAC+USC MEDICAL CENTER**

2.07 Plan from HDR Report

**October 2010**

**LAC+USC Medical Center General Hospital: Reuse and Protective Storage Plan, by Ken Kurose Architect**

When the existing General Hospital was damaged by the 1994 Northridge Earthquake, the County and FEMA (Federal Emergency Management Agency) agreed that FEMA would provide financial assistance for a project, in lieu of rehabilitation of General Hospital, for a replacement of damaged hospital facilities and the subsequent reuse and protective storage (mothballing) of General Hospital.

A Memorandum of Understanding (MOU) was executed in 2000 by and between FEMA, the California State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, and the County of Los Angeles to implement two specific phases of work. The Phase I work consisted of the construction of the replacement hospital. This project opened in November 2008.

The Phase II work, portions of which had already been completed by 2008, also required two additional scopes of work. This included the following:

- Preparation and submittal of a “General Hospital Reuse Study”
- Development of criteria for treatment of General Hospital for conformance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties (Secretary’s Standards)

The Kurose report effectively met the requirements and obligations of the County to satisfy the MOU.

The report contains three primary sections:

- **Building Condition Assessment:** This section provides an assessment of the building envelope, the mechanical, electrical, and plumbing (MEP) systems, the vertical spaces, and the general building attributes.
- **Preservation Components:** This section provides an assessment of interior spaces and the historic integrity of these spaces. It also identifies unique spaces and other character-defining features that may be worthy of future preservation.
- **Stabilization and Mothballing Plan:** This section addresses recommendations for building stabilization and mothballing strategies.

The Kurose study indicated that floors 1-5 will, in all likelihood, have some building occupancy, with floors 6 and above mothballed. It speculated that with this continued building use, the basic building systems and functions should continue to be managed and maintained, to ensure the overall integrity of the building.

The report goes into detail about the current conditions of various building elements, including the exterior surfaces, roofing, windows, mechanical

systems, 1969 elevator tower, electrical systems, plumbing systems, fire alarm and life-safety systems, structural systems, medical gases, and vertical systems (stairs and elevators).

The Kurose consulting team made the following general observations:

- The building is in generally good physical condition, owing to the fact that it had been in continuous operation and used as an acute care hospital
- Building systems and components appear to have a high degree of functionality and efficiency
- The building envelope requires attention for repair and rehabilitation
- Other building systems may require moderate modifications and rehabilitation.

**Summary**

These report summaries are intended to capture the understanding of previous investigations and studies for DHS and/or LAC+USC Medical Center. These studies have potential influence on the future design of the campus master plan. Clearly, there has been a substantial amount of study on the site, the existing General Hospital, and utilization studies of beds and emergency department services for the County’s hospitals.

The intent in summarizing some of these more recent studies is to help inform the Master Plan Team and the reader to have a better understanding of the historical perspectives of others who have studied this campus.

**Current LAC+USC Medical Center Strategic Goals**

**Department of Health Services Strategic Plan**

To prepare for healthcare reform initiated by the ACA, and to respond proactively to new and/or anticipated challenges to the public service role of existing L.A. County hospitals, the Los Angeles Department of Health Services (DHS) prepared its March 2011 Strategic Plan.

The Strategic Plan was informed by many County departments, community and university partners, and the offices of the Board of

Supervisors. It also recognizes that the plan will continue to evolve as it is implemented.

The core **mission** for DHS as a whole is: To ensure access to high-quality, patient-centered, cost-effective healthcare to Los Angeles County residents through direct services at the Department of Health Services (DHS) facilities and through collaboration with community and university partners. The **vision** for DHS is to be the most effective and innovative county healthcare system in the country.

The **values** for DHS and its programs include the following:

- Put patients first
- Provide care that is culturally competent, linguistically appropriate, and geographically accessible
- Learn continuously and strive to work at the top of its skill set
- Empower its patients, their families, and their communities to be involved in their healthcare
- Collaborate with other County departments, health providers, educational institutions, and advocacy groups
- Function as an integrated, coordinated system across facilities, service types, and geography
- Embody the values of the Los Angeles County government, including accountability, can-do attitude, integrity, leadership, respect for diversity, and responsibility

The **Strategic Plan Goals** include the following:

- Transform the Los Angeles County Department of Health Services from an episodic, hospital-focused system to an integrated high-quality delivery system, including community-based primary care and behavioral health providers focused on prevention, early intervention, and primary care with appropriate referrals for specialized services
- Assure sufficient capacity of hospital-based services to meet the needs of the residents of Los Angeles County
- Create a modern IT system that improves the care of its patients and assures efficient use of resources

- Assure the long-term financial well-being of the safety net health services in Los Angeles County
- Foster a culture of empowered staff and community, organized labor, and university partners constantly looking for opportunities to improve the services provided to patients

These goals outline the main strategic interests of DHS to best meet the mission of the County hospitals. Please refer to the full document, **Los Angeles County Department of Health Services Strategic Plan, March 2011**, for more detail regarding specific strategies and objectives.

#### Challenges Under Health Reform

The leadership of LAC+USC Medical Center has preliminarily identified the challenges and opportunities facing the Medical Center under anticipated healthcare reform. It is still unclear how the ACA will change delivery patterns once implemented in 2014. The proactive response by Medical Center leadership will enable the Medical Center to remain nimble and responsive to the changing healthcare delivery landscape. Some recent DHS initiatives are summarized below.

According to Medical Center leadership, some of the key initiatives that safety-net hospitals will need to address include:

- **Customer service:** LAC+USC Medical Center, as a safety-net hospital, will need to adjust its culture of delivery, and focus on creating a positive patient experience. The Medical Center will need to enhance its operations and facilities/programs/site to attract and retain current and future patients who may have health insurance under healthcare reform and who will have choices as to where they receive their care.
- **Coordinated care:** Enhanced coordination of care will be necessary at LAC+USC Medical Center so that future patients will receive their care in an appropriate setting and in a timely manner to minimize more-costly hospitalization or hospital visits. There will be a greater need for coordination between County clinic settings and hospital admissions. Management of the patients' medical conditions will be essential. Health promotion and preventative care will result in fewer patient demands for costly hospital services. Promotion of wellness will encourage self-responsibility for life-style habits and decisions that can lead to healthier status. If successful, these outcomes can

lead to greater patient satisfaction within the safety-net system that the Medical Center provides.

- **Improvement in infrastructure:** To achieve some of the initiatives listed above, it will be essential for the Medical Center to have timely access to patient records. Enhanced electronic patient records will be invaluable to achieve the timely coordination of care and the culture of promoting health management.
- **Contain and control costs:** Healthcare reform, while expanding the population of those who will have health insurance under Medicaid, will also have provisions for less funding. Safety-net hospitals will need to address methods for controlling costs in order to remain competitive under healthcare reform.

#### July 2010

##### Transforming DHS: The Restructuring of Ambulatory and Managed Care Services Within the Los Angeles County Department of Health Services-Work Plan of the DHS Ambulatory Care Restructuring Steering Committee

In April 2010, the Los Angeles County Board of Supervisors instructed the Office of the CEO and the LA County Department of Health Services to initiate a process that would result in a robust DHS ambulatory care system, integrated with managed care services that would support the County's full delivery system.

One important goal was to transition from a system that focused on episodic patient care to a planned delivery system. If successful, this transition to a more thoughtful and integrated ambulatory care model would help to better manage patient care, reduce unnecessary emergency department and inpatient utilization, and reduce the length of stay (LOS) in DHS hospitals.

The Steering Committee formed for this effort established a Guiding Vision and set of Principals. The key element of the Guiding Vision was to become a provider of choice for the County's defined population by:

- Focusing on patient-centered care
- Documenting improvements in health status
- Providing sufficient capacity
- Reducing barriers to care

- Integrating with other levels of the County's healthcare system
- Managing, through continuity and coordination, the delivery of care
- Operating efficiently in order to manage cost
- Serving as the entry point into the DHS delivery system

More than 20 principles were identified to help achieve the Guiding Vision. This effort highlights the commitment by the County to establish DHS Ambulatory Care as an integral component of the County's healthcare system. If successfully implemented, it reinforces the County's goal of improving the model of healthcare and health status of populations served.

**February 2011**

**DHS – LA County DHS Delivery System Reform Incentive Pool Proposal**

The Delivery System Reform Incentive Pool (DSRIP), of the California Section 1115 Waiver special terms and conditions, provides an opportunity for DHS to invest, expand, and attempt healthcare solutions that are based on evidence-based practices. The LA County DHS perceives this as an opportunity to revise its delivery practices, to become an improved healthcare system, and to make itself more competitive in the emerging market(s) of healthcare reform.

Specifically, DHS is focused on achieving three specific goals: making real improvements in population health, improving the patient's experience of care, and reducing the cost of care. Embedded in these goals is fixing problems that have led to poor coordination and inefficiencies of delivery practices.

The DSRIP proposal for LAC DHS encompasses investments in three distinct categories:

- Infrastructure development
  - Implement use of registry functionality to enhance automated reporting for improved patient care tracking
  - Expand nurse advice line utilization to divert non-urgent ED visits to other appropriate services
  - Expand role and participation in clinical data bases for standardized data sharing

- Innovation and redesign
  - Implement the medical home model with at least 100 primary care providers delivering care using that model
  - Assign at least 100,000 patients to primary care medical home teams
  - Expand the chronic care management model into primary care sites
- Urgency improvement in care
  - Improve severe sepsis detection and management
  - Reduce central line-associated bloodstream infections
  - Reduce the rate of surgical site infections

These initiatives clearly indicate the progressive and aggressive attitudes of the LAC DHS to redesign current operating systems and attitudes to become more competitive, efficient, and productive, while also striving to increase the quality of its care and service delivery.

**Healthcare Reform / Other Industry Pressures**

**Current Status of Healthcare Reform**

The Camden Group (TCG) is a nationally recognized healthcare consulting firm that participated on the Master Plan Team. TCG provided additional and objective insights into the possible threats and opportunities facing both DHS and the LAC+USC Medical Center. A brief synopsis of their analysis and perspective is below.

Healthcare reform is well underway and many elements have been or are in the process of being implemented such as:

- Areas that expand coverage
  - Subsidies begin for small businesses (<50 employees) for employee coverage (up to 35 percent of premiums)
  - High-risk pool to cover those individuals with pre-existing conditions
  - Insurance companies barred from denying coverage to people for pre-existing illness

- Children permitted to stay on their parents' insurance policies until their 26th birthday
- Eliminate cost-sharing of preventive services in Medicare
- Minimum Medical Loss Ratio ("MLR") of 85% for large group, and 80% for individual and small group insurers
- Increase in taxes/fees to pay for reform
  - Ten percent on indoor tanning services
  - Drug makers face an estimated annual fee of \$2.8 billion in 2012 (rises in subsequent years)
  - HSA/FSA/MSA changes
  - Reduced Medicare payments to hospitals for preventable readmissions
  - Pharmaceutical manufacturers must provide a 50% discount on brand-name prescriptions for Part D (additional fee of approximately 2%)
  - No more federal Medicaid payments to states for certain hospital-acquired infections
  - Income tax increases for selected populations (based on income)
- Cost control, care model changes, and other provisions
  - States must offer Medicaid medical home plan for those enrollees with high-risk health conditions
  - Frozen income threshold for income-related Medicare Part B premiums
  - Payments to private Medicare Advantage plans declining
  - Pioneer Accountable Care Organization (ACO) begins
  - Ten percent Medicare bonus payment for PCPs and general surgeons practicing in HPSAs
  - DSH funding decrease
  - Funding for Center for Medicare & Medicaid Innovation ("CMMI")
  - DHHS to develop and update a national quality improvement strategy
  - Payments for primary care residency programs in community-

- based ambulatory patient care centers
- Recognition of voluntary ACOs
- Medicare Independence at Home demonstration program
- New Medicaid demonstration projects – pay bundled payments for hospitalizations; pediatric ACOs; capitated payments to safety net hospitals
- Medicare Shared Savings Program (“MSSP”) begins: ACO delivery systems
- Reduced payments to Medicare Advantage plans; bonus payments to high-quality plans
- Reduced Medicare payments for hospital readmissions (starting October 2012)
- Bundled Payment for Care Improvement Initiative (awardees of model 1)
- Numerous CMMI demonstration models testing new care model and payment mechanisms
- Productivity adjustment added to the Medicare market basket update
- Medicare hospital value-based purchasing program (based on performance and quality measures)

In addition, 2013 and 2014 are significant years for ACA implementation. In these years, many changes will be taking effect, including the following:

- Expanded coverage:
  - Covered California, the California Health Insurance Exchange, will begin enrolling people October 1, 2013. Coverage begins January 1, 2014.
  - Insurance companies are barred from denying coverage to anyone with pre-existing illness.
  - Requirement for most people to have health insurance (those that do not will have to pay a penalty of 1% of family income or \$95, whichever is greater, in 2014. Penalties increase in subsequent years (2015: 2 percent or \$325; 2016: 2.5 percent or \$695).

- » Subsidies begin for lower-and middle-income people: up to 133 percent Federal Poverty Level (FPL) pay maximum of 2 percent of income for coverage; up to 400 percent FPL pay up to 9.5 percent.
- » Expand Medi-Cal and increase coverage for those with incomes up to 138 percent FPL.
- Covered California is intending to include Medi-Cal Bridge Health Plans that will cover those individuals who “churn” (e.g., flip-flop into and out of Medi-Cal coverage based on income) who have incomes between 138-200% FPL.
- Small businesses are eligible for a healthcare tax credit if they have 25 or fewer full-time equivalent employees for the tax year, pay employees an average of less than \$50,000 per year, and contribute at least 50% toward employees’ premium cost.
- Employers with 50 or more full-time equivalent employees that do not offer affordable insurance or offer coverage that does not meet minimum standards will be subject to penalties starting in January 2014.
- Small businesses with fewer than 50 full-time equivalent employees that do not provide health coverage will not face a penalty.
- Increases in taxes and fees
  - Employer (50+ employees) mandate begins: penalty of up to \$3,000 per employee (2014)
  - Insurance industry begins to pay fees (2014)
  - Increased Medicare tax for high-income individuals and families (2.35% on income in excess of single \$200K; married \$250K)
    - » New 3.8% tax on investment income
    - » Excise tax of 2.9% imposed on sale of medical devices
    - » Increase threshold of itemized deduction of unreimbursed medical expenses to ten percent of adjusted gross income
  - Limit contributions to Flexible Spending Accounts (“FSAs”) to \$2,500 per year (thereafter, increased annually by COLA)
- Cost control, care model changes, and other provisions
  - Nationwide Medicare bundled payment pilot program
  - Medicare and Medicaid DSH hospital payments reduced (begin October 2013)

- Increase Medicaid payments for primary care services provided by PCPs for 2013 and 2014 with 100% federal funding
- Establish Independent Payment Advisory Board
- Medicare Advantage plans must have medical loss ratios no less than 85%
- Medicare and Medicaid DSH hospital payments reduced

#### How ACA Healthcare Reform Impacts LA County

Healthcare reform could impact LA County public hospitals in many areas, including:

- More competition from other health systems
  - They will target Medi-Cal population and newly insured.
  - They will seek to increase population health management.
  - They will increase access points.
  - They will link to FQHCs (federally qualified health centers), community clinics, urgent care, etc.
- Hospital inpatient use is anticipated to decline on a per capita basis, as physicians are incentivized to reduce overall spending
  - Admissions/1,000 and patient days/1,000 are anticipated to decline.
  - Greater use of the non-acute healthcare continuum, expect increased use of post-acute services.
- No payment for certain readmissions
- Revenue per unit will not keep up with expenses
  - Budget challenges: Medicare, Medi-Cal, and County
- Insurance Exchange will start in January 2014. Enrollment begins October 2013.
  - LA County has largest uninsured residents at 2.2 million
    - » 42.6% or 937,200 of uninsured will be eligible for Medi-Cal
    - » Estimated 970,000 individuals will remain uninsured by 2019, due to immigration status or lack of outreach (may be eligible for healthcare)
  - Reduce premiums and costs
  - Public more involved and greater choice of benefits/plans

- Public will have greater choice regarding provider access
- Greater pricing and quality transparency
- Other coverage expansion
  - 240,000 will be eligible through parents' healthcare plans
  - 580,000 children with pre-existing conditions will no longer be denied coverage by health insurers
  - Dual eligibles will move to a managed care delivery system (September 2013)

Threats/Challenges	Opportunities
<ul style="list-style-type: none"> <li>» Private hospitals may focus on attracting the County's current patients that will now be eligible for insurance decreasing LAC+USC's volume and market share</li> <li>» Overall inpatient use will decline or move to outpatient and post-acute</li> <li>» More transparency will show LAC+USC's performance and competitors</li> <li>» Health Families and dual eligibles moving to managed care could change referral patterns, directed to other hospitals and providers</li> <li>» If quality, safety, patient experience is low, reimbursement will be effective</li> </ul>	<ul style="list-style-type: none"> <li>» Build and strengthen existing relationships and referral patterns; add access points</li> <li>» Increase in outpatient services and non-acute services along the continuum</li> <li>» Dual eligibles and health families moving to manage care, contract with health plans</li> <li>» Newly insured patient through exchange</li> <li>» New health plan enrollment for exchange and managed care patients could change referral patterns - opportunity to steer patients to LAC+USC?</li> <li>» Participate in savings from effectively managing populations (e.g., diabetes, heart disease, and obesity) ACO</li> <li>» Hospitals with high quality and patient satisfaction will be eligible for additional funding</li> </ul>

2.08 Potential Threat and Opportunities to LAC+USC Under Healthcare Reform

The anticipated threats and opportunities facing LAC+USC Medical Center include some of the following, as projected by healthcare consultants on the Master Plan Team (Figure 2.08).

**Strategies for Consideration to Strengthen Role of LAC+USC**

With our current understanding of the provisions of the ACA, there are proactive measures that LAC+USC Medical Center, and DHS, can take to strengthen its role as a safety-net provider, and as a community resource. Some of these measures mentioned previously. Presented below are additional initiatives that could be considered by the Medical Center to remain competitive under healthcare reform.

- Reduce costs
  - Target operating costs below Medicare reimbursement
  - Reduce readmission rates (use co-management agreements)
  - It is all about the per unit metric
- Improve Population Health Management (new care models)
  - Patient-centered medical home
  - Accountable Care Organization/clinical integration
  - Bundled payment/care rates (co-management)
  - Provider economic incentives (quality, patient satisfaction, and cost improvement)
- Improve quality of care, customer satisfaction, and "value"
- Increase access points
- Become a "closed system"
  - Change benefit plans for LA County employees/dependents to direct volume to the County's system
  - Contract with health plans, target dual eligibles, etc.
- Invest in Information Technology (meet meaningful use)
  - EMR (hospital and ambulatory)
  - Computerized Physician Order Entry ("CPOE")
  - Enterprise Data Warehouse ("EDW")
  - Interconnectivity with community, other health systems, clinicians, clinics, etc.

- Results reporting
- Meet Stages 1 and 2 meaningful use

The Camden Group reviewed **DHS's Strategic Plan dated April 4, 2011**, and found:

- Overall direction is appropriate, given industry change
  - Mission
  - Vision
  - Values
- The five goals are appropriate and DHS may want to consider some additional thoughts:
  - Address DHS as a provider of superior value and easy access
  - Address the need and use of Post-Acute Care services by DHS
  - Address the clinician provider network in terms of new payment models, with incentives for achieving stated goals
- Strategies
  - Consider contracts to provide services to health plans (e.g., Molina, LA Care)
  - Utilize performance metrics (e.g., productivity, quality, patient satisfaction, cost) to incentive staffing and clinicians

Overall, DHS appears to be moving in the right direction. It is being comprehensive in its approach to cover a large number of initiatives, and is beginning the process of transforming DHS to respond to a new era in healthcare.

**Possible Scenarios for DHS and LAC+USC**

Possible collaborative and integrated strategies for both DHS and LAC+USC Medical Center include:

- Using DHS as hub and spoke delivery model to support academic affiliation
  - This means DHS will need multiple access points that are geographically disbursed throughout the service area

- Public/private partnerships - affiliations with FQHC's, community clinics, and others
- DHS will be stretched financially with its academic affiliation as funding gets challenged
- The academic affiliation is helpful for staffing, medical expertise, and improved quality
- DHS will need to leverage its academic affiliation to offer superior value, through the adoption of new care models
- DHS as health manager
  - DHS will need to build capabilities to manage a population and coordinate care across the continuum
  - Will need partnerships along the continuum who are aligned to achieve value
  - DHS will need to build IT infrastructure that will integrate a patient's medical record, allow for point-of-care interventions, and identify/manage patients with chronic conditions
  - DHS educates the population on prevention of obesity and other high-cost chronic conditions
- DHS as low cost leader
  - DHS could position itself as a low-cost leader to provide medical care to the residents of LA County and health plans serving this newly insured population. In this scenario, LAC+USC will need to:
    - » Demonstrate value (high/comparable quality; high/comparable patient experience; lower cost)
    - » Contract with health plans to steer volume to LAC+USC
    - » Obtain population health expertise and build successful track record
    - » Have or partner for alternative, lower-cost setting along the continuum

**Healthy Community Concepts**

Creating a high-quality medical center is not sufficient in itself for engendering health in Los Angeles County. Renovation and improvement of the Medical Center must go hand-in-hand with a community

commitment to improving lifestyles to promote good health. Healthy communities will require less medical intervention and costs, thus allowing those patients who truly need medical aid to receive it in a timely manner, and preventing poor lifestyles from impacting medical aid to the greater community (Figure 2.09).

**What is a Healthy Community?**

The World Health Organization defines a healthy community as "one that is safe, with affordable housing and accessible transportation systems, work for all who want to work, a healthy and safe environment with a sustainable ecosystem, and **offers access to healthcare services which focus on prevention and staying healthy.**"

The healthy community initiative is based on the concept that "health is more than the absence of disease, and, in this context, health is defined broadly to include the full range of quality of life issues."

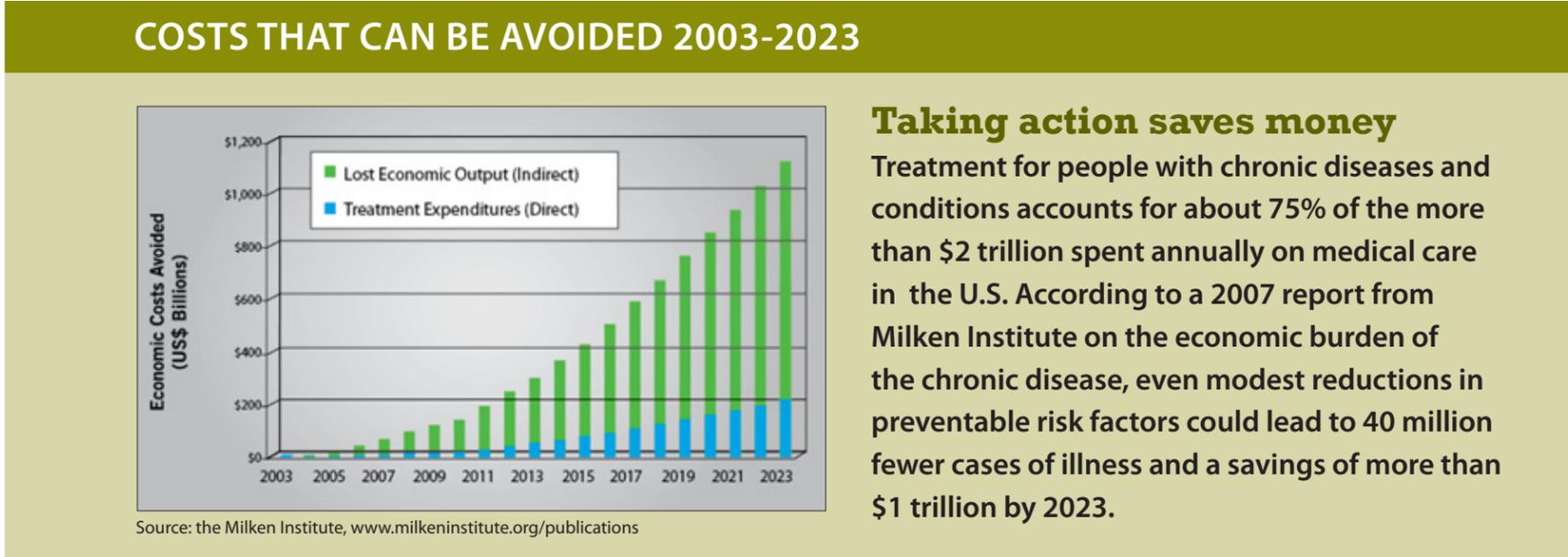
Healthy communities strive to provide opportunities for individuals and families to stay healthy, while adequately addressing public health, medical care, and other essential needs of its population. In addition, a

healthy community demonstrates an element of inter-connectedness. When a healthy community initiative is undertaken, a communal spirit develops, linking public, private, and nonprofit sectors to address the underlying causes of poor health. Healthy community participants represent the wide spectrum of interests and roles that make a community work.

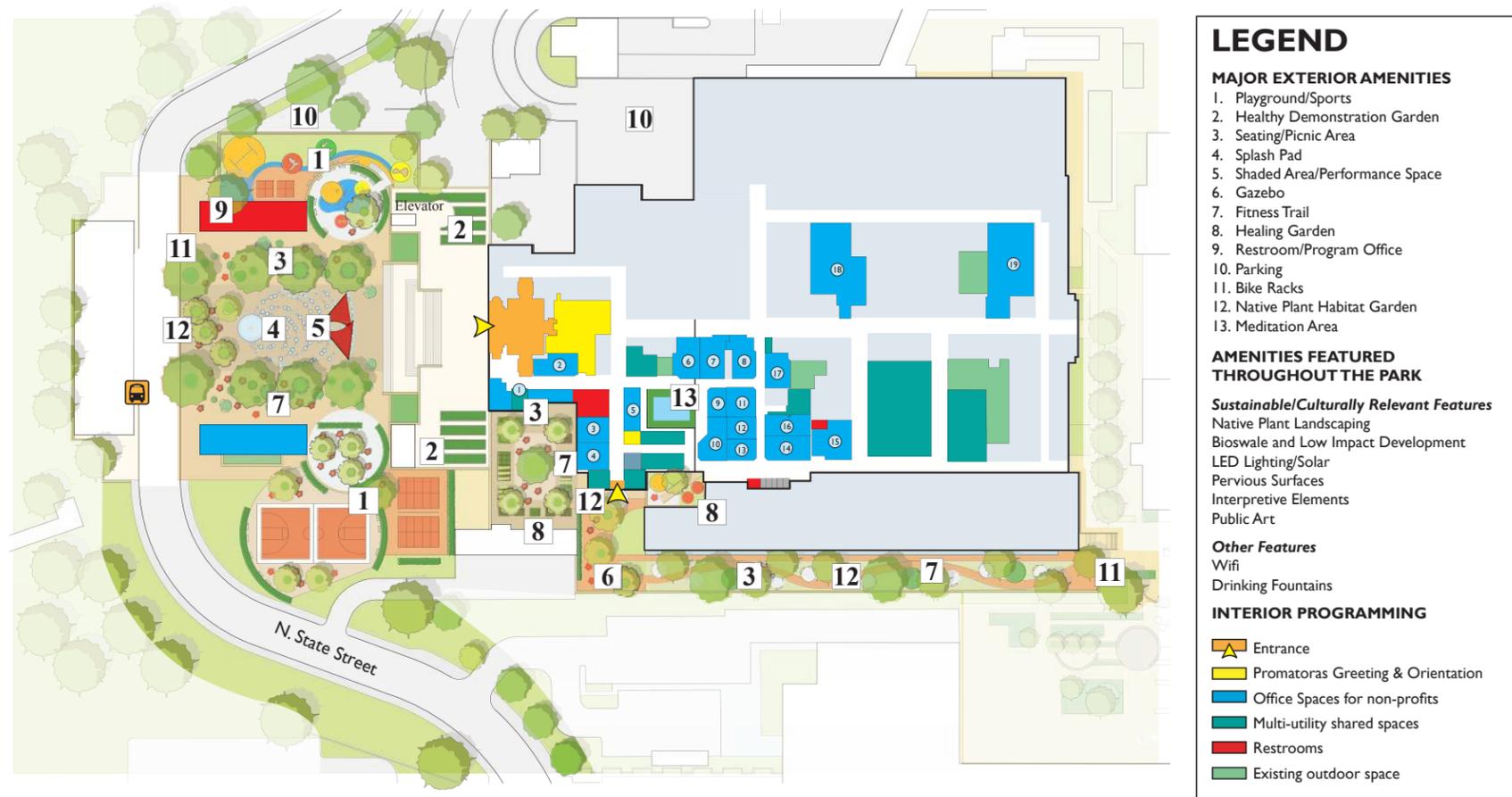
**Why is a Healthy Community Important?**

Designing a healthy community where there is focus and resources on disease prevention and staying healthy is more important than ever. Healthcare costs are increasing year after year, as are chronic diseases and conditions, such as cancer, heart disease, stroke, obesity, diabetes, and arthritis. The majority of these diseases and conditions are caused by preventable risk factors (e.g., tobacco use, physical inactivity, unhealthy eating) that can be significantly reduced by health promotion or prevention.

Health promotion or prevention education differs from the more familiar medical models of treatment. In treatment, the medical expert will seek to remedy something that is wrong. Health promotion and prevention



2.09 Potentially Avoidable Healthcare Costs



**CONCEPT LEVEL SITE PLAN**  
WELLNESS CENTER WITH OUTDOOR PARK AND FITNESS AREA

2.10 Wellness Center Concept Plan

encourages taking positive steps to improve and sustain well-being before injury or disease can occur. Designing a healthy community can contribute to creating healthy lifestyles.

**Los Angeles County's Interests in Promoting Healthy Communities**  
The interest of Los Angeles (LA) County in promoting healthy communities align with Los Angeles County Department of Health Services' (DHS) focus for LAC+USC Medical Center to become the provider of choice for patients by the year 2014. Part of this focus includes creating a friendlier campus, and improving accessibility to the campus by the surrounding communities. A program that exemplifies this focus is the Wellness Center in the historic General Hospital. The Wellness Center seeks to serve as a transition from medical care to wellness and preventative care by providing access to nonprofit organizations to educate residents and patients, expand preventative health services, provide a safe place to play and exercise for any age or ability (Figure 2.10).

The LAC+USC Medical Center Master Plan provides a guideline for all future development of the campus, the delivery of healthcare services, and health-related community programs, bringing together County-operated and community benefit elements. The focus of the Master Plan includes enhancing the existing high level of medical care, while encouraging healthy lifestyles that promotes wellness and preventative care.

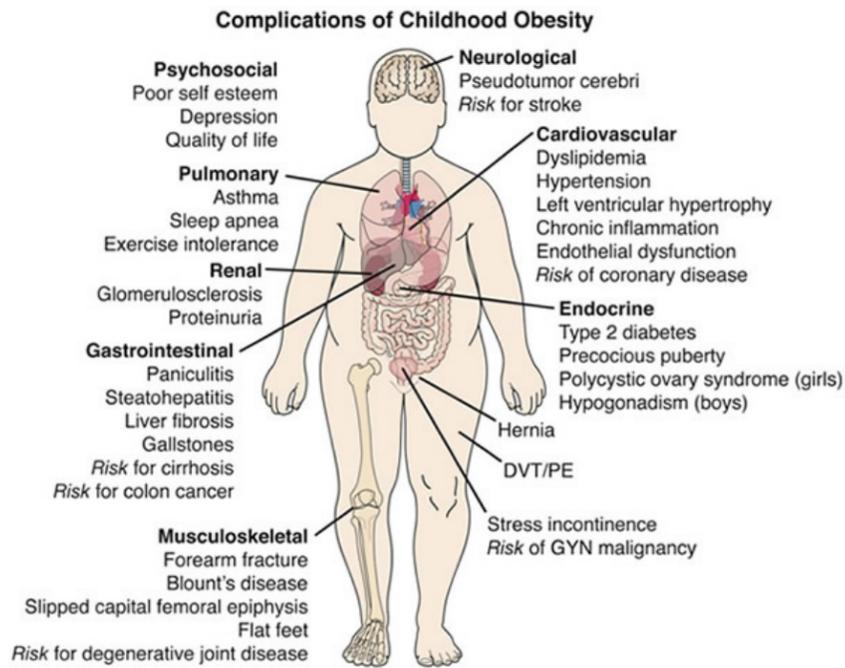
**Elements of a Healthy Community**  
There is no single definition of a healthy community or the elements of a healthy community. The Center for Disease Control and Prevention offer the following elements of a healthy community:

- Encourage development near existing infrastructure
- Encourage development within existing communities
- Reduce auto dependence, provide a bicycle network and storage
- Provide housing and jobs proximity, design walkable streets

- Promote community livability, transportation efficiency, and walkability
- Encourage mixed-income diverse communities
- Reduce the parking footprint
- Manage transportation demand
- Provide access to public spaces
- Provide access to active spaces
- Encourage local food production
- Promote the neighborhood school system

**Obesity Trends in the US and LA County**

Over the past three decades, obesity prevalence in the United States has **doubled** among adults and **tripled** among children. Obesity is approaching tobacco use as the leading preventable cause of death in the United States and is a major factor in the escalating cost of healthcare. In Los Angeles County, the prevalence of adult obesity increased from 13.6% in 1997 to 23.6% in 2011 (Figure 2.11).



2.11 Complications of Childhood Obesity

Nationwide, an estimated 15% of children and adolescents are “overweight.” In Los Angeles County, the rate of overweight children is even higher: A statewide physical fitness testing program of 5th, 7th, and 9th grade students attending public schools in 2001 found that 21% of students in Los Angeles County were overweight and an additional 19% were at risk for becoming overweight.

**What a Healthy Community Can Achieve and How**

The physical design of a community can affect your health the minute you walk out the door.

Healthy communities can **reduce the risk of obesity, heart disease, and hypertension** by integrating physical activities into residents' daily lives. Some ways to achieve this include:

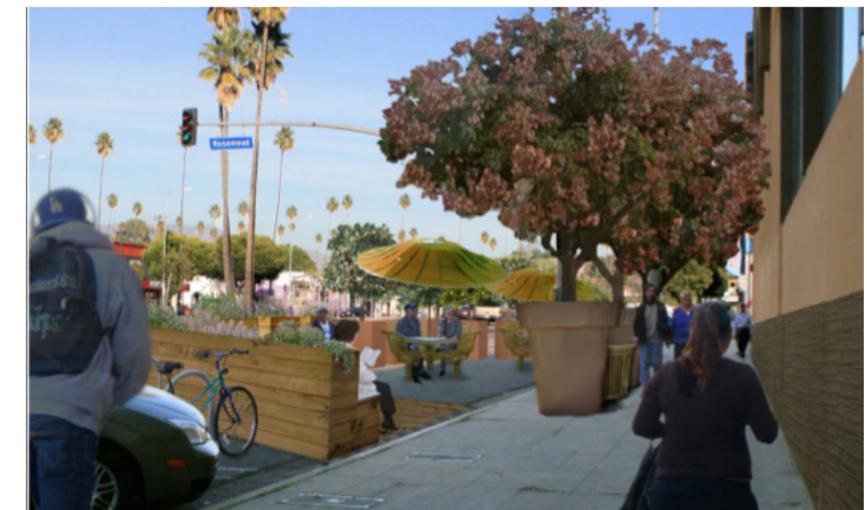
- Developing communities that promote walking
- Encouraging shorter vehicle trips
- Placing a variety of open spaces and parks close to work and home
- Providing daily activities and resources within walking and biking distance



2.12 Public Transportation and Biking at the Medical Center

Healthy communities can **reduce the risk of asthma and other respiratory diseases**, and reduce air pollution and injuries from vehicle crashes. This can be achieved by:

- Encouraging other modes of transportation such as walking, biking, and public transit (Figure 2.12)
- Providing accessible, safe, and comfortable transit services
- Reducing air and noise pollution
- Increasing street lighting and providing well-marked crosswalk and bike lanes will assist in reducing injuries



2.13 Example of Activated Community Space

Healthy communities can increase a **sense of social connection and community** (Figure 2.13). Some methods of achieving this include:

- Developing communities that promote walking
- Encouraging shorter car trips
- Placing a variety of open spaces and parks that are close to work and home
- Providing daily activities and resources within walking and biking distance

Healthy communities can also help to **improve mental health**. This can be achieved by:

- Reducing the amount time spent commuting to work, and increasing the amount of time devoted to leisure, community activities, and family
- Providing a variety of active open spaces close to work and home

Healthy communities can **encourage healthier diets**. This can be done by:

- Making fresh fruits and vegetables more accessible through promotion of community-based and local food production (Figure 2.14)
- Providing healthier and more affordable food choices through community gardens, farmer's markets, fewer fast food options, and healthy restaurant options (Figure 2.15)



2.14 Example of Community Garden



2.15 Example of Local Farmers Market

### National and State Organizations Promoting Healthy Communities

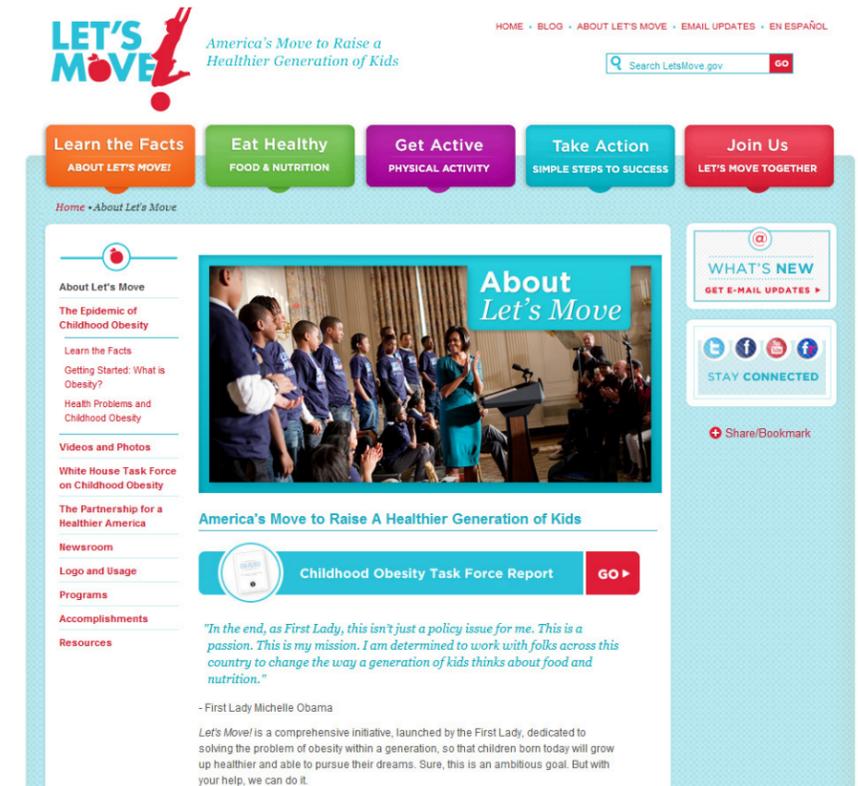
Healthcare costs are increasing, even as incidents of chronic and preventable disease continue to increase. Organizations nationwide have recognized the importance of promoting health and wellness.

#### Let's Move!

Let's Move! is a nationwide campaign to end childhood obesity in America. The campaign was started by First Lady Michelle Obama, with the goal of solving the problem of obesity within a generation. Let's Move!'s mission includes creating a healthy start for children, empowering parents and caregivers to make healthy choices, providing healthy food in schools, improve access to healthy, affordable foods, and increasing physical activity (Figure 2.16).

#### The Partnership for a Healthier America

The Partnership for a Healthier America (PHA) is another nationwide organization devoted to working with the private sector to ensure the health of our nation's youth by solving the childhood obesity crisis. PHA brings together public, private and nonprofit leaders to negotiate meaningful commitments and develop strategies to end childhood obesity.



2.16 Let's Move Website

#### The California Endowment

The California Endowment is a private, statewide health foundation with a mission to build a stronger state populace by expanding access to affordable, quality healthcare to underserved communities and improving the overall health of all Californians. With the slogan "Health Happens Here," the California Endowment focuses on prevention by way of educating about junk food and sugary drinks, advocating for places to walk and play, supporting organizations that work to increase safety in the streets, promoting healthier food in schools, and increasing exercise and fitness activities in schools.

**Local Organizations Promoting Healthy Communities**

Perhaps more exciting than the national organization that supports healthy communities, are the local, grassroots organizations and initiatives that are unique to Los Angeles. These groups understand the importance of healthy communities and are working from the ground-up to see their vision come to fruition.

Proyecto Jardin

Proyecto Jardin is a community garden that is located on land donated by White Memorial Hospital in Los Angeles. The garden is a community resource where people can find the inspiration and common ground necessary to build a healthier and more peaceful community through cultivation of the earth and a deeper understanding of nature. The garden is organized based on four pillars of health: healthful eating, exercise, herbal medicine, and community. The garden has edible plants, a covered solar-powered exercise area, and a medicinal herb garden. Proyecto Jardin uses garden-based activities to inspire generative learning, to support base-building, and to strengthen community bonds.

The Ovarian Psycos

Founded in 2010, the Ovarian Psycos are a women of color bicycling brigade, who cycle for the purpose of healing their communities physically, emotionally, and spiritually by addressing pertinent issues. The Ovarian Psycos envision a world where women of color are change agents who create and maintain holistic health with themselves and their respective communities for present and future generations (Figure 2.17).



2.17 Ovarian Psycos

Florence Nightingale Middle School "D3" Lab

Florence Nightingale Middle School is a public middle school located just outside of Highland Park in the community of Cypress Park. The school created a program called the "D3" Lab - Dream it. Design it. Do it. The program is designed to help students learn how to change their community. As part of the D3 Lab, the students campaigned to create safe bike passages to their school. As part of their campaign, the students recognize that biking is an important form of exercise that can help to reduce obesity. To that extent, they petitioned for safer bike routes to school and safe bike storage at the school (Figure 2.18).



2.18 Example of Bike Storage

Building Healthy Communities Boyle Heights

In support of the “Health Happens Here” campaign, the California Endowment is working on a 10-year “Building Healthy Communities” initiative. Through this initiative, fourteen underserved communities across California were selected to bring health back to their communities. Boyle Heights, a community served by the LAC+USC Medical Center, was chosen as one of the fourteen underserved communities (Figure 2.19)

Issues to be tackled by Building Healthy Communities include housing, unhealthy environmental conditions, community safety, youth development, and access to healthy foods. Success will be measured through empirical benchmarks such as childhood obesity rates and school attendance. Specific to Boyle Heights, community organizations are working to develop the labor, social, and academic skills; mental and physical health; and overall engagement of youth in the community. Elected officials and organizations are working with residents to help overcome the lack of homeownership within the community.

The screenshot displays the BHC Connect website interface. At the top, the logo reads "BHC Connect Building Healthy Communities". A search bar is located in the upper right corner. Below the logo is a horizontal navigation menu with items: Home, +Join BHC, About BHC, BHC Communities, Newsletters, Calendar, Blogs, Directory, BHC Resources, BMoC, Greenlining Inst., and Youth Leadership. On the left side, there is a vertical sidebar menu with a "Boyle Heights" section highlighted in orange. This section contains a list of links: Boyle Heights Announcements, Boyle Heights Calendar, Boyle Heights Community, Boyle Heights Documents, Boyle Heights Geo Map & Data, Boyle Heights Group Discussions, Boyle Heights Hub, Boyle Heights Newsletter, Boyle Heights Outcomes, Boyle Heights Photos and Videos, Boyle Heights Social Media, Boyle Heights Steering Committee and Partners, City Heights, Del Norte County and Adjacent Tribal Lands, East Oakland, East Salinas, Eastern Coachella, Fresno, Long Beach, and Merced. The main content area features a large banner with the text "Congratulations Boyle Heights LGBTQ Forum" and a photo of five people holding a rainbow flag. Below the banner, there is a section titled "BHC Boyle Heights Announcements" with two entries: "Focus Group in Boyle Heights" (Posted Aug 28, 2013, 4:45 PM by Joel Collaborative) and "CicLAVia" (Posted Aug 28, 2013, 4:22 PM by Joel Collaborative). To the right of the announcements is a circular logo for "Building Healthy Communities Boyle Heights" featuring a stylized tree with various icons like a book, a house, a person, and a fruit basket.

2.19 Building Healthy Communities





### Community Identity

General Hospital is acknowledged to be one of the most recognizable buildings on the LA County landscape. This Master Plan is focused on enhancing the stature of the historic General Hospital as well as furthering the community prominence of the entire LAC+USC Medical Center campus, and the programs and services offered there. Some of the key campus attributes to be addressed in the Master Plan include:

- **Medical Excellence:** LAC+USC Medical Center has been a symbol of medical excellence in southern California for more than 125 years. The Medical Center has served as the backbone of the Los Angeles County healthcare system, providing primary care and specialized services for residents locally and throughout the Los Angeles basin. New campus development must continue to promote healthcare excellence appropriate for this teaching hospital.
- **Healthy Communities:** The development and maintenance of healthy communities has been identified as one of the most important aspects of maintaining a vital and sustainable campus for the long term. The design guidelines presented in this report establish a set of design criteria to promote health and wellness programs consistent with the evolving role of the Medical Center.
- **Civic Presence:** The Los Angeles County healthcare system has been an important institution for many years and its importance is reflected in the historic design of the original General Hospital. New construction and planning on the campus should be designed to reinforce the civic prominence of the institution.

Through thoughtful planning and the appropriate implementation of a well-organized, yet cost-effective, set of design guidelines, we believe that there are ample opportunities to build upon, enhance, and where appropriate, redefine the institutional and community image of the Medical Center. In this section of the report, we identify some of those opportunities.



3.01 LAC + USC Medical Center Campus [Partial View of Campus]

As the Affordable Care Act evolves and becomes a reality for all Angelenos, the Los Angeles County healthcare system will be adjusting to its new realities. Signing and graphics can be very helpful, not only moving clients through physical space, but also in educating the community, explaining new products and procedures, and creating a sense of security and well-being. They are also useful in building strong graphic communication images for the various resources on the site and its healthcare programs as a whole.

While some of the following proposals may fall outside of the purview of the traditional physical Master Plan, they seem appropriate to initiate at this time of major changes throughout the healthcare industry. Many of them are not just specific to the LAC+USC Medical Center campus, but could be applied to other sectors of the County's healthcare system, as well.



3.02 Examples of Street Banners

**Marketing**

As new services and activities are added to the campus, they should be promoted and explained to the various groups that will operate and use these Medical Center services. In addition to traditional promotion strategies such as direct mail and local advertising, other options could include:

- Promotional street banners that could be located on the major streets that service the campus and on selected well-traveled streets in the surrounding communities. The banners, which are normally a very cost-effective communication tool, should be festive and informational and change on an as-needed basis (Figure 3.02).
- Exterior poster kiosks located throughout the campus. These could be used for promotional purposes. The kiosks could also be combined with directory maps that are part of the campus-wide wayfinding system.
- The LAC+USC Medical Center web site could also be used to promote the Medical Center and its products and services. Making a short video or slideshow using smart phone images and voice-over narration for use on the internet is relatively easy to accomplish with today's technology.

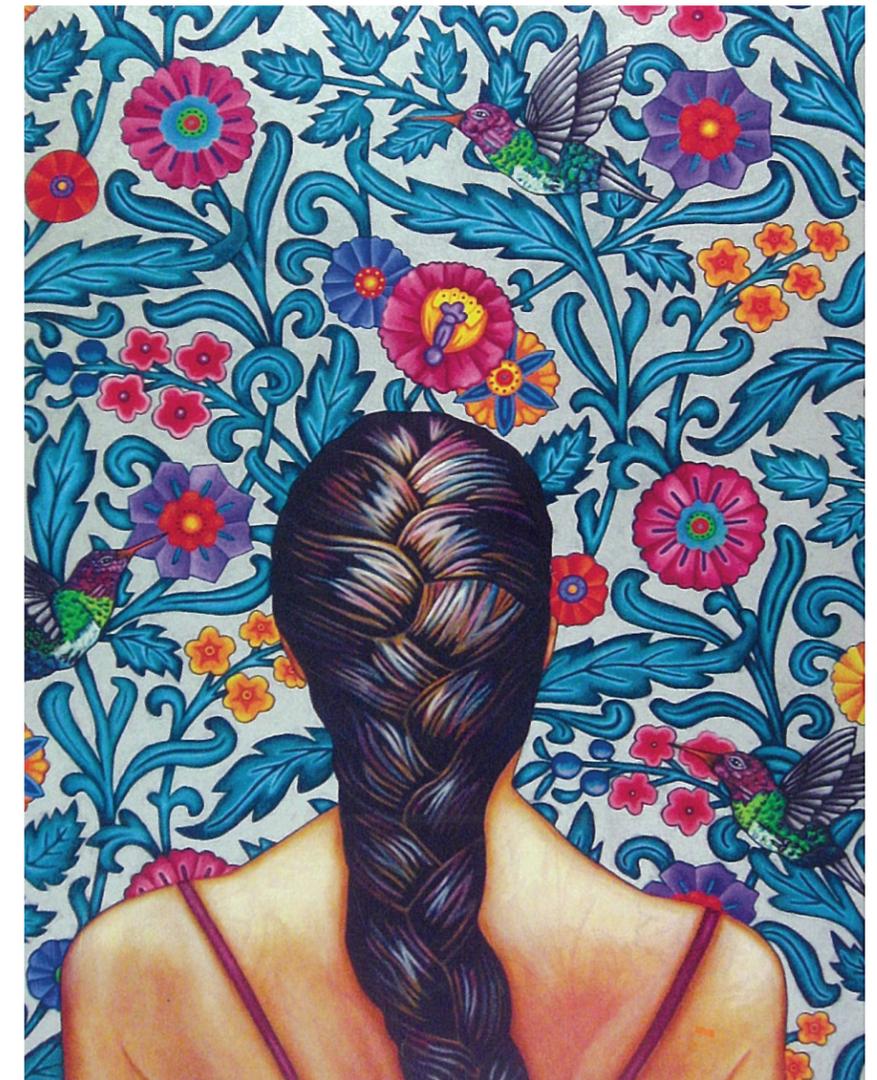


3.03 Interior Lobby, The Medical Village/VIP Clinic at LAC+USC

**Arts Program**

A curated arts program (Figure 3.03) presently exists at the Violence Intervention Program Forensic Center and Community-based Assessment and Treatment Center (VIP). This is part of the Outpatient Department on the LAC+USC campus under the auspices of the Los Angeles County Arts Commission.

This particular program emphasizes, but is not limited to local artists (Figure 3.04). The art work is available for local communities to exhibit, view and purchase. This program could be expanded to include the entire campus, and to include both a permanent and outdoor collection. As an example, Cedars Sinai Medical Center is well known for their interior art program – most of which has been donated or gifted to the hospital.



3.04 Exhibited Artwork: La Trensa #2 by Pola Lopez

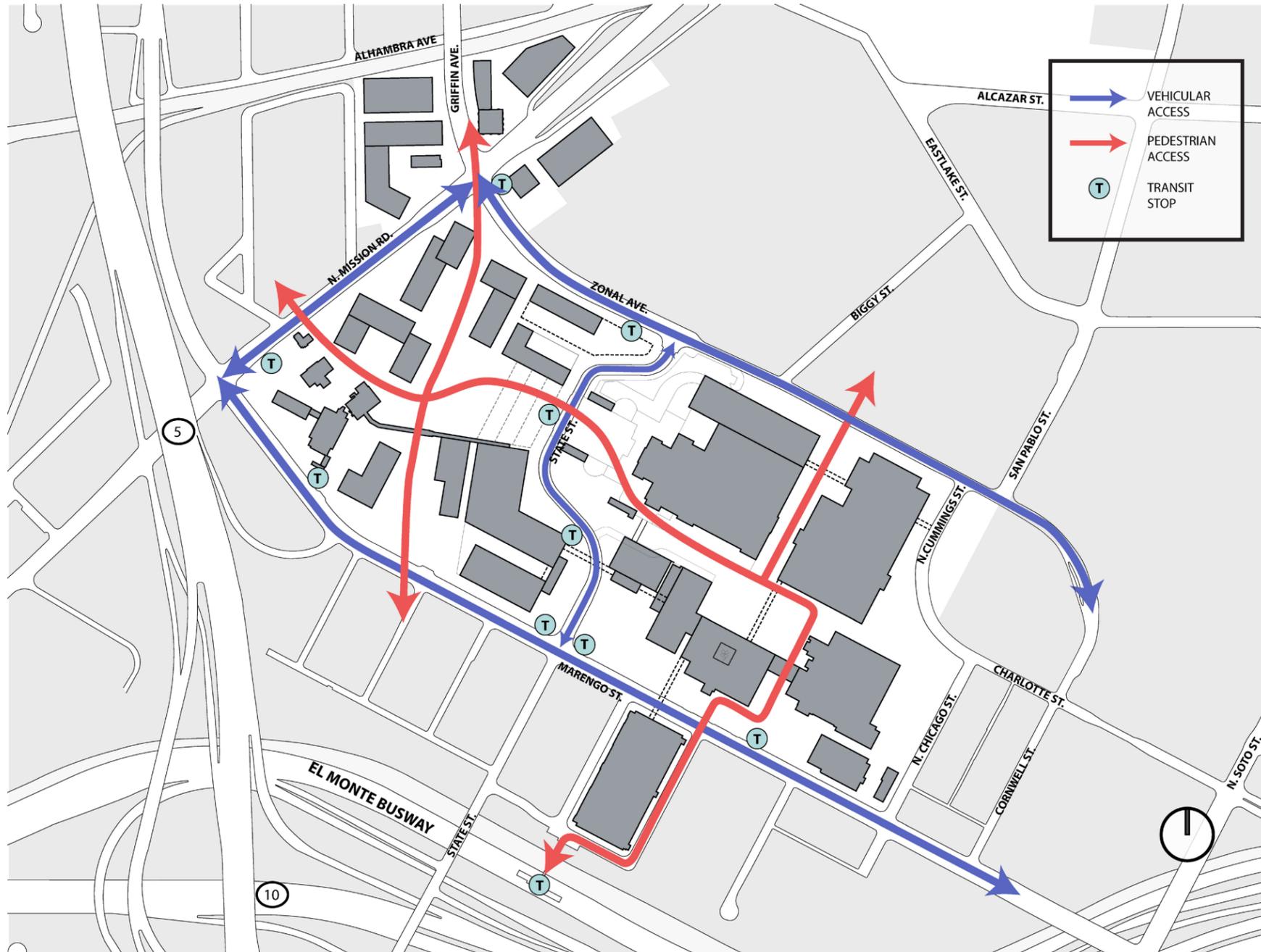


3.05 Existing Mural on Marengo Street



3.06 Interior Mural, VIP Center

Several diverse communities currently access and live adjacent to the LAC+USC Medical Center campus site. As this wall mural (Figure 3.05), from Marengo Street demonstrates, the visual language of many traditional Los Angeles communities is a rich and varied palette that could serve to animate currently blank or unused walls throughout the LAC+USC Medical Center campus. Consideration should be given to commissioning local artists to create colorful interior or exterior wall murals. These could enhance these spaces and build a welcoming bridge to the residents of the this area (Figure 3.06).



3.07 Access and Circulation - Conceptual Vision

## Access and Circulation

### Vehicular Circulation and Parking

With 600-beds, a tertiary care Level 1 trauma center, two major outpatient clinic buildings, and a proposed Wellness Center occupying portions of the First Floor of General Hospital, the number of visitors to the Medical Center site is very significant. Visitor volume may even grow as new programs and initiatives are established by the Medical Center to address healthcare reform issues to improve the population's access and health status.

Serving these public and patient populations are a County staff and USC HSC staff. Education programs at the USC HSC campus are proposed to grow which will only exacerbate the circulation and parking issues currently found on the site.

In the community meetings held for this project, and during the Visioning Session involving many County stakeholders, the lack of convenient onsite parking was a consistently voiced concern.

Accessibility, as mentioned earlier, was also voiced as a concern given the large site area and the various grade changes on the site. The LAC+USC Master Plan is tasked to address these issues, and possible solutions are identified later in this report.

Presented below are other possible ideas and concepts that might be considered at the Medical Center site. These programs have been used in other institutional settings, and they have proven to be successful in relieving some of the stress and inconvenience associated with other large campuses.

#### **EXAMPLE:** Santa Monica Civic Center Parking Lot

The Santa Monica Civic Center Parking Lot (SMCCPL) is notable for attaining Leadership in Energy and Environmental Design (LEED) certification and for its high quality aesthetic façade. In order to accommodate required levels of parking, many institutions must construct parking structures to avoid constructing large surface lots and limiting the potential for other onsite development. Since land and construction costs can be high, constructing the structure in a way that provides environmental benefits is one way to lower the operational costs

of parking structures. For instance, the SMCCPL includes the following design features:

- Photovoltaic panels
- Natural and fluorescent lighting with white ceilings
- Use of reclaimed water
- Storm water runoff treatment
- Recycled construction materials (concrete, steel, glass)
- Bicycle storage (long-term bicycle parking)
- Electric vehicle parking/charging spaces
- LEED educational materials

All of these features help reduce the cost of operating and maintaining this structure relative to a typical parking structure. Additionally, a parking structure can have negative aesthetic impacts in the local context; therefore, the City of Santa Monica has taken great strides to enhance the aesthetics of parking structures in the Civic Center area, which can often mask the presence of a parking structure and integrate the structure into the surrounding buildings and landscape (Figure 3.08).

We believe there will be a need for additional structured parking at the Medical Center to address immediate needs as well as the demand for parking created by potential new programs. The location and placement of structure, and surface, parking is a critical planning variable for the master plan effort.

Access to parking from surface streets, location and convenience to programs to be served, payment strategies, opportunities to incorporate sustainable design elements, aesthetic design features, and quantity of spaces are just some of the issues that will need to be addressed. In most urban settings with limited extensive public transportation, providing ample and appropriate onsite parking is a challenge. LAC+USC Medical Center is no exception to this situation, and the solution(s) to onsite parking is a high priority for the Master Plan.



3.08 Santa Monica Civic Center Parking Lot

**EXAMPLE: Loyola Marymount University Drollinger Parking Structure/Leavey Field**

Loyola Marymount University's (LMU) Drollinger Parking Structure (DPS) is an example of the innovative use of a parking structure with design features that incorporate the structure into the surrounding landscape. The DPS, which includes approximately 1,000 parking spaces, has a green roof that doubles as Leavey Field, providing open space and recreational opportunities in tandem with providing much-needed parking. The bottom floor of the structure is LMU's recycling center, which screens the recycling center from view and minimizes noise, odor, and visual impacts to adjacent student housing and single-family homes. Finally, the DPS is designed to be integrated into the surrounding terrain. By doing so, the parking structure cannot be viewed from homes to the south of the structure (Figure 3.09).



3.09 LMU Drollinger Parking Structure & Leavey Field

**Preferential Parking Scheme**

Given the differing parking demands and temporal parking characteristics of visitors and staff to a medical campus, developing a parking scheme that serves both groups can facilitate vehicular access to the project site.

Employee and visitor parking should be clearly marked and segregated within parking lots/structures. Employee parking should be distributed to parking locations throughout campus to facilitate access for staff who are at the site on a daily basis. Visitor parking should be concentrated in fewer locations that are closer to the hospital, outpatient clinics, and Wellness Center that attract the majority of visitors to the site.

Convenience and accessibility should be a priority for the visitors and public since they represent the customer base of the institution. Also, because their visits are normally much more infrequent than a staff member, they will be more unfamiliar with their whereabouts and how to navigate the campus. Therefore, parking locations for visitors and the public should be easily accessible and convenient to their likely destinations.

Additionally, preferential parking locations should be provided for vehicles that are part of travel demand management strategies, such as carpooling vehicles and car-sharing vehicles. Preferential parking for participants of such programs incentivize that behavior by providing preferred parking locations that are closer to buildings and allowing these groups to enjoy discounted or free parking on an ongoing or limited basis.

**Car Share**

Car-sharing systems are similar to bicycle-sharing systems, in that they are intended to provide a vehicle to individuals in the short-term such that they can enjoy the benefits of driving without the expenses and commitment associated with vehicle ownership.

Zipcar is an example of a car sharing program that currently operates in many urban areas, including the Los Angeles region. Like bike-share, if someone walks, bikes, or takes transit to the site, a car may be required for certain work-related or personal activities. Having a car available provides a good option for making trips during the day. Under such a program, a designated preferential parking space is typically identified for the car share program vehicle.

Individuals pay a membership fee to have access to the car and can then use it for limited periods of time (several minutes to several hours). The various individuals participating in the car-share program must make arrangements to use the vehicle such that all subscribers can use the vehicle to meet their needs (generally through an on-line portal).

**Travel Demand Management Strategies**

Travel Demand Management (TDM) uses various strategies to reduce or eliminate trips to a given site and can be focused on promoting alternative travel modes such as transit, walking, and bicycling. Figure 3.10 illustrates a menu of several TDM measures that might be appropriate for a campus, and their relative effectiveness and cost.

**Shuttle and Bus Circulation**

Discounted or Fare Free Shuttles/Circulators for Campus Patrons and Local Community

Similar in function to a bicycle-sharing scheme, a shuttle bus or circulator provides an option for traveling short distances on campus or to nearby destinations, where walking or driving and searching for parking can be inconvenient.

**TABLE 1 - TRAVEL DEMAND MANAGEMENT STRATEGY AND ASSESSMENT**

TDM STRATEGY	EFFECTIVENESS	COST TO IMPLEMENT
<b>Ridesharing</b>		
Carpool/vanpool match	Low (MS, VMT)	Low
Preferential parking for carpools/vanpools	Low (MS, VMT)	Low
Employer-sponsored vanpools	Low (MS); Med (VMT)	Medium
Carpool/vanpool/buspool operating subsidies	Low (MS); Med (VMT)	Low
Car-sharing	Med (MS); High(VMT)	High*
<b>Transit</b>		
Subsidized transit pass	High (MS, VMT)	High
Route maps and on-site information	Low (MS, VMT)	Low
Additional shuttle routes	Low (MS, VMT)	High
Guaranteed ride home	Med (MS); Low (VMT)	Low
*Depends on program structure and ability to recover costs through fees.		
TDM STRATEGY	EFFECTIVENESS	COST TO IMPLEMENT
<b>Parking management</b>		
Free/reduced parking rates for ridesharing	Low (MS, VMT)	Low
Preferential parking for vanpools/carpools/clean fuel	Low (MS, VMT)	Low
Pricing parking	High (MS, VMT)	Neutral
Commuter club	Med (MS, VMT)	Low
Parking cash-out (for employees)	Med (MS, VMT)	Low/High*
<b>Bicycle and Pedestrian</b>		
Subsidies to bicyclist/pedestrians for accessories	Marginal (MS,VMT)	Low
Bicycle lockers/parking/shower facilities/lockers	Low (MS, VMT)	Medium
Bicycle/walking route information	Low (MS, VMT)	Low
Bicycle and pedestrian friendly design	Low (MS, VMT)	Medium
Bike-sharing	Low (MS, VMT)	Medium
Distance learning	Medium (MS, VMT)	High
*Depends on program structure and ability to recover costs through fees.		

**3.10** Travel Demand Management Measures

Many universities and major technology employers offer subsidized or free transit services to people traveling to/from/around campus since it is convenient and provides additional travel options that can save time and money. If access to an existing system is granted to the local community, the marginal cost of providing that service would be relatively low, while providing substantial local benefit.

**EXAMPLE:** University of Washington UPASS Program for Employees

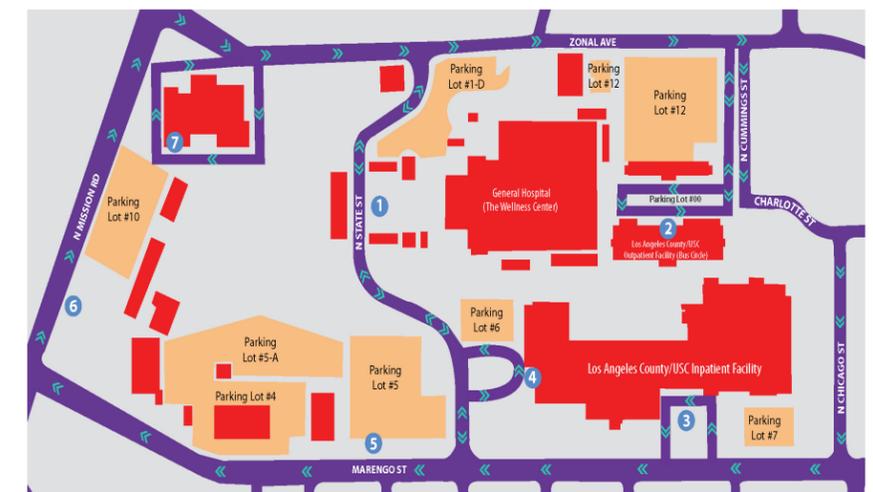
The University of Washington UPASS is a flexible program that staff can use to combine various transportation management strategies for a monthly fee. Such a program is structured around a transit pass that includes access to the local transit system, free or discounted parking for carpool participants, discounted daily parking (for a limited number of days), and a merchant discount. Additional strategies, such as bike share,

can be included that allow individuals to drive when necessary, but enjoy the benefits of an alternative to solo driving when possible.

Getting people to and around the Medical Center in an easy and efficient manner is important, especially since many visitors are already anxious due to their own illness or that of a family member. This concern about accessibility was voiced consistently in the community meetings and workshops conducted by the Master Plan Team. The large site area and the existing site topography only make general accessibility that more difficult.

The following are examples of initiatives that we feel can be implemented to make the trip to and around the LAC+USC Medical Center easier:

- Expand the shuttle system proposed for the Wellness Center to include other areas on the Medical Center campus. Figure 3.11 illustrates the currently proposed Wellness Center shuttle route.
- Use the current LAC+USC Medical Center website to provide trip-planning information for clients traveling to the Medical Center by car or public transit, including where to park, and which Metro stations and bus stops are closest to their final destinations.



**3.11** Proposed Wellness Center Shuttle Bus Route

### Pedestrian and Bicycle Circulation

There is a resurgence in bike use in many urban settings. The reasons are varied, and include biking as exercise, cost-effective modes of travel, fun, accessible, and convenient. Walking is also becoming more commonplace and popular for similar reasons. The thrust towards “healthy living and healthy communities” is also fueling the impetus to become more active and less sedentary.

The LAC+USC Master Plan is oriented towards creating a site and campus that is more open and inviting, and which can help encourage and promote population health and wellness. We believe by encouraging an active use of the campus, and not just for medical intervention purposes, the Medical Center can play an active role to promote wellness and public health. While we recognize that providing for cars and buses is inevitable, we believe that greater attention should be given towards bike ways and pedestrian walkways that encourage alternate modes of travel.

#### **EXAMPLE:** UCLA Bruin Walk and UCSB Pedestrian Walkway and Bike Path

Quality pedestrian and bicycle facilities are integral to facilitating access within a campus setting and limiting conflicts with other travel modes. The University of California at Los Angeles campus has “Bruin Walk,” a prominent walkway that provides pedestrian access to a number of destinations including student services, outdoor seating areas, lecture halls/classrooms, libraries, sports fields, open space, parking locations, and other walkways through campus (Figure 3.12).

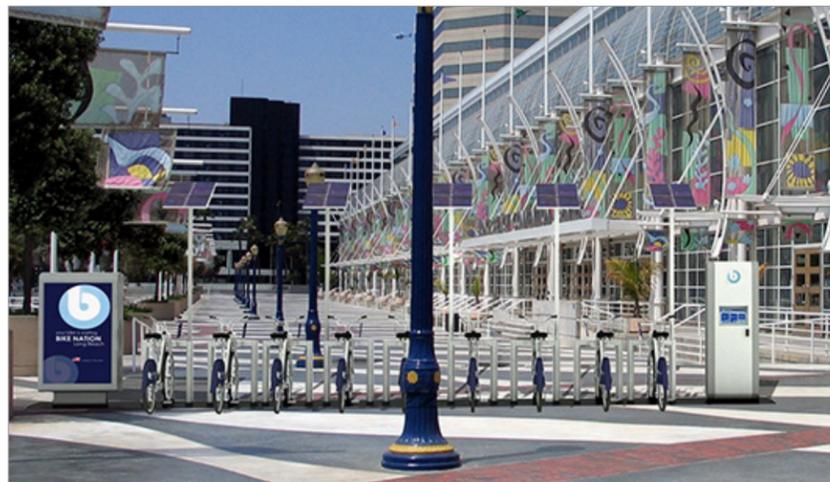
The University of California at Santa Barbara provides a pedestrian walkway through the center of campus with a parallel bicycle path. The walkway and bicycle path connect to other buildings and other dedicated paths for access through the rest of the campus. The pedestrian and bicycle pathways are of high quality materials and design, generally landscaped or tree-lined, can accommodate impromptu activities or congregation, and provide a safe and dedicated right-of-way, free of conflicts with cars or bicyclists along most of the facility.



3.12 UCLA Bruin Walk

#### Bicycle Share and Bicycle Parking

Bicycle sharing and bicycle parking serve similar purposes for persons traveling in a campus setting or who are traveling without a personal vehicle.



3.13 Example of bike sharing kiosk, Source: Bike Nation

Bicycle sharing is a system set-up for the purposes of making bicycles available to patrons who pay a fee to rent the bicycles in the short term (i.e. several minutes to several hours or days). If someone walks, drives, or takes transit to a workplace or school, a bicycle is a good option for making short trips to get around campus or nearby destinations and may be easier or faster than transit or driving and searching for parking.

Under such a scheme, several bike share stations would be set up at major destinations around campus such that a bike can be rented from one station at one location on campus and then returned at another station located elsewhere on campus. Pricing schemes vary for this type of service, but generally include a long-term membership where rides lasting a short while (i.e. 30 minutes or less) are included in the membership, and longer checkout periods are assessed an additional fee (i.e. \$2 every extra half-hour). The City of Los Angeles is currently working on such a system. If there is interest, LAC+USC could coordinate with the City of Los Angeles to request bike sharing stations or explore the possibility of operating a campus-specific scheme.

**EXAMPLE: NYC Citi Bikes Program**

This is a relatively new program established by the City of New York to offer bike sharing to anyone within the city. It is promoted as a convenient solution for quick trips around New York City (Figure 3.14).



3.14 NYC Citi Bikes

The Citi Bikes system, operated by NYC Bike Share features thousands of bikes at hundreds of stations around New York. Citi Bikes are available 24/7, 365 days a year. Station locations are based on population and transit needs, and were selected through a participatory public input process. Each station has a touchscreen kiosk, a map of the service area and surrounding neighborhood, and a docking system that releases bikes for rental with a card or key.

There are currently over 600 stations throughout the city, with different payment options available. A new Citi Bike app for smart phones is being tested which will enable users to determine if a particular station has available bikes or if the station is full, and will then direct the customer to the nearest station for the bike return.

Individuals already using a bicycle do not need to rent a bicycle, but do have to find locations to park the bicycle at their destinations. Bicycle parking should be provided at numerous locations throughout Medical Center campus. Short-term parking is intended for cyclists who will park for two hours or less. It should be located on the street level, near pedestrian access to buildings, and on the exterior of the buildings. Figure 3.15 illustrates an example of a short-term parking device.



3.15 Example of short-term bicycle parking, Source: www.parkabike.com

Long-term parking is intended for cyclists who will store their bicycle for several hours, overnight, or longer. This parking should, therefore, provide greater security and protection from the elements. It is recommended that long-term bicycle parking be enclosed and locked (Figure 3.16).

All parking should be located in a secure location, with adequate lighting, outside of the public right-of-way, and separate from vehicle parking. Long-term parking should be covered, as previously discussed. Inverted U-racks and the post-n-ring are recommended for short-term parking (each accommodates two bicycles).



3.16 Example of long-term bicycle parking. Source: CycleSafe, Inc.

## Landscape and Open Space

### The Medical Center Campus

In many respects, the existing LAC+USC campus is a very densely built campus. Although it is large in overall acreage, approximately 75 acres, on its main site, the experience for most visitors, patients, and staff is one of entering a urban campus with buildings and shadows, concrete walkways, asphalt driveways, hardscape elements, and minimal landscape or soft buffers (Figure 3.17).

To promote the concept of wellness and health, and to create a more inviting campus atmosphere, we believe the use of open spaces can activate areas to connect the communities served with the campus. The benefits of open space are numerous, and include some of the following:

- Creates a more inviting setting for visitors, many whom wait many hours for clinic visits or for family members
- Reduces the “heat island” effect of asphalt and other heat absorbing materials if tree canopies and landscaped areas can be achieved
- Provides for more pleasant walkways and building connections if the open spaces can be integrated with pedestrian walkways and landscaping
- Can serve as points of destination, or activity areas, for neighboring residents to accommodate such things as local farmers’ markets, health fairs, street fairs, etc.
- Can provide a balance with the existing built environment and future planned buildings
- Can provide for open spaces under which site utilities can be located and distributed throughout the site
- Can provide for a safe and secure pedestrian experience if proper lighting and signage are provided
- Can generally make the hospital visit experience much more pleasant to visitors when incorporated with parking lots/structures and building locations.



3.17 Open Space Concepts

Many local residents expressed interests and desire for the campus to become more inviting to the public, and they viewed more and better-designed open space as a way to accomplish this goal.

Landscape and open space areas should encourage outdoor recreation (primarily passive in nature), increase mobility and access to and through the site, and promote a sense of community with outdoor spaces accessible to residents of the adjacent community.

Open space should be established to improve the environmental well-being of the site itself by demonstrating exemplary sustainable design practices, such as increasing the sites biomass, encouraging locally sourced materials, capturing and treating onsite storm water run-off, reducing water consumption by using climate appropriate plants, and providing a range of educational, recreational, and healing opportunities. The landscape and open space strategy also play a critical role in the site’s overall branding and site navigation.

Landscape and open space are defined as everything outside of the building footprint. At the conceptual planning level, a series of Open Space Zones can be linked to create a unified campus with a multitude of accessible outdoor experiences.

Critical to the success of the open space is to develop these zones contiguous to program areas or buildings that can be supported by these zones. These zones should also be fully integrated with each other so as to form seamless transitions from one part of the campus to another accommodating ease of movement and areas of congregation.

## Sustainable Design Strategies

Environmentally responsible design is one of the many important goals of the LAC+USC campus Master Plan. The campus is a unique development opportunity for both restoring the ecological health of this historical urban site while enhancing the comfort and wellness of the people who frequent it.

Sustainable approaches should be integrated into every aspect of the planning, engineering, landscape and building design. A large scale campus has the potential to affect significant change through simple conservation; reducing energy and water consumption, recycling and producing less waste, minimizing pollution.

Even greater impact can be achieved through creative planning and innovative design. The potential development of onsite renewable energy, adaptive reuse of existing buildings, and the integration of high performance and healthy building design features, all help contribute to a campus that will serve as an example for future generations.

### Sustainability Requirements and Ordinances

The development will conform to the governmental sustainability requirements and ordinances listed in the appendix section of this report.

- Green building ordinance
- Drought-tolerant landscape ordinance
- Low impact development ordinance

A variety of sustainable strategies should be evaluated and incorporated into the planning and implementation of the campus. At a minimum, these strategies should include:

### Site Design

- Balance site grading and excavation
- Integrate stormwater management
- Integrate ground source thermal energy
- Provide centralized waste management and recycling
- Incorporate transportation strategy

### Landscaping

- Increase plant biomass on site
- Reduce heat island effect
- Promote low-water use landscaping
- Plant native and drought tolerant species
- Install efficient irrigation systems
- Use reclaimed water for irrigation
- Provide places of respite

### Lighting

- Reduce light pollution and light trespass
- Install energy efficient light fixtures

### Utility

- Provide central plant
- Manage energy and water use
- Require energy and water systems commissioning
- Install renewable energy systems:
  - Solar electric power
  - Solar thermal /hot water
  - Ground source heating energy

### Materials and Resources

- Use healthy and environmentally responsible materials
- Use high quality and high performance materials with low life-cycle costs
- Use regionally available materials
- Use materials with recycled/recyclable/renewable content
- Use materials that improve indoor air quality
- Recommend adaptive reuse of existing structures

### Educational Goals

- Make sustainable initiatives visible to the community

### Strategic Building Massing and Orientation

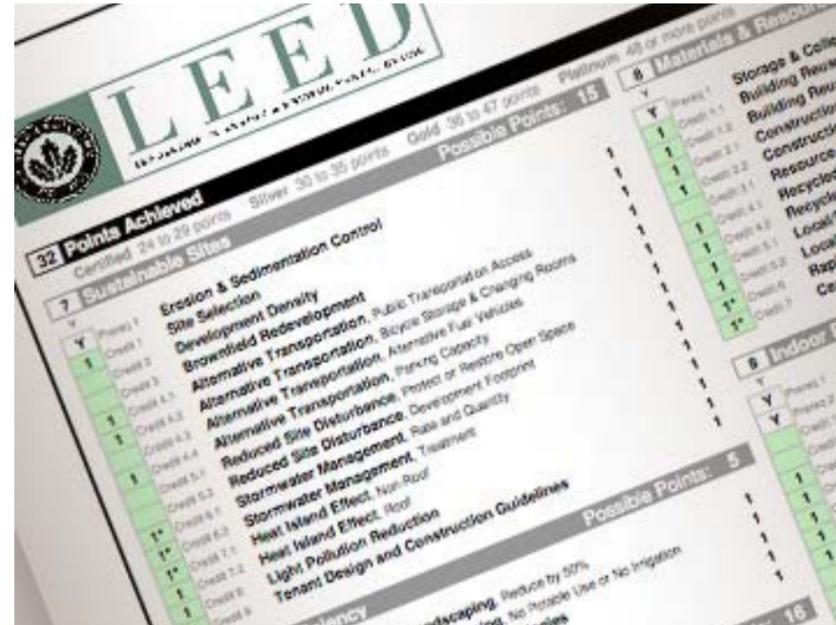
- Design buildings to reduce lighting, heating, and cooling demands

### Flexible Buildings

- Incorporate adaptability for future technologies and space uses
- Use interior materials that accommodate easy reconfiguration



3.18 Sustainable Landscape



3.19 LEED Certification



3.20 Transportation Strategy - Pedestrian Friendly Campus



3.21 Renewable Energy



3.22 Sustainable Lighting - Reduce Light Pollution



3.23 Visual Display of Energy Production/Saving

## Wellness and Well-Being

The pursuit of wellness and well-being is not a new concept. Through the recent years, however, there has been more attention towards personal responsibility for our health, fitness, and well-being, inclusive of spiritual, mental health, and physical well-being.

The statistics of health status are clear and alarming. The United States has some of the most advanced healthcare technology in the world. The United States spends more money per capita for healthcare than any other country. However, international organizations report the following:

- While the 19 next most wealthy countries by GDP all pay less than half what the U.S. does for healthcare, they have all gained about six years of life expectancy more than the U.S. since 1970.
- The U.S. stands 50th in the world with a life expectancy of 78.49.
- The U.S. ranks 48th best in the world for infant mortality rate (5.98/1,000 live births).
- A study found that between 1997 and 2003, preventable deaths declined more slowly in the United States than in 18 other industrialized nations.
- The World Health Organization (WHO) in 2000 ranked the U.S. healthcare system first in responsiveness, but 37th in overall performance and 72nd by overall level of health (among 191 member nations included in the study).
- Between 1990 and 2010, among the 34 countries in the OECD, the US dropped from 18th to 27th in age-standardized death rate.

Proponents of wellness and public health argue that individual self-responsibility must play a larger role in achieving better and improved population health. Consequences of obesity, chronic back pain, diabetes, hypertension, and arthritis, can in many instances be mitigated by positive changes in personal lifestyle and behavior.

We believe that many of the concepts advanced by this Master Plan can help to achieve the start of a “healthy community.” Many community residents expressed a desire for more health-related programs at the Medical Center. Health education, cooking classes, exercise

opportunities, low-impact/passive recreation activities, and access to fresh and locally grown produce/fruits were frequent requests made by local residents. Residents are becoming increasingly aware that to achieve a more balanced health status, they must take more control over their daily health. They believe that the Medical Center can provide the foundation for resources to help achieve their goals.

The proposed Master Plan can begin to advance the concept of **salutogenesis**, or the study of health development (Figure 3.24). Key goals of the salutogenetic model include:

- Identify ways to create, enhance, and improve physical, mental, and social well-being.
- Provide a framework to help individuals, organizations, and communities to move toward optimal well-being.
- Develop strategies to achieve positive health.
- Leverage attributes of salutogenesis within the framework of a new and improved healthcare system.

This is in direct contrast to **pathogenesis**, which is the study of disease development. Our country’s healthcare system is founded within this framework, which essentially starts with disease and infirmity and then works retrospectively to determine how individuals can avoid, manage, and/or eliminate that disease or infirmity.

Our contention is that both pathogenesis and salutogenesis need to work hand-in-hand with each other to be effective. LAC+USC Medical Center is already a proven and respected center of excellence in the performance of pathogenesis and the treatment of disease and injury. To be more competitive in the future, we believe that the Medical Center will need to be more balanced in its approach to healthcare delivery.

Population health, wellness, and the promotion of healthy communities are concepts being advanced by the current health reform movement. We believe this is not a short-term fad, but it based upon economic necessity and the need for better overall health status for our populations. These integrated models are showing effectiveness in Europe, Asia, and South America, and the Medical Center Master Plan can promote campus features to encourage a more successful model of wellness and well-being.



Mobile Healthcare Solutions



Healing Gardens



Community Education/Prevention

3.24 Education, Prevention, and Wellness

## Safety

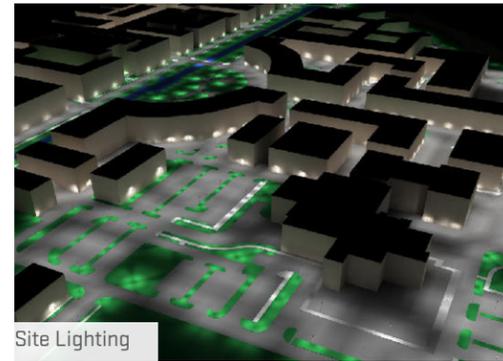
Enhanced safety and security are essential elements in any healthy community. Safety and security can provide many different benefits to the campus environment. Public input and comments during the community meetings and workshops consistently voiced concern about security on the campus, especially after dark.

The Medical Center, in an attempt to achieve more functional clinical capacity, is selectively extending hours of operations in certain services. If this continues, then more staff, patients and visitors will be on the campus in the early evening hours.

Planning for enhanced security in early stages can allow the use of more passive security measures such as; natural access control, natural surveillance, and territorial reinforcement. These design strategies will help in creating an active campus with safe areas for community activities thereby promoting overall campus growth and development. Increasing site activity also has the added benefit of discouraging criminal activity, due to the indirect surveillance provided by other individuals.

Other more direct methods can also be used to help reduce crime and increase campus safety. Adequate site lighting can act as a deterrent to criminal activity, and careful site planning that provides clear public circulation paths while reducing the amount of blind spots will also promote enhanced security.

In most cases, a combination of direct and indirect methods are used to create a network of security elements throughout the site. Careful attention should be paid to campus planning for these integral aspects of the design (Figure 3.25).



Site Lighting



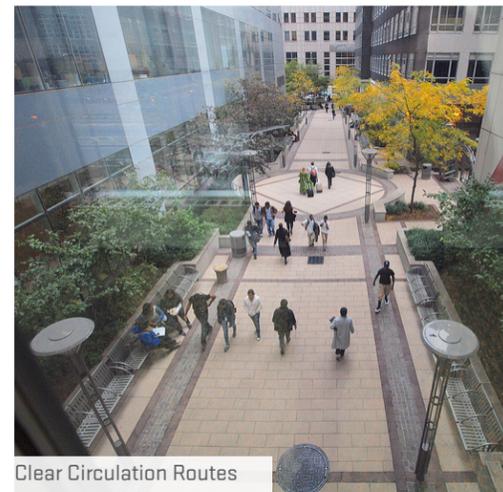
Exterior Seating/Dining



Safety Lighting



Night Events



Clear Circulation Routes



Visibility



Outdoor Events

3.25 Safety Design Considerations

## Educational and Economic Opportunities

### Education & Research

Medical education and research are important considerations for the future design of the LAC+USC Medical Center, especially given its historical role in the promotion of medical, nursing, and allied healthcare professions. With its close proximity to the USC Health Sciences Campus, LAC+USC Medical Center has a uniquely prominent position within the larger educational community.

Future campus design should continue to encourage and foster educational opportunities and programs consistent with the mission and role of this academic Medical Center.

Local secondary schools are also engaged in early health education programs and should be encouraged to establish more formal relationships with the Medical Center.

In discussions with representatives with the USC HSC, there is the likelihood that some of their professional schools and allied healthcare programs will be increasing in scope and enrollment in the future. The Medical Center is the source of their clinical onsite training, so there may be a need to increase the training resources in the future to accommodate this potential development.

The overall master plan zoning concept identifies a number of generic functional zones. These zones are organized and earmarked to reserve land for appropriate or expected growth of programs that require certain locations on the campus or adjacencies to existing buildings or areas.

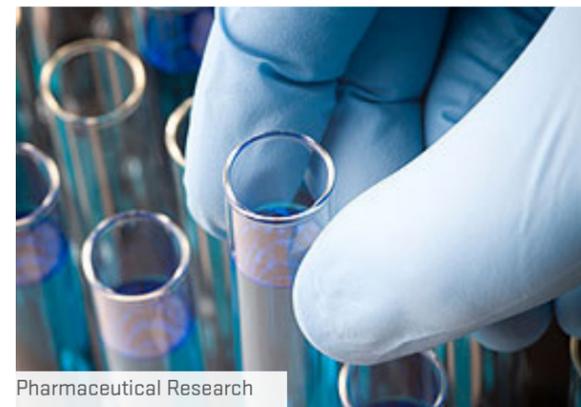
One significant campus zone that has been set aside is for potential research activities including biotechnology programs. With funding potential, many start-up biotechnology firms could very well be interested in a location at or near the Medical Center site because of access to other clinical and research resources and staff both with USC and with the County. Successful biotechnology programs could also spin off other related programs, including housing and retail functions to support an increasing professional work force (Figure 3.26).



Advanced Technology



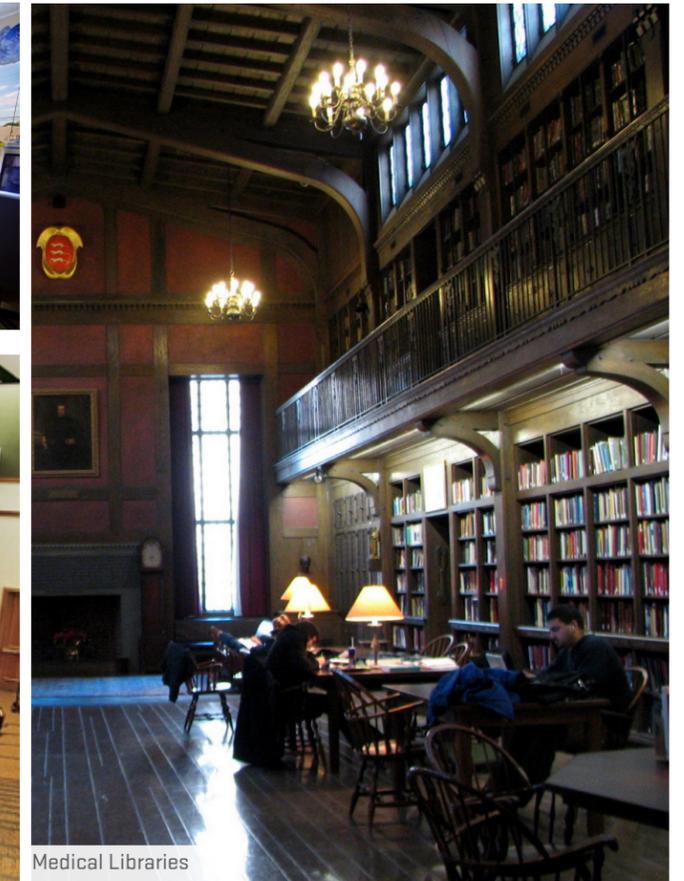
Laboratory Testing



Pharmaceutical Research



Classroom/Web Education



Medical Libraries

3.26 Biotechnology, Education, and Research Potential

The site zoning has attempted to congregate research and biotechnology activities adjacent each other to create a virtual “academic campus.” The intent is to emulate an environment where researchers, scientists, and others involved with research activities could meet informally to share their ideas and findings. In most research environments, the ability to informally congregate with peers is a very attractive and effective opportunity. Through the development of shared spaces, outdoor meeting areas, and organized landscaped venues, the goal is to create an atmosphere of collegiality and support so that businesses are attracted to this setting and location.

**Economic Opportunity**

Development will occur when there is either a funding source and entrepreneurs who envision an opportunity to create a new commercial, retail, or housing venture, or when new services, programs, or businesses grow organically and then create opportunities for synergies with other like or complementary businesses.

The campus at the Medical Center clearly has sufficient land to absorb new growth, whether it be inpatient/outpatient programs, new commercial office spaces, retail, housing, biotechnology, or community programs. With the uncertainty over external funding sources, the Master Plan is organized to reserve areas of site for future program development. The reserved areas should be adequate to minimally provide for initial development, and are organized so that adjacent land uses are compatible and complementary.

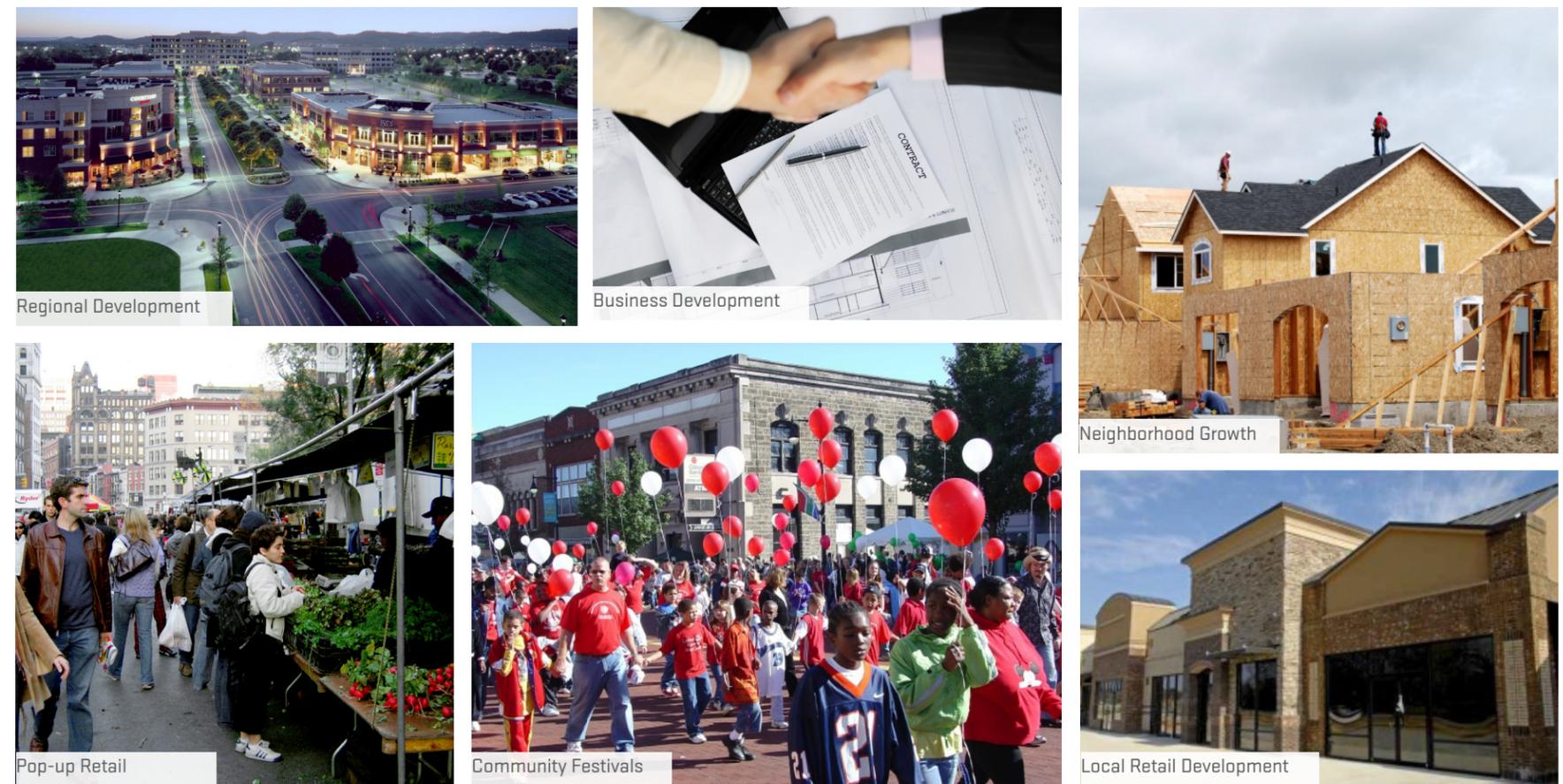
For example, a significant portion of the campus should be reserved for future healthcare programs. This could include new inpatient beds and/or organized outpatient clinic programs. Trying to accurately forecast the need for, and available funding for, new hospital construction is very difficult especially in this new era of healthcare reform. Even the most experienced healthcare forecasters are cautious in their predictions of future resources required to meet community healthcare needs.

Therefore, it is prudent to incorporate flexibility into the site master plan so that growth or change, sometimes unanticipated, can still be accommodated within the spirit of the Master Plan’s principles.

In a similar vein, there is an interest expressed for possible development of biotechnology businesses and firms for the site. This could be inclusive of basic research companies or firms producing highly specialized scientific or medical devices or technology. Given the site’s proximity to the USC HSC and the clinical and staff resources of the Medical Center, it is certainly feasible that over time, these types of businesses and activities could be attracted to this site (Figure 3.27).

Housing development could also be considered in future phases of campus growth. This could support the growing biotechnology workforce but could also be attractive to the increased professional staff and residents resulting from the expansion of the USC HSC growth.

To maintain the greatest flexibility for the County and the Medical Center site, specific areas are intended to be reserved for compatible programs and functional uses.



3.27 Examples of Development Options







**Approach to the Master Plan**

The initial approach to the Master Plan involved research and investigation of known and existing programmatic, site, and building issues. The Master Plan Team intentionally held off on developing concepts until well after this initial phase of investigation was started.

The ways in which information was gleaned for the Master Plan Team included the following:

- Review of recent and relevant planning studies for the area, site, specific buildings, and programmatic/strategic memos/reports issued by DHS for its programs and services
- Master Plan Team site visit(s) to the campus, in conjunction with Medical Center staff, to become more familiar with the site and its conditions and context
- An initial “visioning session” with many County stakeholders, in order to obtain ideas, concerns, expectations, and attitudes about the strengths and weaknesses of the existing Medical Center campus, and their views of future opportunities (Figure 4.01). Some of the major stakeholder groups included representatives from the following County departments:
  - Department of Health Services (DHS)
  - Department of Public Works (DPW)
  - Department of Public Health (DPH)
  - Department of Mental Health (DMH)
  - Chief Executive Office
  - Coroner’s Department
  - First Supervisorial District
  - County Regional Planning
- Regular briefing meetings with representatives of DPW and the CEO’s office
- Briefings with the Project Steering Committee (which included representatives of DHS, DPW, and the CEO)
- A series of community meetings and workshops

- Public outreach whereby members of the Master Plan Team initiated meetings, presentations, and briefings to local community groups. These groups included grassroots nonprofit organizations, various Chambers of Commerce groups, local Neighborhood Councils, and others.

The intent of this approach was to create many opportunities for public and stakeholder participation into the planning process. A project-specific website was also created, and promoted at community meetings. Local residents, businesses, and organizations were encouraged to post questions on the website and view the site for new materials and notices of future meetings. A FAQ section was set up to respond to questions raised by the public.

With input received, the Master Plan Team established an initial set of 7 goals for the campus master plan.

- Enhance the value of the campus
- Strengthen LAC+USC’s image, place, and presence in the community
- Make the LAC+USC campus a vibrant destination
- Create a coherent campus at every phase
- Promote wellness and health
- Enhance the campus experience for visitors, patients, and professionals
- Demonstrate sustainable development

These principles are intended to also reinforce the essential mission of the Medical Center which is to provide a full and broad range of primary care and specialty outpatient services, Level 1 trauma services, and comprehensive inpatient services. The principles are also crafted to respond to the interests and need to promote wellness, population health, and a “healthy communities” attitude among local residents.



4.01 Visioning Session

## Description of Study Area

### Location and Overview

As stated earlier, the LAC+USC Medical Center is located on the border between the Boyle Heights and Lincoln Heights neighborhoods of Los Angeles County, near the intersections of the I-10 and I-5 freeways. In addition to its role as a Level 1 Trauma Center, the campus serves the populations of the surrounding neighborhoods, including:

- Boyle Heights
- Lincoln Heights
- Chinatown
- El Sereno

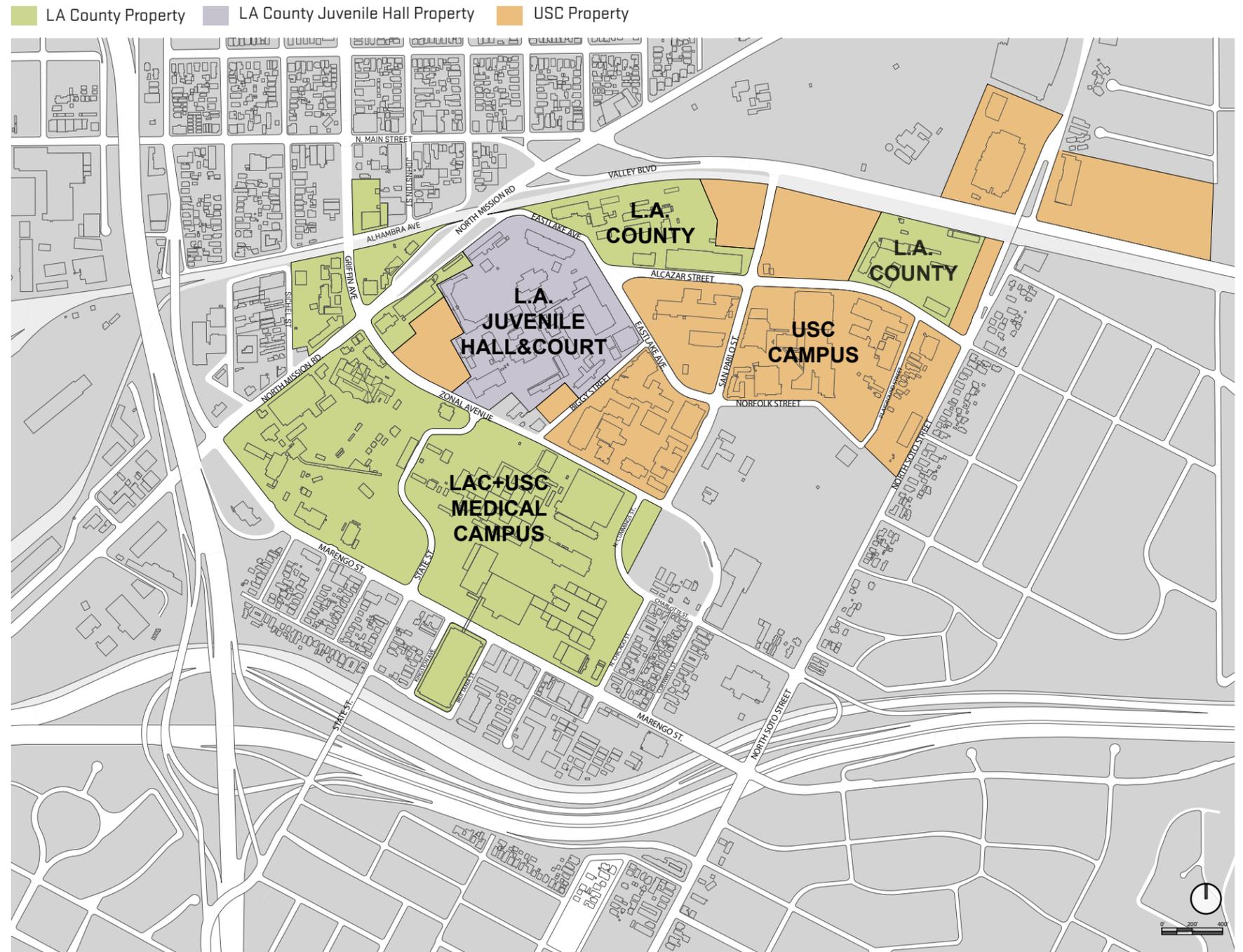
In reality, many patients come from all corners of the County. Approximately 25% of all trauma care is treated at LAC+USC Medical Center. Patients are routinely brought to the site via helicopter aircraft to obtain the most sophisticated trauma and surgery intervention/treatment available. Specialty services such as the Medical Center's NICU and burn care services also serve patients well beyond the local communities listed above.

However, these communities do provide the majority of admissions and outpatient clinic visits to the site. Their input and views of the Medical Center, and their experiences as patients and visitors, are very important and are intended to guide future decisions and priorities about campus development.

### Surrounding Land Ownership

The LAC+USC Medical Center is located on a number of parcels of Los Angeles County owned land. These parcels are interspersed with other County parcels currently under the control of the Department of Public Works and the Los Angeles Juvenile Courts, as well as adjacent private properties owned by the University of Southern California.

This master plan study is focused primarily on the Medical Center campus bounded by North Mission Road, Zonal Avenue, Marengo Street, and Chicago Street, as well as the areas surrounding the intersection of North Mission Road and Zonal Avenue (Figure 4.02).



4.02 Surrounding Land Ownership

**Land Use and Zoning**

The properties that comprise the LAC+USC Medical Center are zoned PF-1 by the City of Los Angeles. PF-1 zoning does not have restrictions to the height of buildings or any specific setback front, side, or rear yard setbacks.

- Maximum Height UNLIMITED
- Required Yard Setbacks NONE

The area around the LAC+USC Medical Center is further defined by the City of Los Angeles as being part of a "Community Center" land use area. This land use designation defines the following recommended size and density of buildings:

- Building Height 2 - 6 Stories
- Floor Area Ratio 1.5:1 to 3:1

**Existing Campus and Buildings**

**Study Area Current Utilization**

Currently, the main campus area east of State Street is heavily utilized for outpatient and hospital functions. This zone contains the original General Hospital, the LAC+USC Replacement Hospital and Central Plant, the older Outpatient Building (OPB) and the new Clinic Tower built in 2008. Also located east of State Street is the former Interns & Residents building, currently used for hospital administrative offices, and Parking Structure #12.

Most of the site to the west of State Street is under-utilized and contains a large amount of open space. Many buildings in this area are not fully functional, and several campus programs are currently being housed in temporary buildings or trailers (Figure 4.03). During the building assessment analysis, many of the existing structures in this area were identified by the Master Plan Team to be candidates for eventual demolition or removal. Exception to these might include the Coroner's Office, Pharmacy Building, and Gate House, all located in the southwest corner of the site. These buildings are all older, have some historic value to the site, and continue to be used for County functions.



SERVICE YARDS



TYPICAL EXISTING AUXILIARY USE TRAILER



OLD PHARMACY BUILDING



SERVICE YARDS



UNDER UTILIZED AREA



STAIR LEADING TO STATE STREET AND GENERAL HOSPITAL

4.03 Examples of Under-utilized Poor Condition Buildings & Space



4.04 Adjacent LAC+USC Properties

#### Service Yards

Used for the storage and maintenance of service vehicles and trucks, the service yards are located on the LAC+USC campus. Currently, these areas are detached from the main building area, creating inefficiencies due to the travel distance from certain areas of the site. These yards can be relocated or reorganized to improve access in and out of the yards, as well as to improve accessibility to the main campus areas.

#### Building Description/Uses

There are 28 permanent buildings and 29 modular structures on the immediate campus at LAC+USC. These are located onsite between Marengo Street, Mission Road, Zonal Avenue, and Chicago Street. Additionally, there are 7 buildings and 14 modular structure on the properties to the northwest of Zonal Avenue and Mission Road (Figure 4.04).

Major building clusters include the historic General Hospital that sits on the top of the hill just east of State Street. It was built in 1933, along with 2 other administrative buildings, a gatehouse, and a utility tunnel and bridge. Several modular structures have been added at the historic entry plaza, as well as to the north, east, and south of General Hospital.

At the southeast corner of Mission Road and Zonal Avenue, the decommissioned Women's and Children's Hospital was built more recently. Right across the street, to the northwest, a cluster of Spanish colonial buildings house administrative, counseling, social work, facilities support, and clinical support functions. The most recent 2008 Replacement Hospital project has four contemporary buildings providing, inpatient, outpatient, diagnostic and treatment, and facilities support functions.

It is evident that the architectural vernacular at the Medical Center campus covers a number of different approaches and styles, including the Art Deco elements expressed at the General Hospital. This is not altogether unexpected or unique. We also agree with the County's opinions that historically significant buildings or campus elements, whether recognized or not by outside agencies, should warrant special

attention. One additional benefit of the master planning process is to identify campus buildings or elements that should be preserved and possibly incorporated into new campus development or strategic repurposing. Figure 4.05 provides images of buildings or site elements on the campus that may have some historical or preservation character.

**Building Status Description**

Building status varies throughout the site and is largely determined by the age and condition of each building. During the building assessment phase of this project, the planning team analyzed each building and identified each according to status. Buildings that were determined to be inadequate and not historically significant were identified as candidates for future demolition or removal. There was no time frame for demolition or removal. Clearly, when site areas are needed for future development, the obsolete buildings in the way will need to be cleared.

Building construction is another important factor in determining the buildings status. Many of the smaller buildings on the site are modular or were constructed as temporary structures and not intended for long-term use. Programs in these structures should be consolidated into larger permanent buildings in the future.

A full description of this process, along with a more in-depth evaluation of each building's function and status, can be found in the building Assessment Report. Refer to the Appendix.

**Building Characteristics**

The buildings and modular structures on campus house clinical functions of various acuity levels, clinical support functions, administrative functions, and facilities support functions, including parking. They range in age between 4 years and 100 years old. They form clusters, and arguably sub campuses within the major campus, around major capital projects that took place on campus within a hundred years timeframe.

The buildings have disparate architectural styles belonging to different eras. Modular structures are widely used on campus for augmenting space capacity around major buildings. The high use of modular structures, which are spread out over the 75+ acres, provides a fragmented space inventory.



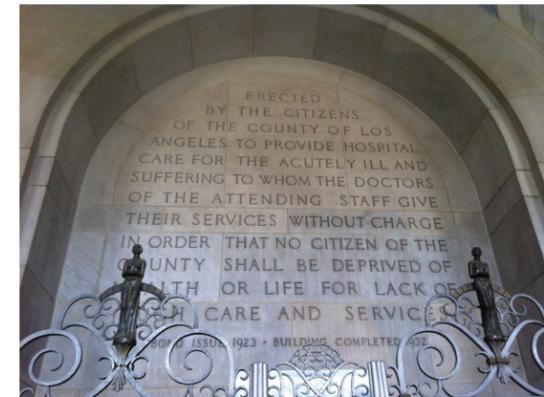
GENERAL HOSPITAL



HISTORICAL HOSPITAL BUILDING



GENERAL HOSPITAL HISTORIC ENTRY



GENERAL HOSPITAL HISTORIC ENTRY



GENERAL HOSPITAL HISTORIC ENTRY



COLLEGE OF NURSING AND ALLIED HEALTH - TOWER HALL



EXISTING BRIDGE

4.05 Examples of Existing Buildings with Historical Character



4.06 Two Main Site Areas

#### Functional Value

A large majority of the buildings are more than 50 years old, and have very little high performance value. Many of the buildings and modular structures are in a poor architectural condition, were probably never intended for the current uses, require significant upkeep and maintenance, and should be replaced by more permanent modern structures to gain greater efficiencies in space use and within a more appropriate and/or cost-effective setting.

#### Site Attributes

The campus is effectively divided into two distinct areas; East and West of State Street (Figure 4.06).

State Street is the only vehicular street that crosses the site. It runs from south (Marengo Street) to north (Zonal Street), and provides bus, shuttle, and private auto access to the existing plaza at General Hospital. It also provides drop off for patients and visitors going to the Clinic Tower building.

The area to the east of State Street contains the majority of the active clinical (both inpatient and outpatient) services of the site. This area contains the new hospital facility as well as the two outpatient clinic buildings. This area is the primary public facing portion of the Medical Center, representing to the community the new “front door” of the Medical Center site.

The former General Hospital is also located east of State Street, and is the most dominant building on this side of the campus due to its height and its presence on the crest of the site's topography. As mentioned earlier, General Hospital has recorded historic value and will remain on the site with its current facade elements. While some interior work is planned and underway, there are no known plans to implement any physical alterations to its outside appearance.

The area to the west of State Street includes the Los Angeles County Coroner's facilities, on-grade and structured parking, and large under-utilized areas that contain a number of support buildings. Many of these buildings are one-story and modular buildings, many of which are not

in very good physical condition. Refer to Figure 4.03 for examples of buildings or site areas which indicate unattractive buildings or under-utilized site areas.

**Building Maintenance & Preservation**

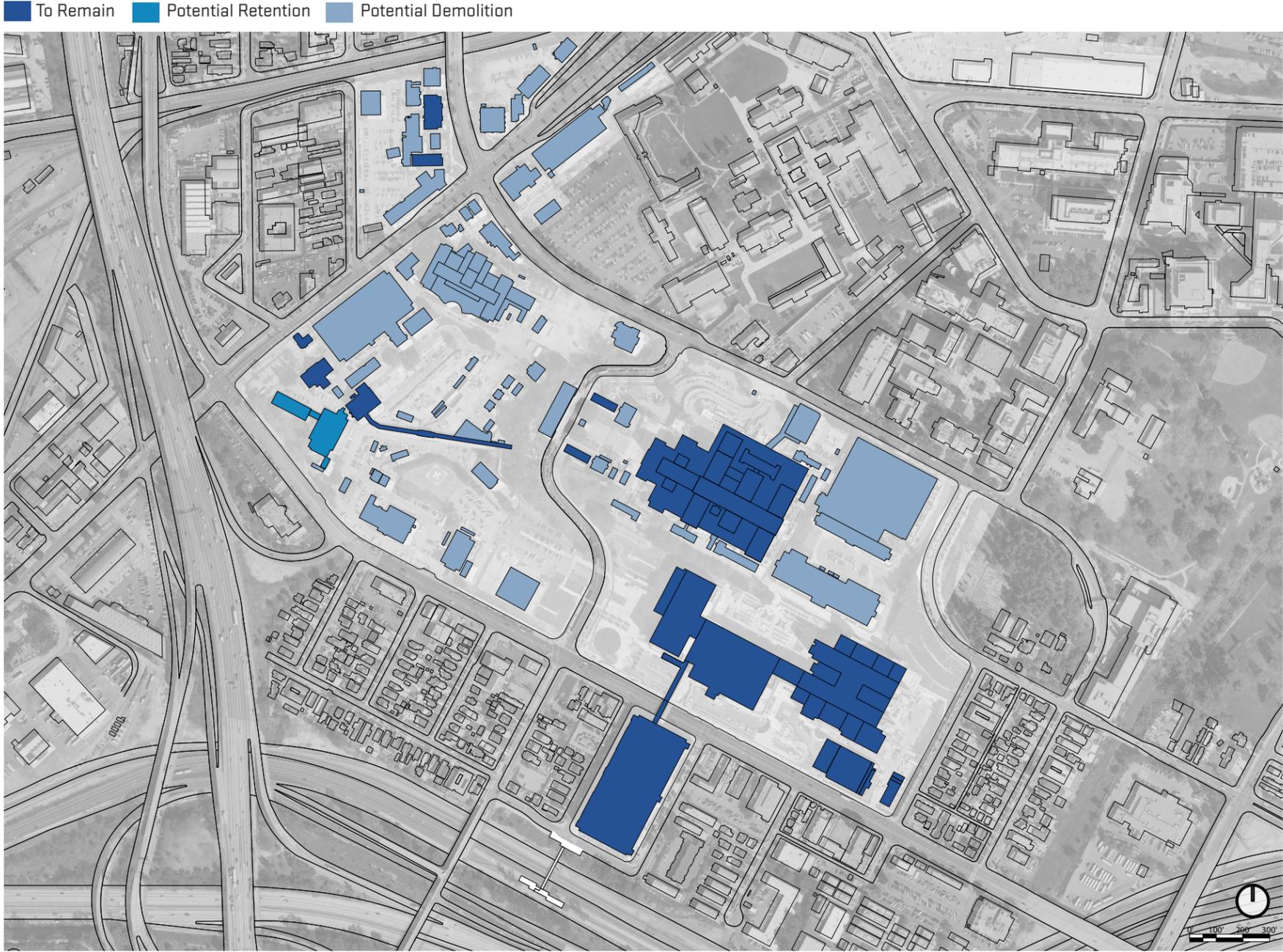
As indicated earlier, the buildings on the campus range in age from 5 years to over 100 years, with many different architectural vernacular and functional values.

Figure 4.07 illustrates some of the buildings which, in the opinion of the Master Plan Team, should be maintained and preserved for the long-term. They have been selected because they are relatively new buildings on the campus, have a functional and aesthetic value today and into the foreseeable future, are already recognized by an outside group, or groups, as having historical/preservation value, or because they represent an image on the site which may have functional or community value in some type of repurposed role.

General Hospital is the most recognized building on the site and has well documented historic and preservation value. There are other site and building elements which have, or may have, similar values. The wrought-iron "gates" at State Street near Marengo Street, for example, are historically significant and were preserved and reinstalled as part of the Medical Center's Replacement Project in 2008.

Similar buildings which may have historic or sentimental value include the two one-story buildings at the General Hospital Plaza overlooking the west side of the campus, the fountains on the Plaza, the current Coroner's Administration Building, the Pharmacy Building, the small Thrift Shop along North Mission Road, the "bridge-connector" on the east campus, and a couple of buildings across North Mission Road on County-owned land.

To a large extent, the Master Plan Team has tried to preserve these buildings in recognition of their age, aesthetic qualities, and/or historical backgrounds.



4.07 Existing Building Assessment

### Neighborhood Circulation

The existing site for the Medical Center, and the surrounding environs, is very congested and developed. The main site for the Medical Center, and the adjacent site for the USC Health Sciences Campus, is institutional in nature. Commercial activities line Marengo Street to the south. Commercial and industrial uses are located west of the main campus. Residential communities, mostly single-family dwellings and low-density multi-family dwellings, can be found around the site.

The Medical Center is located just east of the Golden State Freeway (I-5) and north of the San Bernardino Freeway (I-10). The introduction of the freeway system in this area effectively divides the adjoining communities. In addition to these major freeways, the site is also served by a series of roadways, including several major freeways, major highways, and a network of collector and local streets. Major highways in the study area include Marengo Street (between Mission Road and Soto Street), Mission Road, Soto Street north of Wabash Avenue and Valley Boulevard.

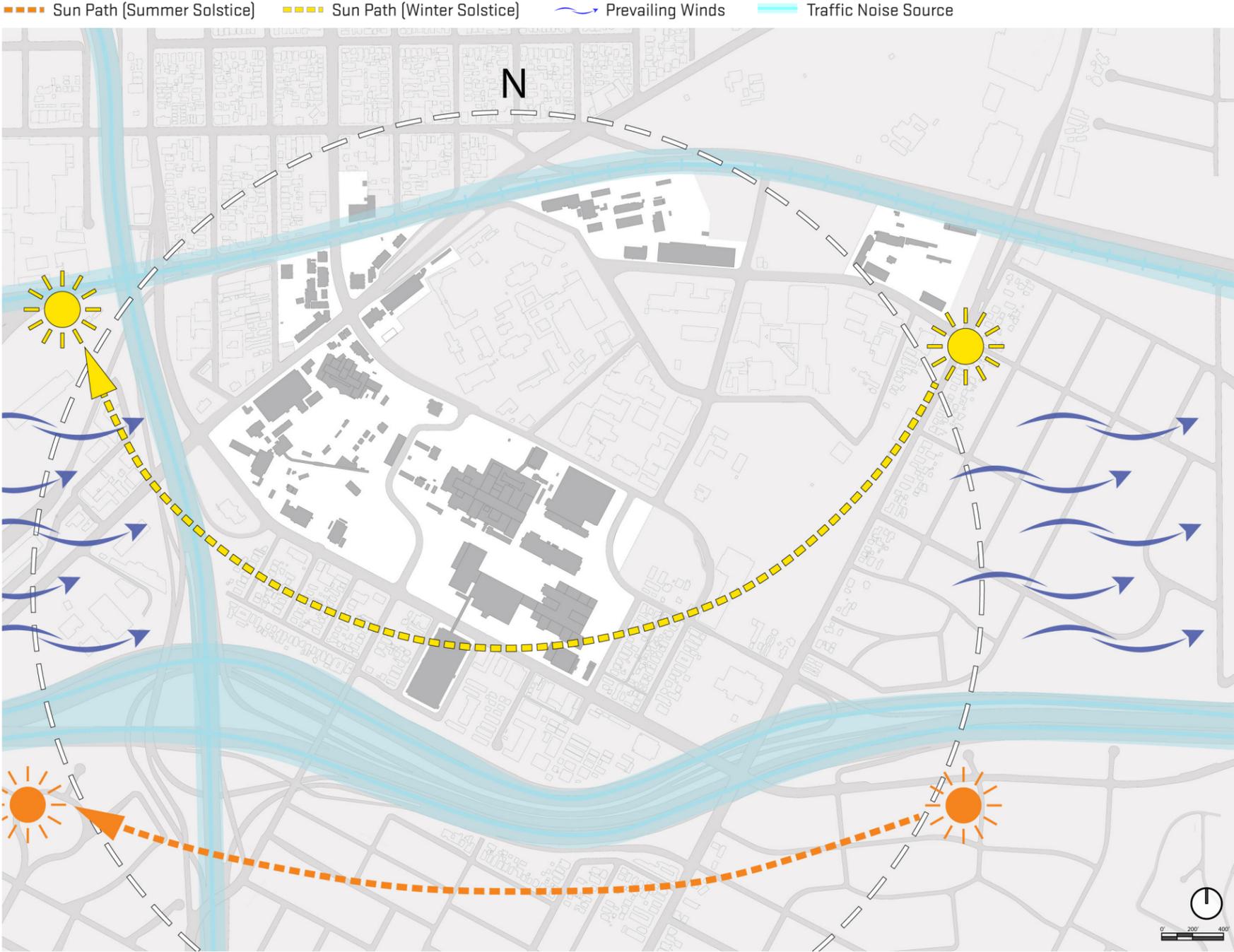
Secondary highways are roadways that supplement the major highways and generally have two to four travel lanes. These roadways are designed to carry substantial traffic volumes and to provide access to adjacent properties. Parking is generally permitted on these streets. Some of the secondary roadways in the study area include Griffin Avenue, Zonal Avenue, Marengo Street, Daly Street west of Mission Road, Charlotte Avenue, State Street south of Marengo Street, and San Pablo Street.

Public transit service at LAC+USC Medical Center is provided by Metro, LADOT DASH, and Foothill Transit bus lines. USC also operates private shuttles over several routes, primarily in the area that serve its facilities north of Zonal Avenue. The new Wellness Center which will occupy space within the First Floor of General Hospital will also be supported by its own shuttle bus service in order to bring patients from remote parking areas of the site the main plaza level of General Hospital.

The existing parking supply of approximately 6,200 spaces is made up of three large parking structures and a series of smaller surface parking lots. A parking supply of 5,937 spaces serves the core of the Medical Center campus, which is bounded by Marengo Street, Mission Road, Zonal Avenue and Cummings/Chicago Street, and which includes Parking Structure 9 (south of Marengo Street).



4.08 Existing Street Network



4.09 Environmental Analysis

### Environmental Conditions

The LAC+USC Medical Center is affected by a number of environmental influences (Figure 4.09). Its prominent location at the top of the hill within a mostly low-rise neighborhood provides opportunities that can be used to enhance the campus.

- Significant average number of days of sunlight per year can provide for the effective use of photovoltaic solar arrays.
- Prevailing breezes from the west, in combination with shade and water features or fountains, offer natural cooling opportunities.
- Site acreage is ample and the presence of more appropriate (sustainable plant selections) landscaped elements and shading features can provide for a more pleasing physical surrounding with much needed relief during warm and sunny days.

With its urban setting and historical site development, there are a number of adverse site and neighborhood environmental conditions which should be mitigated to the extent possible with future planning on the site.

- Adjacent freeways, heavily traveled streets, and nearby railroad tracks impact the site with increased traffic noise.
  - One mitigation strategy could include establishing buffer buildings on the site perimeter facing the noise sources to block the noise from the pedestrian-oriented interior of the campus.
  - Provide extensive landscape elements which can also muffle the environmental sounds of vehicles.
- Significant paved areas cause an increase in local microclimate temperatures and increased glare and reflection.
  - With the ample site available, and through thoughtful landscape and open space planning, it is possible to create more pleasant areas for sitting, congregation, and use.
  - Emphasis on shade canopies and features could help to reverse the "heat island" effect of existing site hardscape elements.
- Commercial development along Marengo Street and other nearby streets is of a low standard.

- Community residents voiced concerns over lack of alternatives to healthier foods and retail/commercial activities that reinforce healthy habits and lifestyles.
- Positive development of the Medical Center's site and the introduction of many of the initiatives outlined by the master plan could encourage commercial development that is consistent with a redefined mission of the Medical Center to promote health and wellness.
- Commercial and/or retail services provided on the campus should be selective and not compete with local establishments, but should complement the availability of health-related commercial businesses.
- If the Medical Center is successful in creating programs on the campus that make the Medical Center a destination location, then more and more people will be attracted to the site. With growing attendance and participation, other private commercial development will become interested and attracted to the site.

**Site Topography**

General Hospital, the historic heart of the LAC+USC Medical Center site, is located at the top of a small hill at the center of the campus. This prominent location affords the historic structure prominence and status for both the campus and the surrounding neighborhoods.

The local topography and steep hillsides are a primary organizational driver for the campus and contribute to the extreme difference between the east of State and west of State areas of the campus. For example, there is a roughly 40 foot grade change from the lower portion of the east campus to State Street and the Plaza level of General Hospital. At the height of this grade change, there is only a very old and unattractive set of stairs that one can use to traverse this grade change. The alternative to using these stairs is to walk around to the north or east of the campus and negotiate the grade change in a more circular and less direct route. Refer to Figure 4.10 for the site topography diagram.

In almost all of the community meetings and workshops, there was a strong desire from the community to make the site more accessible and to address ease of use of the campus through the different grade

elevations on the site. Many visitors to the site are frail, elderly, or otherwise have difficulty walking significant lengths. When grade changes are also commonplace, it makes circulating through the site that much more challenging.



**Site Views and View Corridors**

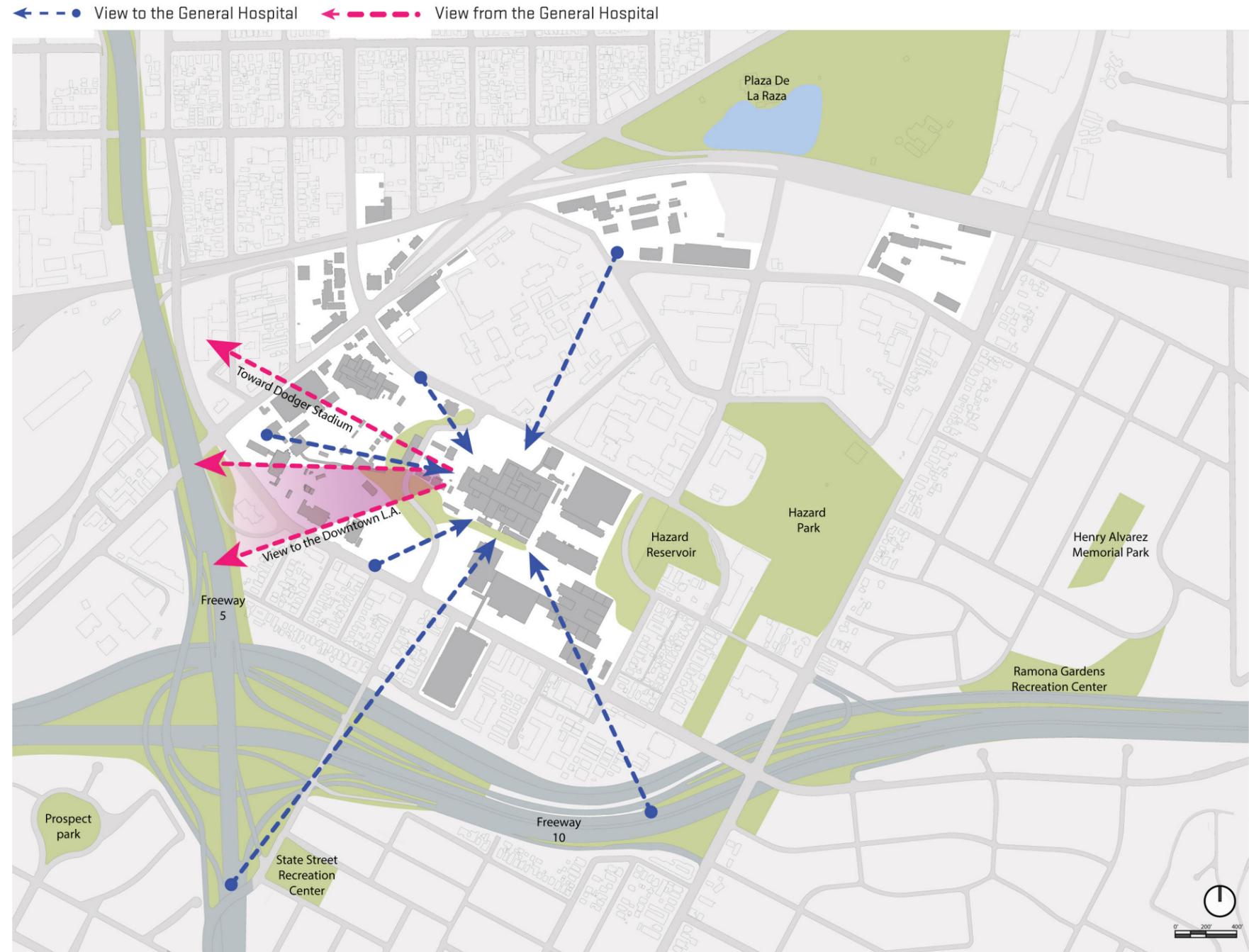
The location and topography of the LAC+USC Medical Center provide a unique focal point for the surrounding neighborhood. The historic General Hospital can be seen from almost all directions.

Similarly, this hilltop location provides clear views from the site to the San Gabriel Mountains, Dodger Stadium, and the downtown Los Angeles skyline (Figure 4.11).

For example, the current views from the Clinic Tower's public and west-facing corridors are of the downtown Los Angeles skyline. These views assist the public in their wayfinding through the Clinic Tower since at any point in the public corridor, they can establish their orientation to the west and to Marengo Street.

General Hospital is built on even higher land, and is a much taller building. The County may be using the lower floors (basement and floors 1-4) in the future for community-based programs and other County run programs. Potential views from these floors are even more dramatic and are one of the real assets of this building.

To the extent possible, the master plan team believes that the views from the higher elevations of the site should be factored into planning of open spaces and future building development. The topography in this instance can be turned into an asset for the site. The views and elevation changes can help to inform the master plan options to take advantage of site conditions that are unique to this campus.



4.11 Site View and View Corridors

## Site Opportunities

The current LAC+USC Medical Center is primarily located on the southeast portion of the main campus, east of State Street. Direct patient care services are currently concentrated to the areas surrounding the Inpatient Tower, Diagnostic and Treatment Building, the Clinic Tower, and the older Outpatient Building (OPD).

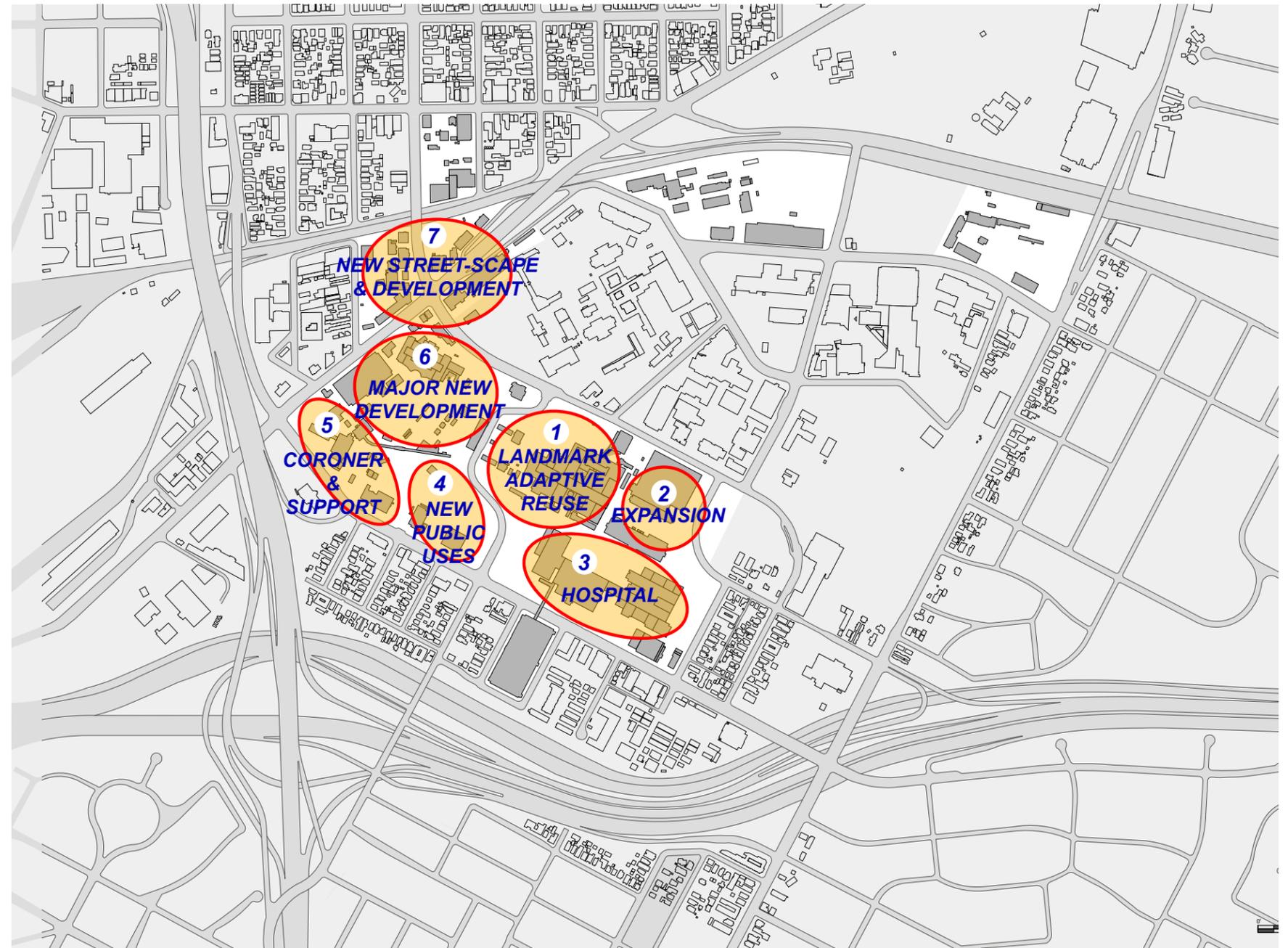
An adjacent area is the logical location for any planned expansion of inpatient services. Immediate proximity to the current Medical Center is ideal and necessary in order to achieve building connections for infrastructure, logistics and materials distribution, support, and patient transfers.

If developed on the existing campus, expanded outpatient clinical services should be physically nearby. Proximity of new outpatient services will be convenient for patients and staff. These expanded outpatient services do not, however, require a physical connectivity to the inpatient buildings.

In evaluating the full inventory of County property in the area, the Master Plan will also identify additional development areas and potential, as illustrated in Figure 4.12.

Some of these development options include the following:

- Adaptive reuse and repurposing (1)
- Expansion of existing medical care services and facilities (2)
- New or expanded community based programs with a focus on health, wellness, and/or education (4)
- New development options, including commercial, biotechnology, and/or research that are synergistic with the Medical Center's core mission and services (6)
- Streetscape improvements to enhance the edges of the Medical Center campus and provide for enhanced local economic development (7)



4.12 Conceptual Program Use

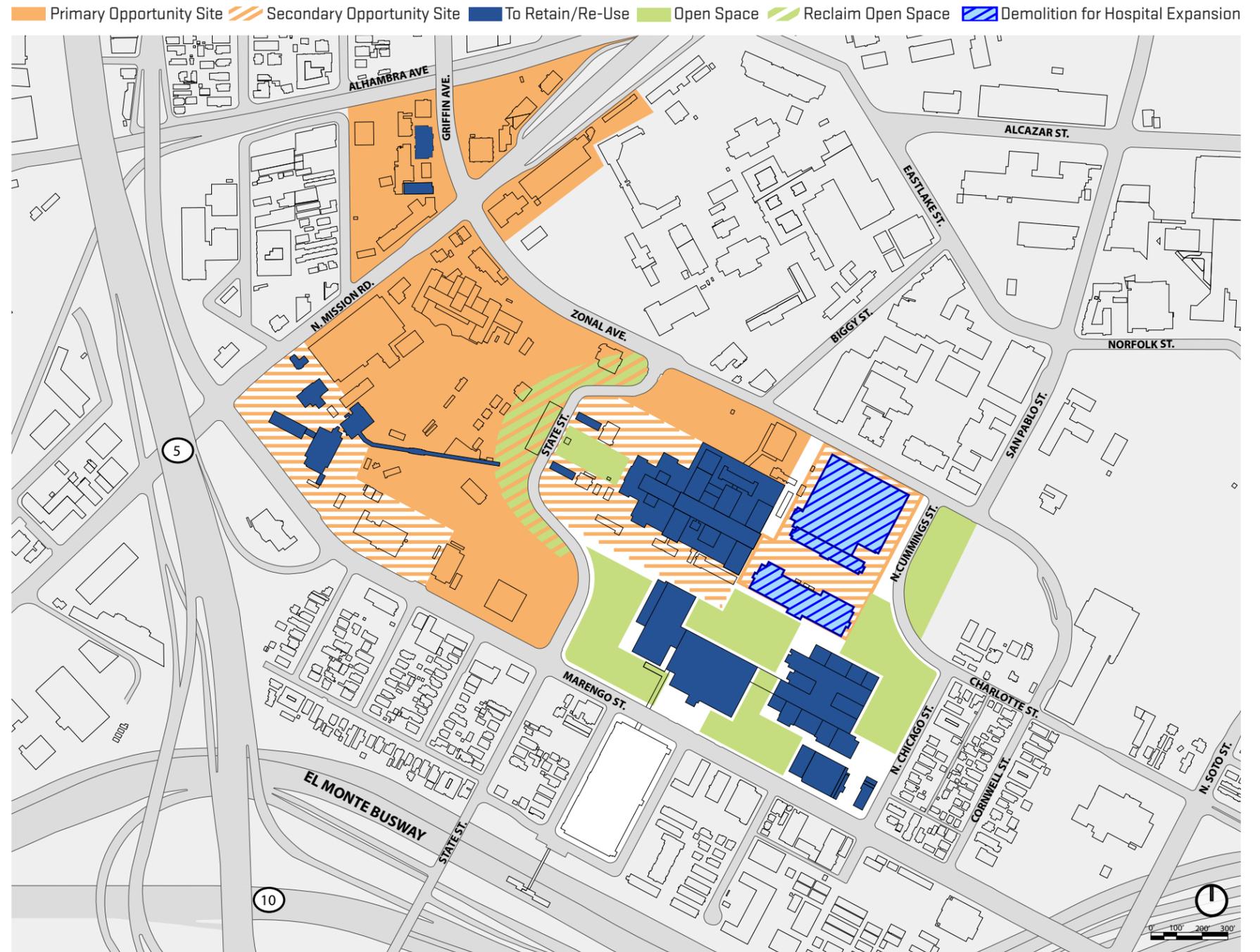
**Zones of Opportunity**

In addition to the general development areas identified in the previous diagram, another way to define site potential is to identify conceptual zones of opportunity, and hierarchy, for future use.

In Figure 4.13, we are identifying potential primary and secondary zones of opportunity, given current uses of land, land availability, under-utilized areas of the campus, and areas of the campus that could become available with selective removal/demolition of existing structures.

The areas that we have identified for potential use/reuse, include the following categories of uses:

- Primary Opportunity Sites
  - These areas reflect, in our judgment, the best opportunities for short-term development given the availability of land or the relative ease of clearing existing structures.
- Secondary Opportunity Sites
  - Secondary opportunity sites are those that have the ability to be developed, but which would require more attention and integration with nearby or existing programs, services, buildings, or infrastructure.
- Sites to Retain and/or Reuse
  - These are sites which are committed to existing services or programs and which are not viewed as candidates for building removal or re-use, at least not in the short-term future.
  - These site may also include buildings or site features which have historical value or significance and which are potential candidates for adaptive reuse.
  - These areas of the site may have intrinsic value in helping to shape the desired master plan elements, either through maximizing known site opportunities (views, topography) or through creative uses of its space.
- Preservation of Open Space
  - Preservation of open spaces can be for a number of reasons, including holding site areas for possible building/program expansion.



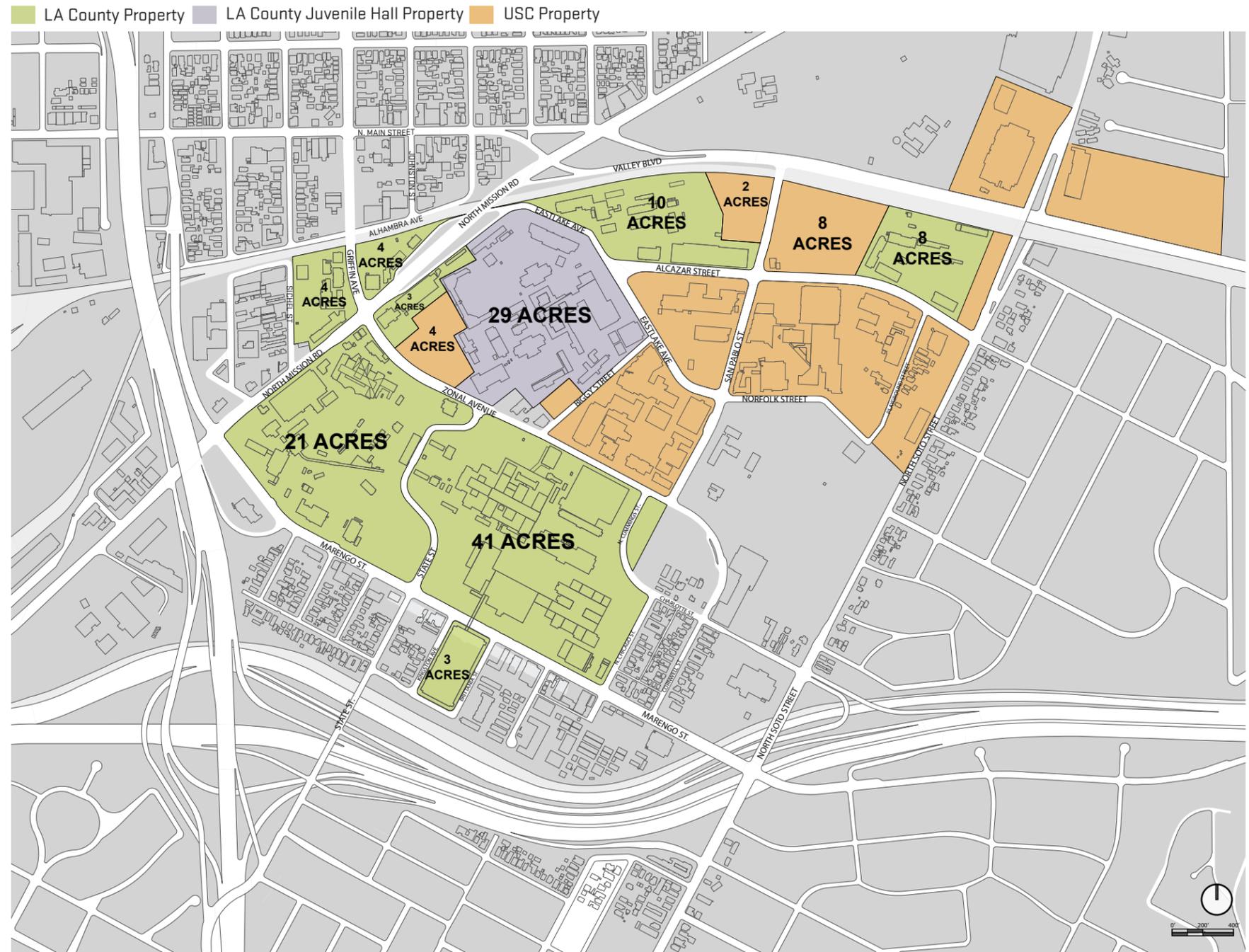
4.13 Zones of Opportunity

- Open space management is also an essential component of the master plan to create thoughtful and effective open spaces that can benefit site development but which can also better integrate community uses and accessibility.
- Reclaim Open Space
  - There are numerous areas of the current site that are under-utilized or utilized in ways that are not complementary to the site.
  - The opportunity exists to reclaim existing spaces for future use as planned open space.
- Selective Demolition for Future Expansion
  - The core mission of this site is to enable the Medical Center to provide the necessary range of outpatient care, trauma care, and tertiary-level inpatient services to a wide geographic area of Los Angeles. Over time, if the Medical Center needs to expand facilities to meet future needs, it will be necessary to selectively remove/demolish existing buildings to make room for expansion projects.

**Potential Land Swap Opportunities**

There are Los Angeles County owned and University of Southern California owned properties interspersed throughout the Master Plan study area. As illustrated in the Current Land Ownership diagram (Figure 4.14), many of these properties are not contiguous with other properties under the same ownership.

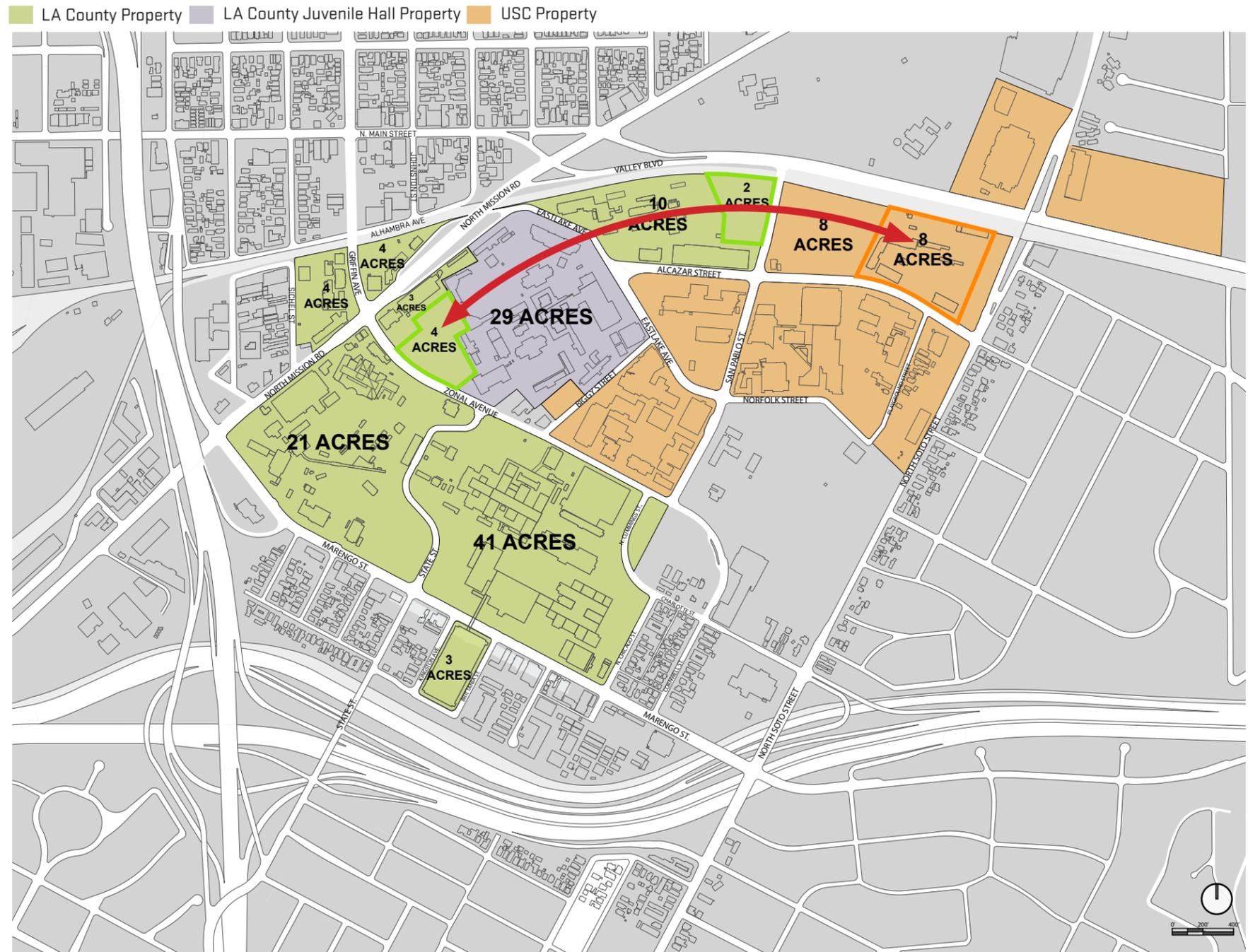
The possibilities for future, long-term planning and expansion could be enhanced through consideration of potential land swap arrangements. It is possible to achieve contiguous control of properties so that both the County of Los Angeles and the USC Health Sciences Campus might benefit. In meetings with planning staff involved with the USC Health Sciences Campus master plan, there appears to be interest on the part of USC to engage in discussions with the County to explore potential interests for land exchanges.



4.14 Current Land Ownership

The Master Plan Team has not delved into specific land values, property lines or easements, ownership interests or property liabilities. From a master planning perspective, however, it seems that there could be long-term campus-planning opportunities to both parties if selective land swaps could be accomplished.

Potential land swap opportunities are identified in Figure 4.15.



4.15 Land Swap Opportunity

## Master Planning Principles

During the early investigative phases of the master plan, the Master Plan Team solicited input from community residents, local businesses, local non-profit community organizations, neighborhood councils, and stakeholders representing a number of County departments. The objective was to views, attitudes, concerns, and expectations from the master planning process.

With input from these groups, and the Project Steering Committee, the master plan team identified seven (7) principles which were used to help guide the development and evaluation of the master plan options. These seven principles were held as constant evaluative criteria to help determine the quality and effectiveness of the different master plan options created by the master plan team.

The seven master planning principles include the following:

### Principle 1: Optimize the Value of the Campus

The immediate campus represents over 75 acres of contiguous land owned by the County. There is an interest, from a real estate perspective, to maximize the real estate value of the property. This is done historically by identifying appropriate development options which will enhance the value of existing programs on the campus.

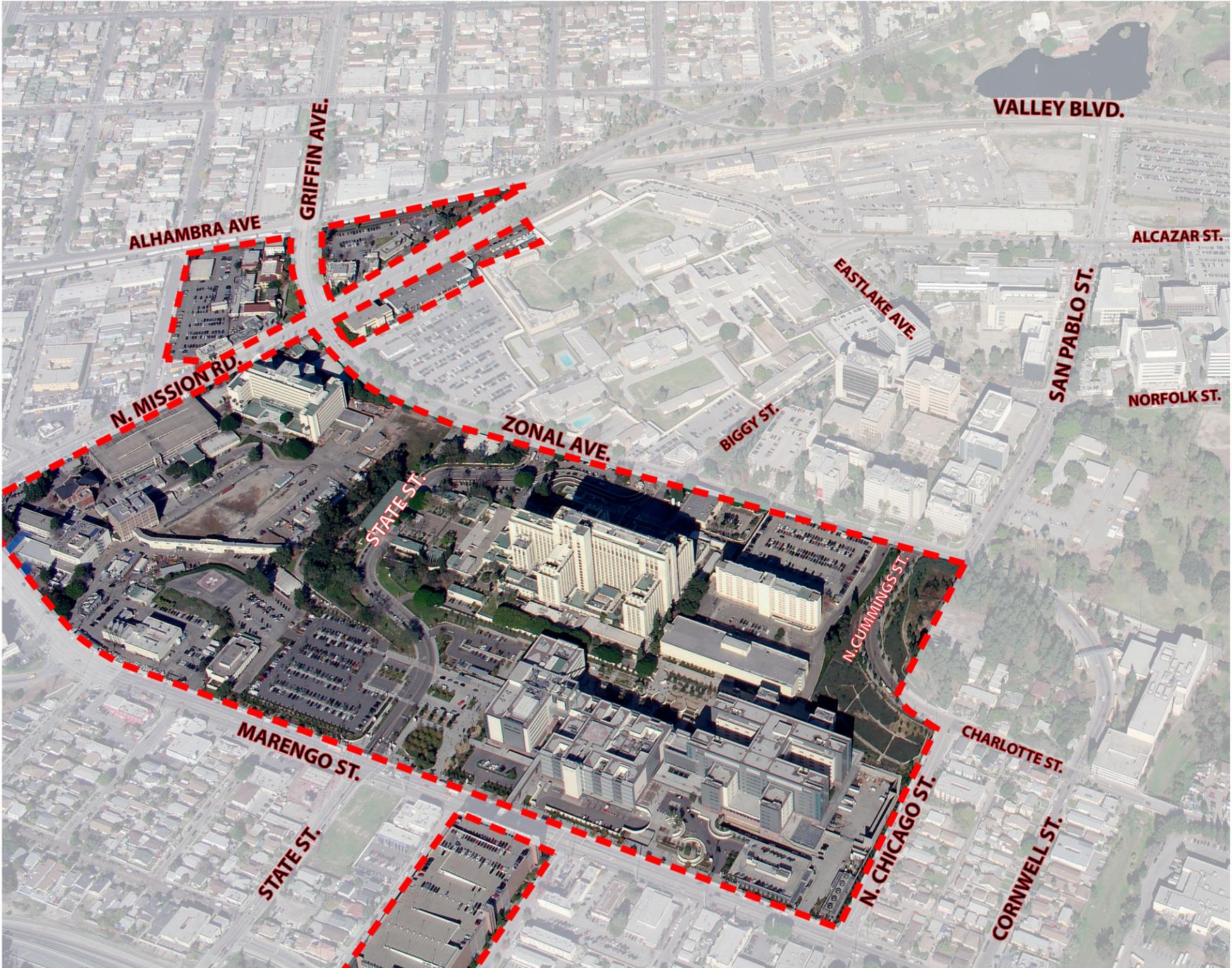
This principle also suggests that areas of the campus that are poorly used, or under-utilized, should be identified so that improvements in use can be achieved.

Principle 1 tries to achieve the following:

- Acknowledge and showcase historical landmarks on the site
- Use land areas effectively
- Establish a robust campus network of open spaces that are functional, aesthetically pleasing, community accessible, and which promote wellness programs
- Consolidate adjacent parcels (if possible)



4.16 View of General Hospital through Clinic Tower Courtyard Area



**Principle 2: Strengthen LAC + USC’s Image, Place, and Presence in the Community**

Clearly, the primary mission of this site is for LAC+USC Medical Center to provide a full range of medical care services to meet the needs of its constituents. The Medical Center’s image and acceptability as a hospital of choice needs to be enhanced if the Medical Center is going to compete in the local market as healthcare reform takes root.

With over a one hundred year legacy and history within the community, this principle seeks to enhance and strengthen its historical role and value for the community, and to be seen as a vital community resource.

Principle 2 tries to achieve the following:

- Connect to the community
- Enhance access from surrounding neighborhoods
- Activate appropriate street presence
- Clarify its campus identity, with attention to front door imagery, site edges, signage and graphics
- Maximize community use of the General Hospital Plaza and other similar spaces

4.17 Prominence of General Hospital

**Principle 3: Promote Wellness Activities and Culture**

The promotion of health and wellness is an important principle that the master plan should encourage and promote. Building healthy communities is a trend and an expectation for the County. With healthcare reform, accountability for population health is a factor to measure the effectiveness of a healthcare provider.

LAC+USC Medical Center is poised to take on this challenge, and one of its priorities is to establish a campus orientation and environment that supports health and wellness.

Principle 3 attempts to achieve the following:

- Provide wellness, education and health-related activities (such as nutrition and life-style instruction)
- Include appropriate recreational uses on the site
- Provide connections to the outdoors, with options for onsite outdoor activities (Figure 4.18)



4.18 Examples of Activated Public Spaces



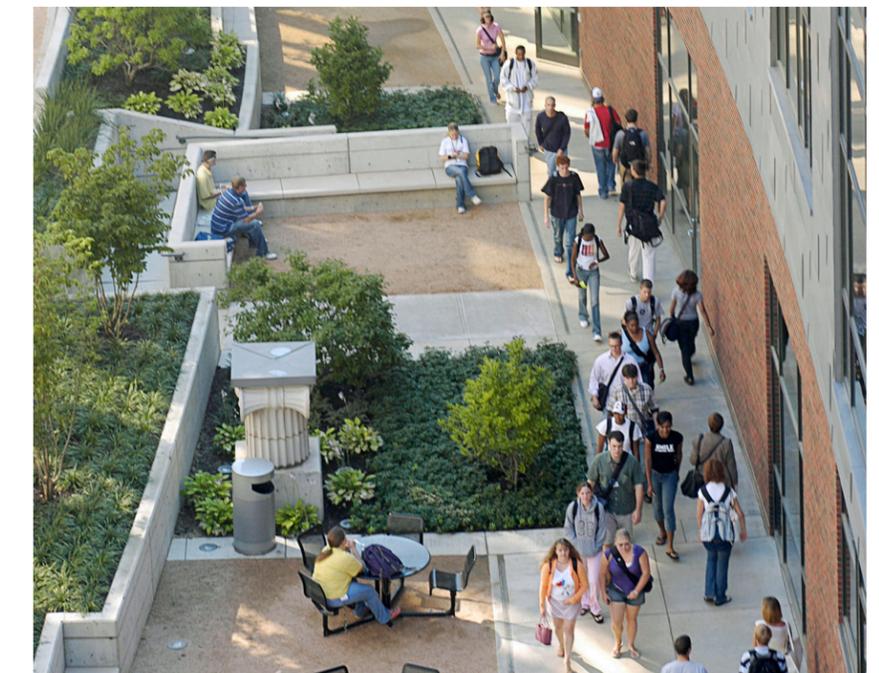
**Principle 4: Enhance the Campus Experience for Visitors, Patients, and Professionals**

Time after time at community meetings, this was a request by local residents to improve the experience and convenience of Medical Center visitors and patients.

To achieve a greater level of competitiveness with local hospital providers, it is important for the master plan to identify strategies and solutions for achieving a more friendly campus; one that is more convenient and accessible.

Principle 4 attempts to achieve the following:

- Create a lively and receptive pedestrian experience (Figure 4.19)
- Provide easier access across changes in site elevation
- Provide active, visible, and participatory ground floor functions
- Enhance safety and security for nighttime activities



4.19 Example of Positive Pedestrian Experience

**Principle 5: Restore LAC+USC Campus as a Vibrant Destination**

LAC+USC Medical Center is well established as a destination for those seeking trauma care, specialty outpatient services, and a full range of inpatient care. This principle reinforces the goal of the Medical Center to also become a destination of choice, where residents and visitors can access health education, wellness programs, and other health services that can promote healthier habits and lifestyles.

This principle also seeks to encourage campus programs that are community friendly and which also promote health awareness. Local fresh food markets, exercise classes or programs, health education opportunities, and areas for congregation are just some of the ideas promoted by this principle.

Principle 5 attempts to achieve the following:

- Provide community-serving health, recreation, and education programs
- Create places for public gatherings and seasonal events (Figure 4.20)



4.20 Examples of Public Gathering Spaces

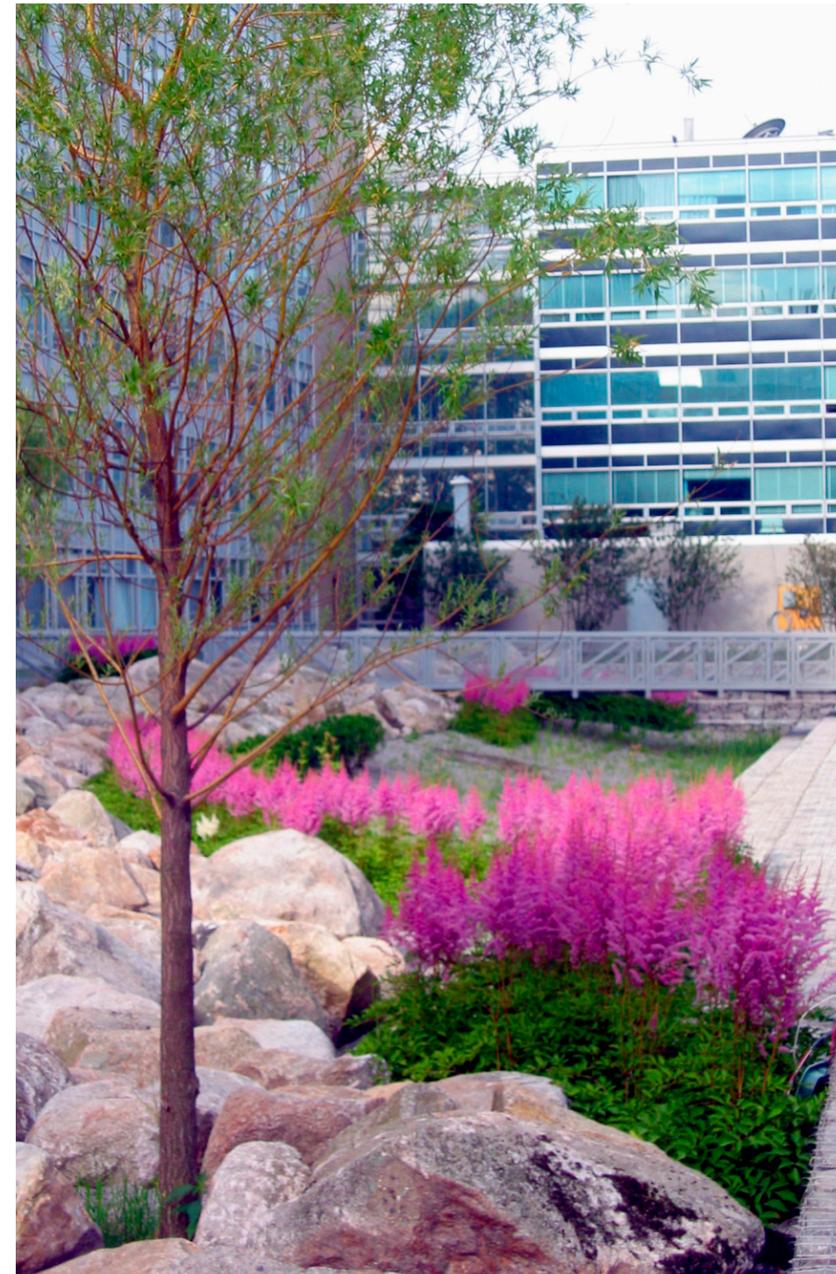
**Principle 6: Demonstrate Sustainable Development**

The County has stated its desire to advance sustainable programs that help to improve the environment. The master plan can provide guidance to sustainable design practices which can be implemented in the future, as well as sustainable operational practices which have relevance today.

This principle also implies that the concepts of sustainable behavior for the improvement of the environment can and should be extended to community programs and educational opportunities (Figure 4.21).

Principle 6 attempts to achieve the following:

- Enhance long-term social value
- Design for pragmatic long-term operations
- Restore and reuse current blighted areas
- Promote efficient energy and water use
- Provide for comprehensive onsite water management systems
- Implement LEED and CAL Green Program goals



4.21 Examples of Sustainable Development

**Principle 7: Create a Coherent Campus at Every Phase**

This principle seeks to achieve planning and implementation solutions that result in coherent outcomes at the conclusion of each major master plan phase. The proposed master plan is organized so that at the conclusion of each major phase, there is a sense of completeness and order to the sub-phases that have occurred.

Principle 7 attempts to achieve the following:

- Strengthen visual connections
- Improve relationships/connections to the USC Health Sciences Campus
- Create a clear, flexible, and adaptable framework
- Commit to meaningful scope and extent of proposed Phase 1 improvements
- Provide for common areas (landscape development) in each phase



## Initial Master Planning Options

The LAC+USC Medical Center Master Plan provides a framework for future growth that unifies the campus, creates a sense of arrival and place, promotes healthy lifestyles and wellness, and identifies phasing opportunities that allow both flexibility and clarity of the plan at all phases.

The Master Plan celebrates the unique character of the campus and acknowledges the prominence of historic General Hospital, a beacon at the top of the hill. It also addresses the changing topography across the site, which creates both a major challenge and opportunity.

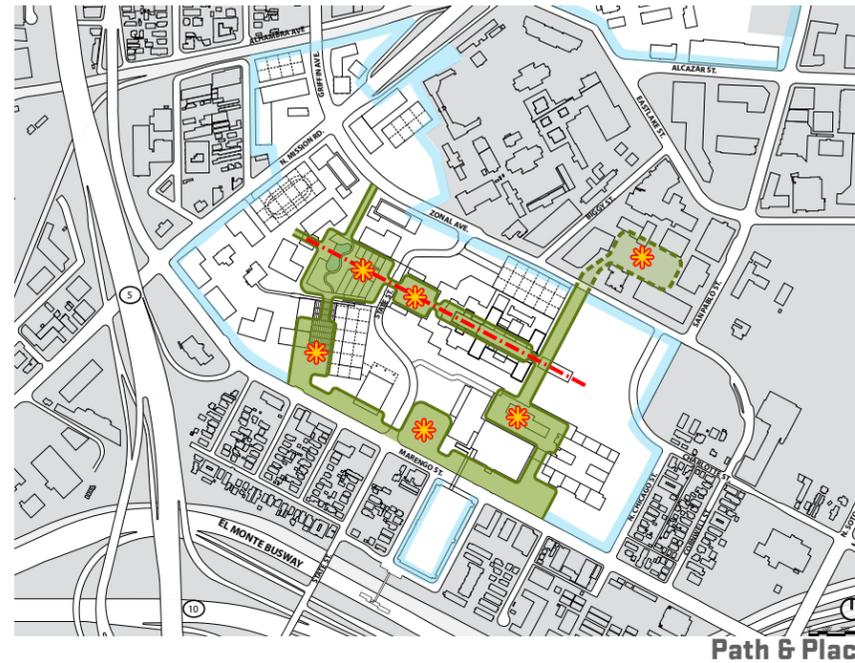
Based upon the master plan team's evaluation of the existing site, understanding of proposed program development, input from community residents and County stakeholders, and vision for the site, the following four (4) master plan options were created. They are in no particular order, and each proposes different solutions to the inherent challenges expressed previously (Figure 4.22).

These options are diagrammatic and conceptual in nature. Each option is characterized by:

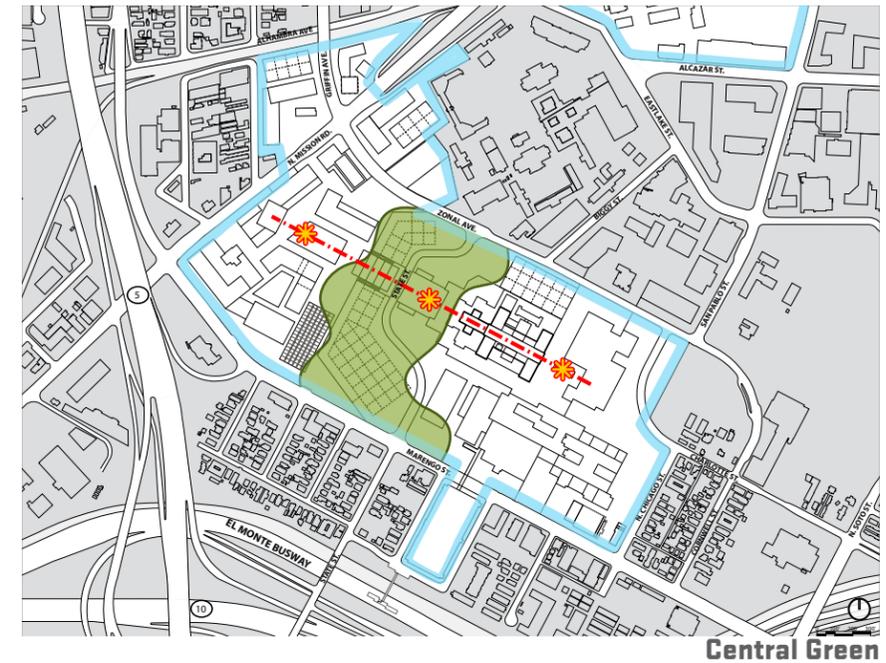
- A concept diagram
- A zoning diagram

The **concept diagram** illustrates the general idea of the master plan option and shows a simple image to explain possible connections, open spaces, integration potential to the community and acknowledgment of historic buildings on the site.

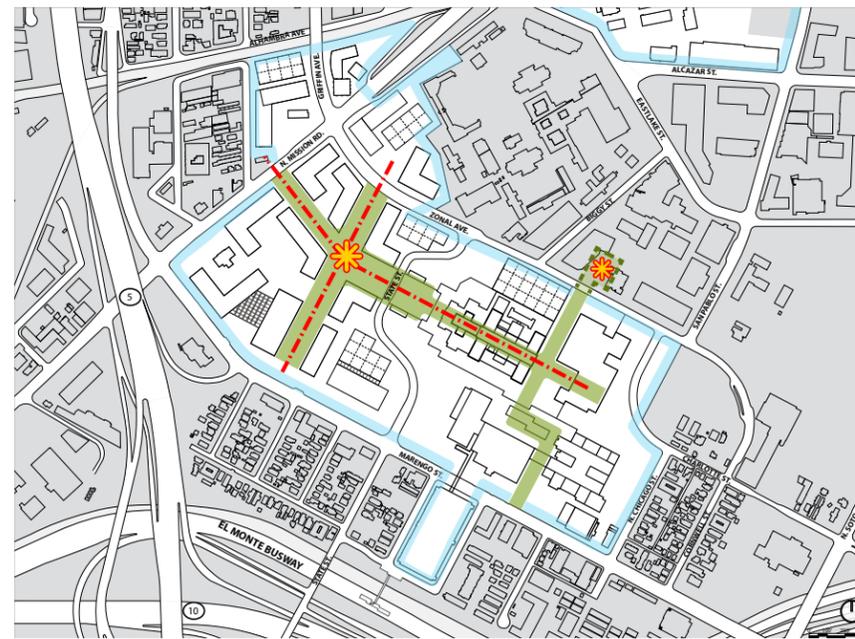
The **zoning diagram** is a slightly more advanced image which shows possible functional uses on the site, and how those uses might be accommodated on the site. Again, this diagram is only illustrative in nature and is intended to demonstrate potential adjacencies, functional uses, expansion zones, and integration possibilities.



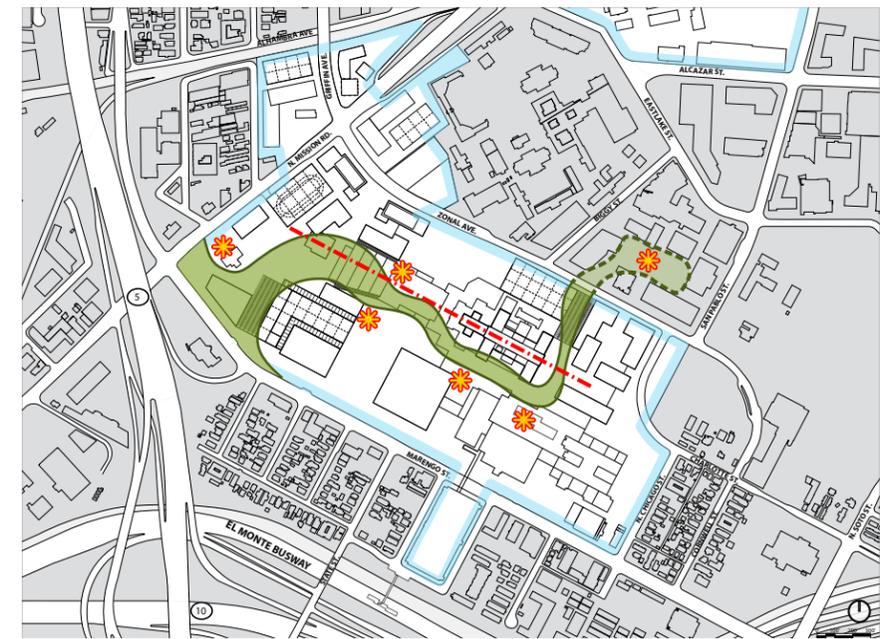
Path & Place



Central Green

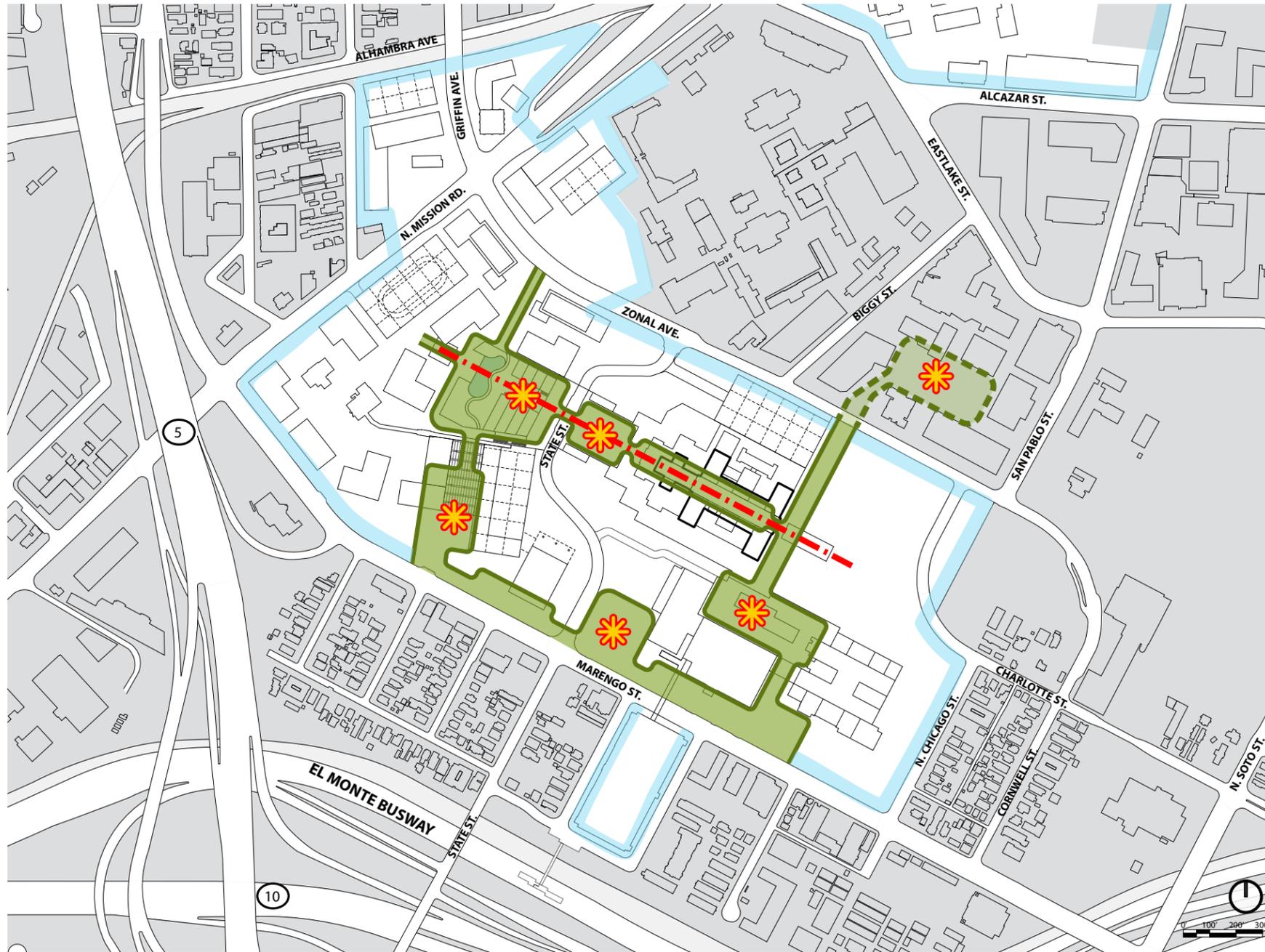


Urban Cross Axis



Green Ribbon

4.22 Master Plan Options



4.23 Path & Place Concept

**Path & Place**

Path & Place creates a flexible framework for future development by linking a series of outdoor and indoor spaces, including General Hospital, the Wellness Center, the historic plaza, and the existing inpatient and outpatient programs. It accentuates the strong axial relationship formed by General Hospital and its strong east-west visual impacts.

This network of public spaces allows easy navigation across the site's varied topography. Convenient parking is integrated throughout the site and is located adjacent to proposed functional building development.

The zoning diagram indicates how like-functions are intended to be grouped together. Where appropriate, open and landscaped areas are designated to preserve the desired open spaces (Figures 4.23 and 4.24).

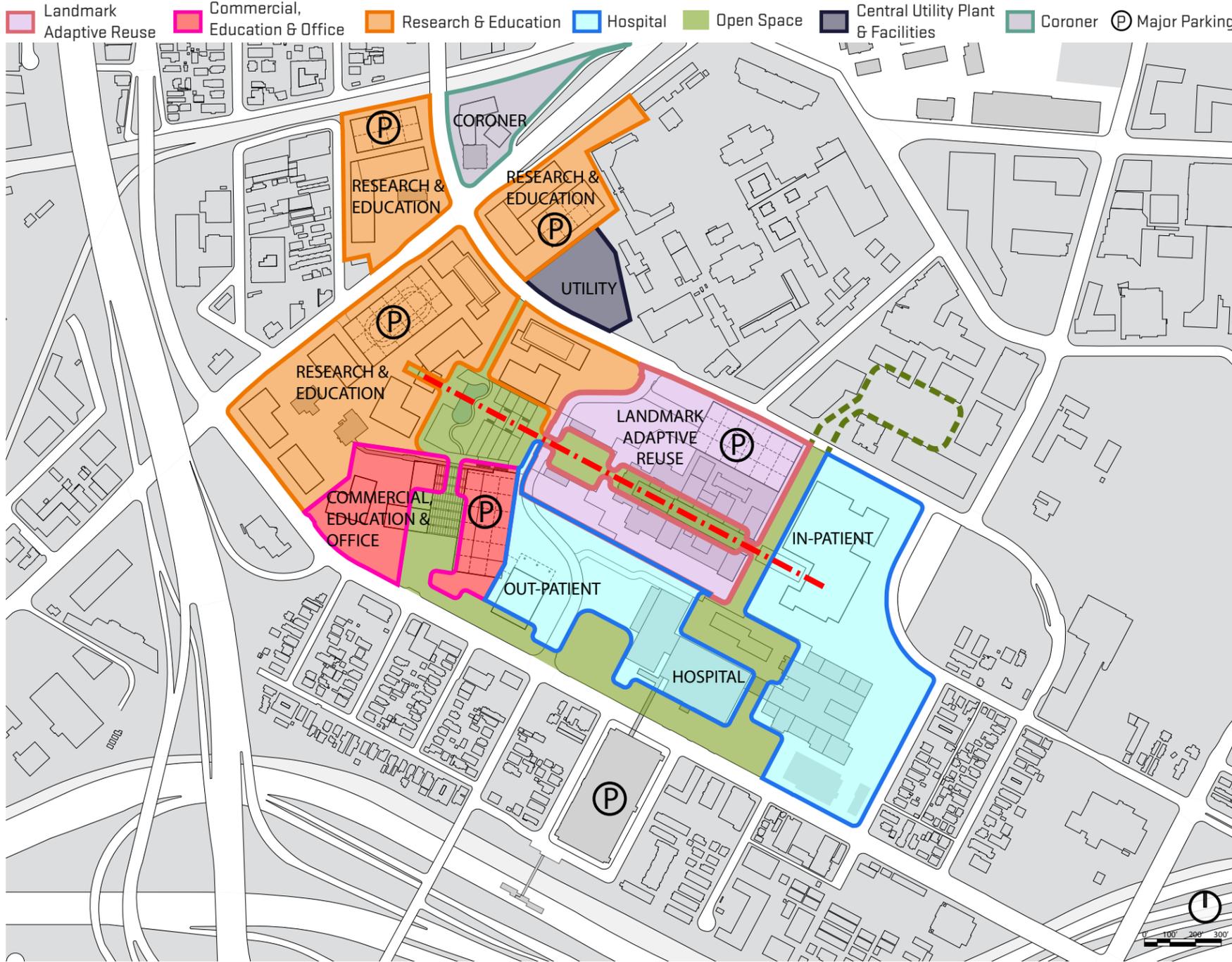
Potential Advantages

- New open space framework that:
  - Creates strong connections to General Hospital, the Wellness Center, and the historic plaza
  - Provides easy access throughout the campus and across elevation changes
  - Establishes strong presence and identity along Marengo Street and engages the existing General Hospital Plaza
  - Provides a variety of types of community friendly spaces for gathering and congregation
  - Provides for improved pedestrian links to the USC Health Sciences Campus
- Maximizes development potential of site in that it:
  - Creates a Biotechnology and Research Zone along North Mission Road and opportunities for strong identity
  - Creates a community oriented gateway from Marengo Street to the site
  - Bundles community and DHS programs along one side of the proposed green and open space, leaving Biotechnology and Research on the other side
- Reinforces master planning principles

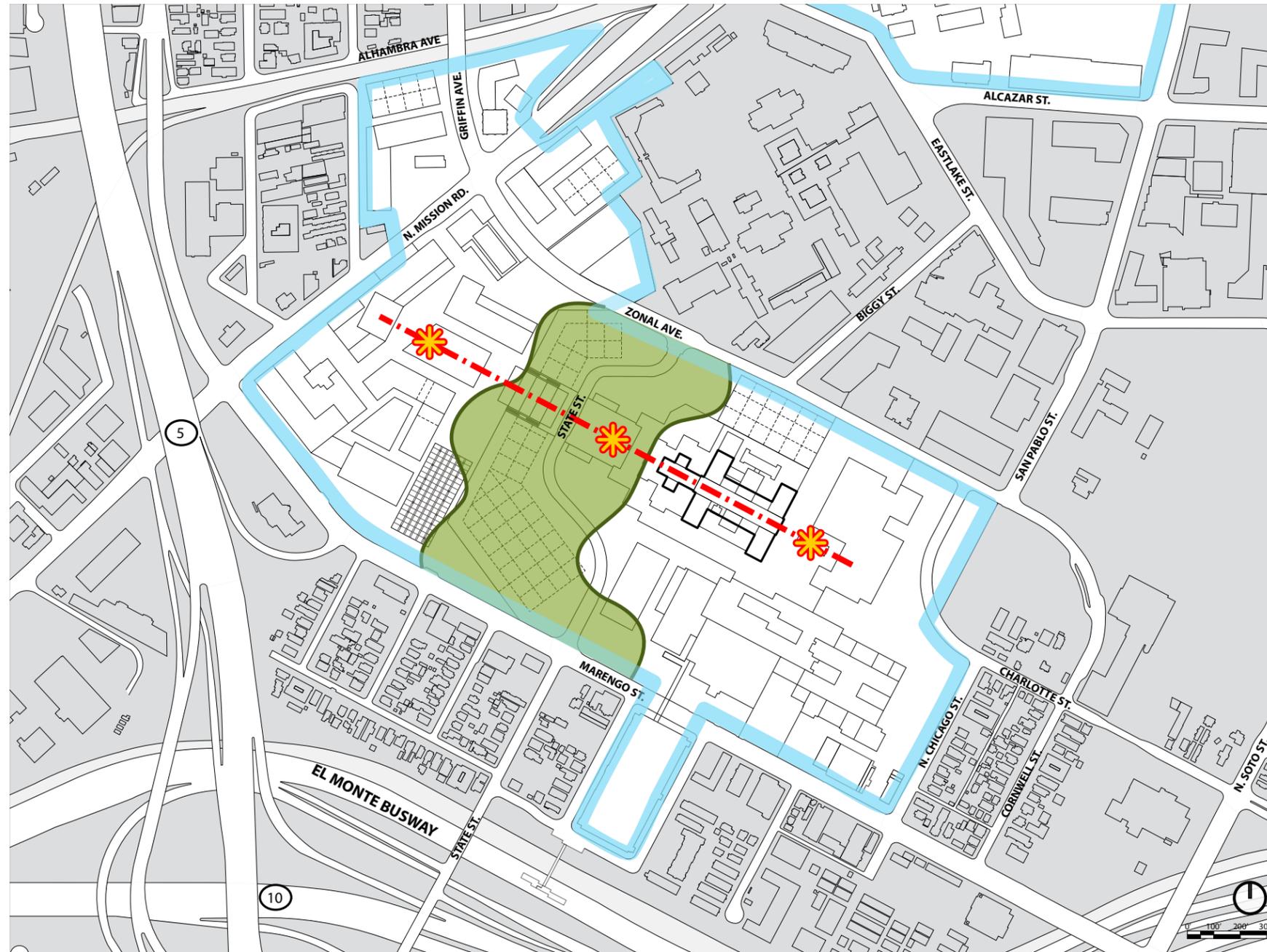
- Proposes the relocation of the existing Central Plant along Marengo Street to improve the aesthetic and site edge along Marengo
  - Initiates the relocation of the Central Plant to an area of the site that can better serve future new development
  - Provides the new Central Plant site with expansion potential for added capability and shops for facilities management
- Seems to be a preferred option by stakeholders and community members as voiced in community meetings

Potential Disadvantages

- North Mission Road is not as strongly integrated into the open space framework, particularly the corner at Zonal Avenue
- Relocates Coroner's office



4.24 Path & Place Zoning



4.25 Central Green Concept

**Central Green**

The Central Green option creates a grand open space gesture along State Street at the heart of the campus engaging General Hospital, the Wellness Center, the historic plaza, and the plaza area immediately in front of the Clinic Tower.

The major open space is at the heart of the site's most dramatic grade changes and provides an opportunity to mitigate the elevation challenges by integrating parking, hillside activities, and walkways to connect the two campuses.

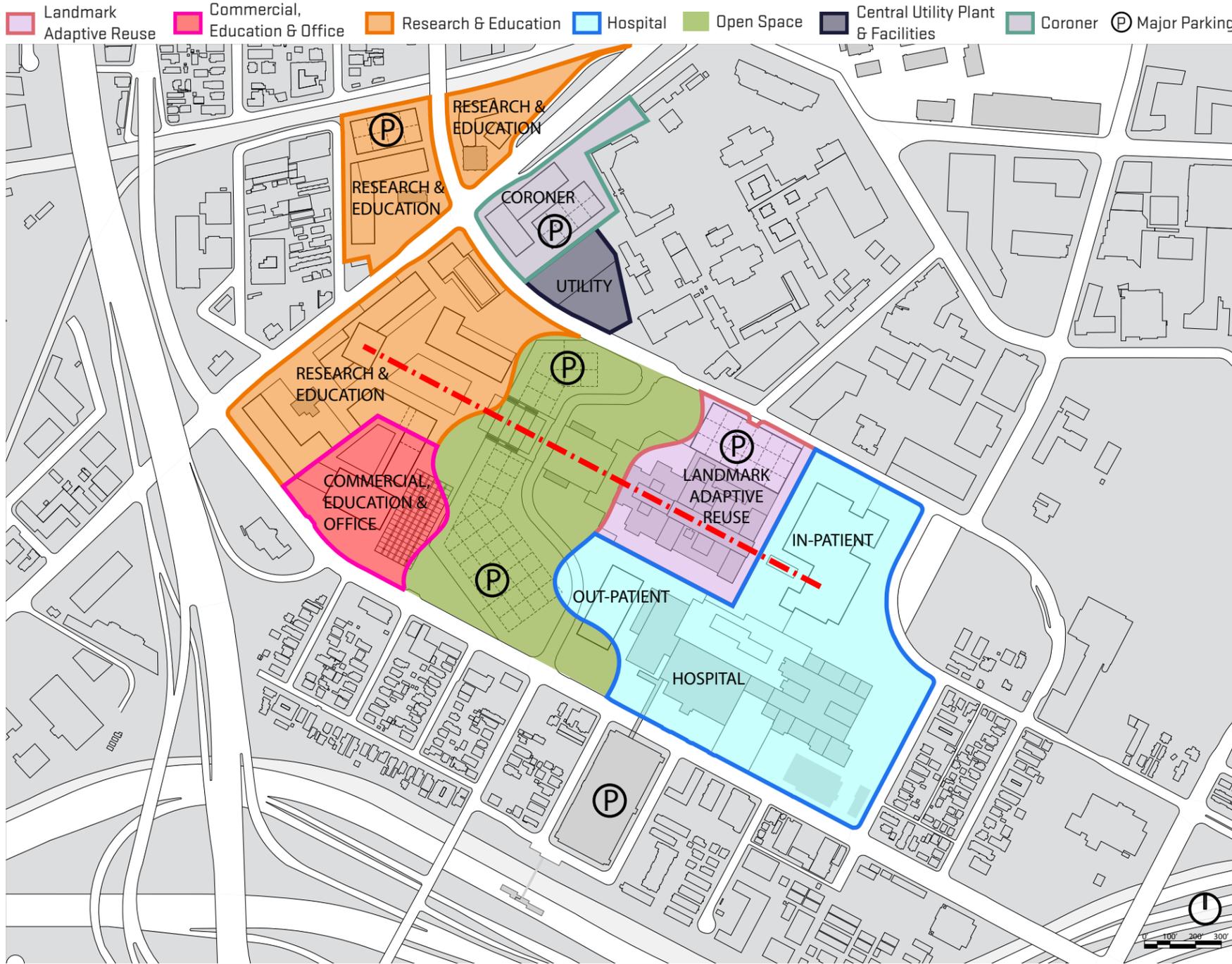
Central structural parking with terraces and roof gardens are integrated into the hillside, and can help to create improved access from the lower campus to the west to the main General Hospital Plaza area (Figures 4.25 and 4.26).

Potential Advantages

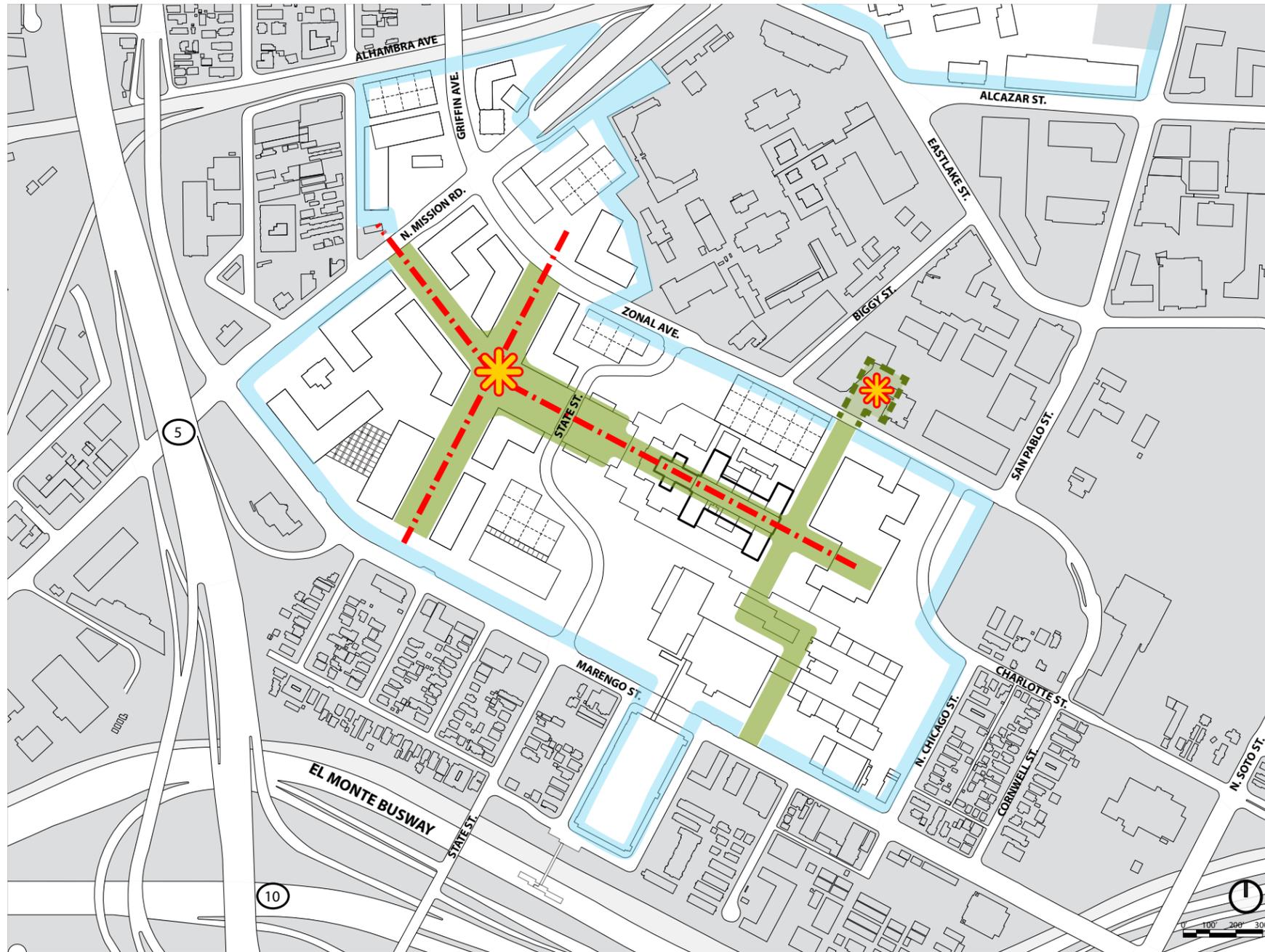
- Provides significant open space along State Street within the center of the campus, and creates a major campus statement to the community
- Reinforces the prominence of General Hospital and the Wellness Center
- Maximizes development potential of the site in that it:
  - Creates a Biotechnology and Research Zone along North Mission Road and opportunities for strong identity
  - Creates a community oriented gateway on Marengo Street by eventually relocating the Central Utility Plant

Potential Disadvantages:

- Further divides the campus into two distinct areas
- Does little to integrate the entire site
- Less defined connections/ vistas are achieved to North Mission Road and to the USC campus
- Relocates Coroner's office



4.26 Central Green Zoning



4.27 Urban Cross Axis Concept

**Urban Cross Axis**

The Urban Cross Axis creates strong east-west and north-south connections through the site. It reinforces the main existing axis through General Hospital, the Wellness Center, the historic plaza, and the current pedestrian corridors adjacent the Replacement Hospital.

It begins to create a concept of “streets”, albeit it pedestrian and visual streets to complement the existing State Street. In doing so, it attempts to provide visual and possibly functional connections from the site to adjacent neighborhoods.

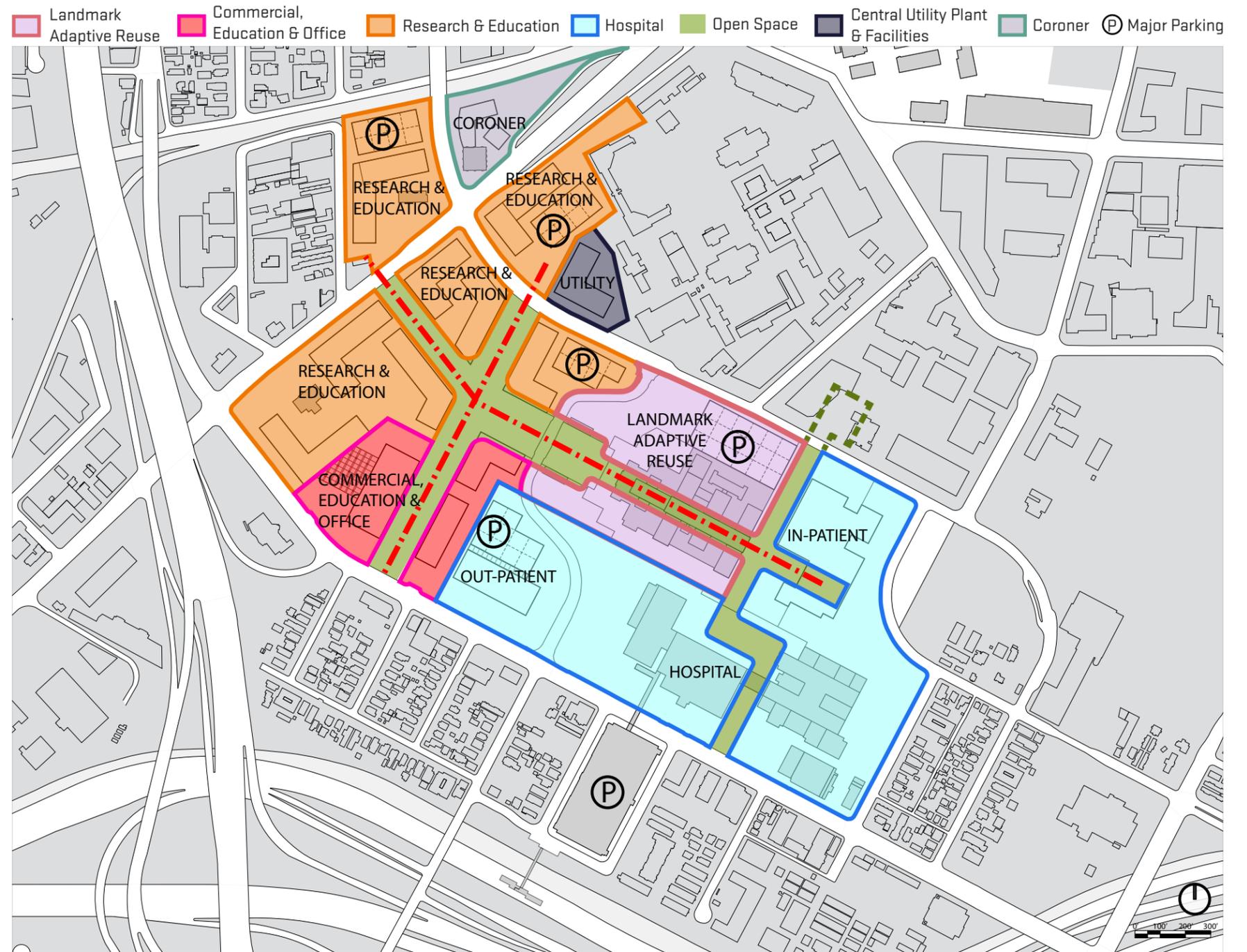
In this option, convenient parking is also planned to be distributed throughout the campus (Figures 4.27 and 4.28).

**Potential Advantages**

- Creates strong connections within the site and to surrounding neighborhoods
- Provides a significant open space for community gathering
- Reinforces prominence of General Hospital and the Wellness Center
- Provides for pedestrian links to the USC campus
- Integrates with pedestrian corridors at the Replacement Hospital
- Maximizes development potential of the site in that it:
  - Creates a Biotechnology and Research Zone along North Mission Road and opportunities for strong identity
  - Creates a community oriented gateway from Marengo Street by eventually relocating the Central Utility Plant

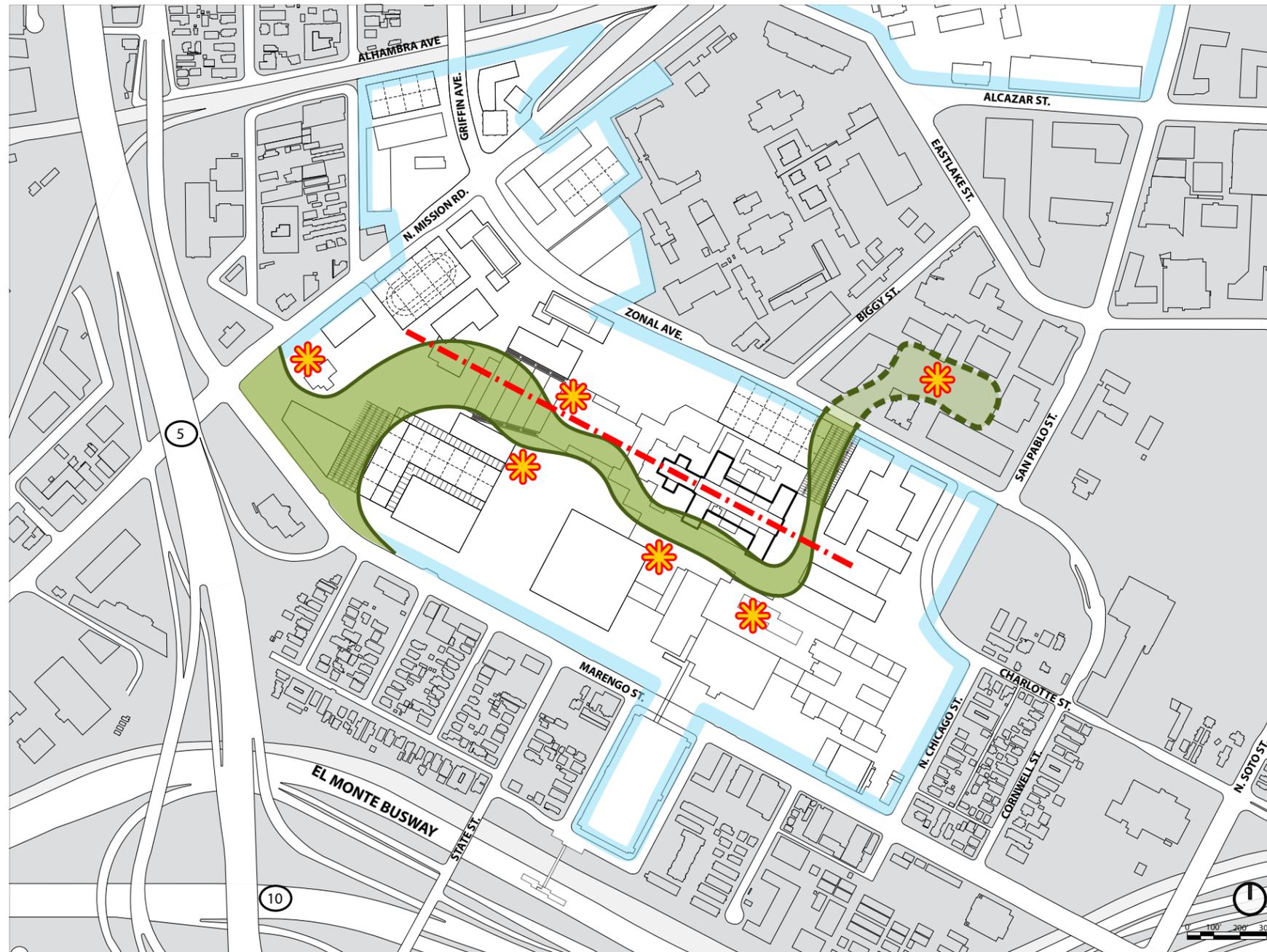
Potential Disadvantages

- Does not provide a variety and grand gesture of open spaces
- Relocates Coroner's office



4.28 Urban Cross Axis Zoning

Urban Cross Axis Zoning Diagram



4.29 Green Ribbon Concept

**Green Ribbon**

The Green Ribbon master plan option creates a series of organic open spaces that begins at the corner of North Mission Road and Marengo Street, move east around General Hospital and the Wellness Center, and eventually integrates with the Tranquility Court and connects north to the USC campus.

In this option, State Street is deactivated for vehicular circulation and parking areas are assigned to the campus perimeter. Unlike the previous master plan options, a major healthcare zone is established along Marengo Street. This effectively creates an entire “medical care presence” along Marengo Street.

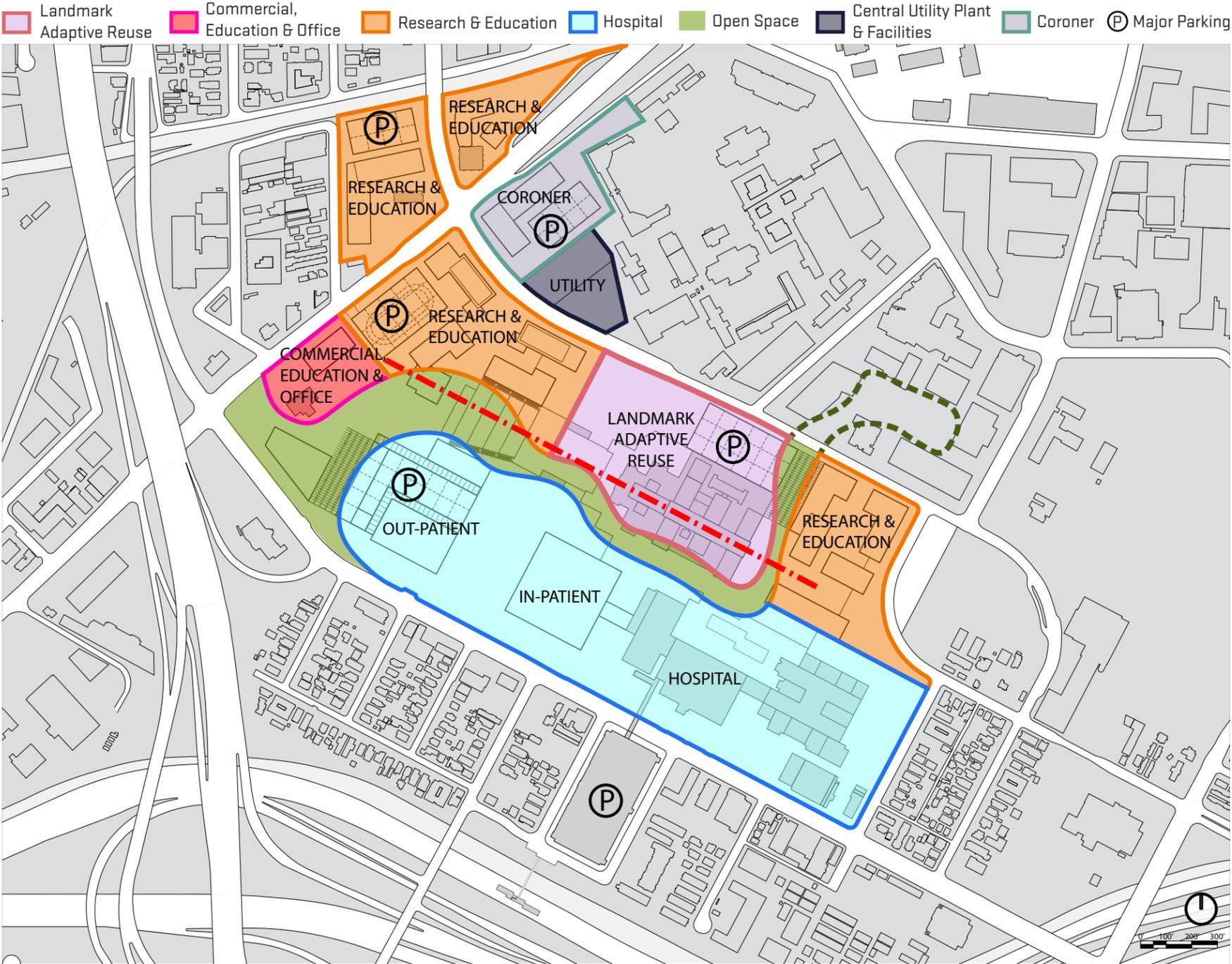
Biotechnology and research functions are also bifurcated in this scheme. Parking options are distributed throughout the site and located adjacent to functions that will generate parking demands (Figures 4.29 and 4.30).

Potential Advantages

- Creates a pedestrian centered campus by eliminating vehicular traffic on State Street
- Emphasizes the importance of Marengo Street as the front door to the campus for medical services activities
- Maximizes development potential of the site in that it:
  - Establishes a highly visible and strong medical services zone along Marengo Street and opportunities for strong identity by eventually relocating the Central Utility Plant
  - Creates a community oriented gateway and Biotechnology and Research zones at North Mission Road and along Zonal Avenue

Disadvantages

- Option relies on abandoning State Street which may not be possible and/or which substantially alters public transportation access
- Reduces vehicular access to General Hospital
- Relocates Coroner’s office



4.30 Green Ribbon Zoning

**Summary**

These master plan options approach the site planning with different perspectives. There are, however, common elements to each of them.

These options were presented for discussion and review at the community outreach meeting held at the Medical Center in January, 2012. Each option was presented to the attendees at that meeting, and specific discussion was focused for each option. Community residents provided their critical comments and views for each of the options, and their ideas and comments were recorded.

The objective of obtaining community input was to better understand their expectations and to identify what they viewed as strengths and weaknesses of each alternative.

Similarly, in subsequent meetings with the Project Steering Committee, the public comments and attitudes were shared and additional input was received from members of the Project Steering Committee. This information was then used by the Master Plan Team to refine the options into a preferred master plan scheme.









5.01 Master Plan Concept Diagram

### LAC+USC Medical Center Master Plan

Throughout the planning process, the LAC+USC Medical Center Master Plan concept has continued to evolve. The Master Plan has been refined through stakeholder, community, and County involvement, review of existing campus infrastructure, and analysis of future medical and healthcare trends. The proposed Master Plan represents a thoughtful synthesis of many ideas drawn from this process.

The Master Plan Concept Diagram (Figure 5.01) incorporates key ideas from the initial planning concepts reviewed in Chapter 4. In particular, the linking of landmark open spaces from **Path & Place** and the idea of strong east-west and north-south connections through the site represented in **Urban Cross Axis**, are interwoven with the organic nature of the **Green Ribbon**.

The Master Plan celebrates the unique character of the campus and reinforces the prominence of the historic General Hospital as a beacon at the top of the hill. The paths and connections also address the changing topography across the site, which is both a major challenge and opportunity.

Ultimately, the LAC+USC Medical Center Master Plan provides a framework for future growth. It unifies the campus, creates a sense of arrival and place, promotes health and wellness, maintains site zones for expansion of both inpatient and outpatient services, and identifies phasing and development opportunities that allow both flexibility and clarity of the plan at all stages of development. It also provides growth and change potential for medical care and research/biotechnology programs related to the Medical Center.

**East-West Connection**

The existing east-west connections through the site are reinforced and expanded by the Master Plan through the creation of both hardscape and landscape paths and gardens (Figure 5.02). These paths connect the main historic axis of the General Hospital and its Plaza with other significant locations on the campus. These connections specifically:

- Enhance the connection to the new Wellness Center
- Provide increased access to the Tranquility Court at the Replacement Hospital
- Create accessible connections to areas west of State Street through to N. Mission Road
- Provide, at the western site edge, a new public entry to the campus at the original Hospital building, currently serving as administration facilities for the LA County Coroner



5.02 East-West Connection Diagram



5.03 North-South Connection Diagram

**North-South Connection**

The north-south connections (Figure 5.03) serve to further unify the campus, providing enhanced paths that better link existing spaces, while helping promote healthy lifestyles and wellness. The north-south connections serve to:

- Enhance the path along State Street connecting the main hospital site entry and drop-off, at Marengo Street, with the historic General Hospital Plaza and the Wellness Center
- Improve the pedestrian link between the USC Health Sciences Campus and the Replacement Hospital, used extensively by students and medical/clinical staff throughout the day
- Provide new entries and connections that create a sense of arrival and place, including a new entry to the campus at the corner of Zonal Avenue and N. Mission Roads, with the intention of creating and connecting to a major new community focused public space on Marengo Street

### Response to Master Planning Principles

The LAC+USC Medical Center Master Plan reflects and reinforces the Master Planning Principles developed in support of community needs and the LAC+USC Campus mission. These principles, previously described in detail in Section 4.0 (Master Planning Background), guided the development of the Master Plan.

1. Optimize the value of the campus
2. Strengthen LAC+USC's image, place, and presence in the community
3. Promote wellness activities and culture
4. Enhance the campus experience for visitors, patients and professionals.
5. Restore the LAC+USC campus as a vibrant destination
6. Demonstrate sustainable development
7. Create a coherent campus at every phase

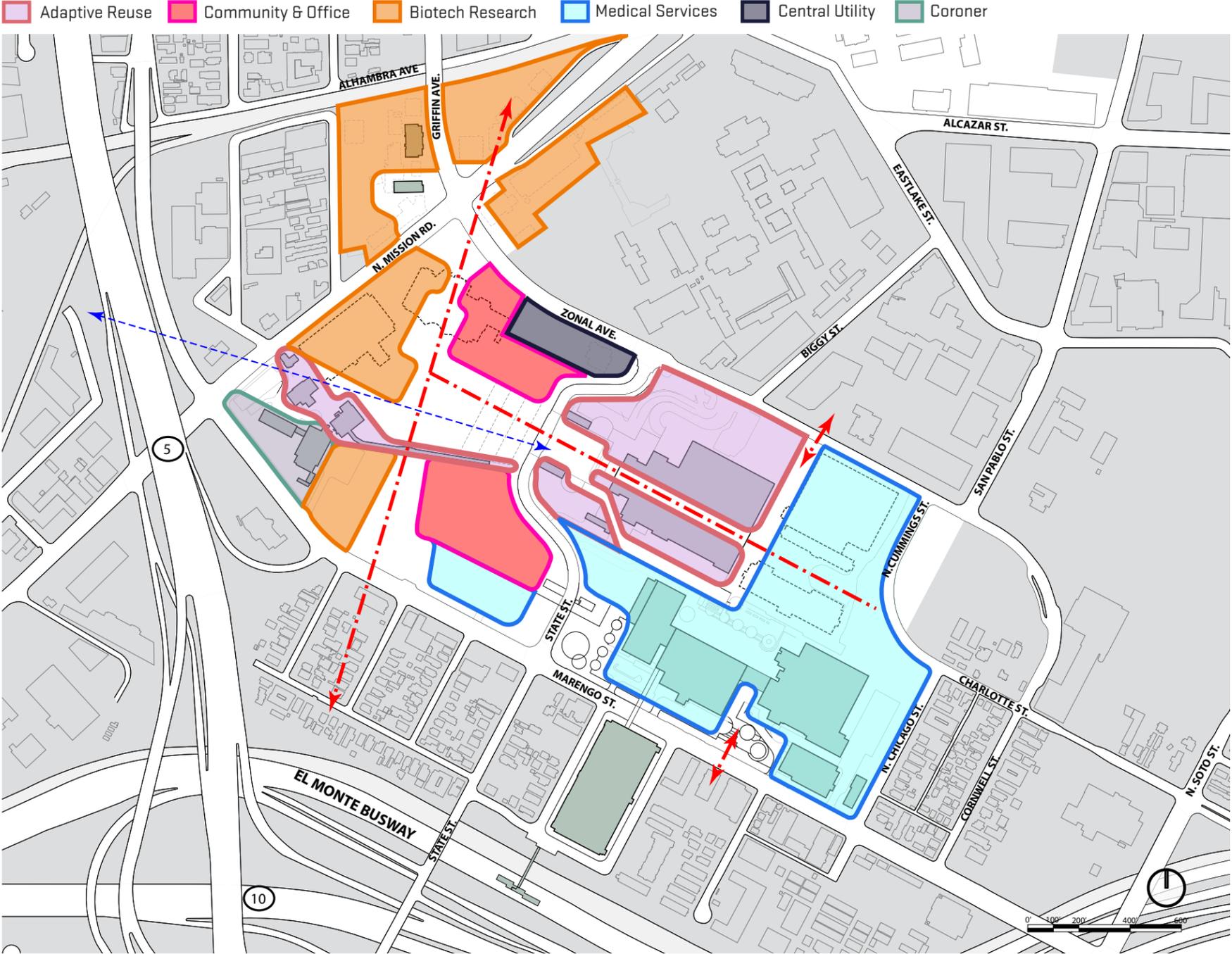
The LAC+USC Master Plan further successfully responds to key community and stakeholder expectations and needs raised during the Master Planning process. The following checklist (Figure 5.04) summarizes those critical issues, and the extent to which the Master Plan was responsive to stakeholder inputs.

In this section of the report, the Master Planning principles are applied directly to the recommended Master Plan. Every attempt has been made to highlight specific applicability of these principles to the particular diagrams illustrated in this section of the report.

In Section 4.0 of this report, each of the Master Planning principles was generally identified and associated with images or concepts intended to illustrate the principle. In this Section 5.0, the Master Planning principles are directly associated with specific plan ideas.

COMMUNITY Expectations/Needs	LAC+USC MASTER PLAN	STAKEHOLDER Expectations/Needs	LAC+USC MASTER PLAN
• <b>Improve Parking</b>	✓	• <b>Improve Parking</b>	✓
• <b>Establish Strong Linkages to the Surrounding Community</b>	✓	• <b>Reserve Appropriate Areas for Future Inpatient &amp; Outpatient Expansion</b>	✓
• <b>Improve Access and Clear Way-Finding to and within the Campus</b>	✓	• <b>Showcase General Hospital and the Wellness Center in Long-Term Master Plans</b>	✓
• <b>Provide Areas for Community Functions</b>	✓	• <b>Establish Active Edges and Create a Welcoming Environment from all sides of the Campus</b>	✓
• <b>Encourage Healthy Behavior by Local Residents</b>	✓	• <b>Optimize Developable Areas around a Clear Framework of Open Space</b>	✓
• <b>Reinforce the Historic Legacy of General Hospital</b>	✓	• <b>Provide a Variety of Types of Outdoor Spaces</b>	✓
• <b>Create a Campus that is Easier to Get Around : Address Change in Grade Across the Site</b>	✓	• <b>Demonstrate Sustainable Development</b>	✓
• <b>Provide a Variety of Open Spaces and Landscaped Areas</b>	✓	• <b>Consider Pragmatic Long-Term Operations</b>	✓
• <b>Improve Safety and Nighttime Environment with Active Ground Level</b>	✓	• <b>Restore-Reuse Blighted Areas</b>	✓
		• <b>Create a Meaningful Scope for Phase I and Strategy for Future Development</b>	✓

5.04 Master Plan Alignment with Community & Stakeholder Experience/Needs



5.05 Zoning Diagram

**Principle 1: Optimize the Value of the Campus**

Campus areas west of State Street and those surrounding the corner of Zonal Avenue and N. Mission Road are substantially under-utilized. Similarly, the historic General Hospital, once the pinnacle of healthcare for the campus and the city, lies mostly dormant. While the new Wellness Center will help breathe new life into the building, there are additional opportunities for reuse of the lower floors of the building. The Master Plan, as illustrated in the Zoning Diagram (Figure 5.05), provides for controlled development and adaptive reuse of key areas. The development will:

- Showcase key unique landmarks, by **repurposing and revitalizing** the General Hospital and Plaza, the historic Hospital Administration building, and the Pharmacy building and bridge, while integrating their use into the overall Master Plan
- Provide site **zoning to maximize land use** for Community & Wellness, Biotechnology, Education and Research, Parking, and Central Plant expansion **while preserving a clear framework of desirable open space**
- Create a **clear strategy for expansion of inpatient and outpatient medical services** that can adapt to the changing needs of the community that it serves

**Principle 2: Strengthen LAC+USC’s Image, Place, and Presence in the Community**

The Master Plan will further help strengthen LAC+USC’s presence in the community. Figure 5.06 illustrates the proposed building uses established by the Master Plan, which together with the zoning diagram (Figure 5.05) and open space connection diagrams (Figures 5.02 and 5.03) form the framework that defines key aspects of the Master Plan, including the following:

- Provide **strong east-west and north-south connections and views through the site** that reinforce the prominence of General Hospital, the Wellness Center, and the Plaza
- Establish **active edges and a welcoming environment on all sides** of the campus to the surrounding neighborhoods

- Create a **strong presence and identity along Marengo Street** including community facilities framing a new urban plaza
- Develop the intersection of Zonal Avenue and N. Mission Road to create a **new gateway** to the LAC+USC campus that is **inviting to the surrounding community from the north-west**
- **Engage the existing General Hospital Plaza and the Replacement Hospital** by focusing future outpatient service at the intersection of State Street and Marengo Street
- Enhance **open space and pedestrian connections to the USC Health Sciences Campus**
- Use the open space framework to **link community uses** at the lower western portion of the site up to the new Wellness Center and historic Plaza through an **easy to navigate accessible path**

**Principle 3: Promote Wellness Activities and Culture**

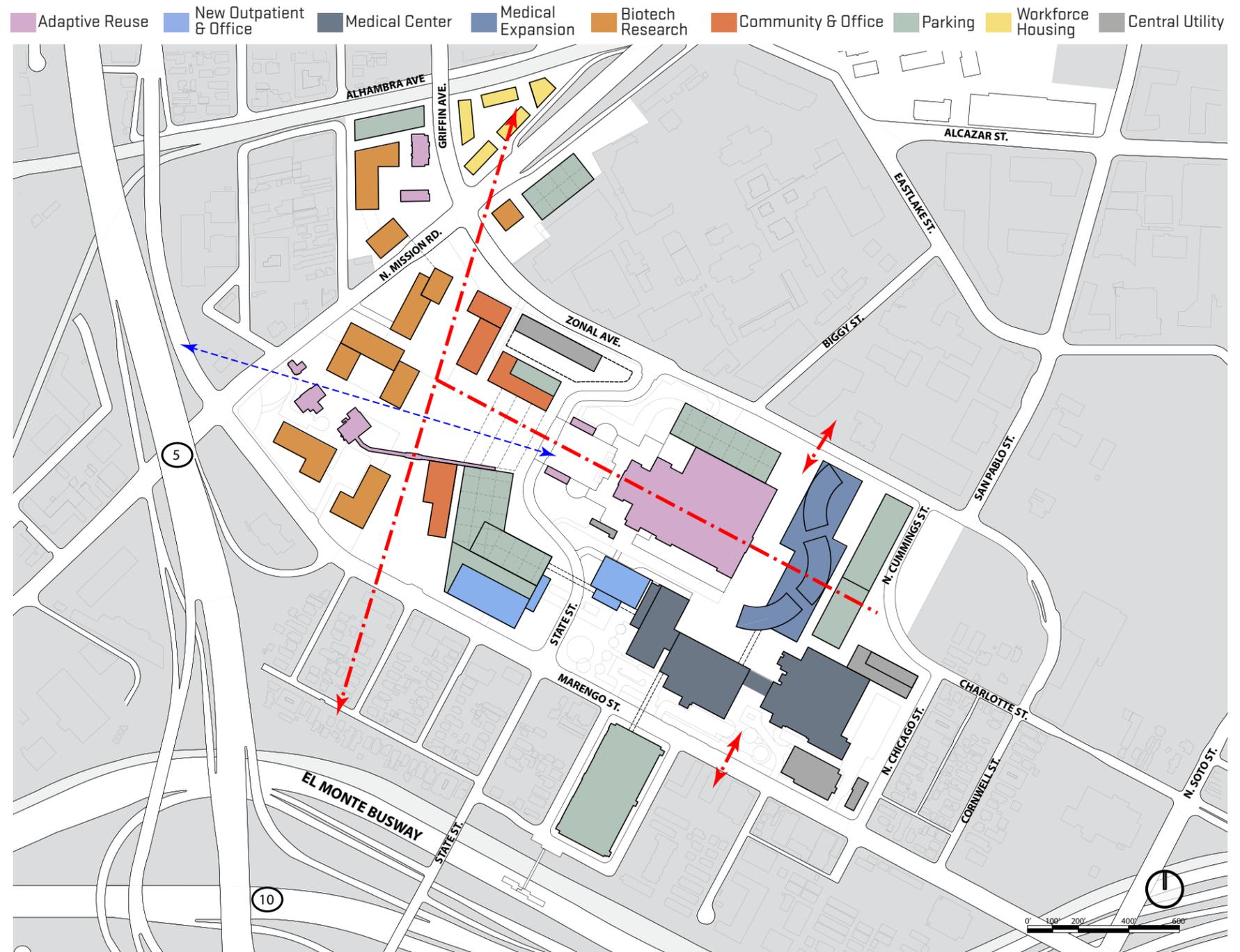
Building on the community focused adaptive reuse of General Hospital by the Wellness Center, the Master Plan will:

- **Allow program flexibility** to include additional community-centric **wellness and educational facilities** in prominent locations
- Include areas for passive and/or low-level recreational/activity uses on site, including paths through the site that **serve a variety of activity levels**, while providing places of respite
- Create an **active ground level** that strengthens **connections between outdoor and indoor spaces** and provides a **vibrant day-night experience**

**Principle 4: Enhance the Campus Experience for Visitors, Patients, and Professionals**

The current Medical Center and surrounding areas of the campus are difficult to navigate, with steep hillsides and poor and/or inconsistent signage. Parking is often overcrowded and filled to capacity, or not conveniently located. The Master Plan will enhance how people experience the campus in the following ways.

- Provide **convenient parking** distributed throughout the campus



5.06 Illustrative Building Program Diagram



5.07 Master Plan

- Allow **easy access and clear wayfinding across the changing grade** of the site through a series of terraced gardens, escalators, bridges, ramps, and elevators that provide for more universal access (Figure 5.09)
- Create a **variety of types of outdoor spaces** for gathering and seating
- Utilize **active ground level functions** where buildings are adjacent to outdoor spaces to **enhance safety and nighttime environments**

**Principle 5: Restore LAC+USC Campus as a Vibrant Destination**

The LAC+USC Campus has the opportunity to become a new social hub for the surrounding communities. The Master Plan framework provides for health and wellness oriented programs and usable outdoor spaces that should encourage visitors at all times. Figure 5.07 illustrates the Master Plan open space, landscape, and active public areas, which are intended to accomplish the following:

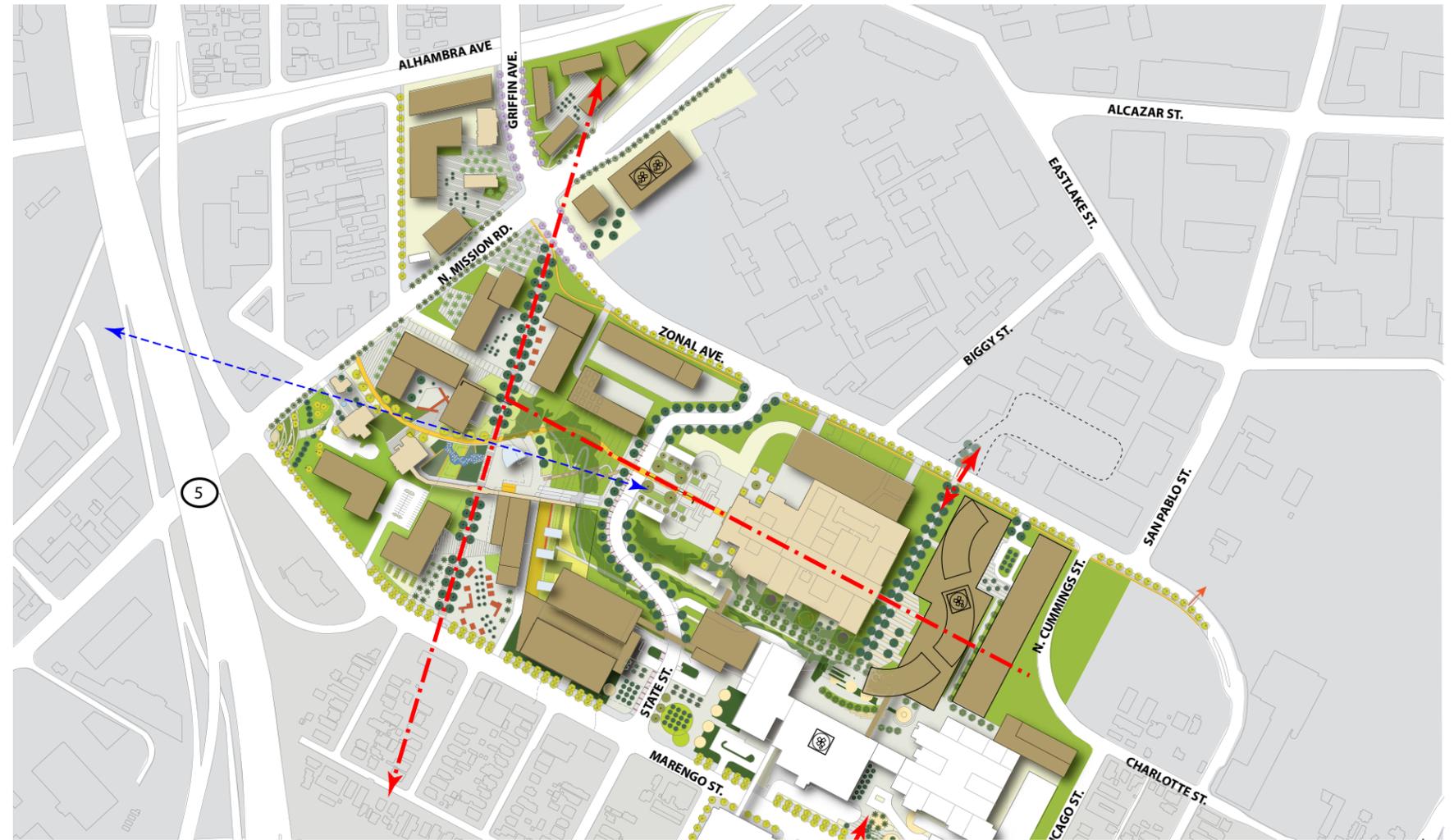
- **Welcome visitors, patients, staff, and the broader community** through a series of linked public open spaces that connect to the historic General Hospital, the Wellness Center, Plaza, and Replacement Hospital
- Support **health and wellness programs**, community programs, farmer’s markets, community gardens, etc.
- Provide **places for public gathering and events**
- **Encourage strategic development** potential of site
- Establish an **important gateway on Marengo Street**, with views into a central open space, that is activated by community serving programs and integrates the existing historic bridge
- Provide **areas for outpatient expansion** near the existing Medical Center, with convenient access from Marengo and State Streets
- **Strengthen connections to General Hospital** and its Plaza by developing accessible paths and views through a lessening of the elevation difference between the east and west of State Street (Figure 5.09)

- Create a **Biotechnology Research/Education Zone** along N. Mission Road and **strengthen campus identity at N. Mission Road and Zonal Avenue**
- Establish a **Hospital and Clinic Expansion Zone** adjacent to the existing Medical Center that **allows for future connections and greater efficiencies**
- Relocate the existing Central Utility Plant, currently along Marengo Street, to an area within the campus that is less pedestrian oriented. This relocation will **create a more open and welcoming frontage along Marengo Street**

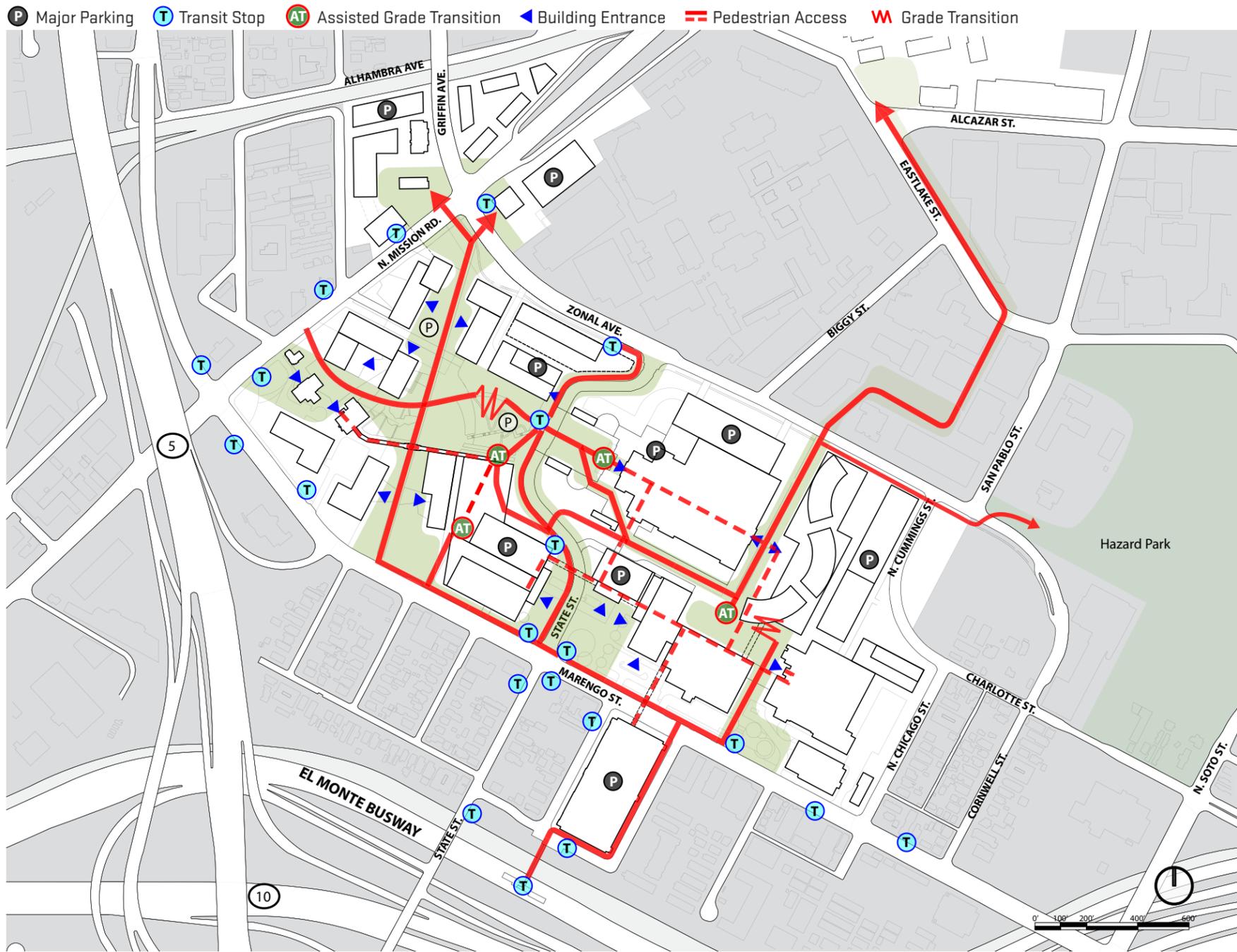
**Principle 6: Demonstrate Sustainable Development**

The Master Plan development of the site will serve as a forward looking example for sustainable development and encourage community stewardship of the environment. The future development will:

- Enhance long-term social value of the site through the master planning process by **engaging the stakeholders and surrounding neighborhood communities**
- Optimize development opportunities by **anticipating current and future priorities and needs**
- Consider pragmatic long-term operations—relocate and enlarge the central utility plant to **consolidate facilities functions**
- **Restore and reuse current blighted areas**—taking full advantage of the campus site potential by eliminating open storage areas, temporary structures, and abandoned equipment, and consolidating support logistics and storage needs
- **Promote efficient energy and water use**
- Provide **comprehensive onsite water management**
- **Reinforce LEED silver minimum and CAL Green program goals**



5.08 Site Section



5.09 Pedestrian Access Diagram

**Principle 7: Create a Coherent Campus at Every Phase**

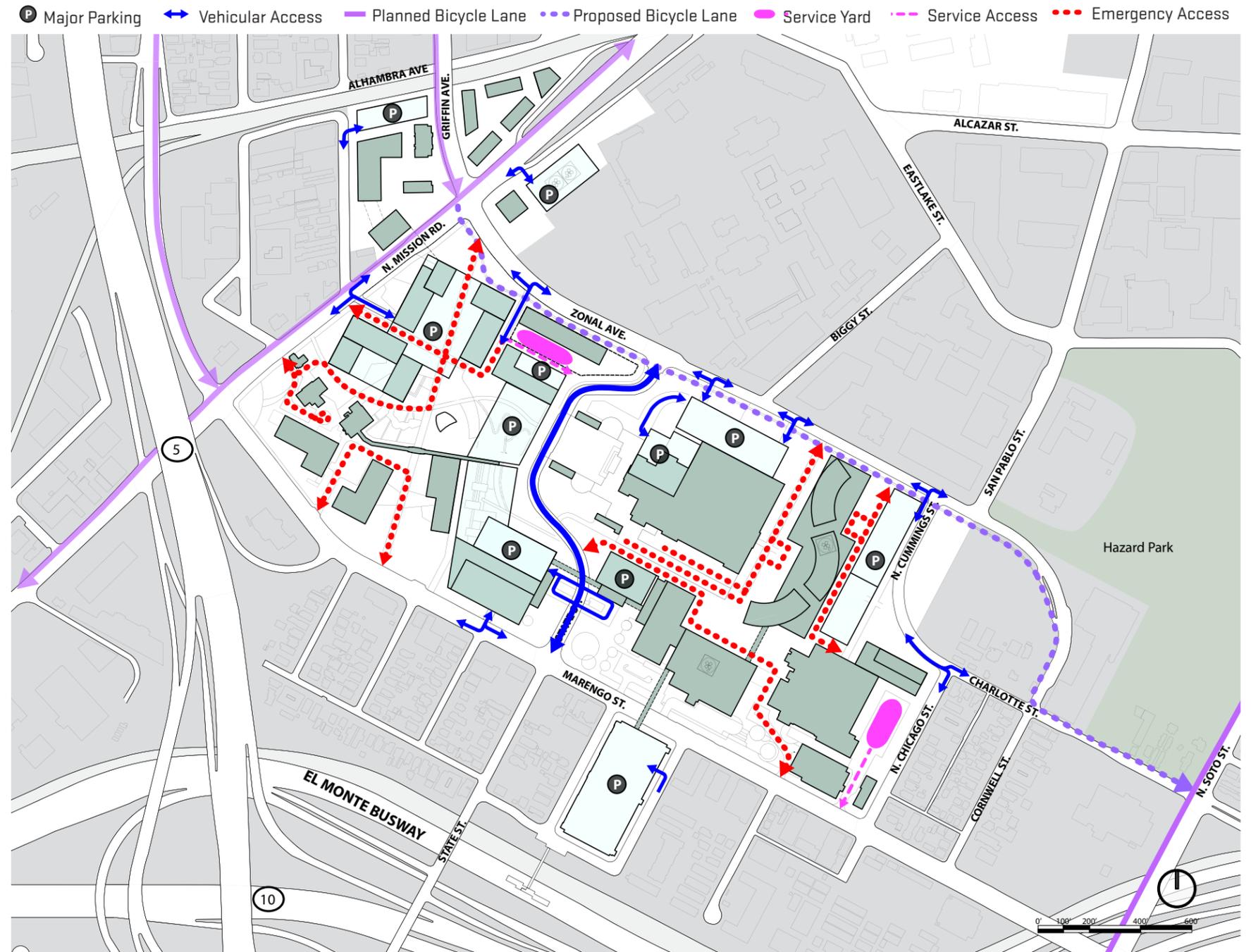
While the ultimate goal of the LAC+USC Master Plan is to illustrate the long-term, future development of the campus, it is important that the development occur in cohesive phases.

- Strengthen visual and physical connections across the site to **unify the campus as each phase develops**
- **Commit to a meaningful scope and extent of Phase I, addressing the campus' most critical challenges**, with a strategy for future development
- Create a **clear and adaptable framework that will allow greater flexibility for development in zones**, while maintaining well-defined interconnected open spaces
- **Provide for usable common areas (landscape) in each phase**
- **Improve physical relationships/ connections to the USC Health Sciences Campus** as an important link in the public space network

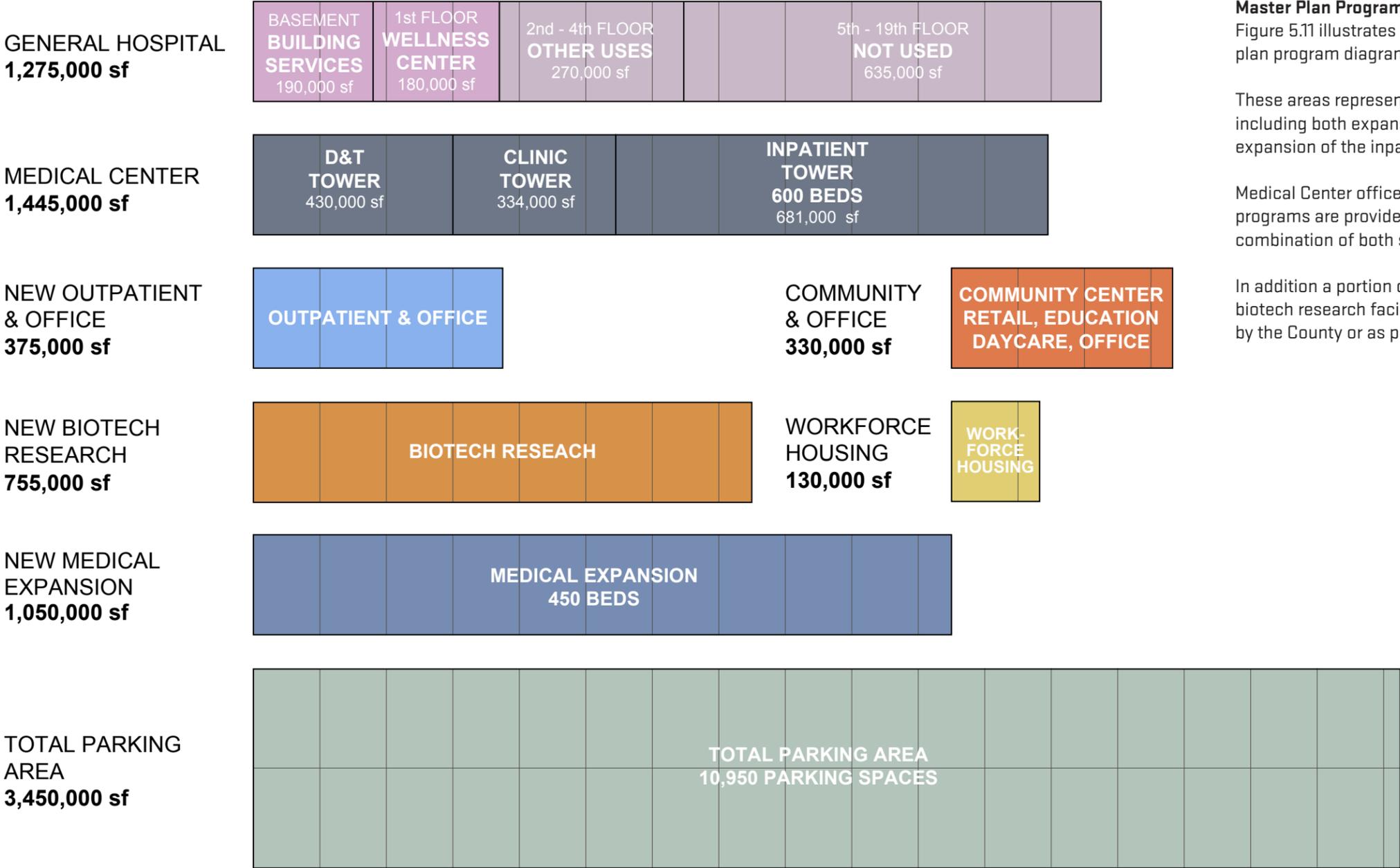
**Pedestrian and Vehicular Access**

One of the consistent themes that evolves from the Master Plan Principles is the need to clarify and improve access into and through the campus. In order to promote a better pedestrian friendly experience, the Master Plan circulation framework, as illustrated in Figure 5.09 and Figure 5.10, has been developed to accomplish the following:

- Simplify and increase the paths and walkways through the campus
- Provide clear wayfinding and signage
- Connect existing transit stops to pedestrian site circulation
- Create an active ground level by locating public services facilities and amenities on the ground floor of buildings directly off of key pedestrian circulation paths
- Locate building entries off of main pedestrian paths and outdoor public spaces
- Use terraced gardens, elevators, ramps, bridges, and escalators to provide access at changes in grade across the site up to the historic General Hospital, the Wellness Center, Plaza and clinic buildings
- Provide for parking facilities at the perimeter of the campus
- Concentrate the parking facilities at locations that serve the highest density of people, both staff and visitors
- Locate clearly marked parking entries directly off of the primary vehicular access routes to campus



5.10 Vehicular Circulation Diagram



**Master Plan Programs**

Figure 5.11 illustrates the proposed areas, by use, reflected in the master plan program diagram, figure 5.06.

These areas represent the anticipated expansion of the Medical Center, including both expansion of outpatient services and potential long-term expansion of the inpatient facilities.

Medical Center office space needs, along with community serving programs are provided in flexible buildings that can be adapted to serve a combination of both services.

In addition a portion of the campus has been allocated as health related biotech research facilities. These facilities can be developed in the future by the County or as partnerships with outside entities.

The images shown in figures 5.12, 5.13 and 5.14 on the following pages are conceptual images reflecting how the Master Plan could be developed. The images are intended to reinforce the goals and aspirations of both the LAC+USC campus stakeholders as well as the desires of the surrounding communities.

Figure 5.12 represents an aerial view of the overall campus from the southwest. It clearly illustrates the different future character of the site when contrasting the east side of State Street versus the west side.

The east side of State Street is intended to remain the part of the campus that is inpatient oriented. Future bed additions, shown east of General Hospital and north of the Inpatient Tower, are shown as three separate incremental phases, each phase consisting of 150-bed. As these bed towers are built out, there will be a corresponding need for additional parking and diagnostic and treatment services to support the new beds. Also shown on the east side of State Street is a future replacement or expanded outpatient services center that will be in very close proximity to the existing Clinic Tower building.

The west side of State Street is clearly planned to not be as densely built as the east side of State Street, and the buildings are proposed to be of a lower scale with more space between them. This side of the campus is intended to promote wellness and health, with functions and spaces that support those goals. Grand gestures promoting community connections, wide public pedestrian walkways, gathering spaces, and use of sustainable building elements (such as photo-voltaic panels and roof gardens) are just some of the site elements planned for this portion of the campus.

Figure 5.13 is a site rendering along the existing historic bridge on the west side of the campus. The bridge is envisioned as an adaptive reuse project that may house community programs and/or provide spaces for local artists' work. Also shown are potential site wetland areas that are related to the site's stormwater management program to demonstrate sustainability efforts for the community's benefit. Areas of the site are also anticipated to become more vibrant and active with programs that foster community participation.

Figure 5.14 shows a potential gathering space on the site that can be used for community education, arts programs, or local farmers markets. The structures providing shelter can be economically built, yet can provide the focal point for campus activities that might change on a daily or weekly basis. Community based programs should be consistent with the mission of the Medical Center to encourage healthy living habits and healthy communities.



5.12 Aerial View of Master Plan



5.13 View of The Commons and Historic Bridge



5.14 View of Market Plaza

## Landscape and Open Space Organization

### Open Space

Within the overall framework of the LAC + USC Campus Master Plan open space areas of the campus are organized as a series of connected zones that vary in size, character, and function. The primary objective of these areas is to embrace the concept of community and improve the overall health and well-being of anyone using the site. This is achieved by creating a sustainable, creative, and accessible open space network that encourages workers, residents and visitors of the hospital campus and adjacent community to be outside and enjoy the inherent benefits of the natural environment.

As described in Chapter 3, the proposed landscape and open space areas are shaped by a number of important goals intended to encourage outdoor recreation.

1. Increase mobility and access to and through the site, and promote a sense of community by embracing residents of the adjacent community
2. Improve the environmental well-being of the site itself by demonstrating exemplary sustainable design practices, such as increasing the sites biomass, encouraging locally sourced materials, capturing and treating onsite storm water run-off, reducing water consumption by using climate appropriate plants, and providing a range of educational, recreational, and healing opportunities
3. Reinforce the site's overall branding, recognition and site navigation

Five (5) distinct Open Space Zones have been identified and, together, create a unified campus with a multitude of accessible outdoor experiences. The five zones are:

- Medical Campus Grounds and Healing Gardens
- Market Plaza and Pedestrian Mall
- The Commons - A Community Green
- Educational and Research Gardens
- Surrounding Streetscape



5.15 Landscape Master Plan

**The Medical Campus Grounds and Healing Gardens:**

This zone is associated with the primary use of the site, the Medical Campus. It encompasses all medical service related buildings on the property. It is defined by Zonal Avenue to the north, North Chicago Street to the east, Marengo Street to the south, and State Street to the west, with the exception of proposed outpatient facilities that extend to the west side of State Street. The Wellness Center is a key element for this area.

**The Market Plaza and Pedestrian Mall:**

This zone is associated with the proposed community focused program elements. It provides a linear transect across the site and creates a pedestrian connection from the southern side of the site on Marengo Street through the central open space (The Commons), and the Educational and Research Gardens that are located near the corner of Zonal Avenue and North Mission Avenue. The Market Plaza and Pedestrian Mall are intended to be similar to a bustling urban street, but without the vehicular traffic, and planned as a vibrant and dynamic outdoor amenity for the community to enjoy 24 hours a day.

**The Commons - A Community Green:**

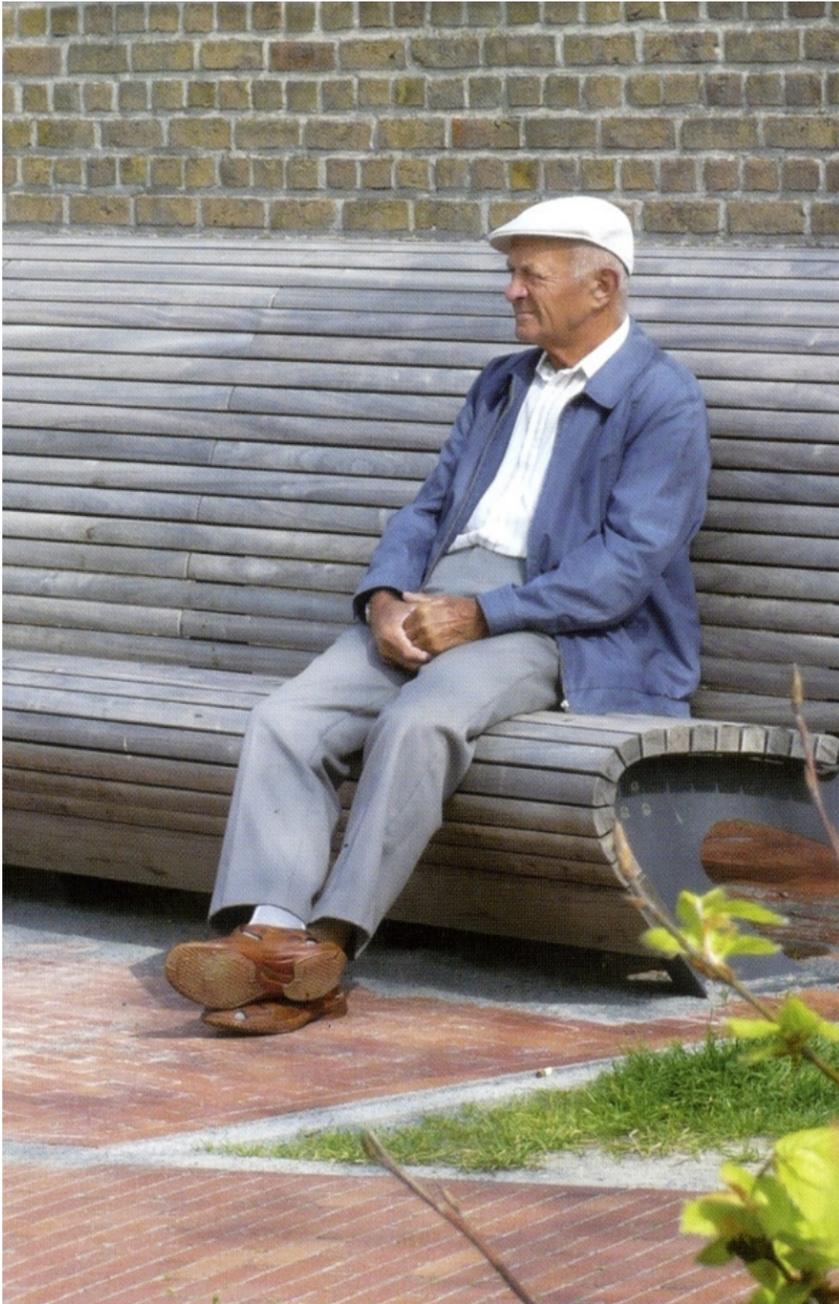
This zone is a key component in the site's overall organization and provides a central open space, a much needed community resource that connects the lower eastern half of the campus with the medical facilities. The Commons space starts at the historic gate house entrance and creates a meandering path that provides an accessible route from the street edge of North Mission Road to the historic General Hospital.

**The Educational and Research Gardens:**

This zone is associated with the proposed Education and Research buildings on the campus. This area will provide outdoor gathering and recreational spaces.

**The Surrounding Streetscapes:**

Although within the domain of the City of Los Angeles, the surrounding streetscapes are important to the overall identity of the campus and are critical to site navigation and accessibility. The master plan proposes that these streets become more pedestrian oriented, provide improved access to public transportation options, and help promote a vibrant and active public space within the community.



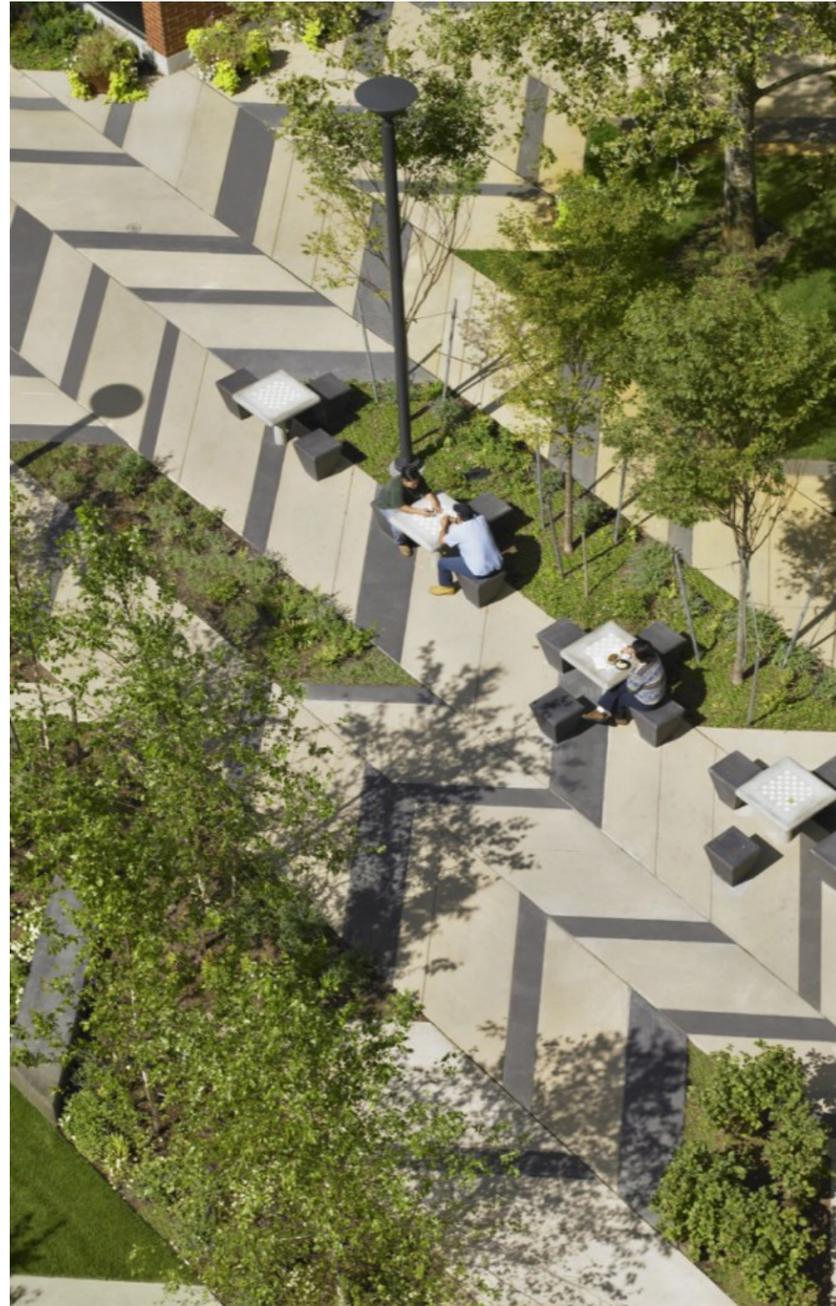
5.16 Outdoor Spaces For Passive Activities



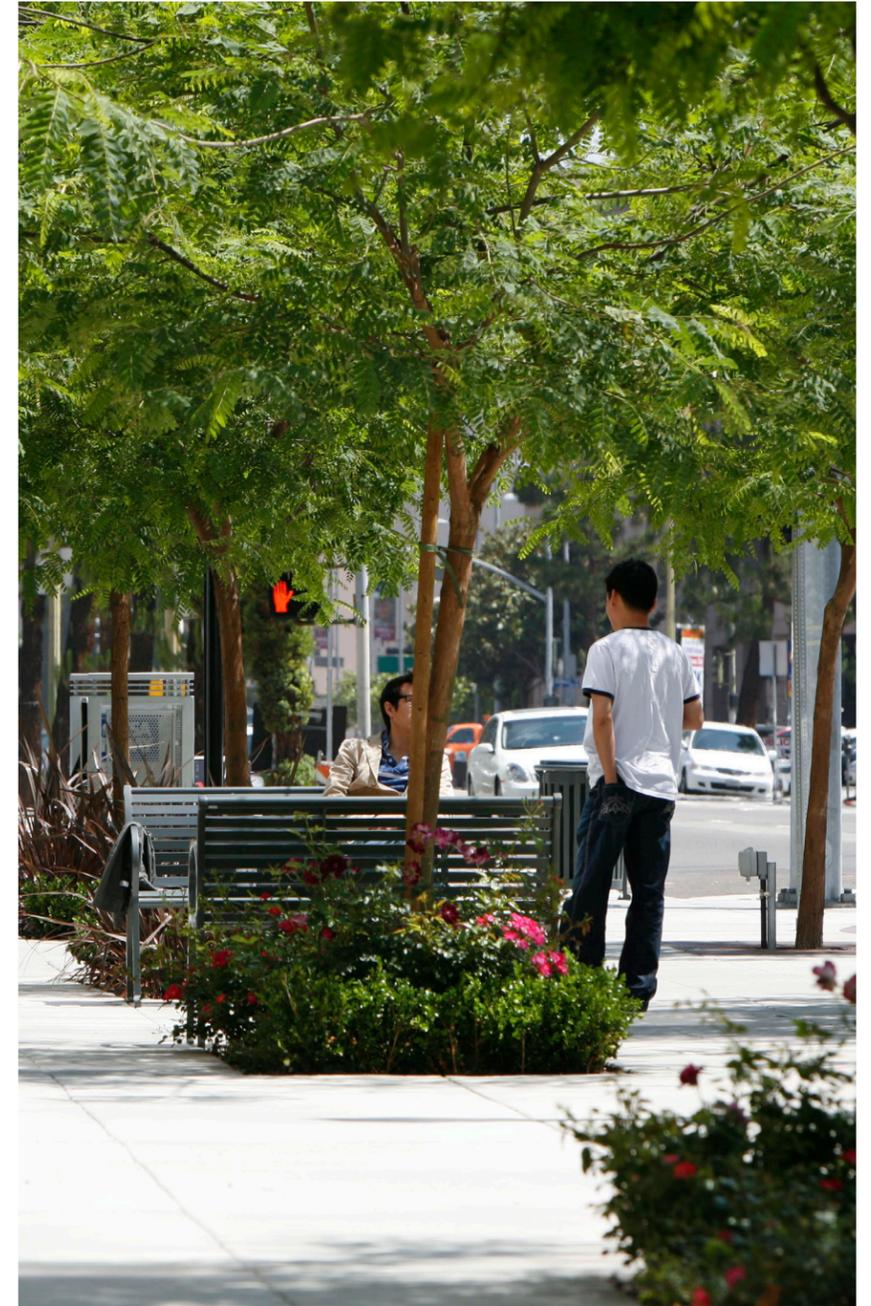
5.17 Farmers Market As Community Amenity



5.18 Paths Direct Pedestrian Movement



5.19 Paving Patterns Help Define Spaces



5.20 Shade and Seating Along Pedestrian Walkways

**Open Space Concepts**

As previously described, the LAC + USC campus is divided into five distinct landscape areas. The following section will focus on the five distinct landscape areas. Each of these zones is comprised of a series of open space components that is described in greater detail below.

Four of the campus zones are identified in figure 5.21. The fifth zone, surrounding streetscapes occurs at the interface between the campus and its surrounding streets.

- Landscape Area
- The Medical Campus Grounds
  - The Market Plaza + Pedestrian Mall
  - The Commons - A Community Green
  - The Educational + Research Gardens
- 
- ① New Hospital Entry + Plaza
  - ② Overlook + Wellness Center
  - ③ Pedestrian Spines
  - ④ Market Plaza
  - ⑤ Community Gardens
  - ⑥ Pedestrian Mall
  - ⑦ Bike Depot Pocket Park
  - ⑧ Entry Plaza
  - ⑨ Artist Meadows
  - ⑩ Treatment Wetlands
  - ⑪ Event Space + Central Plaza
  - ⑫ The Hill
  - ⑬ Rooftop Farm
  - ⑭ Adventure Courtyard
  - ⑮ Research Gardens



5.21 Diagram of Landscape Areas

## The Medical Campus Grounds

Within the Medical Grounds, the landscape program's primary objectives are to

- Establish a cohesive identity of brand for the Medical Campus Grounds
- Assist in site navigation including vehicular entry points and pedestrian circulation
- Encourage outdoor gathering within the Medical Campus Grounds for patients, visitors, and employees to enjoy
- Provide outdoor amenities that could be used by the hospital as part of the treatment regime

This zone's main open space areas are defined by several key elements, including:

### ① New Hospital Entry and Plaza Area at the State Street Entry:

This area is intended to be an extension of the existing entry plaza on the east side of State Street and should be designed to complement and build upon the style of the existing plaza.

The New Hospital Entry and Plaza Area shall become a "gateway" through the use of theme trees, canopy trees, colorful shrubs and ground covers, in conjunction with the campus signage. The Entry's design shall stand apart from the overall streetscape design.



5.22 Key Plan



5.23 Landscape Defines Vehicular From Pedestrian Entries

**② Overlook and Wellness Center at the Historic Plaza**

The Wellness Center provides a variety of health-oriented amenities that align with the master plan's open space vision. Where feasible, concepts like the Wellness Center, which utilizes open space as medium for health oriented programs, shall be incorporated into the outdoor areas of the Medical Campus Grounds. These outdoor areas could include outdoor treatment rooms, playgrounds, outdoor waiting rooms, gathering and group meeting areas, outdoor physical therapy areas, meditative areas, and healing gardens. Maintaining the historical character and grand statement of the existing plaza should be a priority for the proposed improvements, as well as providing shade, a variety of gathering and seating options, a possible drop off area, and accessible access to the proposed Wellness Center.

The Master Plan proposes extending the Wellness Center across State Street with an overlook plaza that provides views over and access to the proposed Commons. Key components to the plaza would be adequate shaded seating and a safe pedestrian crossing across State Street.

**③ Pedestrian Spines and Perimeter Landscape**

Improving pedestrian access and circulation of the Medical Campus shall be provided by a series of pedestrian spines that run north-south and connect access points from Marengo Street to access points from Zonal Avenue, increasing the connectivity of the campus to the adjacent community and the USC campus to the North of the site. These spines would be highlighted with improvements, such as decorative paving, canopy tree planting, benches, signage, and lighting.



5.24 Plaza For Gathering, Viewing & Sitting



5.25 Flexible Seating For Individuals Or Groups



5.26 Accessible Paths With Views

## The Market Plaza and Pedestrian Mall

The Market Plaza and Pedestrian Mall are at the center of the proposed Community hub of the Campus and intended to provide a vibrant and dynamic outdoor amenity for the community to enjoy. The primary objectives of the landscape and open space elements within this zone are to:

- Provide a pedestrian oriented public space that embraces local street life and culture
- Provide a north-south connection across the site, connecting Marengo Street, the proposed community hub, and the intersection of North Mission and Zonal Avenue
- Provide a public open space that is predominantly paved and in juxtaposition with The Commons, a more park-like public open space

Key defining elements of this zone's open space areas include:

### ④ The Market Plaza

The proposed Market Plaza is envisioned as a major public pedestrian gateway onto the campus and a significant public open space along Marengo Street. The plaza design should remain flexible in order to host a variety of community events and activities such as outdoor markets for street vendors, organized weekly farmer's markets, small scale food kiosks, retail activities and other urban public events. Canopy trees,



5.27 Key Plan



5.28 Pedestrian Mall For Diverse Uses



5.29 Farmers Market



5.30 Unique Gathering Spaces

public art, site lighting, seating areas, and shade canopies should all be incorporated into the plaza design.

**5 The Community Garden**

Located adjacent to the proposed Market Plaza and Community buildings, a proposed community garden should be designed as a space that provides accessible plots for residents of the adjacent community to grow and maintain their own garden spaces. In addition to having garden plots, the garden should have an outdoor classroom and gathering areas where local community groups could host meetings and other functions.

**6 The Pedestrian Mall**

The proposed Pedestrian Mall is seen as a vibrant pedestrian axis that cuts through the newly-developed portion of the site, creating a public street that is accessible to pedestrian and emergency traffic only. The axis should be highlighted with an allée of shade trees, public art, navigational signage, lighting and ample seating. The proposed Pedestrian Mall alignment intersects with an existing arched opening on the above-grade tunnel and takes advantage of the historic site element as a gateway into the proposed community green—The Commons.

**7 The Bike Depot Pocket Park**

While much smaller in scale than the proposed Market Plaza, the proposed Bike Depot marks the northern terminus of the Pedestrian Mall. It is envisioned as a small pocket park at the intersection of Zonal Avenue and North Mission Road. Both of these streets have future bike lane/path improvements planned for them. Improving access to the site and encouraging alternative modes of transportation should be a high planning priority. The proposed Bike Depot should be equipped with items such as bicycle storage options, bike maintenance area, transportation information (e.g., maps, schedules), and a resting area. The area should also serve as a site gateway and community pocket park and have shaded gathering areas, appropriate vegetation, signage, and public art.



5.31 Pedestrian Mall As Market Place



5.32 Active Streets



5.33 Bicycle Parking

### The Commons – A Community Green

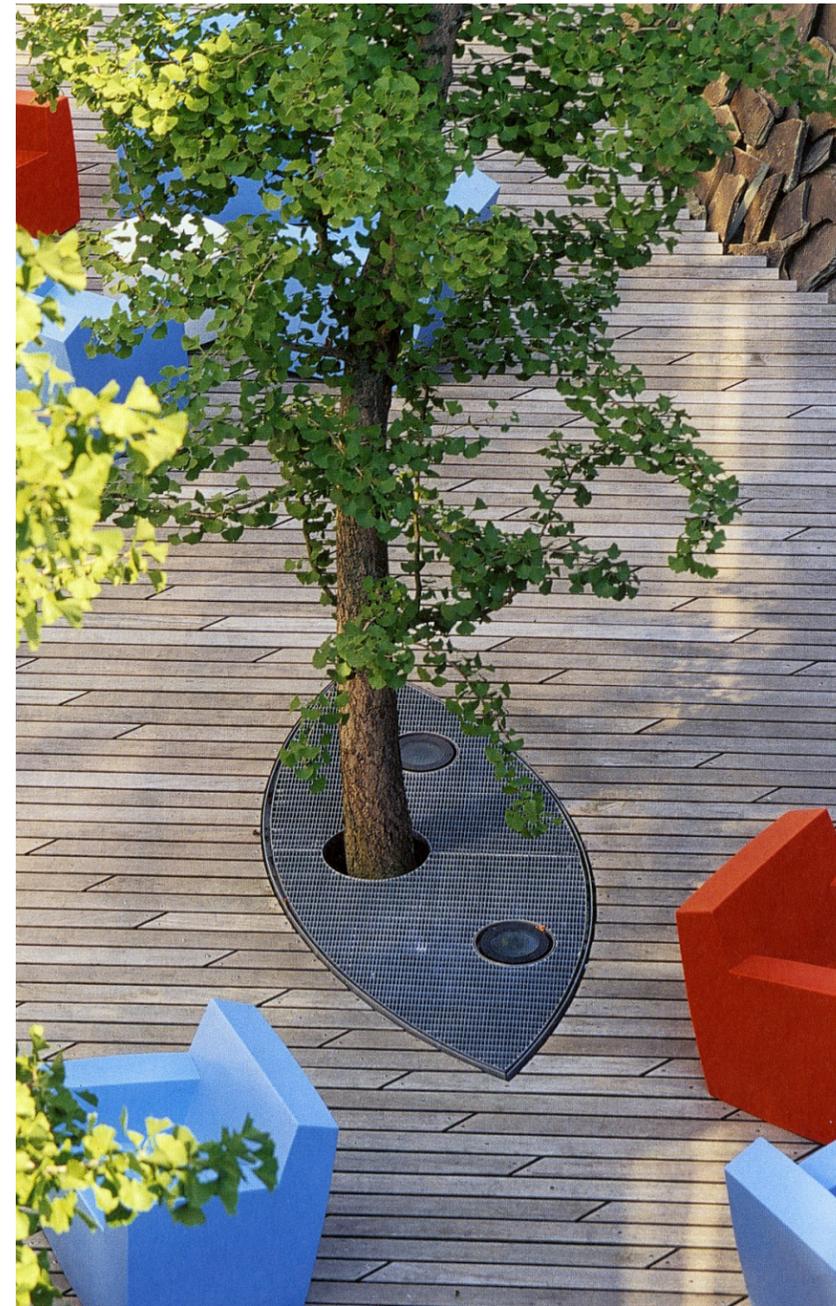
The Commons is the primary open space feature of the proposed master plan. The open space weaves through the site, connecting the site's historic entrance along North Mission Road with the Wellness Center and campus medical facilities. The primary objectives of the landscape and open space elements within this zone are to:

- Provide a much needed large-scale community open space and passive recreational opportunities
- Increase the site's biomass and contribute to the site's overall sustainability
- Provide an accessible and walkable outdoor route from the newly proposed development on the lower half to the existing medical facilities

A variety of open space amenities/areas are proposed within The Commons, ranging from urban plazas, to storm water demonstration gardens, to an urban forest. The different areas should be designed as exemplary models of sustainability, and embrace the unique environmental and social character of the adjacent communities and the larger region of Southern California. A pedestrian spine weaves through The Commons and connects each of the open space areas.



5.34 Key Plan



5.35 Outdoor Room



5.36 Community Open Space



5.37 Sidewalk Seating

Key defining features within The Commons include:

- 8 Entry Plaza at Historic Gate**  
 The plaza is intended as a pedestrian gateway to the western edge of the Campus with the historic Los Angeles County Department of Coroner building in the foreground. Amenities should include social gathering areas, public art, and, if feasible, connections to the existing transit stops.
- 9 Artist Meadows**  
 As previously described, The Commons should embrace both the social and environmental character of the area. The proposed Artist Meadow should provide both permanent and temporary exhibit spaces for local artisans within the setting of a native grassland landscape. The proposed meadow should be planted with native grasses and wildflower species and be designed to create a habitat for urban pollinator species.
- 10 Treatment Wetlands**  
 A large engineered wetland, a site-wide storm water treatment best management practice, is proposed along the pedestrian spine at the lowest point on the site. The wetlands should be an exemplary model of storm water treatment strategies, demonstrating a variety of applications for the urban environment. In addition to being an environmental amenity, the Wetlands should be designed as an accessible open space enhancement, and an educational resource on the importance of storm water related issues and the region's larger hydrological context.
- 11 Event Space and Central Plaza**  
 At the center of the site, a Central Plaza and large-scale event space is proposed. It is envisioned that this space would host community events, such as a summer concert series and health marches.



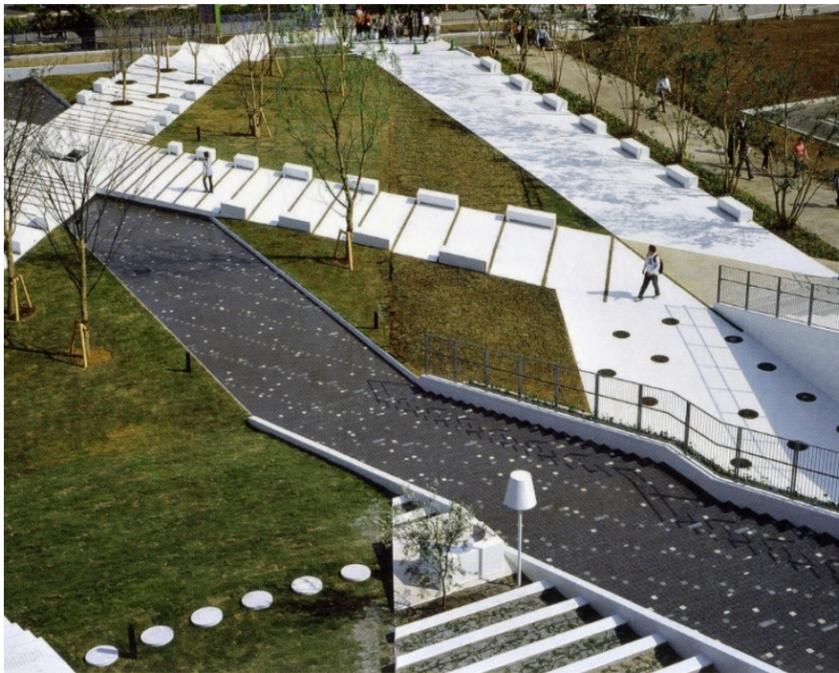
5.38 Treatment Wetland



5.40 Event Space For Large Gatherings



5.39 Gateway As Art



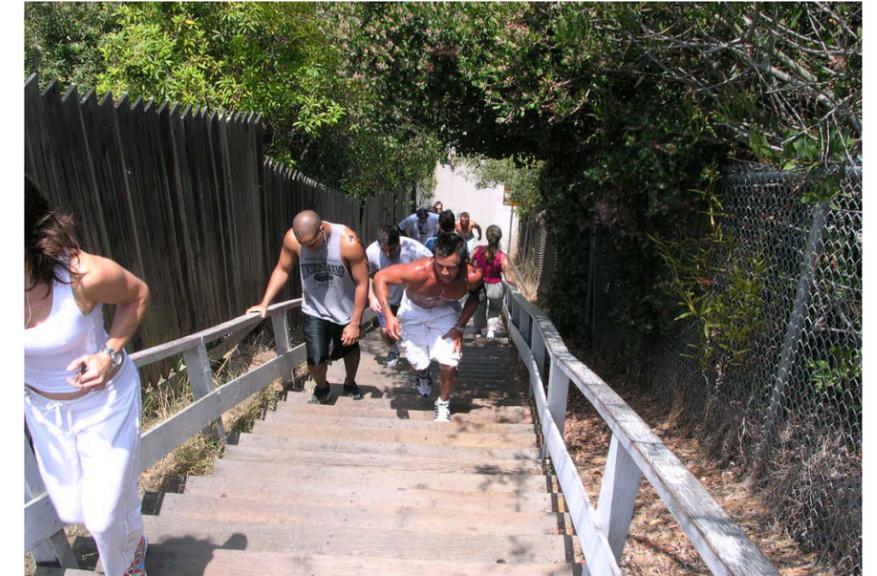
5.41 Paving & Planting Define Connections

**12 The Hill**

One objective of The Commons is to help people navigate the site's topography. The Hill area of The Commons extends the existing slope to create a less steep incline that can accommodate an accessible route across the site's grade change (approximately 60 feet in elevation). The Hill is envisioned as a lightly programmed terrain with an urban forest, a gently sloping great lawn with views over the proposed Event Space, and a woodland walk with small informal gathering areas. In an effort to encourage everyone to get outside and use the proposed open space amenities, there are three proposed routes up the Hill: a gently graded path for universal access, a challenging staircase, and an exterior escalator. All of these routes terminate at the proposed Overlook and Wellness Center at the Old General Hospital. It should be noted that The Hill area will be developed on top of a proposed sub-surface parking structure. Coordination and planning will be critical to ensure that adequate soil depths can be achieved to create the desired urban forest.



5.42 Small Gathering Space



5.44 Challenging Staircase

**13 The Rooftop Farm**

In addition to the proposed community garden area, a community farm is proposed on top of the proposed parking structure that is nestled into the existing site topography. The area is envisioned to be operated more like a farm, than a community garden, and would provide fresh food crops that could be used by the Food Services Department on the campus. The Farm should be operated by the Los Angeles County or leased out to a community organization, and provide job opportunities and occupational training for the community. A combination of fields, orchards and greenhouses should be incorporated into the design to ensure year-round range of growing opportunities.



5.43 Sloped Lawn For Seating With Views



5.45 Rooftop Farm

**Research and Education Courtyards**

While most of the proposed open space areas within the Campus are intended to be open to the public, the Research and Education Courtyards are intended to be open space areas that are directly associated with the adjacent building uses. Public access to them should be determined by the building occupants. The primary objectives of the landscape and open space elements within this zone are to:

- Provide an outdoor amenity space to the building occupants. The spaces could be used as demonstration gardens, research and testing areas, outdoor meeting rooms, recreational spaces, dining areas, and as general outdoor gathering areas.

The design of these spaces should be developed as part of the building design, once their program has been defined. Possible program options that should be considered include:

**14 The Adventure Courtyard**

Using the adjacent building facades as a usable surface the Adventure Courtyard would provide an active and unique recreation space within the Campus. Program amenities could include an outdoor gym area, a climbing wall, and an elevated rope course. Since this program would be very unique and one of the few active recreation options on campus, it should be periodically open to the public. An ideal location would be within the courtyard space adjacent to The Commons near North Mission Road.

**15 Research Gardens**

The proposed land use for this area is education and research. Ideally, the gardens would be tied to some of the research happening within the buildings. Some ideas discussed as part of the master plan include a medicinal plant garden, a pollinator garden, and a water-wise garden that highlights both native and non-native plant species that are appropriate for the area.



5.48 Courtyard For Building Occupants



5.46 Key Plan



5.47 Unique Recreation Space



5.49 Research Garden

## The Surrounding Streetscapes

The surrounding streetscapes are an important component to the proposed master plan. They define the perimeters of the Campus, provide accesses to the site, and build a connection to the surrounding urban context and neighborhood communities. Although under the jurisdiction of the City of Los Angeles, streetscape improvements should be pursued as the master plan is implemented. The primary objectives of the streetscape design should be:

- To provide accessible pedestrian access to the site and the adjacent community
- To host a variety of “streetlife” program activities, such as seating areas, transit stations, and vendor areas
- To provide a safe pedestrian oriented space that has amenities such as signage, shaded seating lighting, and street trees

### State Street

This is the only street that cuts through the center of the site and it is envisioned as being a quiet street with limited vehicular access. Emergency, transit, and vehicles entering the proposed parking areas would have access but not the general public as a thru-traffic.

Suggested improvements along the street’s extent include adding sidewalks on both sides of the street, adding adequate lighting for pedestrian safety, creating an artistic canopied walk that connects the hospital’s Entry Area with the Wellness Park and Outlook, and lining the edges of the street with a significant native canopy tree such as California Sycamores, or Coastal Live Oaks.

### North Mission

The existing streetscape has little connection to the site due to existing site walls and buildings. They block both a physical and visual connection to the site. Making this edge more permeable should be a priority. The existing streetscape has ample sidewalk and parkway width that could be improved greatly with minimal interventions.

Suggested improvements include planting the existing parkways with low maintenance shrubs and groundcovers, supplementing the existing palm

plantings with a flower canopy tree, and adding site elements such as transit shelters, bike racks, pedestrian lights, and seating areas.

### Marengo Street

The existing streetscape along Marengo Street in front of the Hospital is an excellent example of streetscape design that encourages pedestrian activity. Unfortunately, the double row of trees, ample sidewalk widths, benches, and pedestrian lights are limited to the eastern portion of the street from State Street to North Chicago Street.

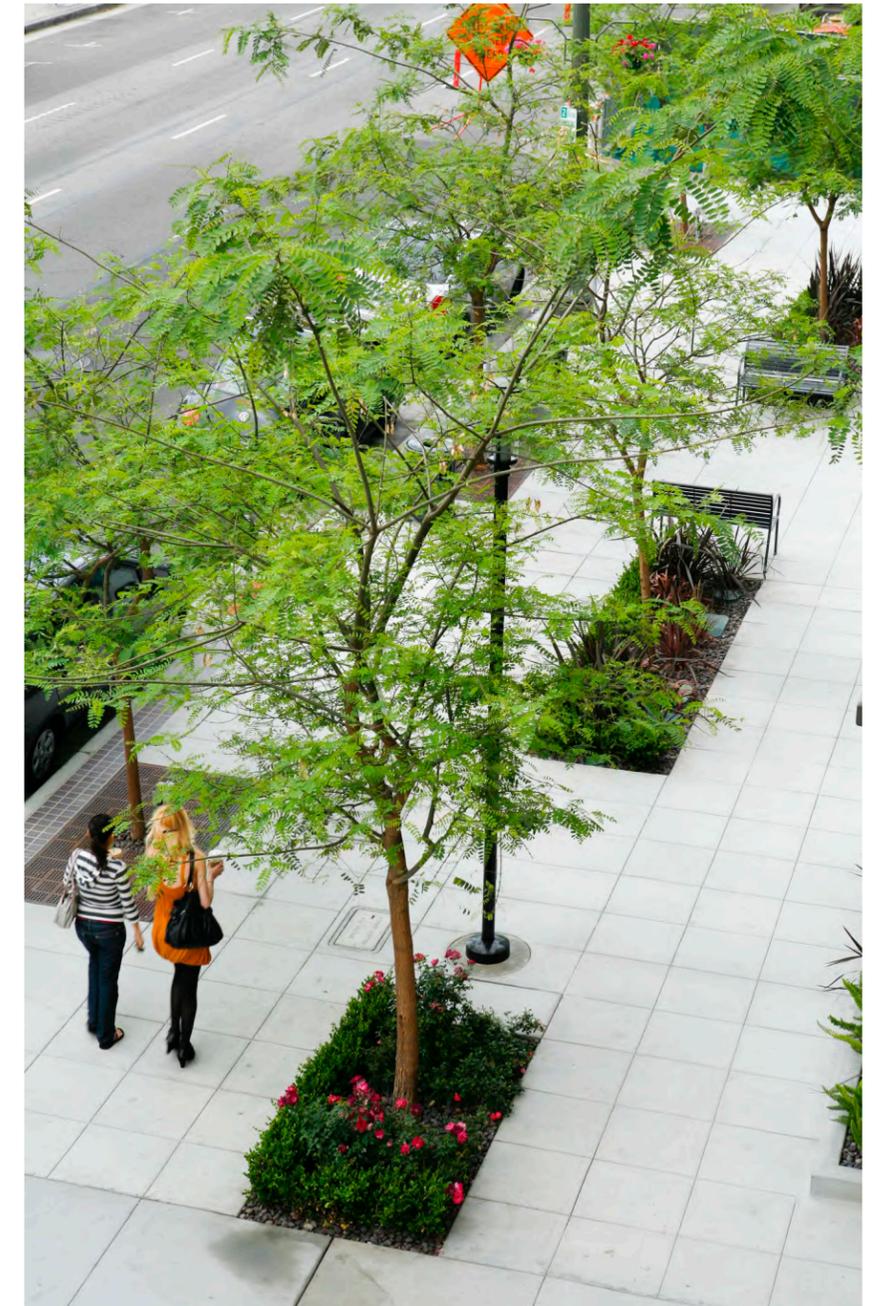
Where feasible this design character should be extended west to North Mission Road. Using land within the site boundary opens up the possibility to match the existing design and widen the public sidewalk area. Additional streetscape amenities should also be incorporated into the design including a range of seating types, larger transit stations that provide ample shading seating, and navigational signage.

### Zonal Avenue

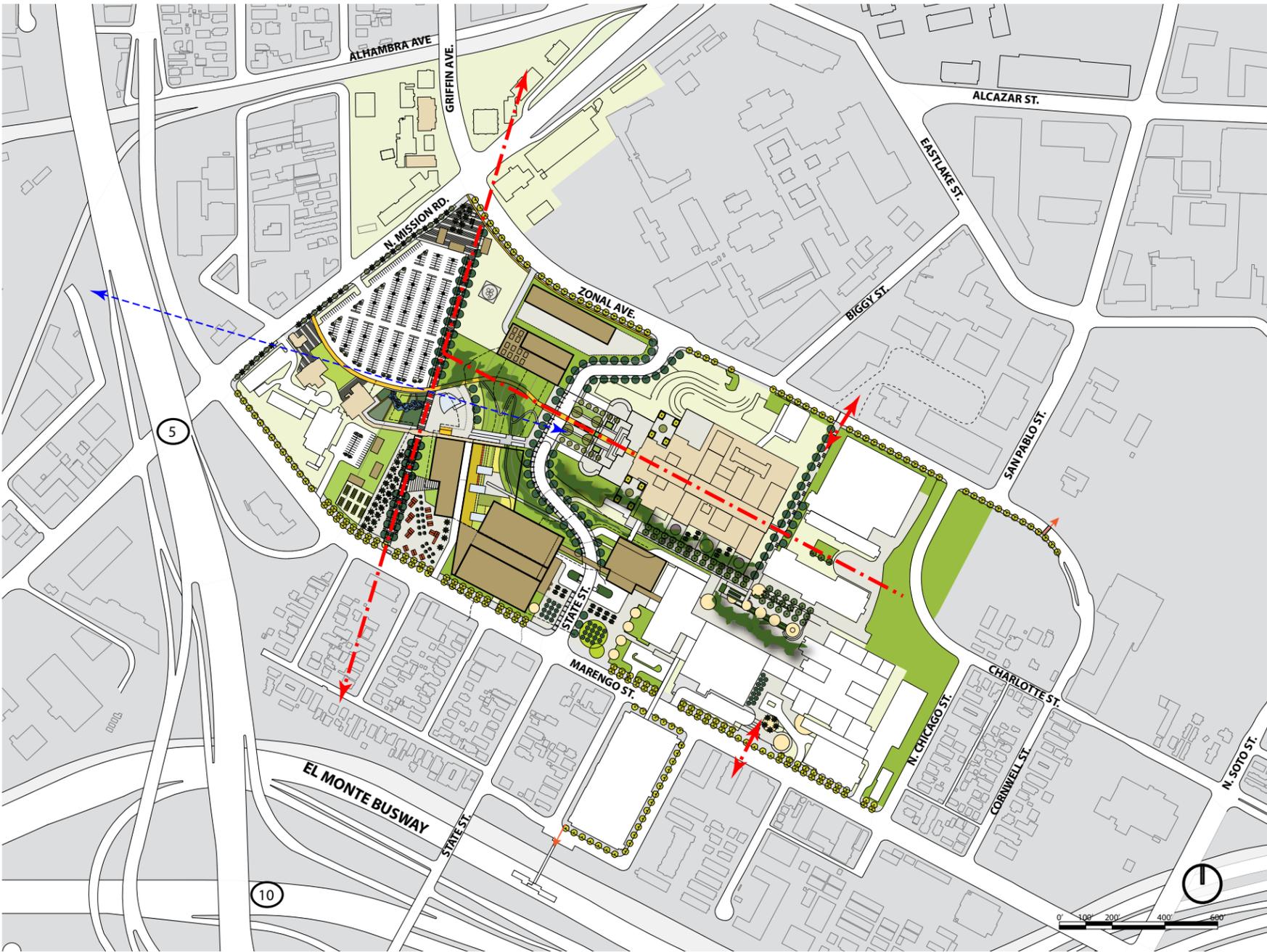
The character of Zonal Avenue is much different than the previously described Streets and is considered quieter and less urban in character. A future bike path improvement is planned for this Street.

Instead of adding the bike path on the roadway portion of the street the master plan proposed a new dedicated path, within the Campus property on the inside of the public sidewalk. The proposed path would connect the proposed Bike Depot Pocket Park with the existing Hazard Park. This element could not be implemented immediately, as it requires site demolition, and is seen as a long-term master plan goal.

Immediate improvements should be made and should include adding a consistent flowering canopy trees along its extent, adding navigational signage, adding pedestrian lighting, and highlighting pedestrian crosswalks between the USC campus and the project site with decorative paving.



5.50 Pedestrian Friendly Streetscapes



5.51 Phase 1 Site Plan

**Master Plan Implementation**

Given the scale of development involved in implementing the full scope of the LAC+USC campus, the Master Plan anticipates a phased approach to implementation. An initial Phase 1 has been identified that provides for much needed immediate improvements to the campus while laying the foundation and framework for subsequent development. The balance of the Master Plan is comprised of a series of development zones that can be incorporated as discrete additions to the campus. In order to provide for a successful long-term implementation, these development zones are envisioned to create a cohesive campus at each stage of the process.

This section of the document illustrates detailed recommendations for Phase 1, as well as defining development zones that comprise the balance of the full Master Plan.

- Phase 1 - Community, Facilities/Office and Medical Services Expansion
- Development Zone - Biotech Research, Main Campus
- Development Zone - Biotech Research, North Campus
- Development Zone - Hospital Expansion

Each phase or development zone represents a significant undertaking with corresponding financial implications. In order to ensure a realistic and practical approach to the Master Plan implementation, each zone can be divided into sub-phases or stages developed as needs become well documented and resources become available.

Figure 5.51 illustrates the complete Phase 1 of the Master Plan. A detailed breakdown of Phase 1 into multiple steps is provided on the following pages.

Similar detailed breakdowns are not included for the other development zones. However, if development zones are phased in the future, the phasing should ensure that a coherent and complete project is realized at the completion of each phase such that the goals and ideas of the Master Plan are supported and reinforced.

### Phase 1 - Community Facilities and Clinic Expansion

Phase 1 of the LAC+USC Master Plan is planned to provide immediate and recognizable improvement to the existing campus, while simultaneously building the campus' infrastructure to support future growth. Goals of the first phase include:

- Improve the experience of visitors to the campus by creating consistent and coherent wayfinding
- Improve the pedestrian experience of the campus by providing clear and navigable routes between important destinations
- Enhance the connection between the locations of the campus west of State Street and the locations east of State Street
- Provide additional parking in areas that are currently underserved
- Incrementally upgrade and phase the replacement of the campus infrastructure, to support future development.

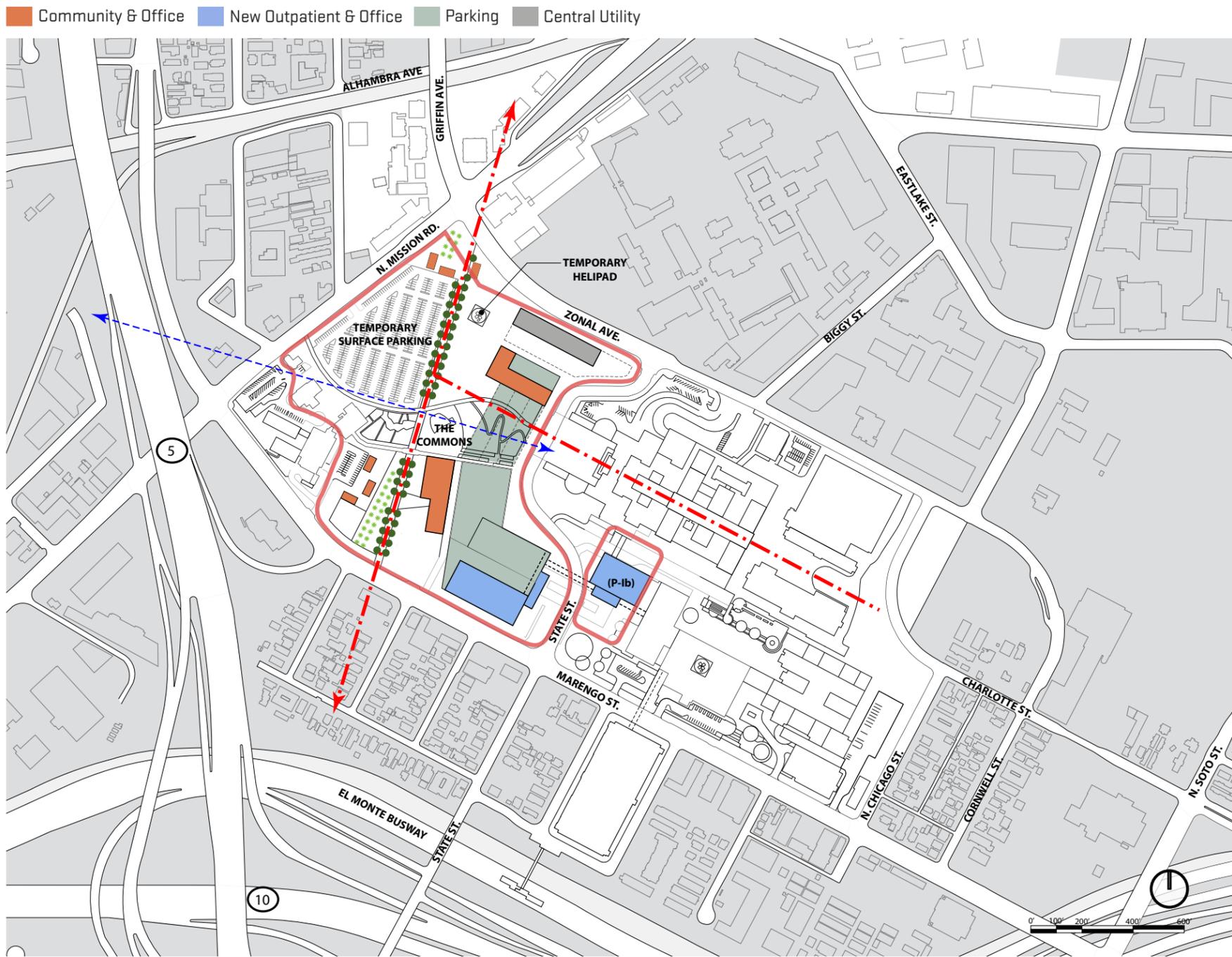
In order to achieve the intended goals of Phase 1, the Master Plan Team recommends two related, but distinct, strategies that can be implemented independently.

- Develop and implement updated wayfinding and signage guidelines for the entire campus
- Provide incremental updates and expansion opportunities within the under-utilized area west of State Street and adjacent to the existing Medical Center

The wayfinding and signage guidelines are described in detail later in this section.



5.52 Phase 1 Development



5.53 Overall Phase 1 Diagram

In addition to the campus-wide improvements to wayfinding and signage, Phase 1 of the Master Plan, illustrated in Figure 5.52, defines a specific collection of improvements focusing on the most critical needs of the campus. They include the following considerations:

- Increase patient care capability by providing additional facilities in support of increased outpatient services
- Expand the Wellness Center initiatives by providing facilities for additional community related health and wellness programs
- Consolidate and provide expansion opportunities for hospital administrative, support, and other office areas
- Encourage pedestrian circulation by providing clear and easily navigable paths connecting prominent areas of the campus
- Provide parking adjacent to the clinic and outpatient facilities
- Provide a new central utility plant in a less prominent site location to accommodate an increase in campus buildings and facilities

Figure 5.53 illustrates the proposed building elements for Phase 1.

Specific details of the sequence and staging of Phase 1, including proposed program and activity recommendations, can be found later in this section.

**Medical Center and Community Programs**

The needs of the LAC+USC Medical Center continue to evolve over time. Phase 1 targets specific program areas that will have the greatest impact on improving the campus and medical center operations.

Community Health & Wellness Facilities

The Wellness Center, which will occupy portions of the first floor of the historic General Hospital, will form the cornerstone for additional community-oriented health and wellness programs.

Located along a newly created north-south pedestrian circulation spine that leads from Marengo Street to the corner of Zonal Road and N. Mission Road, Phase 1 of the Master Plan provides for the inclusion of approximately 40,000 square feet of space of wellness-related retail and community spaces.

Outpatient Facilities

The Master Plan addresses the ability of the Medical Center to provide expanded patient care services by planning for both the replacement of aging, existing facilities (the OPD, for example) and the strategic expansion of new inpatient and outpatient clinic buildings in the future.

Proposed new outpatient facilities, shown in light blue in Figure 5.54, represent approximately 310,000 square feet of outpatient and clinic space in Phase 1.

Medical Center Offices

As is typical for many campuses, office space has been allocated over time wherever and whenever it has been needed. This has led to offices inefficiently scattered throughout the campus. Many office-type functions are housed in aging structures and/or existing modular buildings west of State Street, as well on the lower floors of General Hospital.

The Master Plan includes provisions to consolidate and improve the current office conditions by providing sufficient new office space to meet existing needs, while providing for targeted growth. The allocation of office space within the Master Plan is not a one-to-one correlation of existing to new space. An efficiency factor of 60% has been applied to account for the relative inefficiencies of current office space utilization.

**GENERAL HOSPITAL  
1,275,000 sf**



**MEDICAL CENTER  
1,445,000 sf**



**NEW OUTPATIENT & OFFICE  
375,000 sf**



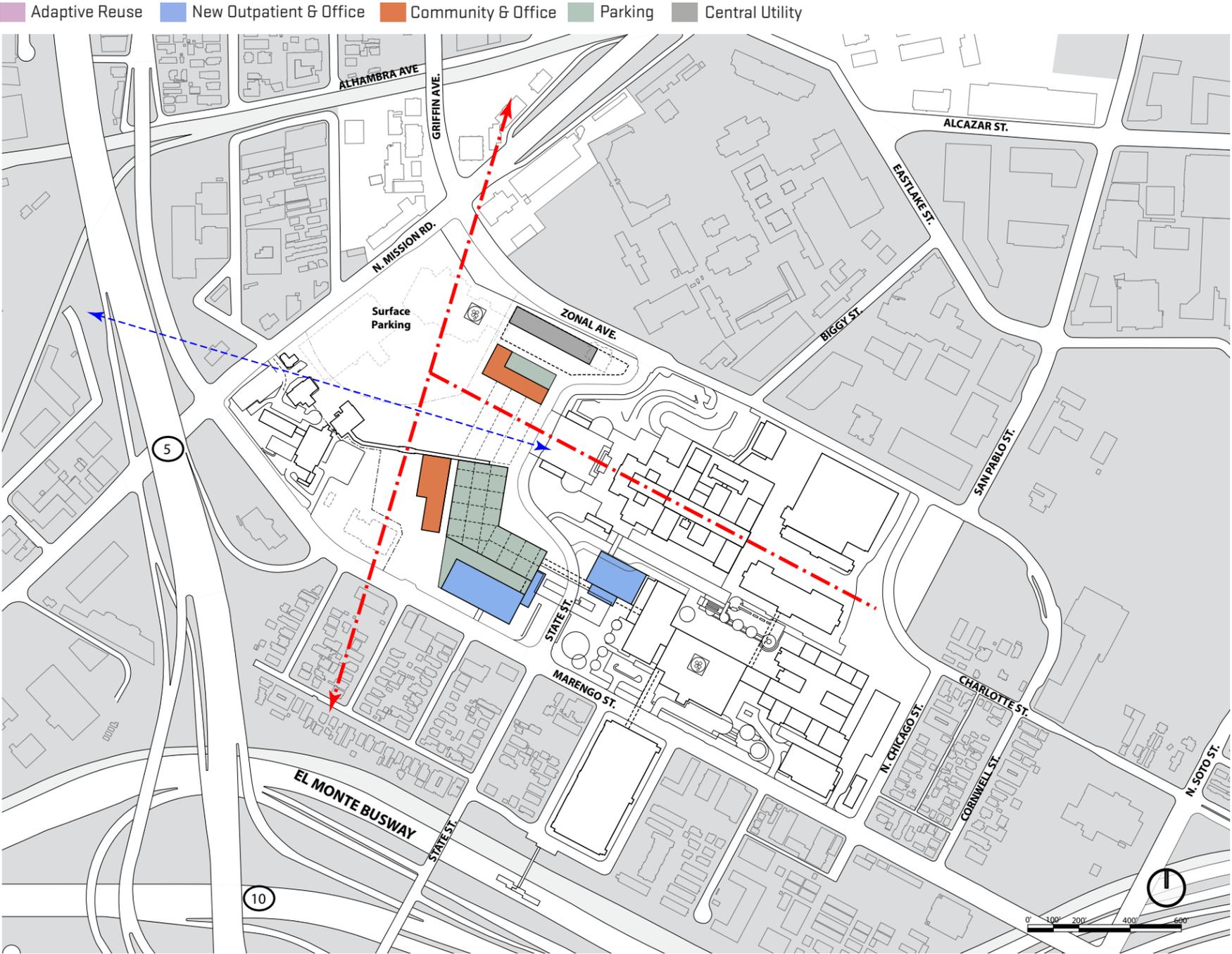
**NEW COMMUNITY & OFFICE  
175,000 sf**



**TOTAL PARKING AREA  
2,325,000 sf**



5.54 Phase 1 Program Distribution



The factored quantity of existing campus inventory of offices that will be replaced or improved by the Master Plan is approximately 185,000 square feet, comprised of the following existing facilities:

Misc. Office Space:	25,500 sf
Interns & Residents:	84,000 sf
General Hospital:	75,000 sf

The miscellaneous office space is defined as general office space currently available in modular buildings on the campus. Most of these are west of State Street, and are anticipated to be removed to make way for Phase 1 master plan activities.

The Interns & Residents Building is used currently for administrative / office functions and will eventually be removed. There is no specific time frame for its removal, but the Master Plan will eventually provide for replacement office space west of State Street.

The summary above includes existing DHS administrative functions within General Hospital. This administrative office space may need to be provided elsewhere on the campus if these functions are relocated from General Hospital. As such, the Master Plan has identified this, and has provided for its development on the site. Refer to the Appendix for the worksheets used to determine DHS office needs currently housed at General Hospital.

Ultimately, the Master Plan provides for the inclusion of approximately 200,000 square feet of new administrative office space to accommodate both the existing uses and modest, future expansion needs. This new office space is planned to be within the new outpatient facilities as well as the upper floors of the Phase 1 community buildings, distributed as follows:

Outpatient Clinic Office Space:	65,000 sf
Community Bldg. Office Space:	135,000 sf

5.55 Proposed Building Program Diagram - Phase 1

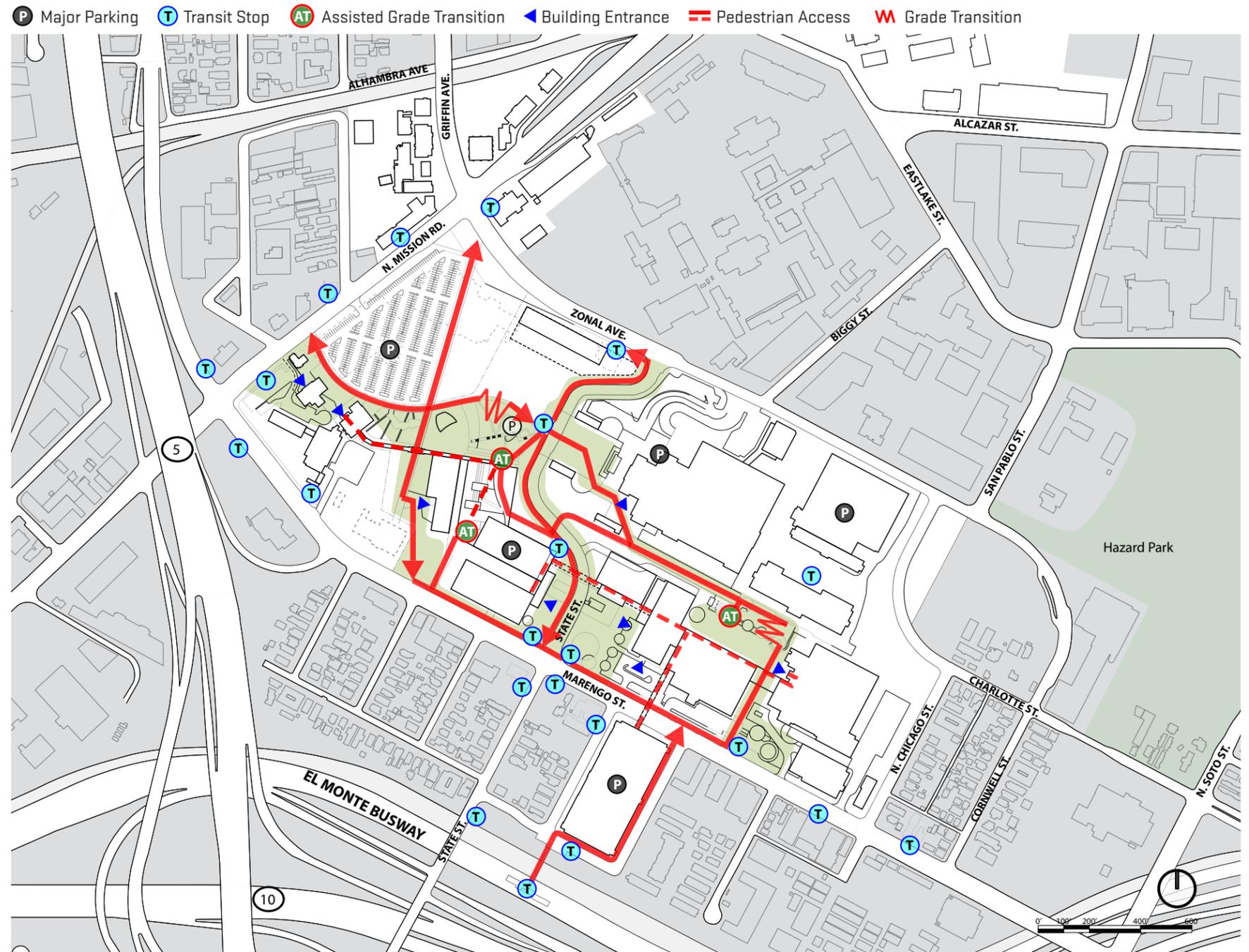
**Pedestrian Circulation and Access**

The existing topography of the LAC+USC Medical Center campus creates a difficult environment for pedestrians to navigate. This condition was frequently voiced by community residents during the public outreach effort and at the community workshop sessions conducted by the Master Plan Team.

A critical component of the Phase 1 planning is to alleviate these navigational challenges by specifically addressing the following:

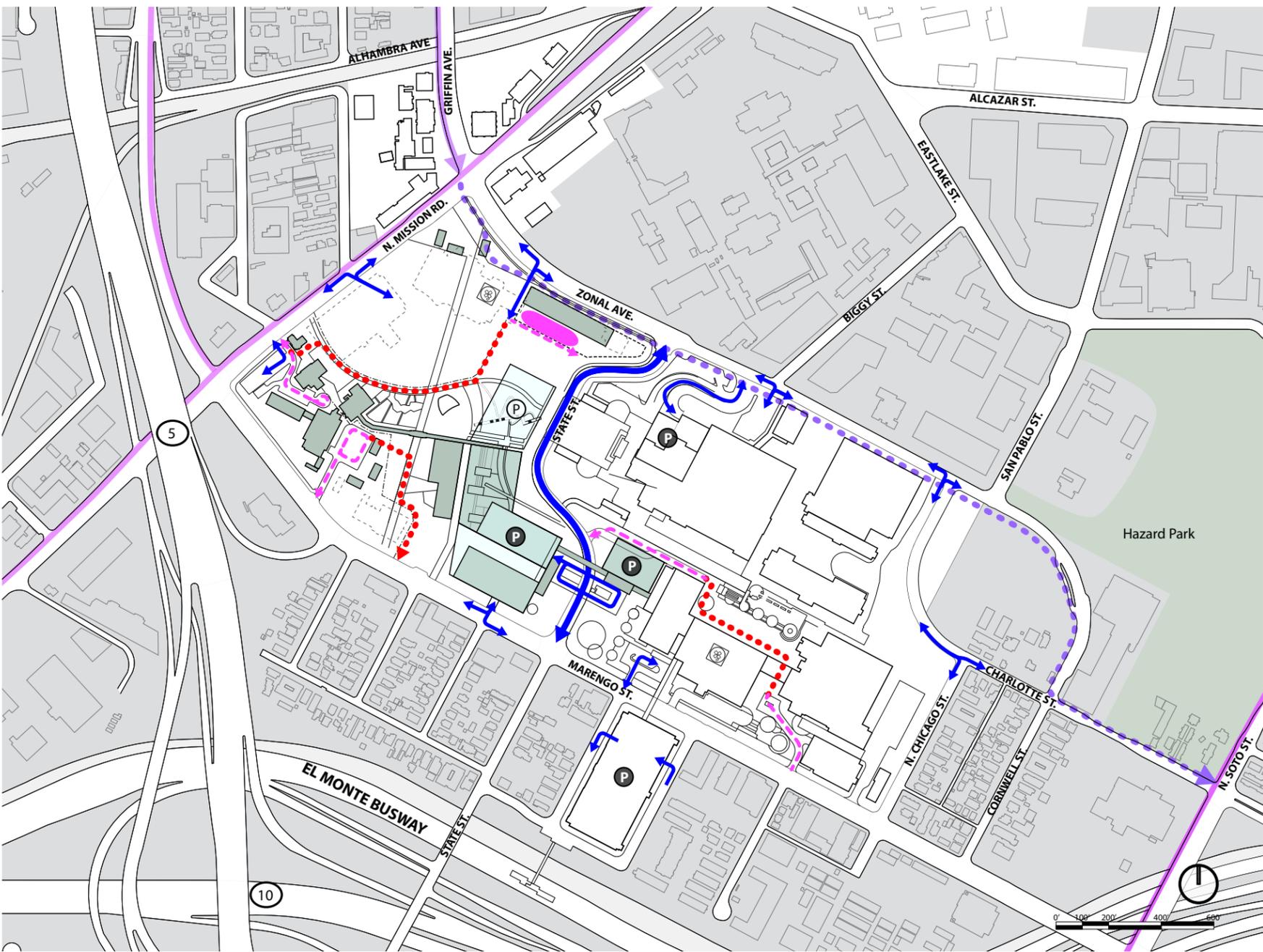
- Consider an “Assisted Grade Transition” (AT), such as ramps or escalators, to improve accessibility between the existing hospital courtyard and the upper OPD Clinic building
- Utilize the elevators within the proposed new parking structure(s) west of State Street to provide an accessible route from Marengo Street up to the Wellness Center at General Hospital
- Modify the slope of the hillside to the west of the General Hospital entry Plaza and connect the proposed new public-serving amenities at the base of the hill with ramps and/or manageable walkways up to the historic plaza
- Reinforce the use of public transportation by providing multiple points of entry to the campus near existing transit stops

Figure 5.56 diagrams the potential new connections and paths incorporated into Phase 1 of the Master Plan.



5.56 Pedestrian Access Diagram - Phase 1

P Major Parking  
 ↔ Vehicular Access  
 — Planned Bicycle Lane  
 - - - Potential Bicycle Lane  
 — Service Yard  
 - - - Service Access  
 - - - Emergency Access



5.57 Vehicular Circulation Diagram - Phase 1

**Vehicular Circulation and Access**

Proximity and access to sufficient parking is another current challenge of the LAC+USC Medical Center. The proposed Phase 1 plan (Figure 5.57) provides additional parking in key locations to support each specific building phase proposed in Phase 1.

For example, one of the initial developments for Phase 1 includes the expansion of parking west of State Street. This will replace existing surface parking spaces west of State Street displaced by new buildings and site development. With the initial commercial, education, community, and office building development, a new parking structure will be developed that will have the potential to be expanded as new outpatient clinic buildings are developed both west and east of State Street. Each of the proposed new outpatient clinic buildings will have dedicated parking, but the structure can provide supplemental parking. The structured parking will be designed to further expand as future commercial, office space is provided in later stages of Phase 1.

The proposed parking solutions and vehicular access are also intended to meet the following objectives:

- Expand the central drop-off location to serve the existing hospital and future outpatient facilities. This will primarily occur off of Marengo Street and State Street
- Provide additional parking in close proximity to the new entry drop-off area. New entries may be provided to support specific community and/or outpatient clinic activities. Each of these entries should be organized and designed so that parking is readily accessible and convenient
- Provide parking for future outpatient, community, and office buildings. As stated earlier, as these new buildings are developed, dedicated parking facilities (most likely parking structures) will be made available for users and occupants of these new developments

Detailed specific recommendations on vehicular access, parking, and site circulation can be found in Technical Design Guidelines in Appendix D.

### Phase 1 - Summary of Spaces

The first stages of the Phase 1 plan, referred to as Phase 1A and Phase 1B, are critical to establishing the underlying framework for the implementation of later phases of the Master Plan by providing flexible office space, additional parking and implementing the initial steps of the utility plant relocation. Subsequent stages of Phase 1 are flexible in their implementation. These spaces can be prioritized to address the changing, future needs of the campus.

#### Phase 1 A - Parking and Community (Figure 5.58)

The initial stage of Phase 1 addresses the following immediate needs:

- Increase available parking for the hospital
- Utilize the new parking structure to create an accessible route from Marengo Street to the Wellness Center and historic Plaza
- Provide a flexible building to support immediate DHS office space needs as well as future health and wellness related community needs
- Create the foundations of the Market Plaza, a prominent public outdoor space and new entry to the site adjacent to public transportation

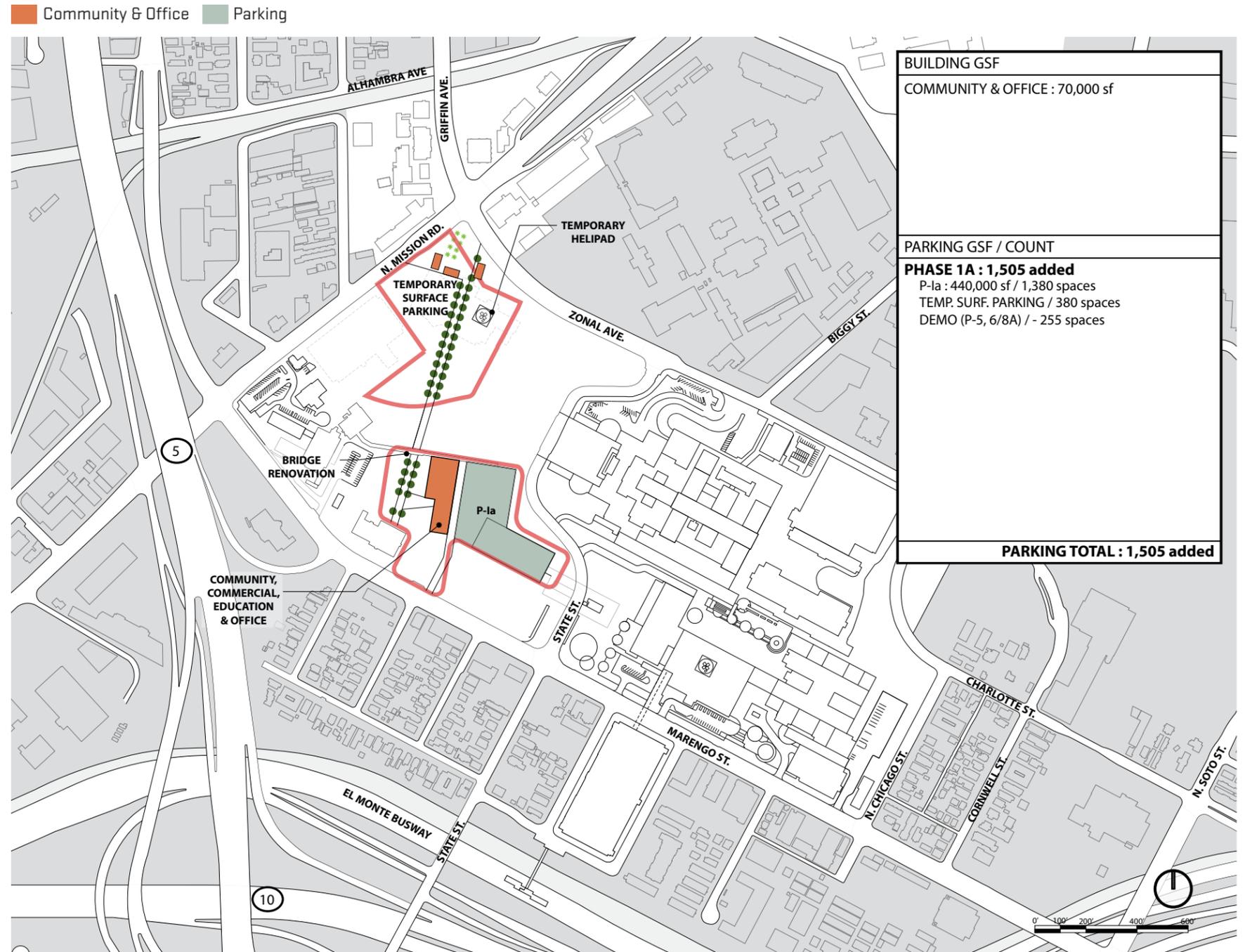
In addition to providing office space for DHS, potential uses for the community and wellness-oriented building could include a range of health and wellness-related community, education, and retail opportunities.

Commercial and retail opportunities, such as:

- Healthy lifestyle food options and services
- Café and juice bar
- Durable medical equipment store
- Bicycle rental, storage, and repair facility

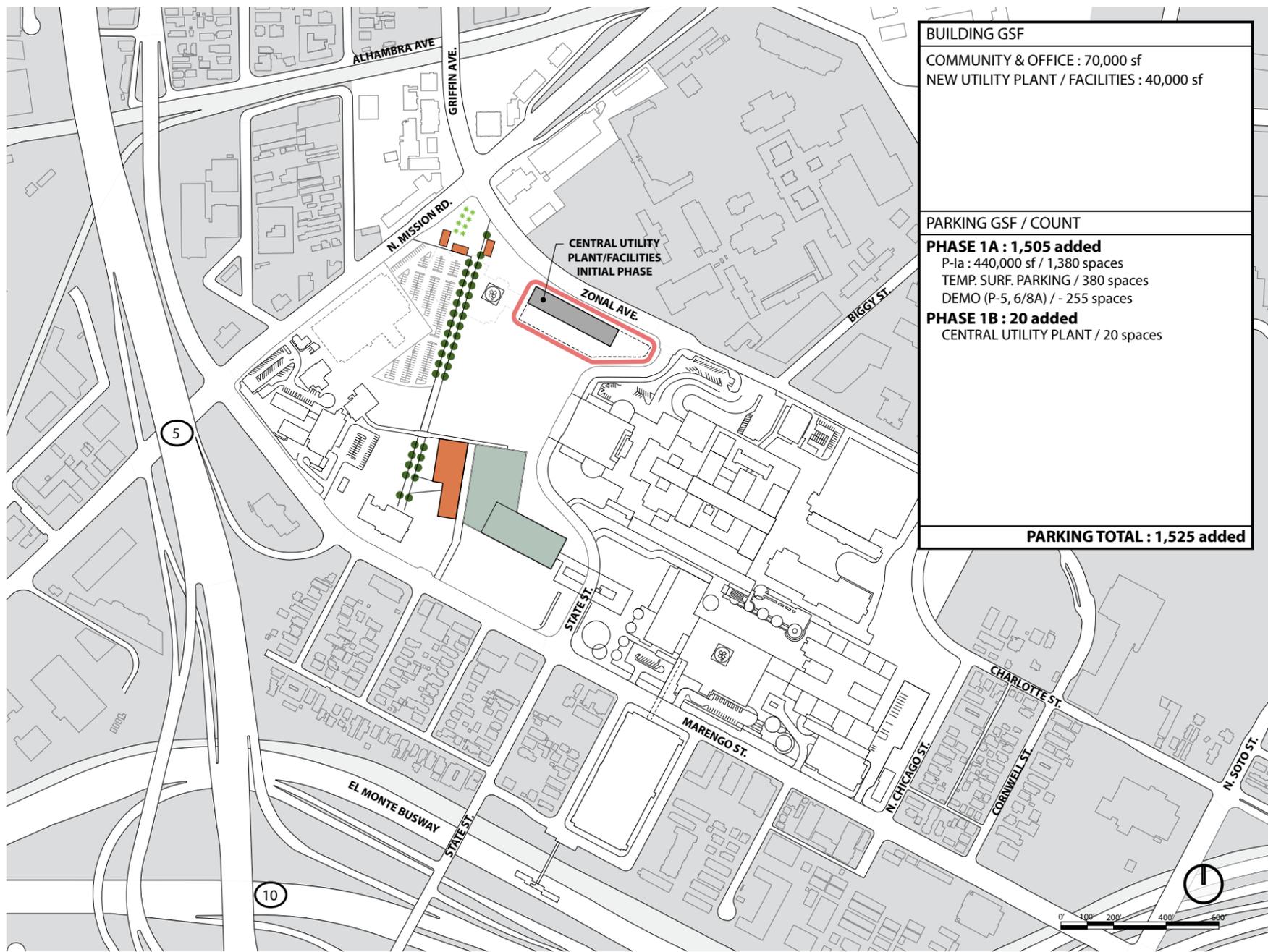
Multi-purpose community and educational meeting rooms, providing facilities for:

- Career training and adult education
- Health education classes
- Health-related activities and classes, such as yoga
- Youth-oriented wellness and after-school programs



5.58 Phasing Diagram - 1A, Parking and Community

Community & Office Parking Central Plant



**Phase 1 B - Central Utility Expansion (Figure 5.59)**

The second stage of Phase 1 would begin to provide additional infrastructure to support the future development of the Master Plan.

The existing central plant does not have sufficient capacity to support the long-term planned growth of the campus. The proposed relocation of the existing central plant serves the following purposes:

- Allows the addition of physical plant capacity to support new buildings without impacting the current facility
- Provides space in the new utility plant to support the utility equipment required for the more building development of the Master Plan
- Eventually removes the central plant facility from the most visible pedestrian and site edge (that is, along Marengo Street) to an area of the site that is less visible to the public and less prominent
- Phased relocation allows the current location to be utilized in the future for community health and wellness-related activities and programs

Detailed specific recommendations for future central plant growth can be found in Technical Design Guidelines in Appendix D.

5.59 Phasing Diagram - 1B, Central Utility Expansion

**Phase 1 - New Outpatient Facilities (Figure 5.60)**

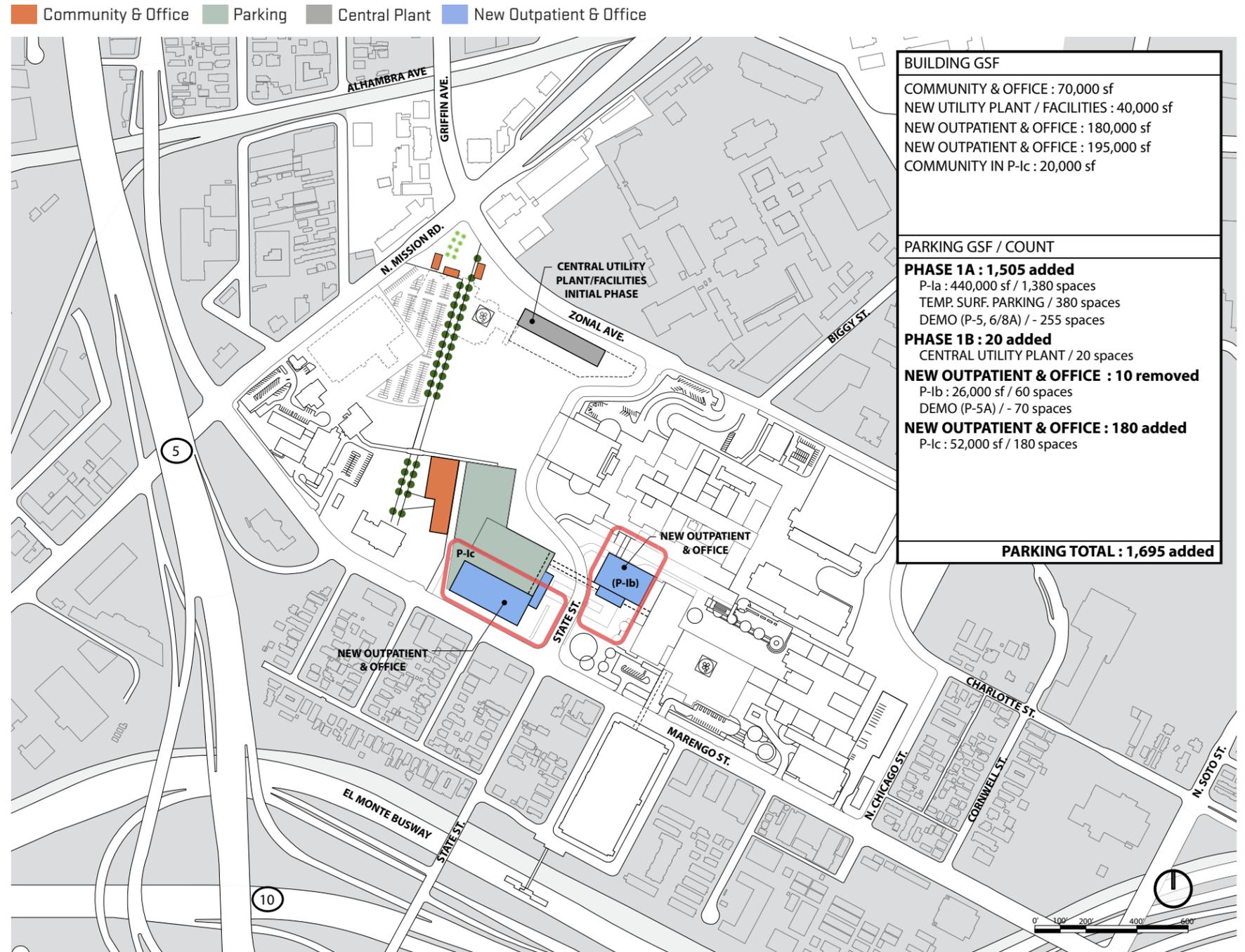
Figure 5.60 illustrates the proposed locations of two, new outpatient facilities totaling 375,000 sf, on both sides of State Street and close to the existing Clinic Tower.

These locations are ideal for a number of reasons:

- They locate ambulatory care services near the existing Clinic Tower to achieve a higher density and concentration of appropriate outpatient services.
- Ambulatory care services are located closer to Marengo Street and proposed future parking to achieve greater convenience for clinic users.
- This new center for ambulatory care services is in greater proximity to the proposed “wellness” core of the campus, which can encourage the principles of wellness, education, and health.

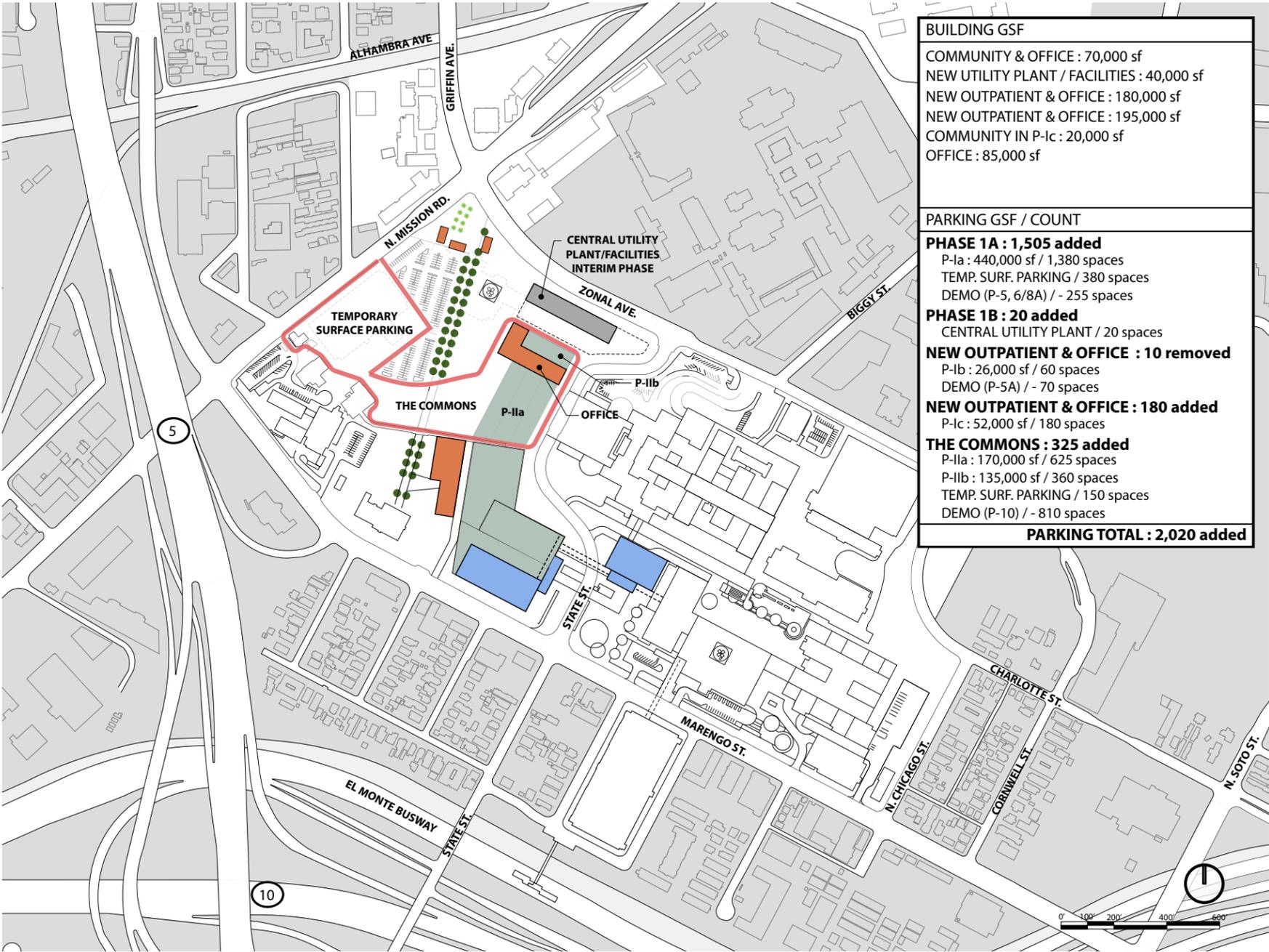
These proposed outpatient facility buildings are intended to provide for growth of ambulatory care and also to provide for replacement space in the future when older existing outpatient facilities are eventually taken out of service.

As with the existing Clinic Tower, each of these proposed new buildings can provide administrative and office space to support other office needs for the Medical Center. For example, the existing Interns & Residents Building is used for administrative and office functions. Eventually, this building will also be removed and its functions will need to be relocated. These new outpatient facilities can provide some relief for necessary office spaces on the site.



5.60 Phasing Diagram - New Outpatient & Office

Community & Office   Parking   Central Plant   New Outpatient & Office



**Phase 1 – The Commons (Figure 5.61)**

The Commons represents a grand gesture of the campus to provide for an active and integrated public outdoor space to be used for a variety of purposes.

This main public outdoor space will provide the campus with the following enhancements:

- A significant public outdoor space linking the community and education facilities on Marengo Street with the Wellness Center at General Hospital
- Permanent administrative and office spaces for DHS functions currently housed within General Hospital. This will be accomplished through development of one or more non-clinic buildings that will house commercial, educational, and office functions. These mixed buildings can be designed so that DHS office functions occupy upper portions of the multi-story buildings.
- Additional parking, both temporary surface parking as well as a new, below-grade structure connecting upper State Street with the lower Commons area
- Initial development of the new Central Utility Plant to further support future development on the campus as well as providing potential utility services to other County functions across Zonal Avenue

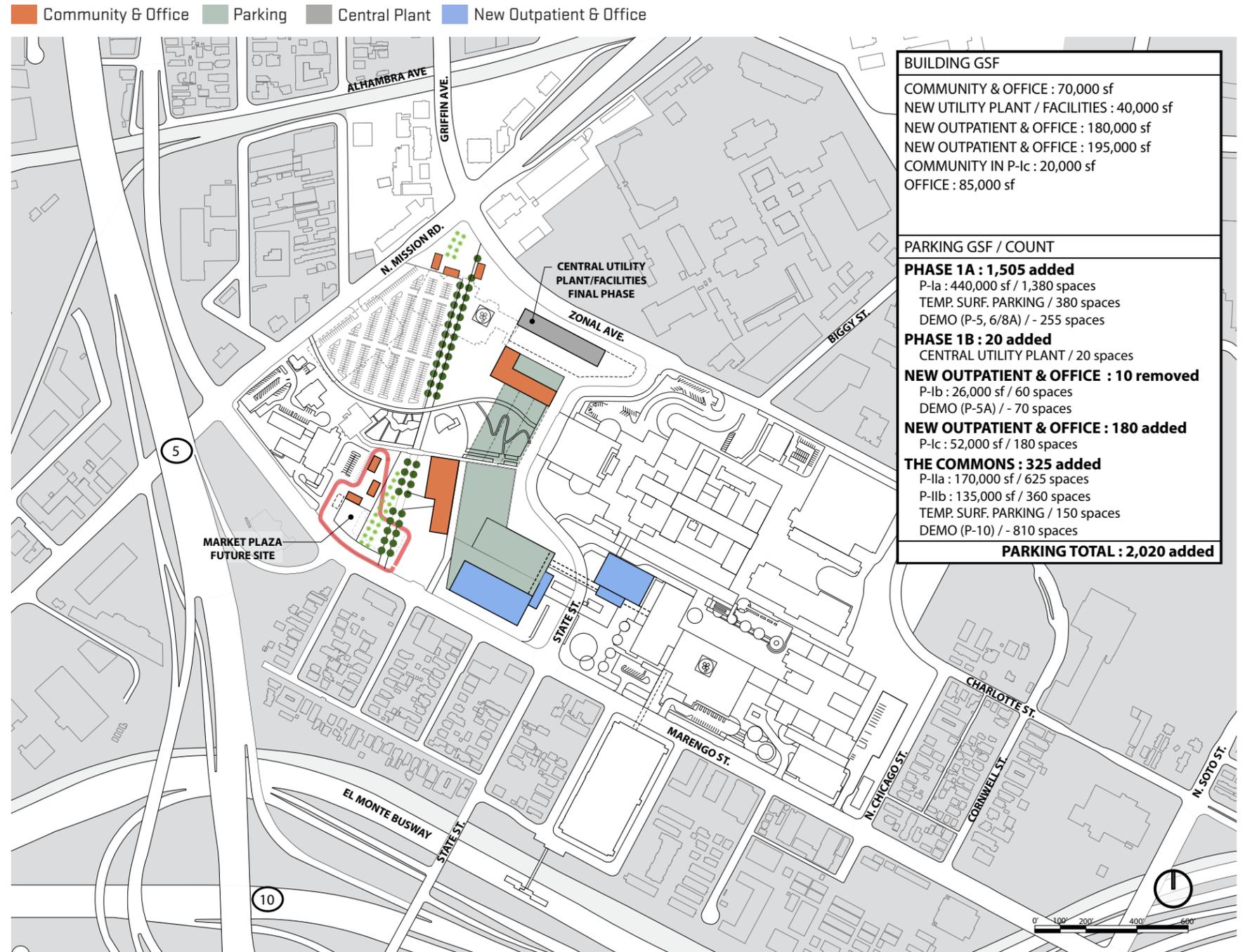
5.61 Phasing Diagram – The Commons

**Phase 1 - Market Plaza (Figure 5.62)**

The final proposed stage of Phase 1 is intended to accomplish the following:

- Complete the relocation of expansion of the new Central Utility Plant on the side of the campus along Zonal Avenue
- Develop the remaining public space required for the completion of the Market Plaza to establish a new pedestrian and community gateway to the campus from Marengo Street

At the completion of Phase 1, long-term parking solutions have been implemented to support all of the proposed building development while still leaving ample open spaces for the benefit of the community and the Medical Center. The most urgent and foreseeable program elements (parking, clinic space, office space, open space and community programs) have now been addressed and fully integrated within a coherent campus plan.



5.62 Phasing Diagram - Market Plaza Future Site

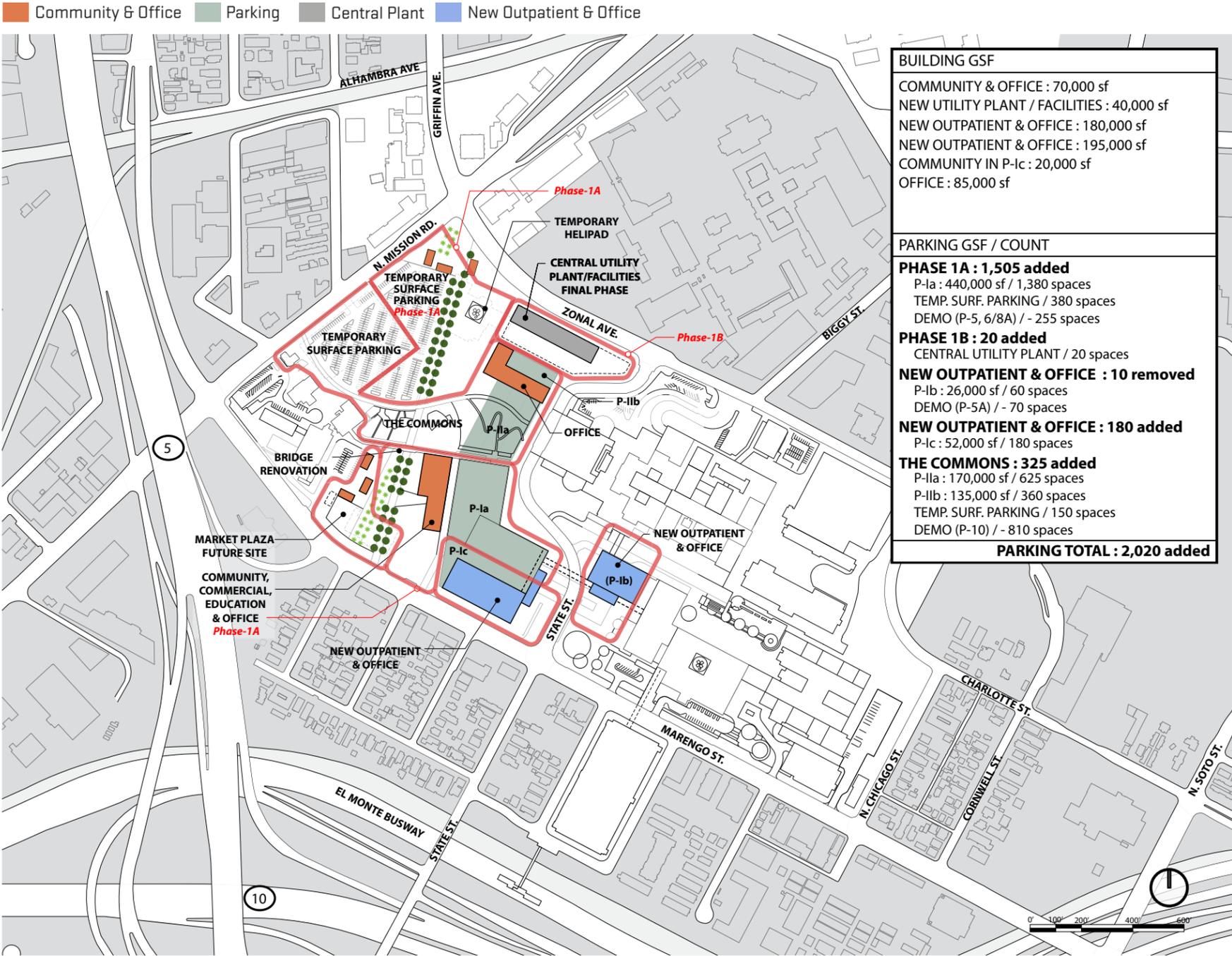


Figure 5.63 illustrates and summarizes the combination of all five stages that comprise Phase 1 of the LAC+USC Master Plan.

**Summary - Phase 1**

The sub-phases presented in this section of the report describe specific program development and potential building sizing and phase. These programs were deemed to be the most appropriate and likely initial site and building developments to initiate the vision of the Master Plan.

**Future Development Zones**

On the following pages, more long-term site development ideas and proposals are presented. These ideas are less specific owing to the probable dependency on private and/or public-private funding and interest. Accordingly, no specific time frames are attached to these future developments.

These areas are described as future "development zones", and each one relates to a specific area of the site and adjacent areas. For greater clarity, each development zone is further described with sub-zones which focus on more specific development ideas.

5.63 Phase 1 Summary Diagram

### Development Zone - Main Campus West

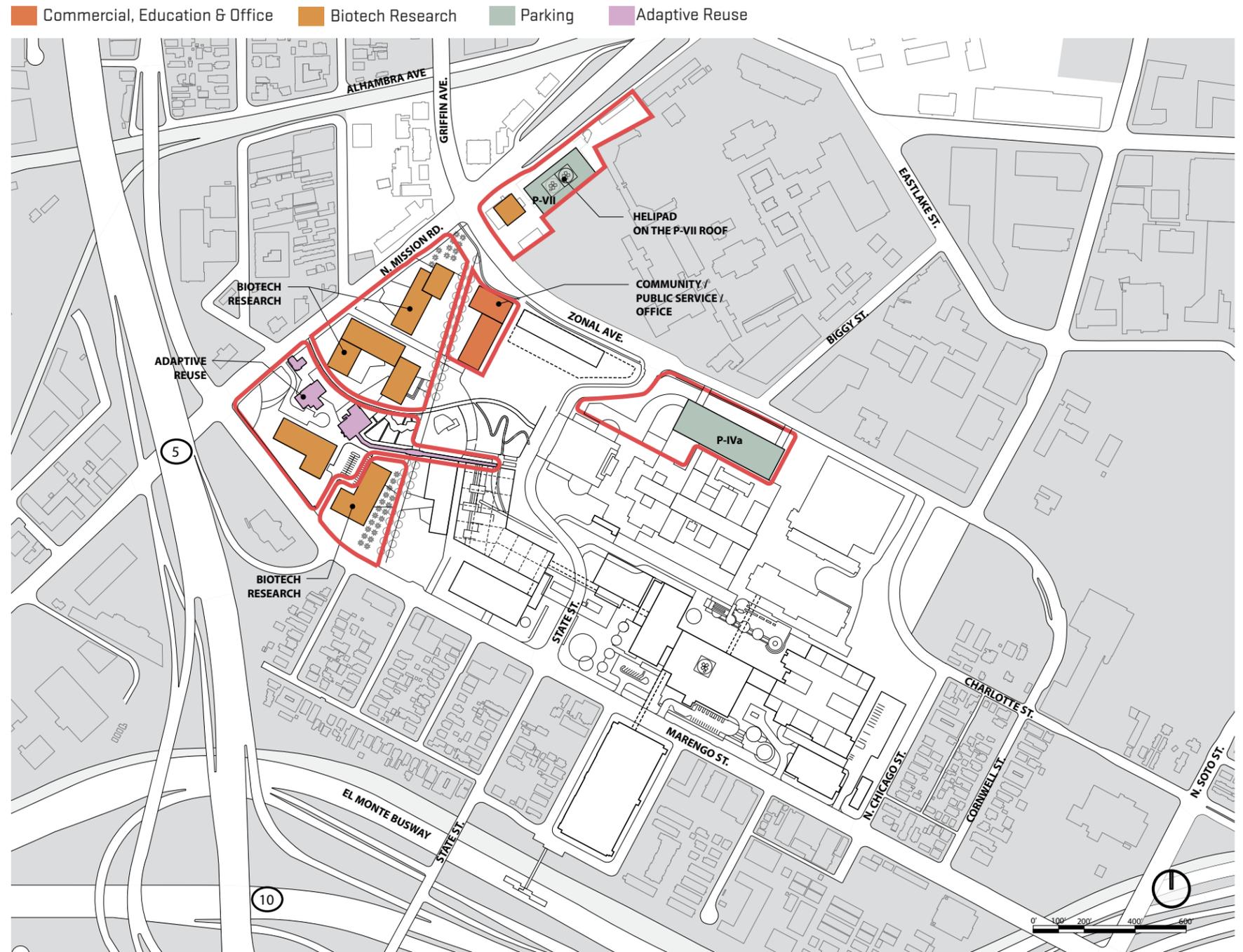
In addition to the community and Medical Center focus of Phase 1 of the LAC+USC Master Plan, the Main Campus West Development Zone leverages the remaining under-utilized areas on the main campus as a biotechnology research oriented development (Figure 5.64). Most of this proposed development, with an exception of a proposed Parking Structure, occurs west of the existing State Street.

One sub-zone for the Main Campus West area focuses on Biotech Research and Development. This sub-zone initiates a significant new health research oriented campus, providing opportunities for independent development by LA County or through the formation of a public - private partnership(s) with outside private-sector funding. The Biotech Research sub-zone occurs both along Marengo Street and N. Mission Road.

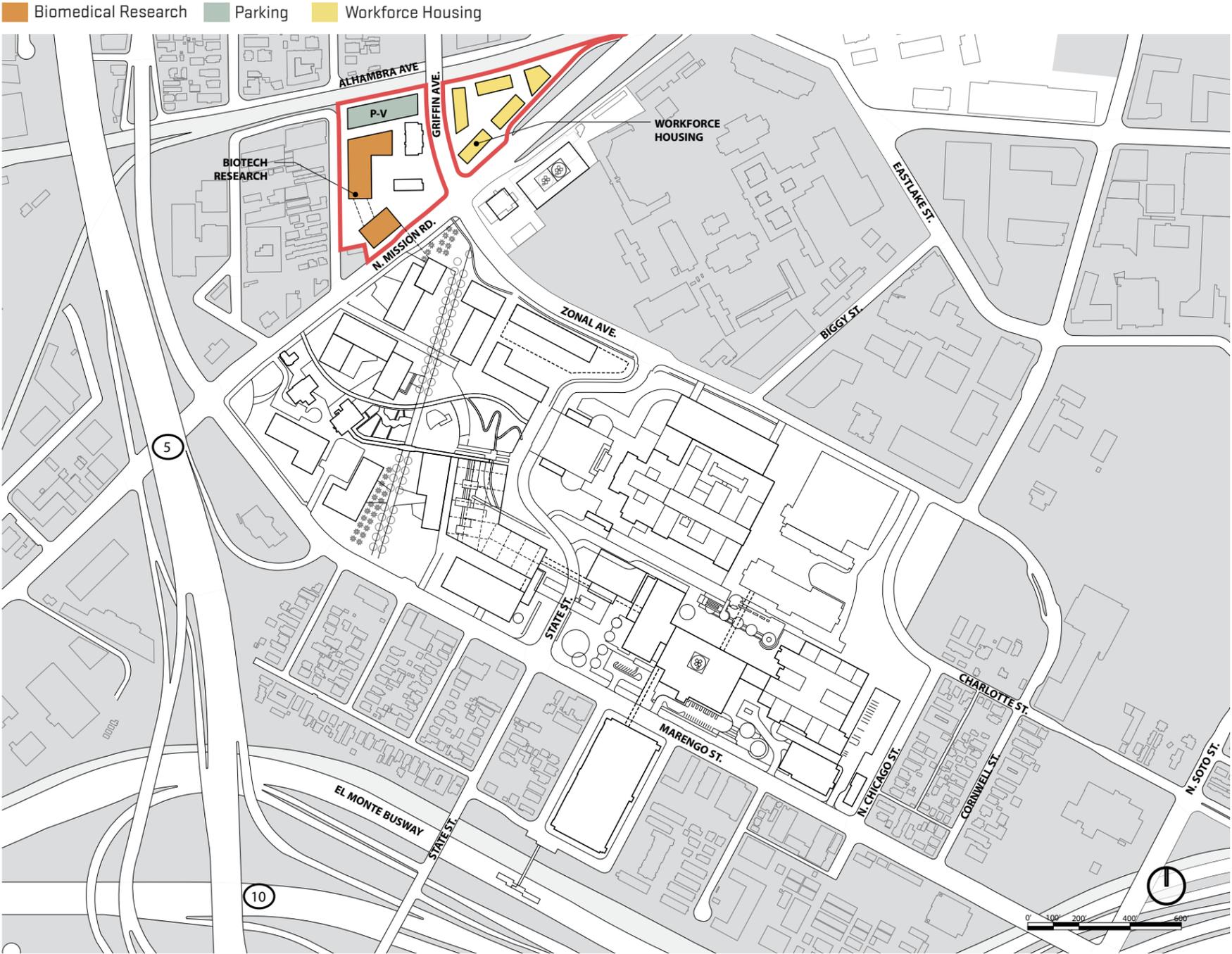
Another sub-zone in this area addresses future additional community serving functions along the proposed north-south community spine. This sub-zone occurs along Zonal Avenue, and can be combined with new facilities for the College of Nursing and Allied Health (CONAH).

Another sub-zone pertains to potential future adaptive re-use of some of the existing older buildings on the site which have site historical significance and which can be converted to less intensive-use functions. For example, in this sub-zone, the following buildings have legacy significance: Pharmacy Building, Old Thrift Shop Building (currently used for Angel Interfaith Network), and the Old Administration Building.

Finally, a sub-zone is identified for future parking structures, one to the north of the existing General Hospital along Zonal Avenue, and one on the north/east corner of Zonal Avenue and N. Mission Road. These parking structures are intended to support the occupants of the future buildings proposed for this development zone.



5.64 Development Zone - Main Campus West



5.65 Development Zone - North of N. Mission Road

**Development Zone - North of N. Mission Road**

Areas to the North of N. Mission Road includes two sub-zones.

One sub-zone is proposed for future Biotech Research and Development facilities. These future programs will be in addition to the proposed Biotech Research and Development facilities proposed for Development Zone - Main Campus West, described earlier.

Another sub-zone in this area can be developed for on-campus housing for members of the Biotech Research and Medical Center community (Figure 5.65). Ideally, future housing development can be implemented through public/private partnerships.

### Development Zone - Future Inpatient Bed Expansion

Figure 5.66 illustrates the area of the site, east of State Street, that is intended to be used for future inpatient bed expansion.

The inpatient bed expansion sub-zone, with its related parking structure requirements, is currently used for the existing Outpatient Building (OPD), the Interns & Residents Building (I&R), and an existing Parking Structure (Lot 12). These buildings are arguably past their useful and functional lives, and will eventually be taken out of service, although there is no set time frame for this.

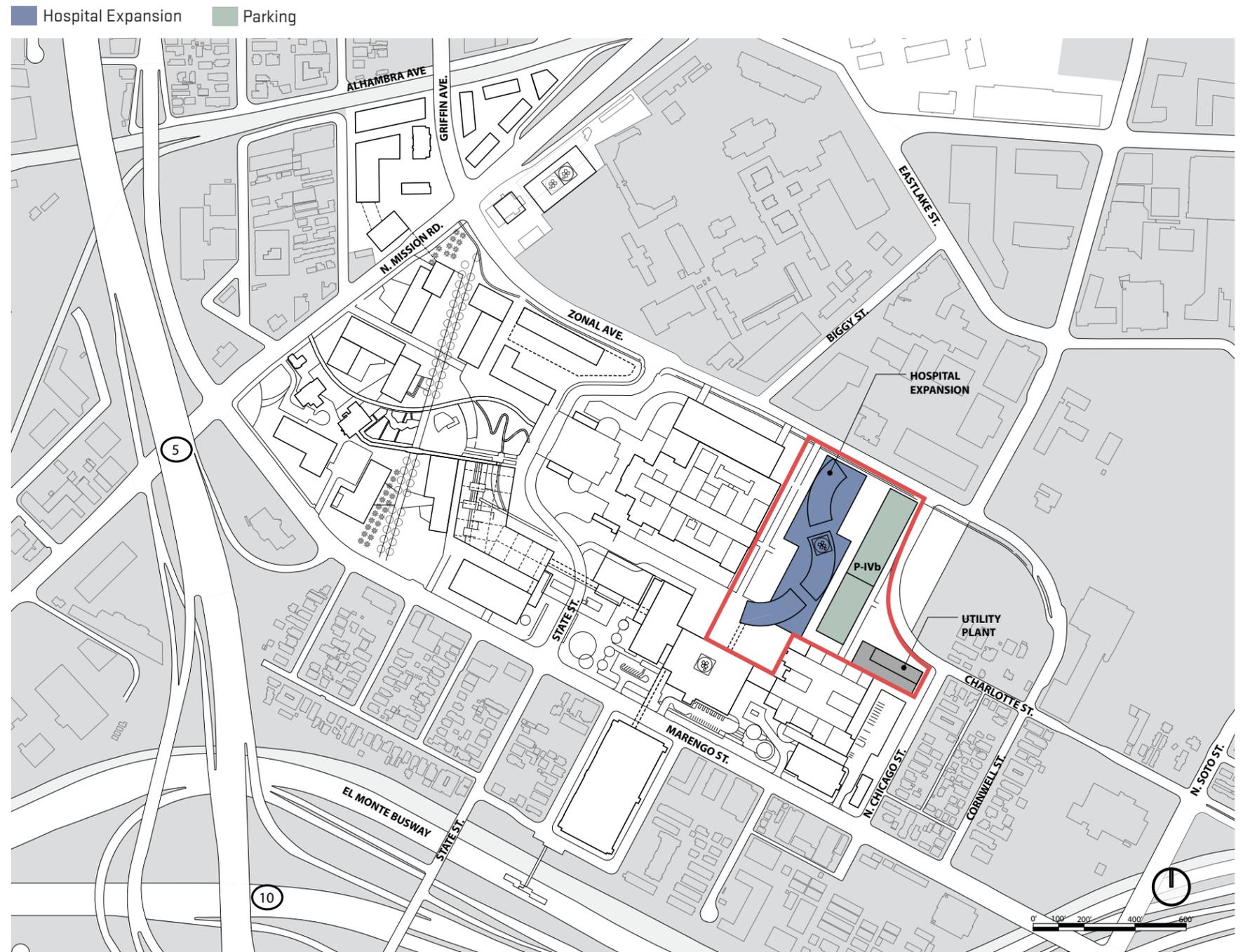
This general location represents the best and most logical expansion for future hospital beds. By building new beds in this area, there is the potential for building connectivity to the existing D&T Building and possibly to the existing Inpatient Tower. With the site cleared of existing buildings, there appears to be sufficient space for future bed additions, and structured parking that would support these future beds.

Beds in this location can also benefit from close proximity to existing diagnostic and treatment services, which appear to have the capacity to accommodate more inpatient-generated volumes. This location also reinforces the existing pedestrian patterns from the USC Health Sciences campus programs across Zonal Avenue.

Figure 5.66 illustrates three potential inpatient additions.

Over time, as the 2nd and/or 3rd phases of inpatient bed additions are implemented, it is likely that additional hospital infrastructure support programs will be required to support these beds. The site seems to have sufficient area to accommodate the growth of diagnostic and treatment services, and other support programs necessary to support future inpatient beds.

The other sub-zone represented in this figure is for a future Utility Plant that will be required to support the inpatient bed expansion projects.



5.66 Development Zone - Hospital Expansion

**Architectural Design Guidelines:**

The LAC USC Master Plan provides a unique opportunity to transform the campus and to create the type of environment that will be well used by the surrounding community, patients, visitors, and those who work on campus. Further restoration of General Hospital, home to the new Wellness Center, will be key so that its function and use reflect its stature and prominence on the campus and it becomes a vibrant destination once again.



5.67 Aerial View of the Commons

**Building Form & Use**

The following diagrams establish recommendations for campus development while maintaining flexibility for future program needs. The guidelines for building form complement the historic campus context and the significant existing buildings and structures that are recommended for restoration and revitalization as part of the LAC+USC master plan.

The guidelines reinforce the ideas of the Master Plan by providing recommendations that:

- Create networks of shaped open spaces by defining the pattern of buildings that optimize site density and capacity
- Respond to unique campus context: General Hospital and historic plaza, historic Hospital Administration building, Pharmacy building and Bridge, Old Gatehouse, College of Nursing
- Integrate key existing buildings: Activate ground levels of existing Pharmacy building and Bridge and connect to open space framework
- Establish spatial continuity using building forms to emphasize major axis and key views
- Provide a range of maximum and minimum building heights and relationship to changing grades
- Take advantage of sloping site topography by providing at-grade entrances on multiple levels
- Provide accessibility up and down the slope using buildings, parking structures, and open space development
- Establish required build-to lines to control building footprints along critical edges and to define streets and open spaces
- Set building limit lines to establish maximum extent of building footprints—typically along edges of outdoor spaces and site access points
- Create larger open spaces between buildings to allow better solar penetration and daylighting opportunities

**Built-Form Diagram**

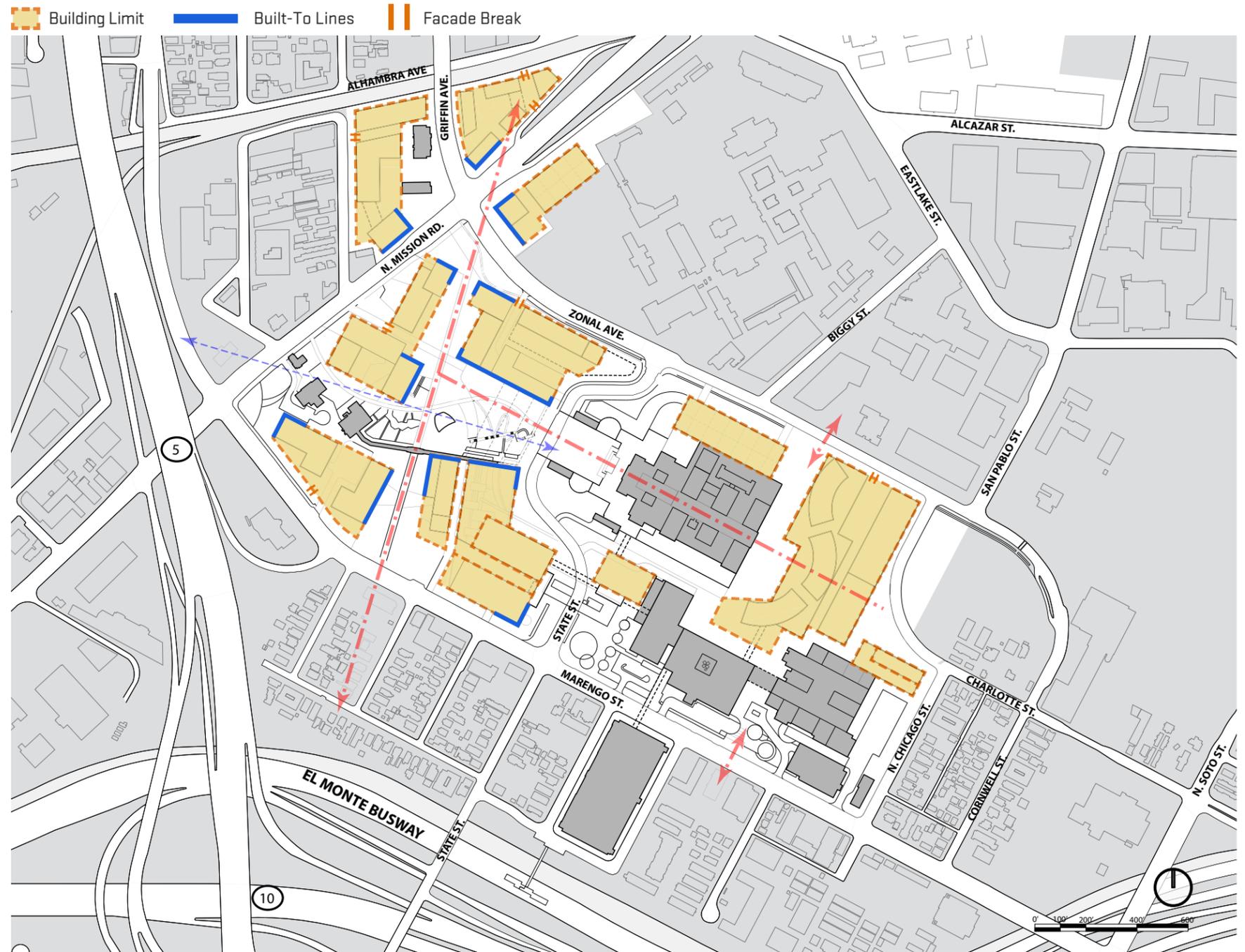
The Built-Form diagram is intended to guide the physical siting of future buildings on the campus. The diagram is used as a control for buildable areas and definitive required building edges.

The Built-Form diagram is comprised of:

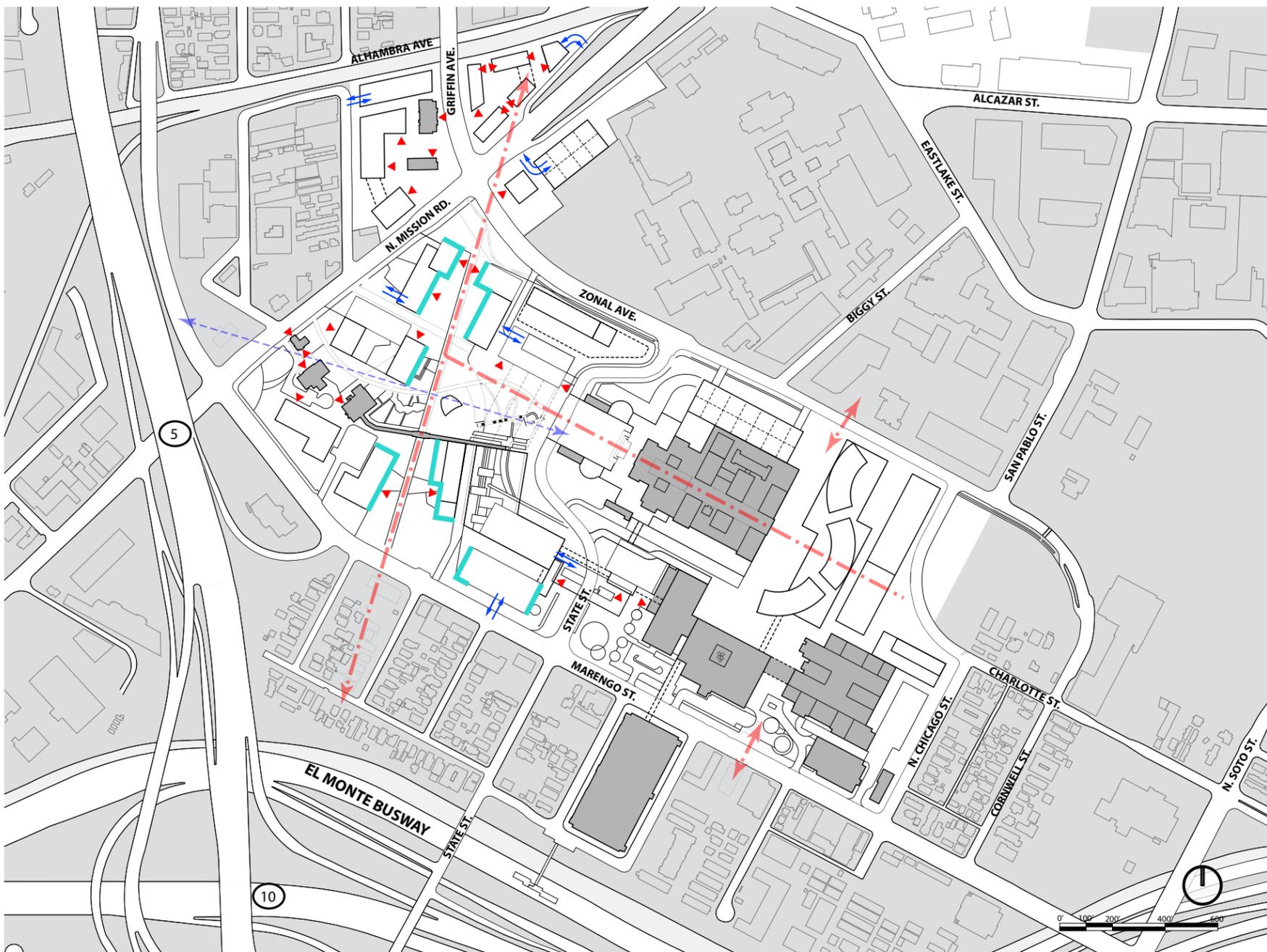
**Building Limits** define the maximum extent of future building footprints. No buildings may extend past the building limit line.

**Required Build-To Lines** control building footprints along critical edges. These critical edges establish the urban characteristics of the Master Plan, such as formal axis, views, open spaces, and street façade alignments.

**Facade Breaks** define the location of openings in a building along streets and walkways, providing a guideline for the maximum length of a facade.



5.68 Built-Form Diagram



5.69 Entry Point Diagram

**Entry Points**

The LAC USC campus site features significant topography changes. Coordinated site levels and building entries are essential for the development of the site. The Master Plan promotes safe, comfortable, and walkable streets and open plazas on the campus. To create a hierarchy of pedestrian and vehicle circulation, parking and service entrances need to be strategically located primarily at campus edges, with pedestrian entries occurring from the interior of the campus.

Building façades should engage pedestrian activities and enhance pedestrian links throughout the campus. The design of building entries should integrate accessibility for people of all ages and abilities.

Building entries and ground floors should be designed to enhance the pedestrian experience. The use of glass at building entries as well as public serving and active program uses at ground floors should be encouraged.

Correspondingly clear and universal wayfinding is an important element for the pedestrian network. Convenient and ample bicycle parking needs to be provided at building entries.

**Open Space - Hardscape and Circulation**

The Master Plan establishes a sequence of paved open spaces. These open space links are configured to reinforce the major axis in the Master Plan. The hardscape open space offers a variety of outdoor gathering spaces, landmark plazas, and pedestrian gateways, as well as defining overall circulation. The hardscape open space network provides alternative, safer and more pleasing pedestrian access than sidewalks adjacent to vehicular streets. This pedestrian friendly approach promotes the walkability of the campus and helps reinforce the idea of health and wellness.

The entire campus is knit together by integrating new circulation and open space, while restoring and revitalizing existing and historical plazas. Paving materials, lighting, and wayfinding elements should express a sense of unity and coherence to create a clear identity to the campus.



5.70 Open Space Diagram - Hardscape



5.71 Open Space Diagram - Softscape

**Open Space - Landscape and Gardens**

Green open spaces visually link internal campus amenities while mitigating the access challenges of the hilly site. Campus green spaces also reach out to connect the campus with the existing urban landscape and parks in the adjacent community.

Green open space has a number of beneficial attributes:

- Green spaces reinforce the views and major axial relationship of the site.
- Planting reduces the urban heat island effect and creates a more comfortable and inviting campus.
- Urban green spaces provide habitat for birds and other small animals.
- Wetlands can facilitate stormwater management reducing the need for more costly engineered solutions.
- Provides recreational, scenic, and educational opportunities for the community.

Restoring the biodiversity of ecological systems helps to facilitate the sustainability of the natural environment. The proportion of hardscape and softscape in the Master Plan should be maintained to promote a balance between nature and the built environment.

For specific recommendations and guidelines, refer to the landscape design guidelines later in this chapter.

**Height Diagram**

The significant grade change of the site offers unique opportunities for terraced structures with accessible landscaped roof integrated into the hillside. Landscaped roofs add more green spaces to the campus and reduce the unpleasant visual impact of large structure roofs.

Building height guidelines are defined by area with the Master Plan. The character and anticipated function of the different areas of the campus guide the recommended and allowable heights.

Market Plaza

Intended as the most community oriented area of the campus, buildings adjacent to the Market Plaza should be the lowest and most pedestrian friendly, with a maximum height of 2 to 3 stories.

Biotech Research Campus

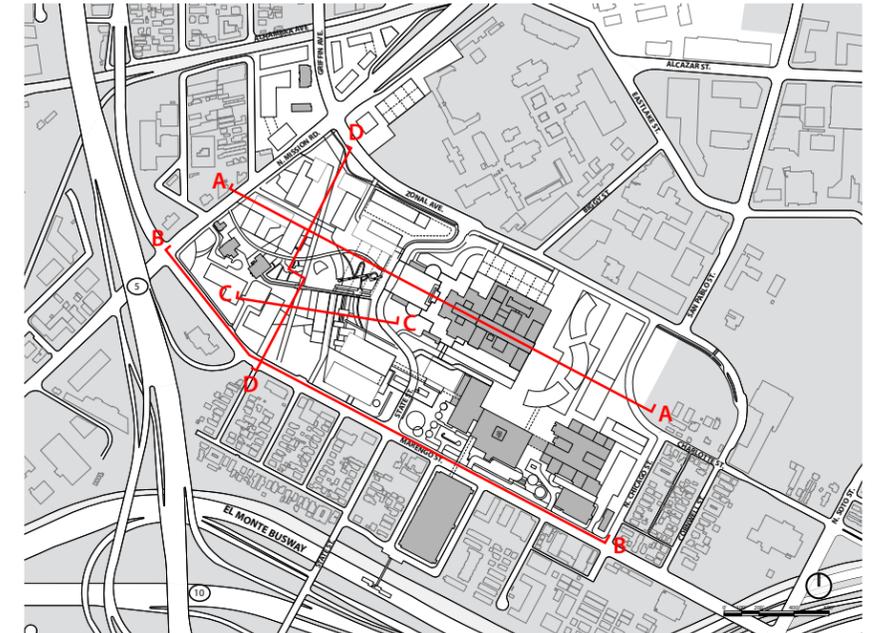
Building in the research campus area of the campus are planned to form a more campus like character, ranging from 4 to 6 stories. Lower buildings form the edges of the pedestrian oriented courtyards and circulation, while taller buildings mark important gateways.

The Commons

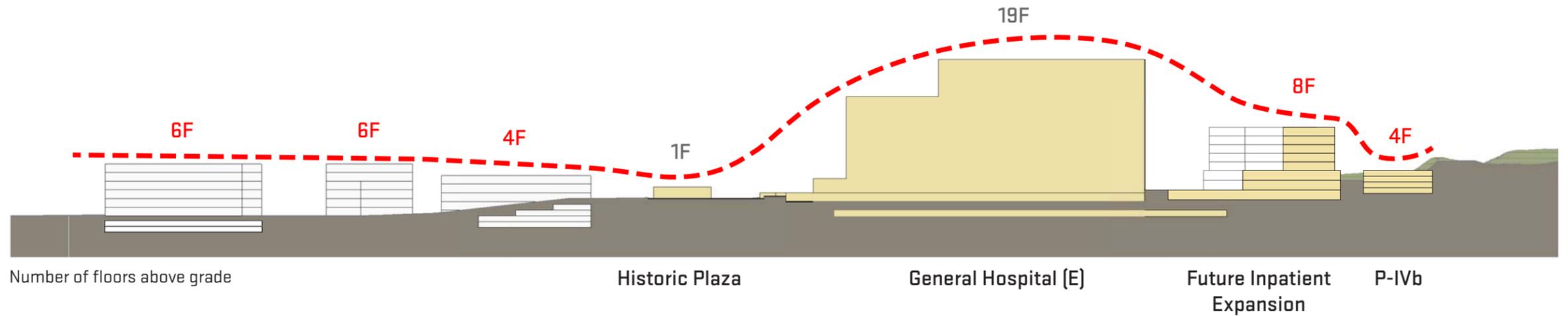
The area of the commons, primarily the "Hill", offers a unique opportunity for terraced structures with accessible, landscaped roofs integrated into the hillside. Buildings along the edges follow the height guidelines for adjacent areas, while the underground parking buildings are used to reduce the slope of the existing hillside, allowing for a more gradual connection up to the historic Hospital Plaza. Locating the parking underground provides for landscaped roofs that add more green spaces to the campus and reduce the unpleasant visual impact of large roof structures.

Hospital and Medical Center

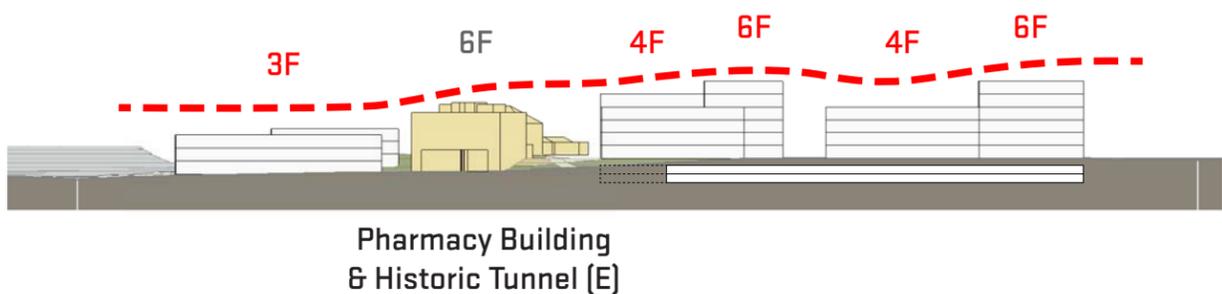
Buildings within the medical center zone are the tallest new buildings on the campus, ranging from 5 to 10 stories.



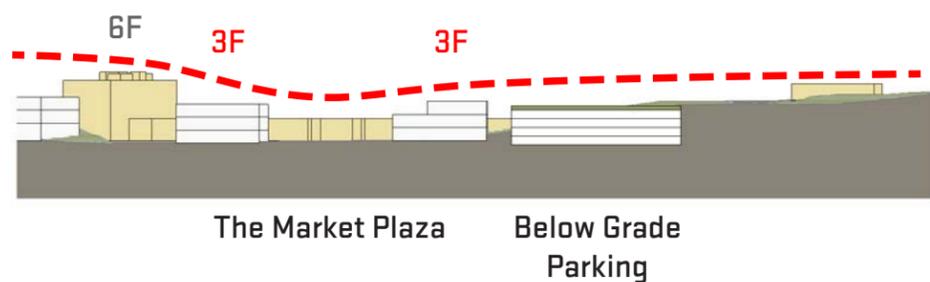
5.72 Section Cut Locations



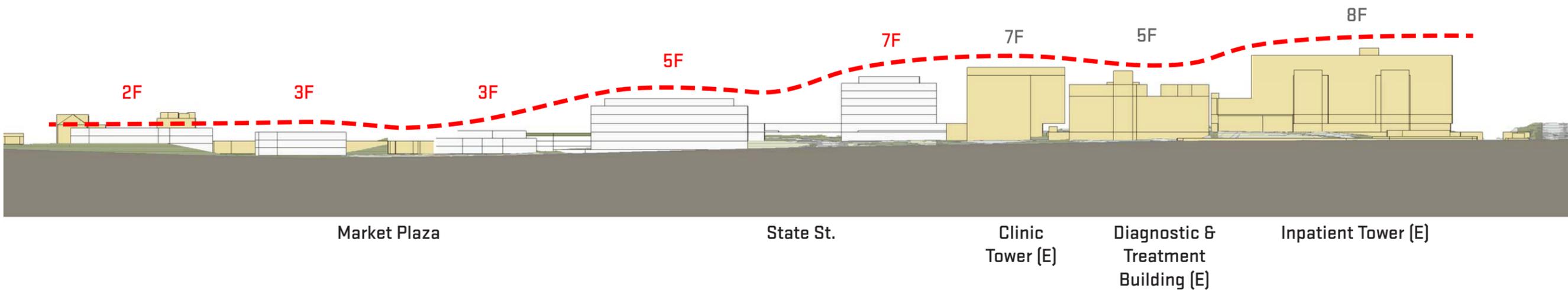
5.73 Height Diagram - Section A-A



5.74 Height Diagram - Section D-D



5.75 Height Diagram - Section C-C



5.76 Height Diagram - Section B-B

**Existing Building Material Context**

The selection of color and materials can play a significant role in creating a cohesive campus and can also be used to strengthen the identity of individual zones. The existing significant buildings and Medical Center provide the immediate site context. The existing buildings should each retain their unique character within the campus setting.

The existing buildings and bridge should be restored to be more open and integrated into the new campus framework.



5.77 Historic General Hospital & Plaza



5.79 Historic Hospital Administration Building



5.78 Medical Center



5.80 College of Nursing and Allied Health



5.81 Pharmacy Building Adaptive Reuse



5.83 Market Plaza Opportunity



5.82 Historic Bridge



5.84 Historic Bridge Adaptive Reuse

**Character of Old and New**

The spectrum of existing building to be retained on the campus is a broadly eclectic mix of forms, scales, styles, and materials.

**General Hospital & Plaza:** historic, iconic, large (19 stories) civic scale—light, warm, stately stone—most prominent building on campus

**Historic Hospital Administration Building:** historic, red brick and light accents, strong presence, high level of quality and detail

**Pharmacy Building:** Red brick with exposed concrete frame Loft-like: Open up base so transparent—see activity inside

**Bridge:** Light stucco: Open up to create strong connections through. Bridge connects to Historic Hospital Plaza and the Commons. See activity at ground and upper levels. Great opportunity for incorporating local art

**Old Gatehouse:** Wood: this could be a café with outside garden patio

**College of Nursing and Allied Health:** California Mission with light stucco and red tile roof. Small scale with tower element

**Medical Center:** Grey metal panels and glass. Efficient and contemporary. Main destination on the campus

**Color & Materials**

New building forms should work in composition with the existing buildings, but can be built from a more contemporary palette of materials. New buildings should create a sense of openness and connection to their surroundings that is lacking with the existing buildings.

Smaller structures, 2 stories minimum, may build on this eclectic character with a variety of materials and color choices. Larger structures, 3 stories and higher, should continue the light tones and planar surfaces of the existing General Hospital and Replacement Medical Center with a mix of warm white stone or precast paneling and cool gray metal paneling.

- Provide transparency at building bases to promote active ground levels and strong inside-outside connections
- Create transparency at building circulation and shared public spaces on upper levels to reflect movement and active program uses and further animate the campus
- Provide access to light and views within the building
- Specify robust building materials that are durable and low/ no maintenance
- Use local materials and materials with recycled content that meet environmental goals

These precedent images are examples of building façade characters and material palettes.

**Warm and Tactile Materials**



5.85 ASU Health Services Building



5.86 Bridgepoint Active Healthcare Centre

**Transparency & Openness**



5.87 UC Berkeley Student Center



5.88 Simon and Helen Director Park

Active Colors & Pedestrian Scale



5.89 University of Chicago Early Childcare Centre

Shelters and Canopies



5.91 ASU Bookstore



5.93 Main Street Garden Park



5.90 Gavroche Centre for Children



5.92 Simon and Helen Director Park

**Public Art**

Integrating public art is an essential part of the master plan. To reflect the diversity of user groups of the campus, types of art should promote inclusiveness and participation of people of all ages and abilities. The cultural diversity of the community should be expressed in public art, and local artist participation is highly encouraged.

Examples of public art can include the following:

- Healing Garden
- Murals
- Urban Furniture/ Site Elements
- Water Features
- Interactive Art
- Lighting/ Digital Art
- Music and Performance Stage



5.94 Urban Furniture Art



5.96 Integrated Local Art



5.95 Site Element at 4th Avenue Park



5.97 Landscape Art at Fresno Courthouse

**General Landscape Guidelines**

Landscape refers to all areas within the master plan area that are not utilized for building areas, parking areas, truck loading, or storage. Pedestrian areas, plazas, and walkways are generally included in the landscape area.

The campus has several distinctive landscape character areas which need unique attention, while still allowing for continuity and uniformity throughout the campus. The uniqueness of projects can be preserved and design unity achieved through the use of consistent landscape guidelines throughout all of the campus.

**Campus-wide**

1. All landscape elements should be coordinated with adjacent building sites in order to ensure a smooth transition and design consistency from one site to the next.
2. All aspects of the landscaped transition between open space and building setbacks should be seamless.



5.98 Aesthetics & Function In Furnishings

3. Circulation systems should be open to the public and be maintained as part of a public open space system.
4. All pedestrian pathways should be enhanced with landscape features such as seating, trash receptacles, recycling receptacles, emergency call boxes, and navigational signage.
5. Shared pedestrian pathways should be no less than 8 feet wide in order to accommodate walking in groups.
6. Lighting design should be integrated into the landscape design of all pedestrian systems.
7. Landscape features should be functional, not simply decorative. Aesthetics should be a beneficial consequence of incorporating landscape to address other functional needs such as providing shade, way finding/visual cues, horizontal separation, and ecological services.
8. Landscape areas must be appropriately maintained, replaced as necessary, and generally “kept up”.

**Softscape**

1. Species selection will encourage drought-tolerant materials and the use of California natives should be emphasized.
2. The use of plant species listed as having high-moderate water needs by WUCOLS III should be restricted to a limited area.
3. Plants should be continuously preserved and maintained by a staff that is well trained with California native landscapes.
4. Plant species should be selected for both their visual, habitat and maintenance qualities.
5. Mulch should be provided in all planted areas to minimize water loss from soils.
6. Invasive plants listed by the California Invasive Plant Council in Southern California should not be permitted on campus.
7. Extensive lawn areas should be minimized.
8. Plants from local growers who specialize in California natives and drought tolerant species should be specified to reduce negative environmental impacts of shipping and to ensure that plants are adapted to local environmental conditions.
9. Where appropriate, agricultural crops should be encouraged.

10. Where appropriate, unusual and/or rare species should be encouraged.
11. Trees should be planted in a range of container sizes, measuring at least 24 inches in each dimension.
12. A combination of trees, shrubs, vines, and landscape berms should be used to aid the screening of utilities and service areas.
13. Plants should be installed in a range of container sizes.
14. Unobstructed visibility to building entrances, key architectural features, and signage and public spaces should be maintained. Locate plant material in a manner that provides adequate site lines for both motorists and pedestrians.
15. Install plant material to soften building elevations, maintain a pedestrian scale and provide definition to public walkways and open spaces.

**Soils**

1. Test soils to evaluate conditions, needs and appropriate future uses.
2. Preserve and protect any existing onsite healthy soils.
3. Improve health of degraded soils through soil restoration, reuse and rehabilitation to achieve conditions similar to regional reference soil so that onsite and surrounding ecosystem services are enhanced.
4. Reduce waste through the practice of onsite composting. Reuse excess vegetative materials as an amendment to maintain soil health and water, mineral, and nutrient holding capacity.
5. Avoid the use of pollutants, chemicals, or soil amendments that can harm human and ecological health.

**Hardscape**

1. Paving materials should serve as a means of unifying the appearance of the Campus. Hardscape areas which cross into multiple project sites should be coordinated to achieve a unified character.
2. Enhanced paving materials should help identify interest and character to key areas.
3. The use a permeable paving and/or recycled materials should be encouraged.
4. Ensure that all hardscape areas are accessible to handicapped individuals and made with materials approved in the ADA Standards for Accessible Design.

5. The use of dark colored paving materials should be limited in order to reduce the urban heat-island effect.
6. Adequate shade should be provided within all hardscape areas.
7. Encourage the use of local resources, manufactures, material and suppliers.

**Site Furniture**

1. A common set of landscape furniture elements should be selected for use within the campus' central open space, The Commons and along the campus' primary pedestrian circulation systems.
2. Site furnishings in individual courtyards or private open space associated with individual project sites or program elements can deviate from the campus standard to highlight these areas as distinct places.
3. Promote the use of local manufacturers and recycled materials whenever possible.
4. Site furniture should be graffiti proof.

**Irrigation**

1. The Campus Plan should provide a reclaimed water distribution system for use in irrigation, if available.
2. An onsite reclaimed water treatment system should be investigated as a source of reclaimed water for irrigation if any existing reclaimed water resource is not available.
3. As a means of resource conservation, the landscape should include drought-tolerant plant species.
4. All reclaimed water lines are to be per County of Los Angeles Department of Public Works standards.
5. Reduce landscape water waste by proactively maintaining the irrigation system, reprogramming the system seasonally, and irrigating at appropriate times during the day.

**Stormwater**

1. A showcase quality, campus-wide storm water management system should be provided to sustainably manage all storm water on Campus.

The system should be designed to support and enhance the proposed open space environment.

2. Implement a storm water treatment plan as required by the California Regional Water Quality Control Board. Base the design of the plan on County of Los Angeles standards. A geotechnical engineer should provide recommendations for soil permeability.
3. Base the design of infiltration basins, flow-through parkways, and wetlands or pond treatment areas in the south Campus on the percentage-inch storm event to mitigate storm water runoff in order to allow for retention and infiltration of storm water prior to out-letting into the public storm drain system.
4. Where appropriate, irrigation of landscape components should utilize captured rainwater, recycled wastewater, recycled gray water, or water treated and conveyed by a public agency for non-potable use.
5. The site's water budget should be balanced. To achieve water balance, the inputs (such as precipitation, surface flow and piped-in water supply) should equal outputs (such as evapotranspiration, runoff and water that infiltrates into soil).



5.99 Seating Highlight Distinct Spaces



5.100 Storm Water Treatment



5.101 Material Selections Unify Spaces

**Plant Palette**

The following options for tree, shrub, and groundcover selections are provided for future consideration for the Medical Center site. These selections are consistent with many of the landscape guidelines presented previously.

**Trees**

Acer negundo var. californicum	Box Elder
Arbutus ‘Marina’	NCN
Arbutus unedo	Strawberry Tree
Brahea edulis	Guadalupe Palm
Catalpa speciosa	Catalpa
Cercidium ‘Desert Museum’	Thornless Palo Verde
Cercis occidentalis	Western Redbud
Chamaerops humilis	Mediterranean Fan Palm
Chilopsis linearis	Desert Willow
Eriobotrya deflexa	Bronze Loquat
Geijera parviflora	Australian Willow
Gingko biloba	Maidenhair Tree
Jacaranda mimosifolia	Jacaranda
Juglans californica	California Black Walnut
Koelreuteria bipinnata	Chinese Flame Tree
Lagerstroemia indica	Crape Myrtle
Liriodendron tulipifera	Tulip tree
Lyonothamnus floribundus	Catalina Ironwood
Lysiloma microphylla	Feather Bush
Olea europaea ‘Swan Hill’	Fruitless Olive
Phoenix canariensis	Canary Island Date Palm
Phoenix dactylifera	Date Palm
Platanus racemosa	California Sycamore
Prosopis chilensis	Chilean Mesquite
Quercus agrifolia	Coast Live Oak
Quercus lobata	Valley Oak
Sambucus mexicana	Blue Elderberry
Tabebuia chrysotricha	Golden Trumpet Tree
Tabebuia impetiginosa	Pink Trumpet Tree
Tipuana tipu	Tipu Tree
Umbellularia californica	California Bay
Umbellularia californica	California Laurel

Washingtonia filifera  
X Chitalpa tashkentensis ‘Pink Dawn’

**Shrubs**

Agave desmettiana Variegata  
Agave spp.  
Aloe spp.  
Anigozanthos spp.  
Arbutus unedo ‘Compacta’  
Arctostaphylos glauca  
Arctostaphylos spp.  
Berberis nevinii  
Berberis repens  
Calliandra californica  
Calliandra eriophylla  
Calycanthus occidentalis  
Carex tumulicola  
Carpenteria californica  
Ceanothus ‘Concha’  
Ceanothus ‘Ray Hartman’  
Ceanothus spp.  
Correa spp.  
Cotoneaster spp.  
Dendromecon harfordii  
Dendromecon rigida  
Encelia californica  
Encelia farinosa  
Eremophila ‘Summertime Blue’  
Eriogonum cinereum  
Eriogonum fasciculatum  
Eriogonum grande var. rubescens  
Fremontendron spp.  
Galvezia speciosa ‘Firecracker’  
Geranium sanguineum  
Grevillea spp.  
Helictotrichon sempervirens  
Hemerocallis spp.  
Hesperaloe parviflora  
Heteromeles arbutifolia  
Iris douglasiana

California Fan Palm  
Pink Dawn Chitalpa

Dwarf Variegated Agave  
Agave  
Aloe  
Kangaroo Paw  
Compact Strawberry Bush  
Bigberry Manzanita  
Manzanita  
Nevin’s Barberry  
Creeping Mahonia  
Baja Fairy Duster  
Pink Fairy Duster  
Spice Bush  
Berkeley Sedge  
Bush Anemone  
Wild Lilac  
Wild Lilac  
Ceanothus  
Australian Fuchsia  
Cotoneaster  
Island Bush Poppy  
Bush Poppy  
Encelia  
Brittle Bush  
Eremophila Summertime Blue  
Ashy-Leaf Buckwheat  
California Buckwheat  
Red Buckwheat  
Flannel Bush  
Island Snapdragon  
Bloody Cranesbill  
Grevillea  
Blue Oat Grass  
Daylily  
Red Yucca  
Toyon  
Pacific Coast Iris

Keckiella cordifolia  
Kniphofia uvaria  
Laurus nobilis  
Lavandula angustifolia  
Lavandula spp.  
Lavandula stoechas  
Lavatera maritima  
Leymus condensatus ‘Canyon Prince’  
Lotus scoparius  
Muhlenbergia capillaris  
Muhlenbergia rigens  
Myrtus communis  
Nassella pulchra  
Penstemon centranthifolius  
Penstemon heterophyllus  
Phormium tenax  
Pittosporum crassifolium  
Prunus ilicifolia  
Rhamnus californica  
Rhus integrifolia  
Rhus ovata  
Ribes aureum var. garcillimum  
Ribes malvaceum  
Ribes sanguineum  
Ribes speciosum  
Ribes viburnifolium  
Romneya coulteri  
Rosmarinus officinalis  
Salvia apiana  
Salvia greggii  
Salvia spathacea  
Salvia spp.  
Santolina spp.  
Satureja douglasii  
Senna spp.  
Tecoma stans angustata  
Tecoma x alata  
Trichostema lanatum  
Westringia fruticosa  
Zauschneria californica

Heart-leaved Penstemon  
Red-Hot-Poker  
Sweet Bay  
English Lavender  
Lavender  
Spanish Lavender  
Tree Mallow  
Canyon Prince Wild Rye  
Deerweed  
Pink Muhly Grass  
Deer Grass  
Myrtle  
Purple Needle Grass  
Foothill Penstemon  
Penstemon  
New Zealand Flax  
Pittosporum  
Hollyleaf Cherry  
California Coffeeberry  
Lemonade Berry  
Sugar Bush  
Golden Currant  
Chaparral Currant  
Red Flowering Currant  
Fuchsia Flowering Gooseberry  
Evergreen Currant  
Matilija Poppy  
Rosemary  
Purple Sage  
Autumn Sage  
Hummingbird Sage  
Sage  
Lavender Cotton  
Yerba Buena  
Cassia  
Yellow Bells  
Orange Bells  
Woolly Blue Curls  
Coast Rosemary  
California Fuchsia

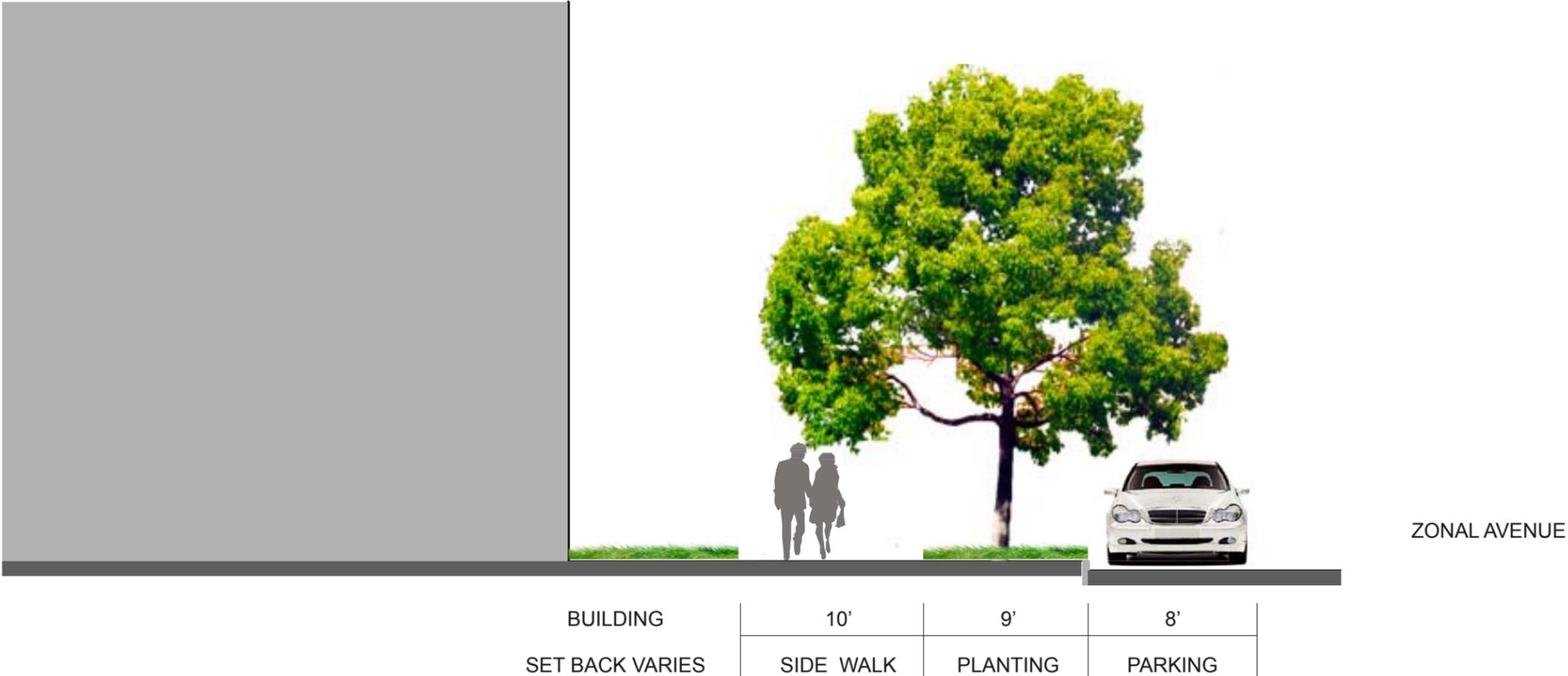
**Groundcovers**

- |                                     |                             |
|-------------------------------------|-----------------------------|
| Baccharis pilularis 'Twin Peaks'    | Dwarf Coyote Brush          |
| Achillea millefolium                | Yarrow                      |
| Artemisia californica               | Canyon Gray California Sage |
| Baccharis pilularis 'Pigeon Point'  | Coyote Brush                |
| Baccharis pilularis 'Twin Peaks'    | Dwarf Coyote Brush          |
| Bougainvillea spp.                  | Bougainvillea               |
| Carex praegracilis                  | California Field Sedge      |
| Ceanothus griseus horizontalis      | Carmel Creeper              |
| Ceanothus spp.                      | Ceanothus                   |
| Cotoneaster salicifolius 'Repens'   | Willowleaf Cotoneaster      |
| Eschscholzia californica            | California Poppy            |
| Festuca ovina 'Glaucua'             | Blue Fescue                 |
| Fragaria californica                | Woodland Strawberry         |
| Heuchera maxima                     | Island Alum Root            |
| Heuchera spp.                       | Coral Bells                 |
| Lantana spp.                        | Lantana                     |
| Lomandra longifolia 'Breeze'        | Dwarf Mat Rush              |
| Lupinus spp.                        | Lupine                      |
| Myoporum parvifolium                | Myoporum                    |
| Myoporum parvifolium 'Putah Creek'  | Creeping Myoporum           |
| Polystichum munitum                 | Sword Fern                  |
| Rosa x 'Noaschnee' Flower Carpet    | White Ground Cover Rose     |
| Rosmarinus officinalis 'Prostratus' | Creeping Rosemary           |
| Sisyrinchium bellum                 | Blue-eyed Grass             |
| Thymus spp.                         | Thyme                       |

**Examples of Potential Street Sections**

The following diagrammatic street sections illustrate the ideas and recommendations presented earlier. They illustrate how the varying dimensions and placement related to building setbacks, sidewalks, and planting can create an interesting and layered set of space and activities along the street edges of the site.

Street Section - Zonal Avenue



5.102 Street Section Diagram - Zonal Avenue

Street Section - N. Mission Road



5.103 Street Section Diagram - N. Mission Road

Street Section - Marengo Street



5.104 Street Section Diagram - Marengo Street



DEPARTMENT OF HEALTH SERVICES – INPATIENT HOSPITALS



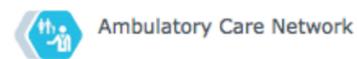
DEPARTMENT OF HEALTH SERVICES – REHABILITATION & URGENT CARE CENTERS



DHS SPECIALIZED DEPARTMENTS



DHS OUTPATIENT AMBULATORY CARE CENTERS



160 Federally-funded Public/Private Community-based Primary Care Clinics that refer patients to LAC+USC Doctors

### Recommendations for Graphic Identity and Wayfinding for the LAC+USC Medical Center Campus

The LAC+USC Medical Center is the largest and most comprehensive acute care hospital within the Los Angeles County Department of Health Services (DHS) system. Affiliated with the University of Southern California, School of Medicine since 1885, the LAC+USC Medical Center is known worldwide as a premiere academic medical center. The campus is located in the community of Boyle Heights and serves the northeastern communities of Los Angeles County including Lincoln Heights, Chinatown, and El Sereno.

Within the DHS System, there are two other acute inpatient hospitals, which include Harbor-UCLA Medical Center, serving the communities of southeast Los Angeles, and Olive View-UCLA Medical Center, serving the communities of the San Fernando Valley. DHS also operates a rehabilitation hospital, Rancho Los Amigos National Rehabilitation Center located in the City of Downey, the King/Drew Medical Center, serving southern Los Angeles, and the High Desert Health System, serving northern Los Angeles County. At the neighborhood level DHS operates 160 Federally-Funded Public/Private Community-based Primary Care Clinics.

#### 5.105 Existing DHS Logos / Graphics

**LAC+USC Medical Center Identity**

An informal audit was undertaken to gain insight into how the LAC+USC logotype and symbol were being used, how they fit into the overall identity system for the Department of Health Services and how the system might be used in the physical environment for signing and other elements.

The audit of the current identity included:

- In person visual audits of the LAC+USC campus
- In person interview of DHS and LAC+USC personnel
- Review of print collateral materials
- Online search results for LAC+USC, USC County Hospital, and Los Angeles General Hospital

The audit raised more questions than it answered. There are a number of issues to be discussed about the existing identity system as the Los Angeles County Department of Health Services moves forward into a more competitive future. They are:

- What are the System's strengths and weaknesses and how will they differentiate themselves from their competitors in the overall health care marketplace?
- What are the strategies for retaining existing clients and attracting new ones?
- Should the overall system be stressed more than the individual facilities; how much emphasis should be placed where?
- Can the existing organization of the identity system, its nomenclature logotypes and symbols and be made more understandable to the general public?
- If the Ambulatory Care Network is the point of entry into the system, how can its components be made more visible and identifiable?

These questions are beyond the purview of a physical master plan, but they are necessary to resolve as the Master Plan moves forward to reality. Looking specifically at the LAC+USC Medical Center campus the following identity issues have been identified:

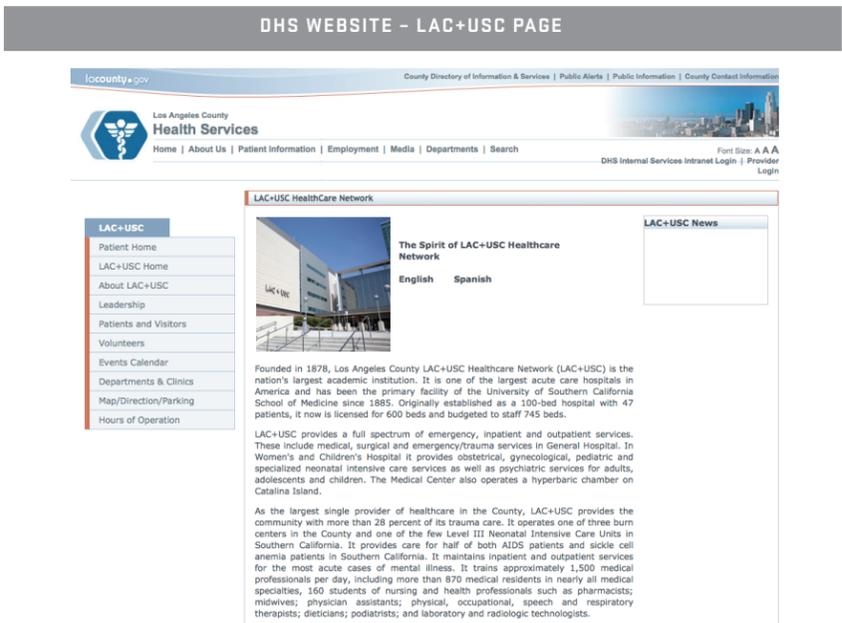


5.106 LAC+USC Graphic Identity and Style Guidelines Page

- The symbol for the LAC+USC Medical Center is a stylized abstraction of the historic General Hospital. Since this building is no longer used as a hospital, should its architecture continue to symbolize the Medical Center? Can this symbol be "mothballed" until a more comprehensive image study is undertaken?
- LAC and USC enjoy a cooperative/competitive relationship that could get more competitive as healthcare laws change. The official identity color system for LAC+USC seems to be dark crimson and gold- mimicking the school colors of USC. Is this appropriate? Because of the close proximity of the USC Medical School to the LAC+USC Medical Center, and the similarity of their names there is significant confusion about their boundaries and their roles to the average visitor and resident.
- Should the name change, or could USC be visually down played? The following sign studies indicate the latter solution.



5.107 <<http://lacusc.org>>



5.108 <<http://www.ladhs.org/wps/portal/LACUSCHomepage>>



5.109 Monument Sign Sample

Project ID Monument Sign  
Scale: 3/16" = 1'-0"

## Signage and Wayfinding

### Strategy

Through an analysis of the existing site conditions and anticipated future growth of the LAC+USC Medical Center facilities, the following recommendations for signage and wayfinding are being put forth.

The approach starts with an intensive investigation and documentation of the existing conditions. By assuming the standpoint of a hospital visitor, the existing signage system can be critically reviewed to uncover specific facility needs and particular challenges.

### Hierarchy of Sign Types

The order and magnitude of campus identification and wayfinding works from the perimeter of the campus with large-scale signs primarily oriented toward vehicular traffic. Included in this category are Monument, Parking and vehicular wayfinding signage. From the parking areas moving into the campus interior, signage becomes smaller and more pedestrian friendly. A well designed signage system functions as an interrelated family or "kit of parts". No single sign can solve all wayfinding issues and it is within this logic we describe and illustrate multiple interconnected sign types. Generally signs can be divided within these four main groups:

- Monument Signs
- Parking Signs
- Vehicular Wayfinding Signs
- Pedestrian Wayfinding Signs

Signs are experienced by visitors as a sequence of instructions, from the largest Project Identification and Vehicular Wayfinding examples to smaller pedestrian scale graphics.

### Monument Signs

Monument signs serve to identify the campus and mark the entries into the site. The messaging should be bold and simple in an effort to deliver the information at a suitable distance to vehicular traffic in all lighting conditions. Monument signs require that landscaping and other obstructions be kept to a minimum to optimize their large size and visual impact.

**Surface Parking**

Parking identification, entrance and area designation signs work together to facilitate vehicular access to surface parking destinations, to enhance pedestrian understanding of site parking organization, and to ease traffic congestion at major access routes.

Freestanding Parking monument signs are large internally illuminated markers that display a numerical or other systematic designation which helps visitors identify and return to the most appropriate parking lot locations. As always, the LAC+USC brand is present and there may be directional information incorporated on these signs when appropriate.

Pole mounted Parking Area ID signs assist visitors in their navigation of open surface parking lots and in their return to their cars. Pole mounted signs are illuminated by ambient light levels and are inexpensive to produce.

Currently, visitors are not informed of their best parking options and are generally not provided with a clear system that they can easily navigate. Consideration should be given to digital parking space counting systems, now commonly found at parking structures in retail shopping centers, that inform users at parking lot entrances about current use and vacancy numbers.



5.110 Surface Parking Signage Samples

Surface Parking Lot Aisle Identification  
Scale: 3/16" = 1'-0"

Vehicular Directional Sign at Parking Entrance  
Scale: 3/16" = 1'-0"



Parking Structure Entrance ID and Clearance Bar  
Scale: 3/16" = 1'-0"

A system of coordinated and graphically cohesive Vehicular Directional signs can become a primary navigation tool for visitors entering the LAC+USC Medical Center campus.

Freestanding Monument-type directional signs can be located at major entrances and decision points. To be most effective, these signs should be internally illuminated, and situated perpendicular to the street. Depending on the exact location they will likely carry messages on two sides of the sign.

Pole mounted vehicular directional signs are inexpensive and can be easily updated. Signage can be fabricated using painted aluminum panels that serve to direct people along access routes to their desired destinations. Messaging may be reflective and is illuminated by ambient light levels. Pole mounted signs provide consistent messaging throughout the street system and serve to connect larger entrances and nodes.

Hand-painted or digitally-printed graphics can help enliven wall and column surfaces in the interior of parking structures. At LAC+USC, wall messages can help guide visitors from the parking structure to the Medical Center.



Interior Parking Structure - Directional Wall Graphics  
Scale: 3/16" = 1'-0"

5.111 Surface Parking Signage Samples

The two Pedestrian Directional/Directory Signs shown here are important because of the contribution that they make not only to pedestrian wayfinding and general site understanding, but because of their ability to bring color, messaging and smaller scale features to the existing landscape.

Currently, no campus maps exist on the LAC+USC Medical Center Campus to help visitors orient themselves and navigate the large campus. These 2 sided illuminated directory cabinets feature maps on one face and may carry LAC+USC messaging on the opposite face. These translucent “posters” are easily replaced and updated at minor cost. Directory cabinets, as the dimensions show, need to be large enough for multiple visitors to access simultaneously and to be read from an appropriate distance.

The freestanding directional sign shown here is one element within the pedestrian wayfinding system that includes pole and wall mounted signs as well as overhead directional signs. This variation may be used in locations where enhanced visibility and scale are beneficial to pedestrian wayfinding. This sign type may also be used to identify buildings and building entrances either in combination with wall mounted signs or as standalone elements where architectural features do not permit installations.

As we will see with all signs outlined on the following pages, no single sign or project feature can direct people and resolve this site when viewed alone. It is only through the consistent application of a cohesive signage system that visitors will be able to navigate the LAC+USC Medical Center campus.



5.112 Pedestrian Directional/Directory Sign Samples

Campus Directory  
Scale: 1/4" = 1'-0"

Pedestrian Directional Sign  
Scale: 1/4" = 1'-0"

Pedestrian Directional Sign  
Scale: 1/4" = 1'-0"



5.113 Pedestrian Directional/Directory Sign Samples

Pedestrian Overhead Directional  
Scale: 1/4" = 1'-0"

Freestanding Directional  
Scale: 1/4" = 1'-0"

Freestanding Directional  
Scale: 1/4" = 1'-0"

Pedestrian scale directional signs assist in providing wayfinding messages, brand recognition, and contributing to the general pedestrian understanding of the LAC+USC Medical Center campus environment.

Pedestrian signs are typically located on new freestanding pole supports, on existing structures such as lights poles and also on wall surfaces. Site and architectural conditions, budget, and visibility all contribute to choosing which style of pedestrian sign is appropriate to a given location.

The "Access Route" overhead directional sign shown here is of particular value within the LAC+USC campus as many important access routes such as stairways and paths are currently unmarked and are stand alone locations without surrounding architectural features. These signs, as with many of the signs outlined on these pages, serve to help provide connections and continuity, linking people to the next access point on their route.

The Wellness Center is one of many new destinations on the LAC+USC Medical Center Campus. Located on the first floor of the historic General Hospital, the Wellness Center could benefit from large-scale custom banners to help identify and promote this new programmatic offering on the campus.

A bold, colorful, yet temporary solution to identify this new destination can be achieved through the use of banners mounted to the facade of the historic building, without compromise to the structure. Additional banners can be located strategically throughout the campus as well to help direct patients to this new destination. Once there, interpretive signs will guide them through the programmed activities prescribed by their healthcare providers.



5.114 Historic General Hospital



Smaller scale exterior wall-mounted identification signs located adjacent to the entry on the building could be very effective. When mounting onto the historic structure, attachments must be designed in a way not to damage or compromise the building facade.

5.115 Wellness Center Identification Sign

The LAC+USC campus offers many services to a broad range of users. Currently, many building and infrastructure surfaces which provide good visibility are architecturally blank and without messaging or graphics.

Integrated wall graphics could serve to welcome visitors to the site, explain and highlight healthcare services and expand the LAC+USC communications strategies. Related messages such as core values and upcoming community events could also be featured.

Streetscape areas on the site perimeter and within the campus are either without graphics or display banners that are too small and inconsistently used. A coordinated graphics system installed along major access routes such as Marengo Street, North Mission Road and North State Street could deliver messaging and mark the site perimeter.

Digitally printed vinyl supergraphics could be secured to existing wall surfaces or infrastructure elements and provide bold messaging to a wide audience with minimal cost and maintenance. Wall mounted external light fixtures would greatly enhance their visibility.



5.116 Marengo Street Pedestrian Bridge from Parking



5.117 Street Light Pole Banners

Banners and temporary graphics are an efficient way to animate pedestrian spaces, deliver brand messaging to vehicular traffic and generally make visible the current events, services and people of LAC+USC Medical Center.

The large pole mounted site banners shown here are for use in larger open spaces and at the site perimeter. The footprint of these banners is quite small. However the visual impact of bold graphics and color can be quite powerful. Banners are illuminated using existing ambient light sources and may be left in use without maintenance for extended periods of time.

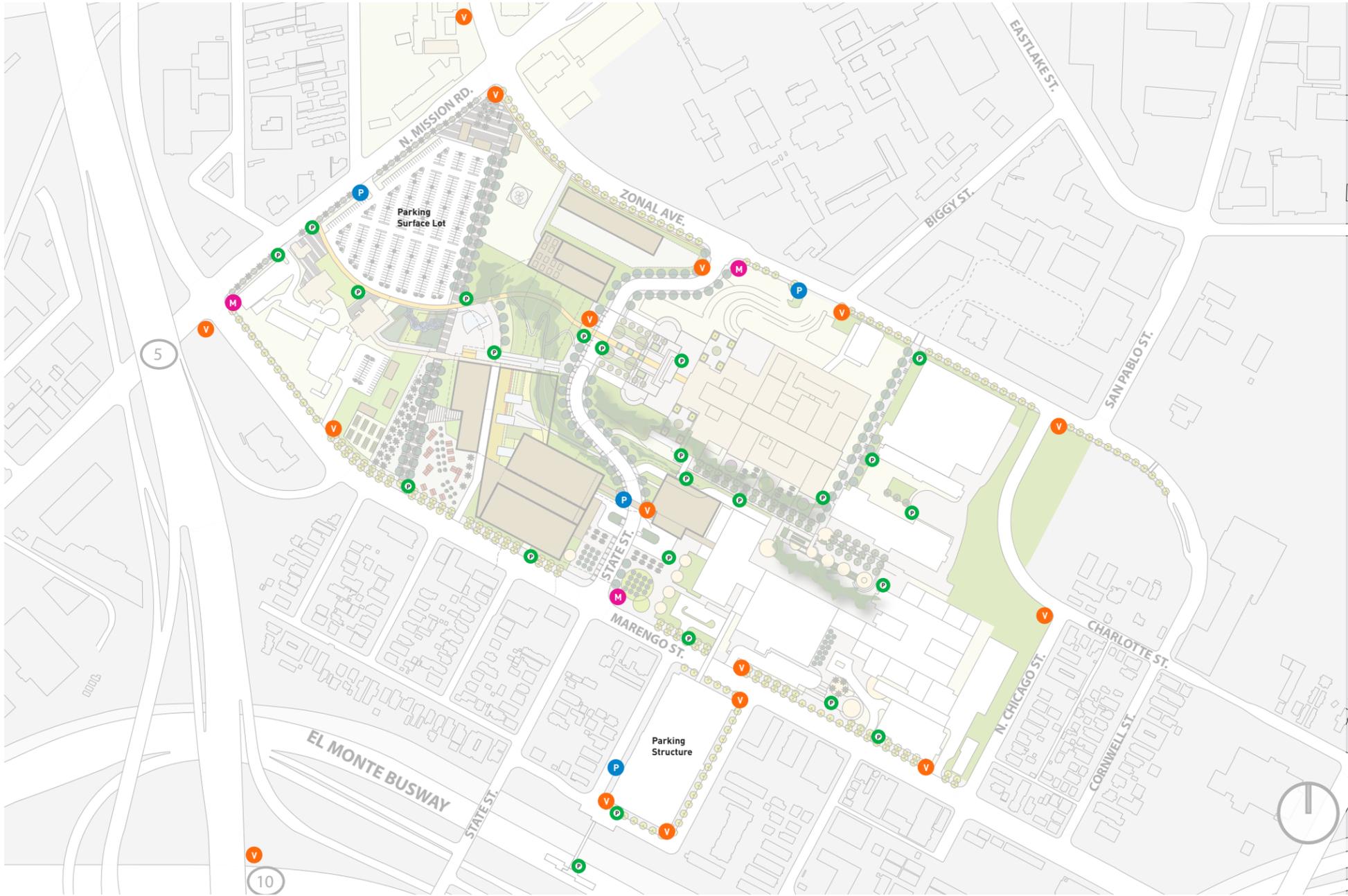
The small pole mounted banners are intended for use on existing light poles which may be found within and along the perimeter of the project site. A coordinated installation of multiple banner designs featuring images, clear text and brand messaging is an effective way to delineate the site perimeter and deliver update able information.

In both cases, we are showing multiple banner designs which may utilize images, text, pattern and color. Graphics in all cases should be kept bold, and checked for legibility. Vehicular based viewers in particular must be delivered clear and limited messages which will still be legible within the busy streetscape context.

Figure 5.118 is a compilation of the different types of site, vehicular, and pedestrian signage approaches that could be applied to different areas of the site to improve the wayfinding experience for visitors and patients for proposed Phase 1 projects. The types of signs, and recommended locations, are consistent with the strategies and approaches described earlier in this section of the report.

Phase One Sign Location Plan

- M** Identity Monument
- V** Vehicular Wayfinding
- P** Parking ID/Wayfinding
- P** Pedestrian Wayfinding



5.118 Phase One Sign Location Plan



SUMMARY | 6.0



## LAC+USC Medical Center Master Plan

The Master Plan outlines recommended zones for development as well as zones intended to be left undeveloped. This distinction is important because one of the stated goals of the master planning process was to identify ways for LAC+USC Medical Center to “develop a community-friendly LAC+USC campus to promote healthy lifestyles that melds the needs to the surrounding communities, constituents served, and existing operations.”

The Master Plan has identified development zones for future growth, where the zones represent separate functionally relevant areas of the campus. The intent is to appropriately group related functions to achieve efficiencies of use, economies of scale, and synergies to attract more development.

The Robert Wood Johnson Foundation has found that the life expectancy of children can be predicted by their zip codes. Neighborhood design and public health benefits are integrally linked. LAC+USC Medical Center is very much a neighborhood asset and resource to its surrounding communities. The push towards “healthy communities” and the incentives for improving population health are examples of how the Medical Center can play an increasingly active and influential role in achieving wellness and community health.

Many of the initiatives to promote community health are reflected in the Master Plan’s intent to reinvigorate the existing campus, and to better integrate the campus with its surrounding communities. Master Plan proposals for campus development can directly affect neighborhood and public health. Such proposals include:

- Providing easier access to healthy foods can lead to lower rates of obesity and disease
- Variety of institutional functions which can lead to increased walking
- Availability of park-like settings which can lead to increased physical activities
- Enhanced site safety which can lead to higher levels of local community resident participation and outdoor activities

- Improved transportation capacity which can lead to enhanced access to health education, clinics, and treatment
- Development opportunities on the site which can lead to economic development and job creation

These are all positive health-driven initiatives to improve and enhance population health. While attempts are made to create open and useful spaces, there is also the imperative to plan for and preserve development options for the full range of medical services that exist on the campus today.

The Master Plan effectively plans and preserves land for expanded onsite outpatient clinic services as well as future growth for inpatient bed expansions. There is no time frame for this type of development. The healthcare industry is currently extremely fluid with healthcare reform just beginning to be implemented.

The public outreach efforts associated with this Master Plan were extensive and encouraged participation and engagement. The concerns of local residents were expressed and integrated into the master planning process. There is a balance of both institutional and community needs that is reflected in the Master Plan.

Attempts have been made to identify potential or likely short-term phases of development. Having a concrete phasing plan is challenging since the availability of funding for initial projects will ultimately be a significant influence in how and when initial projects are developed.

The Master Plan is fluid enough to accommodate phasing of projects in a variety of sequences. The initial phases of Phase 1 should, however, be viewed as necessary first steps in achieving the longer-term goals of the LAC+USC Medical Center Master Plan.



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ACCESS AND CIRCULATION RECOMMENDATIONS

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## **B - List of Supporting Documents**

The following documents were produced in support of the Master Plan and were published separately from this report:

- 1. Assessment Report**
- 2. Community Outreach Report**
- 3. Inpatient Bed Addition Feasibility Study**
- 4. Exhibits**
  - A. Water Conveyance Concept Plan
  - B. Existing Utilities Tables
  - C. Fire Service Pressure Flow Test Results
  - D. Easements and Encumbrances Exhibits
  - E. Stormwater Exhibit

### C - General Hospital Room Survey

	A	B	D	E	F	G	H	I	J	K	L	M	N	O	
1	<b>July 16th, 2013 - LAC + USC Old General Hospital Building Room Survey - Basement, 1st, 2nd, 3rd and 4th Floors</b>														
2															
3	<b>Area Calculations for Possible New Administration Building</b>														
4															
5	Floor	Department or Functional Use	Approximate SF (Net SF)	# of Occupants	Remarks	USC	DHS Staff	Physicians Only	SF Assigned to USC & DHS (non-MD) Staff (75 SF)	SF Assigned to MD Office (100 SF)	Projected Net SF Required	Net SF Extrapolated to Bldg Gross (1.65 x net)	Allowance for 10% Growth of Building Occupants		
6									75	100		1.65	110%		
7	Basement	Telecom	250	2			2								
8	Basement	Facilities Management Administration and Crafts	67,827	11			11								
9	Basement	Health Information Management	32,914	359			359								
10	Basement	Sheriffs Locker Room	1,340	fluid											
11	Basement	Public Works	600	2			2								
12	Basement	Operation Supply Chain Management	3,000	5			5								
13	Basement	Property Control	652	5			5								
14		<b>SUBTOTAL</b>					<b>384</b>								
15															
16	1st	Sheriff's Department	11,477	45	Department includes office, locker rooms, gym, sleeping rooms, storage area - possible move up on 2nd floor		45								
17	1st	Sheriff's Department	see above	8			8								
18	1st	Sheriff department - Jail Ward	see above	200			200								
19	1st	Medical Student/Lounge Office	700	5			5		375						
20	1st	CARES	4,174	5	Volunteers		5		375						
21	1st	Child CARES	see above	2	Volunteers		2		150						
22	1st	CARES Gift Shop	see above	4			4		300						
23	1st	Credit Union Office	766	4			4		300						
24	1st	CARES	see above	1			1		75						
25	1st	Cafeteria	9,638	3			3								
26	1st	GI to HS Special Projects Integrated Programs	1,200	4			4		300						
27	1st	ER Office (Dr. Russell)	200	1	Physician		1	1		100					
28	1st	Navy Trauma Training Center	8,000	11	Plus up to 24 Students during school time		11		825						
29	1st	Office of Emergency Management (former ER)	8,000	9	Physicians		5	4	375	400					
30	1st	Department of Emergency Services	12,000	30			30		2,250						
31	1st	Cashiers Office	500	6			6		450						
32		<b>SUBTOTAL</b>					<b>334</b>	<b>5</b>	<b>5,775</b>	<b>500</b>					



### C - General Hospital Room Survey (continued)

	A	B	D	E	F	G	H	I	J	K	L	M	N	O
1	<b>July 16th, 2013 - LAC + USC Old General Hospital Building Room Survey - Basement, 1st, 2nd, 3rd and 4th Floors</b>													
2														
3	<b>Area Calculations for Possible New Administration Building</b>													
4														
5	Floor	Department or Functional Use	Approximate SF (Net SF)	# of Occupants	Remarks	USC	DHS Staff	Physicians Only	SF Assigned to USC & DHS (non-MD) Staff (75 SF)	SF Assigned to MD Office (100 SF)	Projected Net SF Required	Net SF Extrapolated to Bldg Gross (1.65 x net)	Allowance for 10% Growth of Building Occupants	
33														
34	2nd	2450 Psychiatry	690	10	2 Physicians	1	7	2	600	200				
35	2nd	2850 Securitas Office	380	3			3		225					
36	2nd	Patient Financial Services	250	4			4		300					
37	2nd	Patient Financial Services	220	4			4		300					
38		<b>SUBTOTAL</b>				<b>1</b>	<b>18</b>	<b>2</b>	<b>1,425</b>	<b>200</b>				
39														
40	3rd	3800 Hematology	8,530	28	4 Physicians, 3 residents	2	18	8	1,500	800				
41	3rd	Hematopathology	4,407	19		5		14		1,400				
42	3rd	Orthopaedic Surgery	8,530	20	2 more to come in August	9	2	9	825	900				
43	3rd	Radiology	9,891	10			8	2	600	200				
44	3rd	Radiology	see above	16		3	1	12	300	1,200				
45	3rd	Radiology Research	see above	14		7	7		1,050					
46	3rd	3300 Neurosurgery Suite	3,559	40		40			3,000					
47	3rd	3250 Dermatology	2,411	25		13	12		1,875					
48	3rd	3220 Cardiology	1,449	3			3		225					
49	3rd	3000 Urology Surgery Administration	1426	5	2 Physicians, 1 Resident		2	3	150	300				
50	3rd	HIM Quality Assurance	2,610	45	2 shifts, 23 and 22		45		3,375					
51		<b>SUBTOTAL</b>				<b>79</b>	<b>98</b>	<b>48</b>	<b>12,900</b>	<b>4,800</b>				
52														
53	4th	Maternal Child Adolescent	900	12		12			900					
54	4th	Respiratory Therapy	192	1			1		75					
55	4th	ENT	4,397	14	6 Physicians	8		6		600				
56	4th	Nursing Department - Wound Clinic	733	3			3		225					
57	4th	Nursing Department	5,937	11	Archive records of people that retire or leave. On records for 5 years		11		825					
58	4th	Health Information Management - Medical records - Unpatient / Outpatient	7,217	63	2 shifts, 38 and 25		63		4,725					
59	4th	Drug Information	314	3			3		225					

### C - General Hospital Room Survey (continued)

	A	B	D	E	F	G	H	I	J	K	L	M	N	O
1	<b>July 16th, 2013 - LAC + USC Old General Hospital Building Room Survey - Basement, 1st, 2nd, 3rd and 4th Floors</b>													
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3	<b>Area Calculations for Possible New Administration Building</b>													
4														
5	Floor	Department or Functional Use	Approximate SF (Net SF)	# of Occupants	Remarks	USC	DHS Staff	Physicians Only	SF Assigned to USC & DHS (non-MD) Staff (75 SF)	SF Assigned to MD Office (100 SF)	Projected Net SF Required	Net SF Extrapolated to Bldg Gross (1.65 x net)	Allowance for 10% Growth of Building Occupants	
60	4th	Healthy Way LA	460	9			9		675					
61	4th	PFS Storage	6,888											
62	4th	Total Parental Nutrition (TPN)	411	2			2		150					
63	4th	Dr. Jay Zhu - Surgical Dept.	160	1			1		75					
64	4th	Trauma Program Office	2,712	16	2 Vacant positions	1	15		1,200					
65	4th	Organ Donor Office	156	1			1	1	75	100				
66	4ht	Patient safety	1,004	3			3		225					
67	4th	Public Health Sexually Transmitted Disease	292	2			2		150					
68	4th	Institutional Review Board (IRB)	2,744	16		16			1,200					
69	4th	Surgery Anesthesia	1,912	50	2 shifts, 24 and 26	50			3,750					
70	4th	Surgery USC Staff	3,100	4		4			300					
71	<b>SUBTOTAL</b>					<b>91</b>	<b>114</b>	<b>7</b>	<b>14,775</b>	<b>700</b>				
72	<b>TOTAL</b>		<b>119,422</b>						<b>34,875</b>	<b>6,200</b>	<b>41,075</b>	<b>67,774</b>	<b>74,551</b>	
73														
74	Services or programs most likely to be relocated from General Hospital to a new office building on site.													
75														
76	1 Information (Columns A thru I) were provided by LAC+USC Medical Center staff (Terence Mc Neal). Information was further confirmed in a survey (July 16, 2013) with Julius Costescu (LBL), accompanied by Mr. Mc Neal. Reporting of # of occupants in specific rooms or spaces were from occupants within the rooms surveyed, or were previously documented by Mr. Mc Neal. Identification of those categorized as "USC or DHS" staff were also provided by either Mr. Mc Neal and/or the existing occupants of the spaces being surveyed.													

## D - Technical Design Guidelines

The following design guideline presents the more technical components of the Master Plan, addressing specific recommendations for building and site utilities, parking, and vehicle and pedestrian circulation. As a design guideline it is intended to provide a general framework for future site development and construction on the campus, and is not intended for use in final systems selection, pricing, or purchasing of equipment and components.

### Infrastructure & Central Plant Recommendations

#### Chilled Water System

The new chilled water system of chillers, cooling towers, pumps, and associated system components shall be located in the proposed Central Utility Plant (CUP) to deliver chilled water via site distribution piping to all proposed buildings, the existing General Hospital, the existing Intern and Residents building, the existing Medical Examiner, and existing Old Administration buildings. These buildings will not be and are not under the jurisdiction of OSHPD, therefore, the proposed CUP will not and need not be built to comply with OSHPD's requirements.

The proposed CUP will be located at the north side of the site at the northwest corner of Zonal Avenue and State Street. This location provides easy truck access to the proposed CUP and ease of maintenance, and is away from the proposed buildings so that it does not obstruct the site, landscape, or building planning and layout.

A centralized chilled water plant is considered over a decentralized plant (each building has its own chilled water plant) for to the following reasons:

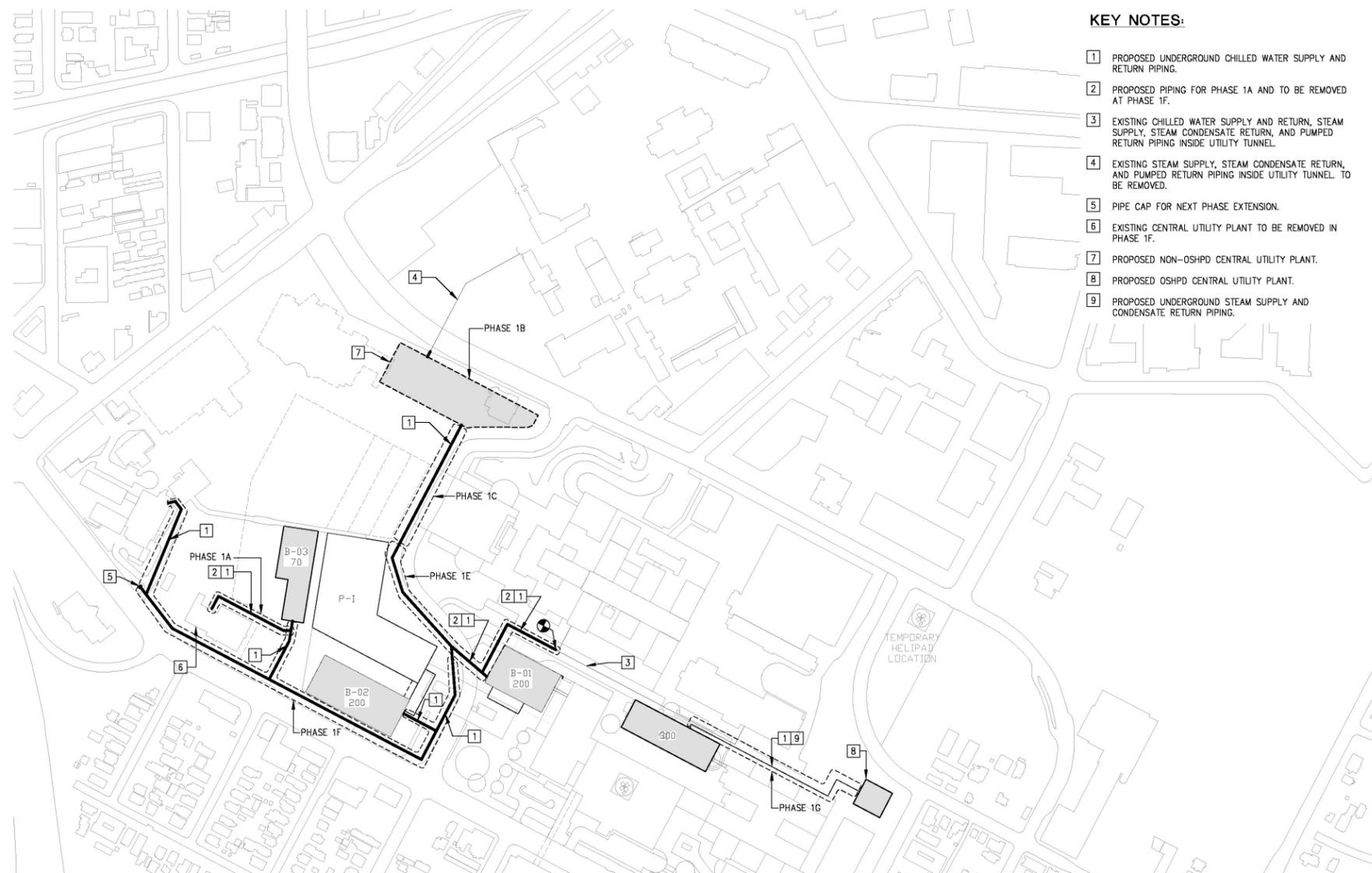
- A central chilled water plant allows for diversity of equipment capacity. Multiple buildings can share the common equipment. Therefore, when the building(s) do not require the maximum cooling capacity, energy can be shifted to other buildings requiring more energy, and/or the chillers can be operated in reduced capacity, thus, saving energy.
- Staging the operation of multiple pieces of equipment increases system efficiency.
- A central chilled water plant offers greater flexibility for future expansion. It is easier to expand capacity at a central location than

at individual buildings. This also reduces total equipment space requirements.

- Locating large equipment (i.e., chillers, pumps, and cooling towers) at a central plant, remote from tenant/user space, reduces noise

and vibration at each building.

- A centralized chilled water plant provides more efficient maintenance cost and serviceability.



#### KEY NOTES:

- 1 PROPOSED UNDERGROUND CHILLED WATER SUPPLY AND RETURN PIPING.
- 2 PROPOSED PIPING FOR PHASE 1A AND TO BE REMOVED AT PHASE 1F.
- 3 EXISTING CHILLED WATER SUPPLY AND RETURN, STEAM SUPPLY, STEAM CONDENSATE RETURN, AND PUMPED RETURN PIPING INSIDE UTILITY TUNNEL.
- 4 EXISTING STEAM SUPPLY, STEAM CONDENSATE RETURN, AND PUMPED RETURN PIPING INSIDE UTILITY TUNNEL. TO BE REMOVED.
- 5 PIPE CAP FOR NEXT PHASE EXTENSION.
- 6 EXISTING CENTRAL UTILITY PLANT TO BE REMOVED IN PHASE 1F.
- 7 PROPOSED NON-OSHPD CENTRAL UTILITY PLANT.
- 8 PROPOSED OSHPD CENTRAL UTILITY PLANT.
- 9 PROPOSED UNDERGROUND STEAM SUPPLY AND CONDENSATE RETURN PIPING.

M-1 Phase 1 Chilled Water Piping Distribution

## D - Technical Design Guidelines (continued)

The equipment will have the capacity to serve Phase 1 requirements. However, the central plant will be designed and built so that it will have space to accommodate equipment expansion in future phases.

### Chilled Water Site Distribution

#### Phase 1

Per the Master Plan phasing sequence, Phase 1A consists of a proposed office building, B-03. Due to logistics, planning, and phasing reasons, Building B-03 will be built before the other proposed buildings and the proposed CUP.

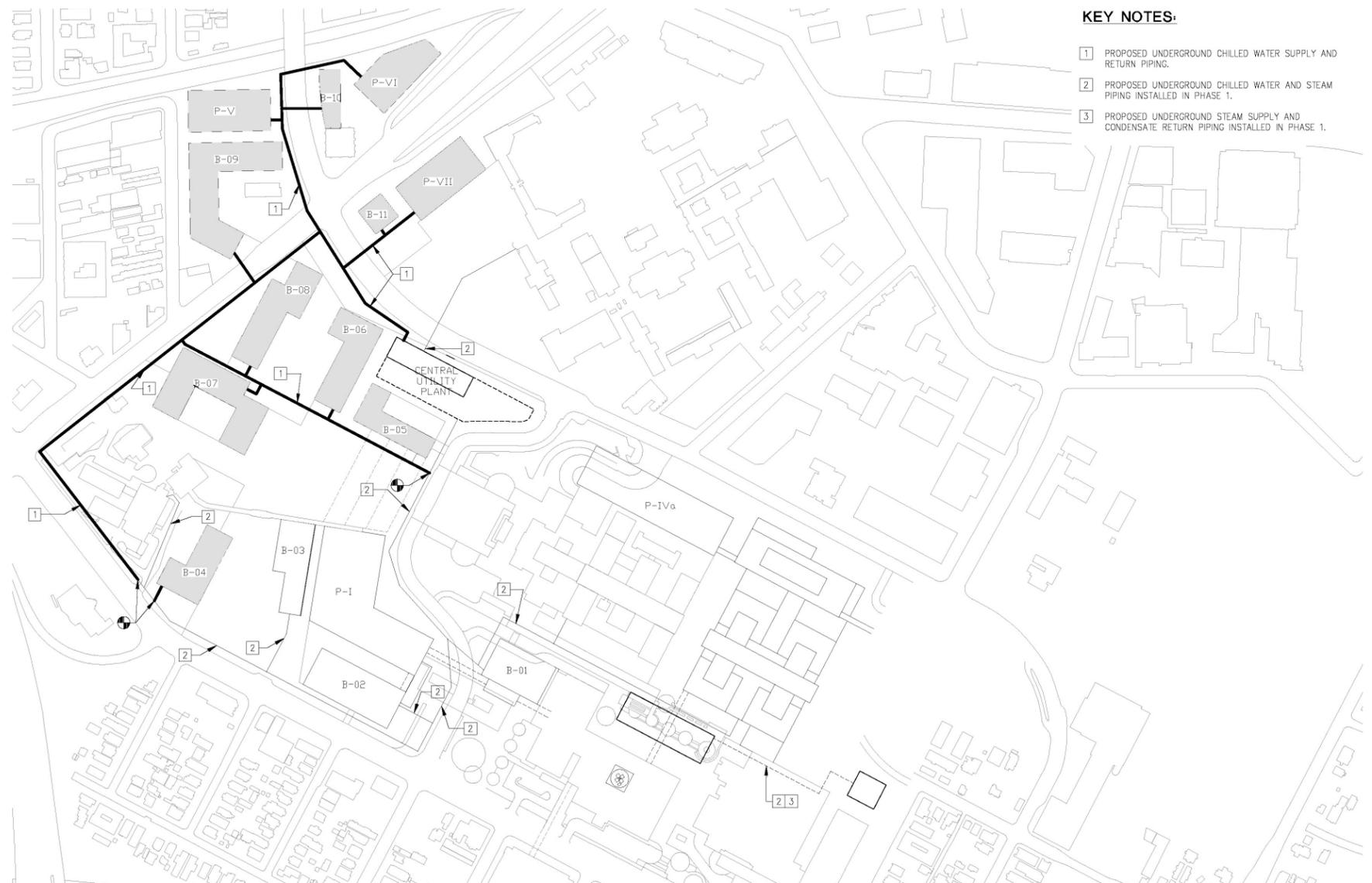
In addition, because of Building B-03's location, new chilled water piping will be extended from the existing Original CUP located in the southwest corner of the site to serve Building B-03. Building B-03 requires approximately 270 ton, with the reduced usage of the existing Hospital, it appears the Original CUP chilled water plant has adequate capacity to serve the proposed Building B-03. Once the proposed site chilled water piping is installed and completed in Phase 1, Building B-03 will be switched over to the new CUP. The original CUP will then be removed.

The proposed CUP will be built in Phase 1B. The site distribution piping will be built in sections to follow the phasing in accordance with the Master Plan phasing plan. See figure M-1 for the Phase 1 site distribution piping layout. The existing General Hospital, existing Intern Residence, existing Medical Examiner, and existing Old Administration buildings will be switched over from the existing original CUP to the proposed chilled water distribution system.

#### Phases 2 and 3

Phases 2 and 3 consist of the proposed buildings at the west and northwest side of the site. The proposed site distribution piping for these phases is shown on figure M-2.

The chilled water site distribution system will ultimately form a complete loop as indicated in figure M-3. However, because there are distinct phases the chilled water piping loop will not be completed until Phase 2 is implemented.

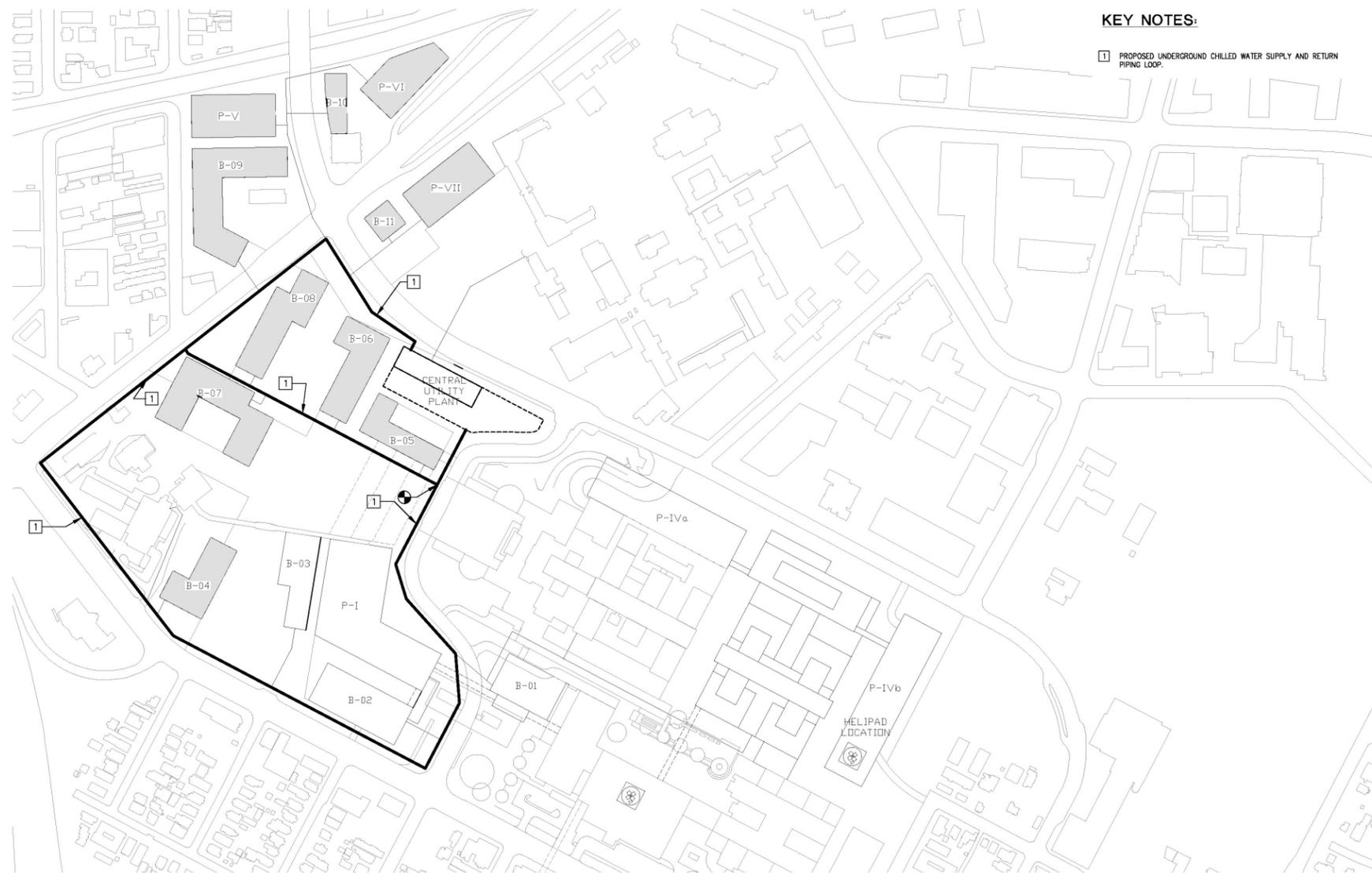


M-2 Phases 2 and 3 Chilled Water Piping Distribution

## D - Technical Design Guidelines (continued)

- A piping loop will provide redundancy and continued service, thus, improving and enhancing reliability of the chilled water service to the campus buildings. For example, if there is a breakage in the main pipe between Buildings B-02 and B-04, with the piping loop system, chilled water will still be able to serve Buildings B-02 and

B-04 from a different path in the loop system. The same concept applies to other locations. Compared to a site distribution system without a piping loop, when a pipe breakage occurs, chilled water service will be interrupted, since there is no other path for the chilled water to serve the building.



M-3 Complete Chilled Water Piping Loop

- Sectionalizing valves will be strategically provided in the main piping loop to allow piping sections isolation.

Based on the Master Plan programming and site building layout, branch valves for all proposed buildings will be provided at the main piping loop, so that when the future proposed building is built, the branch valves are already in place and new branch piping can be extended to the proposed building without interruption to the chilled water service.

The chilled water site distribution piping will be adequately sized to accommodate all the proposed buildings in the Master Plan, plus a minimum of 10% additional capacity to take care of piping's aging effects and unforeseen future growth.

The chilled water site distribution system will be a high-energy-efficient system designed so that the chilled water pumping system in the proposed CUP will have adequate pressure for the main distribution piping loop pressure drop only. The pressure drop of the branch piping and the piping inside the proposed building will be handled by the corresponding proposed building chilled water pumps.

The site distribution piping can be direct-burial pre-insulated pipe, or can be placed inside a utility tunnel.

### Steam

Since the proposed buildings, except the Inpatient Building, are mainly office and laboratory buildings and do not require steam service in general, a central steam generation plant will not be provided, for the following reasons:

- A central steam generation plant will require a site distribution piping system, consisting of steam supply pipe, gravity condensate pipe, pumped condensate return pipe, valving, and steam traps. Steam traps have a tendency to leak requiring high maintenance costs.
- There is an energy penalty to create steam and then convert steam to space heating hot water and domestic hot water, since the majority of the steam requirements for these types of office and lab buildings are for space hot water heating and domestic hot water usage.

## D - Technical Design Guidelines (continued)

- Energy loss will occur in the site distribution piping (condensation occurs in the steam pipe and traps are needed for condensation removal), which presents another energy penalty.
- Condensate pump is required in each building to pump the steam condensate occurring inside each building back to the CUP. Additional energy is required to accomplish this, thus increasing energy costs.

If there are any requirements for small steam usage for laboratory equipment (i.e., sterilizers), localized electric steam generators will be used for cost and energy efficiency.

The existing General Hospital, Medical Examiner building, Old Administration building, and Juvenile Hall receive steam from the existing original CUP for space heating and domestic hot water. For better life cycle cost (energy, maintenance, and capital costs plus the issues associated with the steam site distribution issue as stated above), natural gas-fired high-energy-efficiency water boilers will be provided for space heating and water heaters for domestic hot water at each of these buildings.

### Space Heating Hot Water

As discussed and mentioned in the above Steam section, new natural gas-fired high-efficiency hydronic hot water boilers, pumps, and associated system components will be provided at each of the proposed buildings.

### Controls

There are two existing building automation systems (BAS) in this site: one is located in the existing LAC+USC Hospital Replacement project Central Utility Plant, and the other is located in the Original Central Utility Plant at the southwest corner of the site. Each existing BAS controls and monitors their corresponding equipment and systems. These two existing BAS are standalone, are not connected, and do not communicate with each other.

All new equipment such as chillers, cooling towers, water plant, boilers, air handling units, fans, etc., will be connected to the existing BAS in the existing LAC+USC Hospital Replacement Central Utility Plant to become a one-control system. A new Central Control Station (CCS) consisting

of a personal computer, color monitor, and printer will be installed in the proposed Central Utility Plant's (CUP) Engineer's Office as a back-up and auxiliary CCS to the existing CCS in the existing LAC+USC Hospital Replacement CUP.

Per the Master Plan phasing sequence, the existing BAS in the Original CUP will be removed in Phase 1.

### Sustainable Design

In an effort to reduce energy consumption and conserve natural resources, the design team shall incorporate sustainable design features into the buildings and systems to the extent possible. Building projects shall be LEED® certified for silver, as the minimum.

The design shall meet or exceed the baseline energy model in accordance with the latest adopted ASHRAE 90.1 or Title 24 requirements. The most stringent shall govern.

### Electrical

#### Normal Power Service:

The existing electrical service from the Los Angeles Department of Water and Power (LADWP) will remain and continue to serve the existing General Hospital and other remaining facilities.

The new service from LADWP will be centralized to serve as many buildings as possible, thus reducing the number of service meters on the campus, and providing service efficiently at lower energy rates. The centralized service will take advantage of diverse loads on multiple buildings, which will result in lower operating costs.

The service on campus will be distributed at 4160 volts to serve long distances. The voltage to be confirmed during the Design Phase.

The parcels separated by the city streets, such as Zonal and Mission, will have a separate electrical service on each parcel.

#### Electrical Distribution:

The centralized service will be routed via underground concrete encased ductbanks with a series of manholes to each building.

At each building, there will be a substation to provide service at nominal

480/277 volt, 3 phase, 4 wire system. Each substation will include metering for the facility to measure and optimize the system.

Each substation will have provisions to connect the local photovoltaic system at each building.

Transformers will be dry type, in lieu of oil (liquid) type, to reduce flammable fluid on campus.

#### Emergency Power Systems:

The extant diesel generators at the General Hospital will remain and continue to serve the existing load.

The new emergency power service will be centralized and provided by multiple diesel generators. They will be housed in an outdoor yard. The preferred location will be a new Central Utility Plant. Localized generators at remote buildings may be reviewed in future design phases. A centralized system will be efficient and will reduce the management of diesel fuel and testing of generators at each building.

The parcels separated by the city streets will have separate emergency generators on each parcel.

#### Exterior Lighting:

Light fixtures will be dark sky, compliant with fixture output that will have zero degree cut-off to minimize light pollution.

The lighting design will limit the light trespass on adjacent properties.

The most energy efficient and long-life sources such as "LED" lamps will be utilized where appropriate, to reduce overall energy and maintenance.

The lighting will be controlled via photocell, occupancy sensors and dimmable as appropriate to minimize over-illumination and sustainability. Interior Lighting:

Use of natural light will be optimized and use of artificial lighting will be minimized during the day with daylighting photocell, occupancy sensors, and dimming control to reduce energy consumption and extend the life of the lamps.

## D - Technical Design Guidelines (continued)

Interior lighting at the perimeter will be designed to minimize light pollution at night.

### **Communication System:**

#### Fire Alarm System:

A new fire alarm main panel will be located in the new Central Utility Plant. The fire alarm system will be addressable, networked, and ADA compliant.

Each building will have standalone fire alarm panels to serve the building. The fire alarm panels will be connected via an underground fiber optic network and will report to the new Central Utility Plant.

#### Voice/Data System:

The existing Campus IT Hub Building is located east of State Street and south of the General Hospital building. New underground conduit ductbanks will be distributed from the IT Hub Building to each new building. The underground ductbanks and manholes will follow similar routes to the electrical underground distribution. There will be manholes at each building.

### **Plumbing**

#### Domestic Cold Water

The proposed site domestic cold water distribution piping will serve each proposed building

#### Domestic Hot Water

New natural gas-fired high-efficiency domestic hot water heaters, pumps and associated system components will be provided at each proposed building and the General Hospital, Medical Examiner building, Old Administration building, and Juvenile Hall.

### **Natural Gas System**

New natural gas site distribution piping will be brought to each building to serve the proposed space heating hot water boilers and domestic hot water heaters, and where required by program. Main gas shut-off valves, seismic valves, and meters will be provide at each building.

#### Laboratory Gas

If laboratory gas such as oxygen, nitrogen, etc., is required, local bottles and manifolds will be provided for cost effectiveness.

#### Laboratory Compressed Air and Vacuum

Localized or centralized systems will be provided based on program requirements.

## D - Technical Design Guidelines (continued)

### Civil/Site Utility Recommendations

#### Site Overview

The information provided here summarizes the civil-related opportunities and constraints in regard to the proposed Master Plan for the existing LAC+USC Medical Center.

The project site is bounded by North Cummings Street to the east, Marengo Street to the south, North Mission Road to the west, and Zonal Avenue to the north. North State Street, running in a north-south direction, bisects the project site between North Mission Road and North Cummings Street. The project site is located within Los Angeles County and is surrounded by the City of Los Angeles on all sides.

Existing utility maps and as-built drawings for the project vicinity, together with Navigate LA from the City of Los Angeles Bureau of Engineering, were collected and analyzed. These drawings included onsite utilities within the medical facility campus, as well as utilities within the public rights-of-way adjacent to the LAC+USC Medical Center. Based on this information and through general discussion with the project MEP, M.E. Engineers, Inc., the chilled water, steam water, and electric power line locations within the study site were determined. A site visit to observe existing conditions on March 29, 2012, was followed by a June 27, 2012, meeting with Medical Center maintenance personnel to discuss the layout, operations, and deficiencies of the current campus utility systems. From this data collection process, the existing water/sewer/storm drain systems were delineated and the team developed a proposed layout for future utility systems. This new utility plan encompasses both Phase 1 Development and the Ultimate Development Conditions as proposed by the Master Plan.

#### Easements

A title review and topographic survey were performed on the study site. Several easements within the site are identified by the Preliminary Title Report prepared by Chicago Title Company, Order No. 12020543-X59, dated September 24, 2012 and are highlighted by Sheet 1 of the Easements/Encumbrances Exhibits in Exhibit D. Easements onsite include two, 2-foot-wide electric utility and telephone easements, a 12-foot-wide sewer easement, and an estimated total of 1.4 acres designated as electric utility and telephone easements to The City of Los Angeles for poles, wires, and transmission purposes. Investigation

of existing onsite conditions shows that there appear to be no utilities within the limits of these easements. A .3-acre easement to the City of Los Angeles near the southwest corner of State Street and Zonal Avenue encompasses the footprint of an existing building. The easement was established for an outdoor-type distributing station for electric energy purposes.

Other onsite easements include a 12-foot-wide private driveway easement, a 6-foot-wide private roadway and parking purposes easement, and a 10-foot-wide ingress and egress easement. The necessity of these easements was terminated by merger: the County of Los Angeles owns both the dominant and servient tenement.

The right-of-way at the southwest corner of North Mission Road and Zonal Avenue extends far beyond the existing back of sidewalk along the west side of North Mission Road. Buildings, fences, and other improvements appurtenant to LAC+USC encroach into this area. There is no record of this land being vacated as a public right-of-way, although it would appear such vacation is warranted. The existing right-of-way for alleys between North Cummings Street and Chicago Street still appear to exist as public streets, although no street improvements are evident. A formal street vacation process would be needed to remove these alleys from the public domain. The original right-of-way for North Cummings Street between Charlotte Street and Marengo Street could be vacated similarly. Street improvements along North Cummings Street at Charlotte were performed in or about 2001 to realign North Cummings Street with its intersection at Zonal Avenue and currently lie outside the public right-of-way limits. There is no evidence on the Title of right-of-way dedication for these street improvements. There also exists no evidence on the Title of right-of-way vacation for the portions of North Cummings Street that were vacated within the project site.

#### Domestic and Fire Water System

There are three major water utility providers in the vicinity of the study site: the Metropolitan Water District of Southern California (MWD), the California Water Service (CWS), and the City of Los Angeles Department of Water and Power (LADWP). The existing water system in the proposed study area is serviced by the LADWP. LADWP as-built plans, the LAC+USC Medical Center Utility System Record Drawings – 1975 by The Ralph M. Parsons Company, and Navigate LA from City of Los Angeles Bureau

of Engineering were used to gather information to analyze existing conditions. The existing water systems are located as follows:

#### Offsite (within the public right-of-way)

1. A 24-inch transmission water line runs along North Mission Road from Zonal Avenue to Marengo Street.
2. An 8-inch transmission water line and an 8-inch fire water line run along Zonal Avenue from North Cummings Street to North Mission Road.
3. A 24-inch water main runs along Marengo Street from North Cummings Street to North Mission Road; a 12-inch and an 8-inch fire water line run from Chicago Street to the existing Diagnostic & Treatment Building.
4. A 6-inch water line runs along North Cummings Street adjacent to the project site.

#### Onsite

The current main water distribution system conveys flow from the offsite main system to the Medical Campus main facilities, providing flow to meet the demands of domestic water service, fire protection, and irrigation. The system is typically constructed of ductile iron pipe (DIP) material.

Existing domestic water service infrastructure sizes range from 2-inch service lines to 8-inch mains. Existing fire protection system service infrastructure sizes range from 4-inch to 6-inch, high-pressure flow lines. Existing irrigation infrastructure sizes range from 1-inch to 3-inch service lines. From the June 27, 2012 meeting it was determined that the existing domestic water, fire, and irrigation system utilities have met their design service life expectancy and are currently rated as “Poor” condition. An existing Fire Service Pressure Flow Test was requested and reports were obtained from the Los Angeles Department of Water and Power, City of Los Angeles. Test results are presented in Exhibit C.

The proposed master plan development will require modification of existing domestic water and fire water systems. The proposed water conveyance system is designed to closely match the existing conveyance system, with a looped and combined domestic and fire water network developed for the Ultimate Development Condition. The similarly looped, Phase 1 water conveyance system is designed to anticipate the Ultimate

## D - Technical Design Guidelines (continued)

Development Condition as much as possible, to obviate or minimize future removal and reconstruction. Because the existing water system is in “Poor” condition, replacing the aging pipes with new pipes made from stronger material is recommended – to the extent allowed by budget – to ensure a system that will provide improved and long-lasting service for the future.

The existing and proposed domestic and fire water systems for both the Ultimate Development Condition and the Phase 1 Development Condition can be found in the Water Conveyance Concept Plan in Exhibit A.

### Sewer

The existing sewer lines within the public rights-of-way adjacent to the proposed study site are owned by the City of Los Angeles. Sewer as-built plans, the LAC/USC Medical Center Utility Systems Record Drawings – 1975 by The Ralph M. Parsons Company, and Navigate LA from the City of Los Angeles Bureau of Engineering were collected and compiled to evaluate existing conditions. The existing sewer lines (their sizes, types, slopes, and capacities) are summarized in the Existing Utilities Tables in Exhibit B. These data were developed using the aforementioned reference documents, combined with reports in Navigate LA's vault of records that are generated for every sewer pipe segment.

The existing sewer system within the project study area is serviced by the City of Los Angeles, Hyperion Sanitary Sewer System. The project site is located in the Lincoln Heights Basin of the City of Los Angeles Sanitary Sewer System Primary Basins. The sanitary sewer system backbone that services this area of the City is the North East Interceptor Sewer (NEIS) interceptor.

Proposed master plan development of the site will require modifications to the existing sewer systems. The proposed sewer conveyance system closely matches the existing conveyance system with the Phase 1 Development Condition sewer system designed to anticipate the Ultimate Development Condition as much as possible to avoid or minimize future reconstruction. Service will be maintained during construction at all times.

The existing and proposed sewer conveyance water systems for both Phase 1 and the Ultimate Development Conditions can be found in Exhibit A.

### Integrated Stormwater Management and Sustainability

#### Existing Storm Drains

Information and plans for both existing offsite and onsite storm drain systems were obtained from the City of Los Angeles, the County of Los Angeles Flood Control District (LAFCD), and LAC/USC Medical Center Utility System Record Drawings – 1975 prepared by The Ralph M. Parsons Company. A tabular summary of the existing storm drain systems is in Exhibit B, with locations shown on the Existing Storm Drain Conveyance Plan in Exhibit A. The large storm drain systems D-5999 and D-26567 run north-to-south through the west campus area. These existing drains eventually join together offsite, south of the I-10 freeway, and ultimately carry stormwater to the Los Angeles River.

#### Grading and Stormwater Management

Based on existing topographical information, conceptual grading and a proposed stormwater management system were developed for the Master Plan in accordance with Los Angeles County Low Impact Development (LID) Standards for both Phase 1 Development and the Ultimate Development Conditions. In general, new grading will closely follow existing contours and direct stormwater runoff toward the center of the west campus; cut and fill will be balanced.

The new storm drain system will be also designed to follow the proposed grading conditions, flowing first to the detention/retention areas located approximately at the center of new development on the west campus, before being released to the County/City storm drain system. The *Los Angeles County Low-Impact Development (LID) Standards Manual of 2009* outlines the requirements for stormwater management in the County. Specifically, the manual establishes criteria for stormwater treatment, hydromodification, and low-impact development (LID). LID is a stormwater management approach that seeks to mimic undeveloped site hydrology by the developed site. The Los Angeles County LID Manual establishes a hierarchy of Best Management Practices (BMPs) to be used for developed sites in the following order of preference:

1. Infiltration BMPs
2. Storage and Reuse BMPs
3. Filtration and Biofiltration BMPs

To the extent it is technically feasible, a developed site is required to capture, infiltrate, or reuse the difference in volume generated during a

0.75-inch storm event on the developed site versus that generated by the same event on the site in an undeveloped – that is to say, 0% impervious – condition. In addition, a developed site is required to treat the entire 0.75-inch rainfall to remove urban stormwater pollution. These volume and treatment objectives can be met by the same BMP, or, alternatively, by separate BMPs. The Stormwater Exhibit found in Exhibit E depicts how several potential LID strategies might be employed to provide both alternative volume and flow rate BMPs.

In addition to the LID requirements set forth in the manual, the County also establishes hydromodification requirements that prescribe the differences in peak flow rate, flow velocity, total volume, and depth/width of flow for 2-, 5-, 10-, 25-, and 50-year storms, with several exceptions. One exception is that a proposed project should not add impervious area beyond that which already exists in the pre-construction condition. Since the fully developed campus will be highly impervious, such hydromodification requirements will likely not apply.

#### Sustainability

Sustainable site design considerations pertinent to the proposed Master Plan include the post-development reduction of existing onsite impervious areas and the installation of ground water recharge systems. Because the proposed campus master plan layout will substantially increase pervious surface area throughout the site, the calculated overall campus peak flow will be reduced, when compared to the current existing conditions. The ground water recharge system proposed for this project, as called for by the Los Angeles County LID requirements discussed above, will further reduce the amount of stormwater impacting the existing storm drain system. Other project sustainability goals (including harvesting urban runoff for irrigation, treatment, and infiltration) can also be met through this integrated stormwater management approach.

With the increase in pervious area and the implementation of the County LID Standards, detaining the proposed Master Plan development's flow onsite so as not to exceed the site's existing design flow rates appears possible, thus eliminating storm drainage as a limiting factor to the site's redevelopment. Hydrology/hydraulic calculations were performed for the site and can be referenced in the Hydrology Report [publication pending] created for the project site.

## D - Technical Design Guidelines (continued)

### Access and Circulation Recommendations

#### Vehicular Access and Circulation

The LAC+USC Medical Center is located approximately 3 miles northeast of the center of downtown Los Angeles, just east of the Golden State Freeway (I-5) and north of the San Bernardino Freeway (I-10). The medical center generally bounded by Marengo Street to the south, Mission Road to the west, and Zonal Avenue to the north. The study area is served by a series of roadways, including several major freeways, major highways, and a network of collector and local streets. These roadway categories reflect the current classifications employed by the City of Los Angeles, as illustrated in Figure 1.

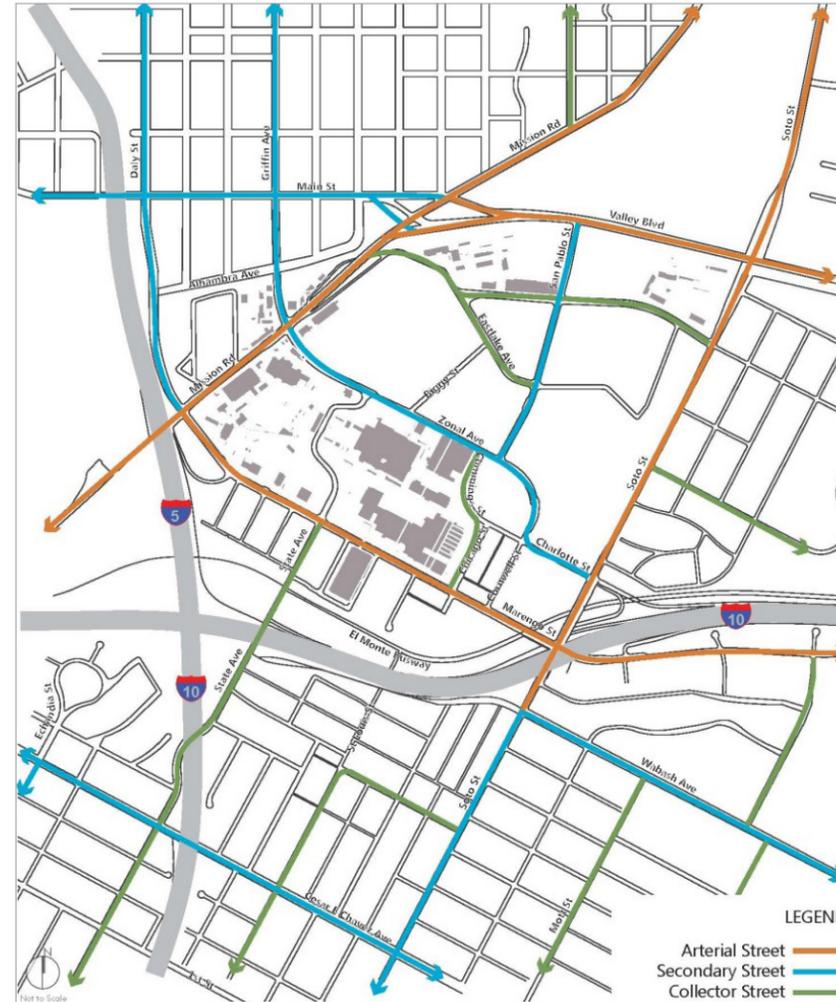


Figure 1 Existing Street Classifications

The area around the medical center is served by a network of major highways that generally run north/south and east/west, varying according to local topography and historic development patterns. These major highways generally have four travel lanes and are designed to carry high volumes of traffic, while also providing access to adjacent properties. Parking may be restricted at all times or only during the peak travel hours. The standard cross-section for Major Highways Class II specifies a right-of-way of 104 feet, or a 52-foot half-street. Major highways in the

study area include Marengo Street between Mission Road and Soto Street, Mission Road, Soto Street north of Wabash Avenue, and Valley Boulevard. Secondary highways are roadways that supplement the major highways and generally have two or four travel lanes. These roadways are designed to carry substantial traffic volumes and to provide access to adjacent properties. Parking is generally permitted on these streets. Some of the secondary roadways in the study area include Griffin Avenue/Zonal Avenue, Marengo Street/Daly Street west of Mission Road, Charlotte Avenue, State Street north of Zonal Avenue and south of Marengo Street, and San Pablo Street.

The primary vehicular access points will be located along Marengo Street, Mission Road, and Zonal Avenue. These locations should be designed to include traffic controls, to maximize sight distance, and to identify clear entry/exit points, as well as associated signage and striping. The vehicular circulation system, like the pedestrian and bicycle facilities, should include clear and graphic wayfinding so that motorists can find their destination with relative ease.

#### Parking

The master plan includes provision for adequate parking onsite to support the existing and planned uses. This section presents estimates of future parking needs based on relevant code requirements, national average demand ratios, and empirical data collected at LAC+USC. The Master Plan parking strategy is to continue providing the full code-required parking supply in the near term, through completion of Phase I. Less than full code requirement would be provided at full Master Plan build out, however, and it is anticipated that expansion of the existing transportation demand management (TDM) measures in effect at LAC+USC, and other factors, will reduce the parking demand by that time.

#### Existing Parking Supply

The existing parking supply of approximately 6,200 spaces is made up of three large parking structures and a series of smaller surface parking lots. A parking supply of 5,937 spaces serves the core of the medical center campus, which is bounded by Marengo Street, Mission Road, Zonal Avenue and Cummings/Chicago Street, and which includes Parking Structure 9 (south of Marengo Street). On-street parking is available on State Street within the medical center campus and on the perimeter streets which are controlled by the City. Approximately three-quarters of the existing parking supply is located in the three parking structures. All

## D - Technical Design Guidelines (continued)

parking on the campus is provided free of charge, though restrictions on the use of each lot, or spaces within each lot, are maintained.



Figure 2 Existing Number Of Parking Spaces By Lot/Structure

### Code-Required Parking

Not all buildings at LAC+USC are fully occupied at this time. Based on available information regarding which buildings are occupied and with what uses, it is estimated that 5,721 parking spaces are required under

applicable sections of the Los Angeles County Code. The number of parking spaces required by the Los Angeles County Code (Sections 22.52.1100, 22.52.1110, 22.52.1120, 22.52.1140) for the existing and planned land uses is shown in the adjoining table. While the County Code is directly applicable to LAC+USC, as it lies on land within the County's jurisdiction, the code may not reflect the actual demand for parking in every geographic area, for reasons such as variations in transit accessibility, the mix of land uses on a particular site, and the density and diversity of surrounding land uses. In the case of LAC+USC, it slightly overestimates the need for parking, based on what was observed to occur, as discussed below. LAC+USC is located in a mature area of Los Angeles, well served by public transit and with an existing travel demand management program that encourages workers to travel by alternate modes. In the area within approximately 3 miles LAC+USC, the percentage of workers commuting by private auto (alone or in carpools) is 73%, well below the City-wide and County-wide averages, and this is in part reflective of the characteristics of the built environment. The fact that LAC+USC also provides free parking for employees, patients, and visitors who must drive or who choose to drive tends to encourage driving. Data from the County's Trip Reduction Program reveals that the average vehicle ridership (AVR) for employees at LAC+USC was 1.37 in 2012 and 1.45 in 2013. This is much higher than what occurred at the other major County-operated medical facilities located in more suburban locations in 2012: 1.23 AVR at Harbor-UCLA Medical Center, 1.19 AVR at Rancho Los Amigos National Rehabilitation Center, and 1.15 at UCLA-Olive View Medical Center.

### National Average Parking Demand Ratios

For purposes of comparison, a separate estimate of current parking demand was made using the national parking demand ratios contained in *Parking Generation, 4th Edition* (Institute of Transportation Engineers, 2010). These ratios are based on actual surveys of various land uses at locations around the country and include a mix of urban suburban locations. Applying these ratios yields an estimated demand of 6,829 parking spaces. As with the County Code, this method overestimates the amount of parking needed at LAC+USC.

### Observed Parking Demand

A comprehensive parking demand study was conducted on Thursday, December 6, 2012. Existing demand was measured through parking utilization surveys conducted hourly between 7:00 AM and 6:00 PM. Parking occupancy among the spaces serving the core of the medical

center campus peaked at 4,990 spaces (84%) from 10:00 to 11:00 AM and was above 4,700 spaces (80% occupancy) from 9:00 AM until after 3:00 PM. Occupancy data is shown in the adjoining graph and assumes that half of the vehicles occupying on-street spaces on the adjoining streets were related to LAC+USC. The use of the onsite parking supply by USC staff not associated with LAC+USC could not be determined, and no adjustment was made for this reported phenomenon.

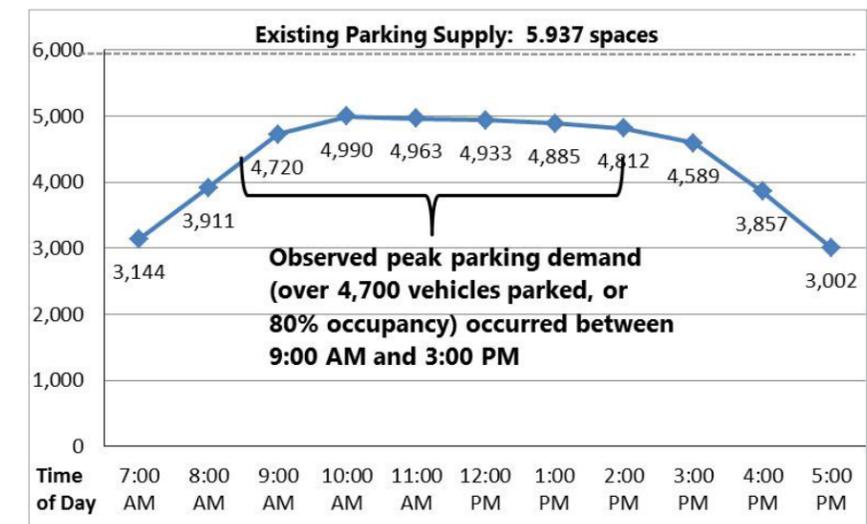


Figure 3 - Onsite Parking Demand By Hour [Graph In Attached Excel File]

### Future Parking Needs and Parking Supply

The LAC+USC Master Plan provides for approximately 8,250 parking spaces on the campus core at the end of Phase I, and approximately 10,400 parking spaces at full master plan build out. Outside the campus core, the Master Plan provides for approximately 1,750 spaces.

The estimated parking need for future development at LAC+USC is based on the existing parking demand, plus a 10% circulation contingency. Applying this technique to the existing development on the site yields an estimated parking need that is 96% of the code parking requirement and is 80% of the parking demand using national average ratios.

It is recognized that future land use quantities have been prepared at a programmatic, rather than at a project, level of detail and that as

## D - Technical Design Guidelines (continued)

future development occurs on the site, variations may occur. Periodic monitoring of employee travel behavior will occur. It is recommended that parking utilization surveys be conducted to confirm that these estimates of future parking needs continue to reflect actual conditions at the site. At the end of Phase I, and outside the campus core, the planned parking supply would exceed both the Code requirement for the new uses and the estimated need for parking, based on the current parking demand. Phase I represents projects that are envisioned to be constructed in the near term, within the next 10 years.

At full master plan build out, the parking supply would be less than the code requirement and less than the estimated need for parking, by approximately 15%. Several factors work together to make this reasonable. The planning horizon for full build out of the Master Plan is 25 to 30 years, and there is clear potential for more extensive and aggressive TDM measures to be implemented at the medical center, reducing the need for parking. As the regional transit network is expanded in the coming decades, and as the areas surrounding transit stations/nodes and around the medical center become more densely developed, the potential for reduced trip-making should increase and the need to provide parking at the current levels should decrease. Thus, the Master Plan anticipates a gradual reduction in parking demand through aggressive implementation of transportation demand management (TDM) strategies to encourage employees, patients, and visitors to limit their reliance on private automobiles.

### Transit

Public transit service at LAC+USC Medical Center is provided by Metro, LADOT DASH, and Foothill Transit bus lines, as shown in Figure 4. Figure 5 displays the location of bus stops at or near the medical campus. USC also operates private shuttles over several routes, such as the Soto and Circuit Trams, in the area that serve its facilities north of Zonal Avenue.



Figure 4 - Existing Transit Lines

The recommendations for the Preferred Master Plan focus on the provision of transit stop amenities and expanding access to the private USC tram system to the surrounding community and residents.

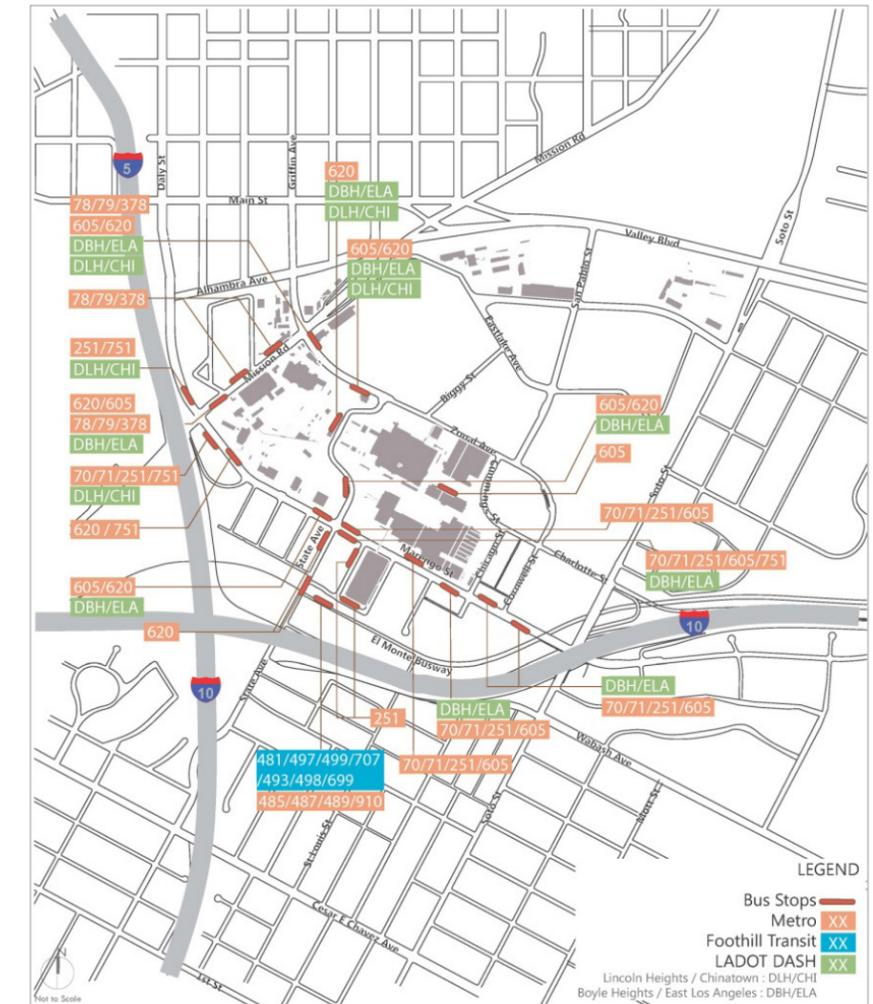


Figure 5 - Existing Bus Stops

Transit patron experiences are enhanced by the provision of amenities at bus stops that provide seating, protection from the elements, wayfinding, transit system information, trash cans, and design elements that facilitate access to the bus, and interaction with vehicles on the roadway.

## D - Technical Design Guidelines (continued)

Transit stops should be designed with a minimum of four elements:

- Seating/bench
- Trash receptacle
- Shelter/shade
- Transit system information and wayfinding (signage)

Additional transit stop enhancements include:

- Enhanced pedestrian-scale lighting
- Real-time transit information
- Bicycle parking/storage

Many of the existing bus stops at and around the site already include the four basic elements listed. LAC+USC Medical Center should continue to strive to ensure these amenities for transit patrons are provided onsite and coordinate with local transit providers (Metro and DASH) to ensure that current stops lacking amenities are upgraded and that new stops or relocated stops also have adequate stop amenities.

The USC Health Sciences Campus north of Zonal Avenue is served by various shuttles. These shuttles are complimentary to USC students, staff, and faculty who show identification. It is recommended that LAC+USC Medical Center develop a cooperative agreement with USC to allow staff, local residents, visitors, and patients of the medical center to also utilize the local USC shuttles. This could require staff and local residents to submit an application to USC to obtain a pass that allows them to board the private shuttles. Visitors and hospital patients would be required to provide some documentation from the medical center that demonstrates they are utilizing onsite services. If this is not possible, as redevelopment occurs on LAC+USC west of State Street, consideration should be given to reestablishing the County-operated shuttle (tram) service that was operational prior to the opening of the new main hospital.

### Bicyclists and Pedestrians

#### Improvement Options

The Preferred Master Plan provides a menu of pedestrian/bicycle-oriented improvements that include a description, benefit, and application of each improvement option. This general section is followed by recommendations at six specific locations.

- Pedestrian Signage
  - High-visibility fluorescent yellow-green signage and “Yield

to Pedestrians” signage is recommended at uncontrolled crosswalks. These signs are intended to increase driver awareness of the potential presence of pedestrians, where drivers need to exercise a higher level of caution, based on potential conflicts with more vulnerable road users. Advanced warning signage (fluorescent yellow-green signage) should be placed at marked uncontrolled crossings, while the “yield to pedestrian” signage is placed next to yield limit lines. This signage is recommended for all uncontrolled marked crosswalks in the area on and adjacent to LAC+USC. These treatments are consistent with best practices and recommendations in the Manual on Uniform Traffic Control Devices.

- Curb Extensions
  - A curb extension is traffic-calming measure meant to slow traffic and increase driver awareness. This measure consists of an extension of the curb into the street, making the pedestrian space (sidewalk) wider and the road space narrower. This tool has several benefits for pedestrians, including:
    - » Narrows the distance that a pedestrian has to cross, and decreases pedestrian exposure time
    - » Increases the sidewalk space on the corners
    - » Improves pedestrian visibility
    - » Lowers vehicle turning speeds by decreasing curb radii
    - » Provides opportunity to store and treat storm water runoff

Curb extensions are suitable along most roadways and intersections so long as a parking lane shadows the curb extension. Curb extensions should be generally avoided adjacent to transit stops. This strategy may slow right-turning emergency vehicles, require bicyclists to briefly merge with vehicular traffic, or could result in the loss of on-street parking spaces.

- High-Visibility Crosswalks
  - There are several uncontrolled crosswalks on State Street and one on Zonal Avenue. It is recommended that a high-visibility crosswalk pattern be consistently implemented

(such as the ladder-style crosswalk on Zonal Avenue at Biggy Street) at uncontrolled crossing locations, along with signage (as discussed above) and striping. These crosswalks will help signal a clear “channel” for pedestrian pathways to both pedestrians and motorists.

- Signal Timing/Slower Walking Speed
  - The walking speed represents the speed at which pedestrians are anticipated to travel when setting signal timings at intersections. For example, at a roadway width of 40 feet and an estimated walking speed of four feet per second, a minimum of ten seconds would need to be provided for adequate crossing time. The signal timing helps ensure that adequate crossing time is provided to pedestrians, particularly those that may exhibit a slower walking speed, such as children, the elderly, or disabled. The MUTCD requires reduction of the pedestrian walking speed from 4.0 feet per second to 3.5 feet per second to reflect average pedestrian walking speeds.

It is recommended that all crossing times be based upon a minimum walking speed of 3.5 feet per second, and that intersections such as Marengo Street and State Street evaluate the adequacy of a slower walking speed, such as 3.0 feet per second, due to the proportion of children, elderly, or disabled pedestrians present in the hospital setting.

- Provision of Infrastructure
  - Evaluation of access and circulation typically focuses on the vehicular mode of travel. The improvements listed here are intended to facilitate active transportation (walking and bicycling) to, from, and within the LAC+USC site. The consistent provision of basic elements such as bicycle parking, bicycle lanes or paths, sidewalks that are in good condition, curb ramps, crosswalks, signage, and striping both serve existing activity and work to incentivize and accommodate increased walking and bicycling activity in the future.

## D - Technical Design Guidelines (continued)

### Specific Recommendations

Suggested improvements that facilitate pedestrian/bicycle circulation and enhance accessibility and permeability with the surrounding environment are illustrated here:



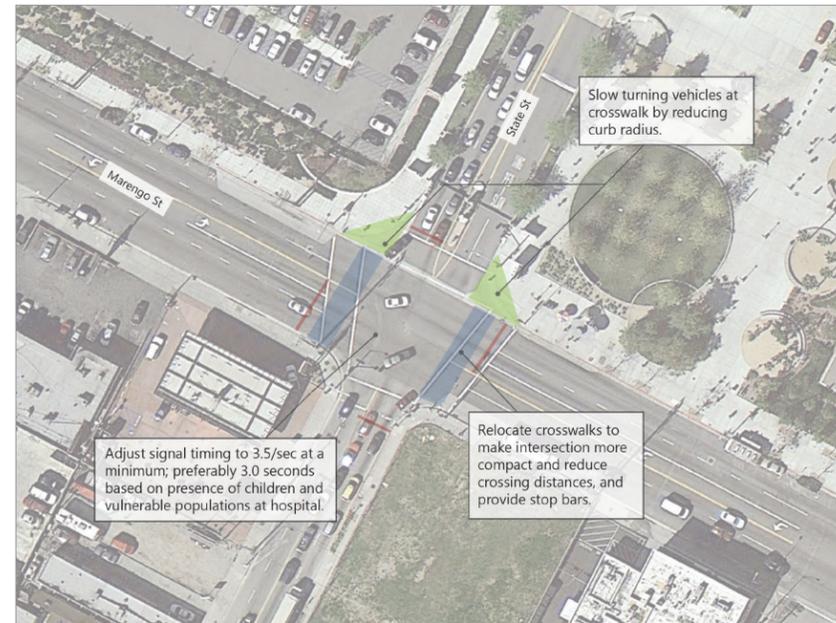
State Between Zonal & Marengo



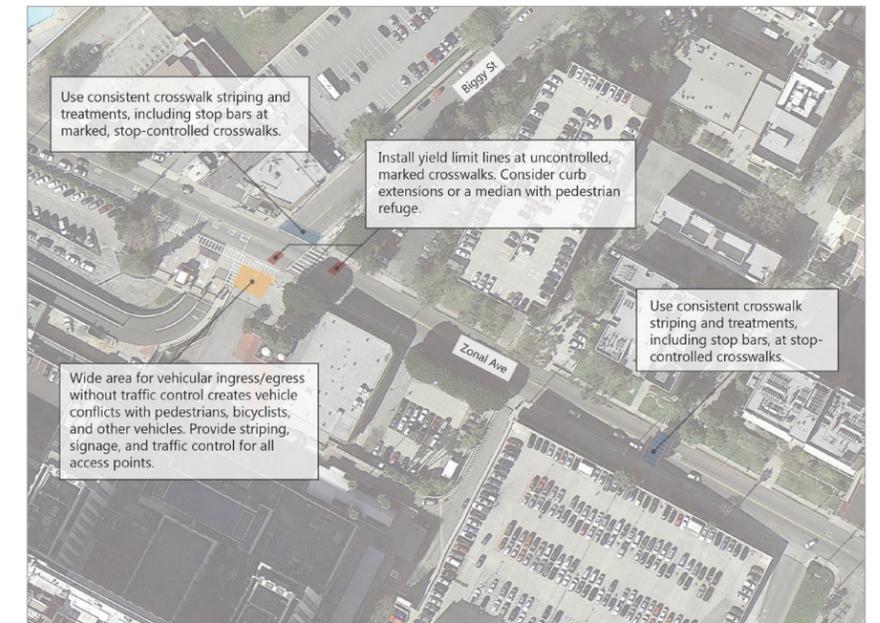
Griffin/Mission/Zonal



Marengo/Chicago



Marengo/State



Zonal/Biggy

## D - Technical Design Guidelines (continued)

### Site and Exterior Building Lighting Guidelines

#### A. Introduction

1. The purpose of this design guideline is to provide an analysis of potential impacts related to artificial lighting as a design element that reinforces the future upgrades to the LAC + USC Medical Campus. The guidelines address mitigation measures as defined by professional and regulatory agencies, and proposed lighting practices and technologies employed in similar medical center campuses with community amenities to promote a positive impact for the medical center campus.
2. Guidelines for appropriate levels of lighting will be outlined in order to promote visual interest and a sense of security for people on the medical center campus during the evening hours. Lighting will be incorporated into building facades, overhead canopies, around site furniture, in landscaped areas, and on site signage. New lighting design will complement those systems that currently exist on the medical center campus. It is anticipated that all new lighting will be designed in accordance with “Cal Green” principles that promote safety while minimizing the potential for adverse impacts on neighboring properties. It is further anticipated that the existing lighting on the medical center campus will be reviewed for compatibility with these “Cal Green” principles and that appropriate conversions or modifications will be made in conjunction with proposed development activities over the life of the LAC + USC Medical Center Master Plan.
3. Artificial, or electric, lighting design for the Medical Center will promote a positive visual and environmental impact that supports an inviting community and pedestrian oriented environment. Light designed in concert with the architecture and the landscaped environment will provide opportunities for social, cultural, recreational, and civic interaction within the community. Critical design factors require a sensitivity to offsite uses with respect to glare, light trespass and lighting pollution. An efficient means of illumination as related to task, lighting controls, and energy efficiency would be promoted to be environmentally responsible.

#### B. Regulatory & Code Compliance Agencies

1. There are a number of organizations that work to establish

lighting practices and standards to ensure light pollution and energy consumption measures are addressed. These standards become the framework for State of California energy codes, local ordinances and LEED certification. The primary organizations that establish lighting standards to satisfy energy efficient and system performance criteria for the LAC + USC Medical Center Master Plan include:

- a. The Illuminating Engineering Society of North America (IESNA) is the leading technical authority on illumination. Its objective has been to communicate information on all aspects of good lighting practice to its members, the lighting community, and to consumers through a variety of programs, publications and services. IESNA serves as a forum for the exchange of ideas and information and a vehicle for its members’ professional development and recognition. It publishes nearly 100 varied publications including recommended practices on a variety of applications, design guides, technical memoranda, and publications on energy management and lighting measurement.
- b. The International Dark-Sky Association (IDA) is a nonprofit organization whose mission is to preserve and protect the nighttime environment and the heritage of dark skies through quality outdoor lighting. Its mission is to stop the adverse effects of light pollution, raise awareness about light pollution and educate about the values of quality outdoor lighting.
  - i. The IDA establishes guidelines for lighting regulations for small communities, urban neighborhoods, and subdivisions and permits reasonable uses of outdoor lighting for nighttime safety, utility, security, and enjoyment while preserving the ambience of the nighttime sky. Lighting compliance standards serve to curtail and reverse degradation of the nighttime visual environment and the night sky as well as minimize glare and obtrusive light by limiting outdoor light that is misdirected, excessive, or unnecessary.
- c. The U.S. Green Building Council (USGBC) is a nonprofit organization committed to expanding sustainable building practices. Its mission is to transform the way buildings and communities are designed, enabling an environmentally and

socially responsible, healthy, and prosperous environment that improves the quality of life.

- i. The USGBC has established a project certification program entitled LEED (Leadership in Energy and Environmental Design) which is a voluntary, consensus-based national rating system for developing high-performance, sustainable buildings. LEED addresses all building types and emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials and resources selection, and indoor environmental quality.
- d. The California Energy Commission (CEC) is the state’s primary energy policy and planning agency. The CEC’s mission is to assess, advocate and act through public/private partnerships to improve energy systems that promote a strong economy and a healthy environment. The CEC mandates building energy efficient standards for the built environment. Exterior lighting performance and prescriptive approaches for compliance are defined in Subchapter 5, Sections 147 and 148 of the 2005 Building Efficiency Standards for Residential and Non-Residential Buildings.
- e. The State of California code requirements for outdoor lighting applies to all outdoor lighting, whether attached to buildings, poles, structures or self supporting including hardscape areas including parking lots, building entrances, sales and non-sales canopies, outdoor sales areas, and building facades. The outdoor lighting installation would be required to comply by calculating the actual lighting power to be no greater than the allowed lighting power. Lighting power is defined as power density being a unit of watts per square foot.

#### C. LAC + USC Medical Center Master Plan Lighting Impact Guidelines

##### 1. Visual Character

- a. The proposed lighting design for the LAC + USC Medical Center Master Plan would incorporate lighting design solutions that are environmentally responsible and support the overall design intent. Artificial lighting strategies would strengthen design objectives to establish an inviting

## D - Technical Design Guidelines (continued)

community and pedestrian oriented environment with inpatient, outpatient, research, education, nonprofit services, and public gathering spaces.

- b. Lighting will reinforce the numerous design objectives for the proposed Medical Center Master Plan to promote a positive visual impact in the community. Design objectives include:
  - i. Creating an inviting, vibrant Medical Center campus
  - ii. Contributing to the safety and security of the LAC + USC Medical Center campus
  - iii. Providing opportunities for social, cultural, recreational and civic interaction
  - iv. Fostering a pleasing environment and appearance
  - v. Reinforcing feature site amenities
  - vi. Establishing a contextual solution unifying adjacent L.A. County properties
- c. Lighting for the proposed development should reinforcing the architectural design to foster functional and visual relationships amongst buildings and open public space while being sensitive to the natural environment. Responsible lighting design practices shall utilize recommended and mandated standards while promoting design objectives that reinforce the visual character of the property. Lighting treatments should strengthen a positive contextual relationship to adjacent development and reinforce the aesthetic design of the built environment and open spaces. Attractive entrances should be established and lighting should serve as a wayfinding device to encourage both pedestrian and vehicular circulation in an efficient manner. Public areas shall be appropriately illuminated to promote safety and security measures and street lighting would be in accordance with adopted city of Los Angeles standards.

### 2. Light Pollution

- a. The primary threat to the nighttime environment is light pollution due to excessive overuse and abuse of lighting. It exists in most urban developments and is growing rapidly. Higher than recommended illuminance levels tend to be

employed to promote increased visual tasks, making it easier to identify objects and assure a sense of increased security and safety. Inappropriate uses of floodlighting buildings, over lit landscape features and competing sales displays contribute to increased sky glow that negatively affects the nighttime environment. It is critical to preserve dark skies, promote a comfortable nighttime environment, and conserve energy. The adverse effects of light pollution include energy waste, harm to human health, reduced safety and security, reduced visibility at night and poor nighttime ambience.

### 3. Light Trespass

- a. Light trespass is defined as unwanted light that is emitted into adjacent properties. This is often the result of luminaires not incorporating full cutoff performance or simply being aimed inappropriately. Light is then distributed to adjacent areas often interfering in light spill through windows or other light sensitive areas such as protected habitats. Light trespass can also be the result of reflected light or excessive surface brightness that occur in the normal field of vision.
- b. The following solutions would be adopted, as necessary, to address light trespass issues:
  - i. Inspect areas adjacent to the lighting design location to identify potential problems involving residences and roadways.
  - ii. Select luminaires that have tightly controlled intensity distributions, using full cutoff reflectors and refractors.
  - iii. Contain light within the design area by carefully selecting, locating, mounting, and aiming luminaires.
  - iv. Use well-shielded luminaires to mitigate nuisance glare.
  - v. Keep floodlight aiming angles low so that the entire beam falls within the intended light area.

### 4. Glare

- a. Glare is a condition where stray light or excessive surface brightness can cause visual discomfort and interfere with visibility. It is often the result of surface brightness that is in contrast when viewed in the same field of vision. An

example of a high contrast brightness ratio is vehicular headlights against a dark background. When the same vehicular headlights are viewed in the late afternoon hours when background brightness is more ambient, the headlights are not perceived as a source of glare. In addition to relative surface brightness and high contrast ratios, unshielded and misaligned light sources present problems. Glare criteria has been established for luminaires whose light sources are unshielded between 50-90 degrees from luminaire nadir (straight down).

- b. The following solutions would be adopted, as necessary, to address glare issues:
  - i. Avoid high contrast luminance ratios of illuminated surfaces.
  - ii. Shield light sources from direct view above 50 degrees from luminaire nadir.
  - iii. Maintain luminaire aiming angles respective of light keeping focused on target object or surface.
  - iv. Establish landscape buffers to shield vehicular headlights from being viewed at pedestrian and adjacent property vantage points.

### 5. Sky Glow

- a. Sky glow is a condition of light being directed upward to the sky or reflected from surfaces interfering with astronomical observations and the appreciation of the night sky. Stray light interacting with particulate matter in the atmosphere causes a luminous sky condition, or glow. In urban areas, excessive sky glow can diminish the night sky.
- b. Sky glow should be addressed by instituting the following lighting design strategies, as necessary:
  - i. Maintain full cutoff light distribution so light output is at or below horizontal.
  - ii. Minimize excessive uses of uplight and an accent for building facades, landscape and signage features.
  - iii. Avoid excessive luminances of horizontal surfaces to reduce reflected light into sky.

## D - Technical Design Guidelines (continued)

### 6. Energy Waste

- a. Energy wastes due to high wattage light sources, inefficient luminaires and extended hours of operation costs over one billion dollars annually in the United States alone. Incandescent, tungsten halogen and mercury vapor light sources exhibit low efficacy (lumens/watt) and require higher wattages to achieve recommended illumination levels. Luminaires that render poor performance characteristics tend to have low efficiency values. Furthermore, lack of maintenance for the lighting system increases depreciation factors resulting in diminished luminaire performance. Lack of lighting control measures results in extended operation of luminaires outside of normal hours of use and wastes energy. Use of lamps with high mercury content bears enormous energy costs, and inappropriate disposal of such lamps is hazardous to the environment.
- b. Energy waste due to lighting should be addressed by instituting the following strategies, as necessary:
  - i. Prescribe illuminance levels established by state energy codes in conjunction with high-efficacy light sources.
  - ii. Incorporate source efficacy, optical performance and regular maintenance procedures.
  - iii. Limit luminaire use through the use of automatic control devices that eliminate or reduce lighting during off hours.
  - iv. Use of eco-friendly light sources with reduced mercury content rated for household waste.

### 7. Site Lighting Standards/Mitigation Measures

- a. Lighting standards defined by the organizations and regulatory agencies are summarized below and establish the limits for illuminance, color, distribution, light pollution, light sources, and luminaire types. The recommended standards shall serve as mitigation measures promoting a positive impact on the community.
- b. Roadway Lighting
  - i. Lighting of public ways for both vehicles and pedestrians will create a nighttime environment in which people can see comfortably and can quickly and accurately identify

objects on the roadway being traveled. Effective use of roadway lighting will improve traffic safety, achieve efficient traffic circulation, and promote the general use of the facility during darkness.

- ii. Fixed roadway lighting will enable the motorist to see details more distinctly, locate details with greater certainty, and react safely to roadway and traffic conditions. Pedestrians must be able to see with sufficient detail to readily negotiate paths and recognize the presence of other pedestrians, vehicles and objects in their vicinity. Properly applied lighting principles on public ways will provide safety and social benefits including:
  - Reduction in nighttime accidents
  - Aid to police protection
  - Facilitation of traffic flow
  - Inspiration for community spirit and growth
- c. Proper distribution of luminous flux from luminaires is one of the essential factors in efficient roadway lighting. The light emanating from the luminaire is directionally controlled and proportioned in accordance with the roadway width, the spacing between luminaires, and the mounting locations of the luminaires being used. To achieve these principles, a series of luminaire light distribution classifications aid the designer to narrow down the selection of luminaires in order to meet the requirements specified for a given roadway system. Luminaires are classified according to their lateral and vertical distribution patterns. Luminaire light distribution is classified in respect to vertical light distribution, lateral light distribution and the control of light distribution above maximum intensity.
- d. All street lighting will be consistent with the Illuminating Engineering Society's recommended illuminance values. Per the Los Angeles Municipal Code, pole-mounted luminaires shall not exceed a height of thirty feet. Light sources located less than fifty feet from the property line of any residentially zoned or designated lot or existing residential development shall not exceed a height of fifteen feet. Luminaires will incorporate full cutoff distribution where zero candela

intensity occurs at an angle of 90 degrees above nadir.

- e. Lighting is to follow the IES recommended average horizontal illuminance and uniformity for design assuming the use of roadway pavement classification as unknown.
- f. Recommended Maintained Illuminances for Roadways
- g. Parking Lighting
  - i. Parking facility lighting is important for vehicular and pedestrian safety and security. Important lighting design criteria will be source/ task/eye geometry, shadows, direct and reflected glare, peripheral detection, identification of faces and objects, light pollution mitigation. Surface parking areas should meet the recommendations of the IES for maintained illuminance:
- h. Recommended Maintained Illuminance Levels for Parking Lots
  - i. Exits, entrances, gate access, internal connecting roadways and cross-aisles should be at a higher illuminance to promote ease of identification and enhanced security. For main entry gateways to the development, an increase of 50% in the average public road lighting level is recommended given it is compatible with local conditions. Specific consideration for illuminance would be in the vertical plane for increased subject identification. The recommended vertical illuminance level should occur at a location of 5' above the pavement. The recommended average-to-minimum illuminance uniformity ratio should not exceed 3:1.
  - ii. Lighting for surface parking areas should provide not only the recommended minimum illuminance levels but also good color rendition, uniformity, and minimal glare. Pole-mounted luminaires should be of a flat-lens, full cutoff classification installed in a level position and rated as "Dark-Sky Friendly" as approved by the International Dark Sky Association. Energy efficient, high pressure sodium lamps should be used, mounted at a height of 30 feet or at the lowest height allowed by City codes pertaining to lighting standards. Poles should be placed on heightened bases to reduce collision with automobiles. Light
  - iii. Sky Association.

## D - Technical Design Guidelines (continued)

sources should be given special consideration to color rendition as sources that exhibit poor color rendition values can contribute to difficulty identifying vehicle colors. California energy standards for Lighting Zone 3 (Commercial) should be observed for providing a power density of no more than .15 watts/square foot at paved areas.

- i. Pedestrian Walkways and Bikeways
  - i. Proper lighting of walkway and bikeway areas is essential to the safe and comfortable use of pedestrian and bicyclists areas at night. Lighting specific to the pathway system should be addressed as reliance on roadway spill light from adjacent roadways is inadequate for comfort and safety.
  - ii. The following IES recommended illuminances for pedestrian ways should be maintained.
  - iii. Recommended Maintained Illuminance Levels for Pedestrian Ways
  - iv. The illuminance values should represent average maintained illuminance levels and should be considered a minimum, particularly when security and pedestrian identification at distance is important.
- j. Signage Lighting
  - i. All signage lighting should be comfortably lit to convey site entries, direction of travel and building signage. Signage energy standards should apply to both internally and externally illuminated signs. The prescriptive approach to compliance requires that the sign be illuminated with one or more of the following light sources (as applicable) or that all light sources be powered by electronic ballasts with a fundamental output frequency not less than 20kHz:
    - ii. Pulse start and ceramic metal halide
    - iii. Neon
    - iv. Cold Cathode
    - v. Light Emitting Diodes (LED)
    - vi. Illuminance criteria for signage should be designed

to medium brightness (30 to 1 surface to background contrast ratio) and should be shielded to conceal high brightness (greater than 30 to 1 surface to background contrast ratio) from optical systems within direct view. Direct and exposed sign source sign graphics lighting should be 150 candelas or 600 lumens per foot.

- k. Landscape Lighting
  - i. Lighting should support the landscape architecture reinforcing plant material, sculptures, water features and other site amenities to promote a safe, attractive nighttime environment. Luminaires should be focused on the objects being illuminated and should be fully shielded to mitigate glare. The landscape lighting should be orchestrated to support pathway systems, encourage evening use and establish a “sense of place”.
- l. Plaza and Public Space Lighting
  - i. All plaza and public place lighting shall be consistent with the Illuminating Engineering Society’s recommended illuminance values. An average maintained illuminance of 5 footcandles horizontal and 3 footcandles vertical not exceeding a 4 to 1 average uniformity ratio. The lighting design should create a “sense of place” and foster social interaction by varying lighting treatments that reinforce open space areas. Polemounted luminaires should not exceed 30 feet above adjacent grade. Lighting shall be within the recommended illuminance ratios for easy identification of pedestrians, activity, safety and security.
- m. Building and Structures Lighting
  - i. At night, the dynamic visual effects of natural daylight on buildings are lost. Structural identity is often destroyed. With optical control, the structure can be rendered in artificial light to enhance its architectural characteristics. Major façade elements can be strengthened or subdued. Illuminating structural members in a hierarchical manner or emphasizing subordinate details can be emphasized to create patterns and textures not dependant on sun location. Exterior building lighting offers an opportunity to create visual impressions that establish building identity and can work with adjacent structures to unify

portions for the proposed development thus establishing a sense of community and social interaction. Circulation patterns should be reinforced and the entire development be unified with uses of street and landscape lighting.

- ii. Illuminance criteria should follow the Illumination Engineering Society’s recommendation of a maximum of 3 footcandles on building surfaces against a dark surrounding for exterior building façade lighting and a maximum of 3 footcandles (vertical) and 5 footcandles (horizontal) for building entrances. The California Energy Commission standard should be followed requiring that façade lighting not exceed .35 watts/square foot for the façade area being illuminated assuming lighting zone 3 (commercial use). For building entrances, illumination should not exceed .7 watts/square foot within the area defined as the width of the entry doors plus 3 feet on either side times a distance of 18 feet outward.

### 8. Light Sources

- a. When evening falls, electric light sources are depended upon to ensure appropriate luminous flux to meet illuminance criteria, high efficacy, appropriate color temperature, high color rendition, stable lumen maintenance, and long rated life. While there are many choices of light sources and lamp types to choose from, those that exhibit the above attributes and meet the State of California requirements for energy efficiency should be implemented.
- b. Luminous flux is defined as light that is emitted from the electric light source in all directions. Flux is measured in lumens that when placed within an optical system (reflector) distributes light to specific directions. An electric light source that exhibits a large amount of luminous flux proportional to the source’s wattage is defined as having high efficacy, otherwise known as being energy efficient. Electric light sources with a minimum efficacy of 60 lumens/watt for sources greater than 100 watts shall be implemented as mandated by the California Energy Code. Following is an example of those light sources that are considered energy efficient due to their high efficacy:
- c. Efficacy of Lamp Types

## D - Technical Design Guidelines (continued)

- d. Color temperature describes how a light source appears when lighted. Sources that are perceived as being “warm” tend to fall between 2700 - 3500 kelvin and those that are between 3500-5000 kelvin are perceived as “cool”. The color temperature is determined specific to application. Light sources for the proposed development hardscape areas, buildings, circulation byways, and water features should fall on the warmer side (2700-3500 K) as the measure of warmth is perceived as being comforting and inviting. The warm temperature also best renders warm architectural surface finishes and bring out their richness. Color temperatures on the cooler side (3500-5000 K) should be used for plants, trees, and other related softscape elements to flatter colors that tend to be on the cooler side of the visible spectrum.
- e. Color rendition is described as a light source’s ability to render all colors in the visible spectrum. If a light source has a high CRI (color rendition index), then it is able to accurately render both warm and cool spectral components of the object being illuminated. Light sources that have a low CRI value tend to render specific cooler spectral wavelengths well but tend to render warmer wavelengths poorly. Light sources with a low CRI value bear safety and security risks. In some cases, a source with low CRI value can create a problem where a red vehicle is visually perceived as being gray. Light sources that exhibit good color rendition should be implemented in the proposed project.
- f. Electric light sources that meet the above performance criteria and meet current practice lighting standards subject to their specific application include:
- i. Energy-efficient halogen IR
  - ii. Compact fluorescent
  - iii. Linear fluorescent
  - iv. Neon
  - v. Cold Cathode
  - vi. Light Emitting Diodes (LED)
  - vii. Pulse start and ceramic metal halide
  - viii. High pressure sodium
9. Luminaires
- a. Outdoor luminaires should be classified by the manner they are mounted, by the intensity distribution they exhibit, by the degree to which they provide cutoff, and by their beam patterns. The term luminaire is a unit commonly known as a light fixture and comprised of several parts including the housing, the optical system (reflector), the ballast for discharge sources, the lamp and glare control devices. Outdoor luminaires shall be classified as:
- i. Pole-mounted (roadways, parking)
  - ii. Surface-mounted (walkways, building façade, signage)
  - iii. Landscape (walkways, site features)
  - iv. Floodlight (building façade, signage)
10. Lighting Controls
- a. Proper implementation of lighting controls is an essential element of a good lighting design. Control strategies serve to control the LAC + USC Medical Center’s power demand, energy consumption, lighting equipment, and working environment. There are three major objectives for the use of lighting controls:
- i. Energy Management
  - ii. Aesthetics
  - iii. Code compliance measures
- b. Energy management controls for lighting systems provide energy and cost savings through reduced power or reduced time of use. Control strategies can occur automatically through the use of an astronomical timeclock or photosensor. The timeclock can be operated according to a fixed schedule automatically as programmed by the user. These controls respond to daylight savings and work to promote load shedding strategies. Load shedding involves reduction of lighting circuits into evening hours to save energy. These light reductions occur with specifically circuited luminaires and typically do not include those luminaires deemed for safety and security. The photosensor is an automatic control device that is typically luminaire mounted and responds to diminished daylight as a trigger. The photosensor measures the amount of daylight and switches the luminaires source on when illuminance is diminished normally at sunset or during a dark, overcast day. Conversely, once light levels are increased due to sunrise or improved sky conditions, the photosensor switches to off to save energy and lamp maintenance.
11. Mitigation Measures
- a. The following mitigation measures shall reinforce the lighting standards and code compliance measures to ensure a positive impact in the community:
- b. Reference Illuminating Engineering Society (IES) RP-33 Recommended Practice for Exterior Environments. The IES is the leading technical authority on illumination. Its recommended practice publication for lighting exterior environments (RP33) serves as a design guide for good lighting design practice. The publication addresses technical criteria for lighting of all aspects of the exterior environment to provide adequate lighting while being sensitive to light pollution issues.
- c. Reference the International Dark-Sky Association (IDA) proposed guidelines for recommendations on mitigating lighting pollution. The IDA guidelines permit reasonable uses of outdoor lighting for nighttime safety, utility, security, and enjoyment while preserving the ambience of the nighttime sky. The IDA recommended guidelines serve as an additional resource for practicing good lighting design.
- d. Implement energy efficient measures as defined in the California Building Efficiency Standards for Residential and Non-Residential Buildings.
- e. Pole and building-mounted luminaires for street, parking and pathway corridors shall be full cutoff luminaires; i.e. there shall be no light emitted above the horizontal and not much light (generally < 4%) at angles greater than 75 degrees above the vertical.
- f. Pole and building lights shall be rated as “Dark-Sky Friendly” as approved by the International Dark Sky Association. Energy efficient, high pressure sodium lamps shall be encouraged,

## D - Technical Design Guidelines (continued)

- mounted at a height of 30 feet or at the lowest height allowed by City codes pertaining to lighting standards.
- g. Exterior lighting originating on a property shall be limited to a maximum of 0.5 footcandles at a distance of 25 feet beyond the property lines.
  - h. Encourage the use of low-glare lighting to minimize nighttime glare effects on neighboring properties.
  - i. All exterior lighting shall be directed away from adjacent properties and roads. When lighting will be visible from adjacent properties, the lighting standards shall be equipped with glare shields or baffles.
  - j. Light fixtures shall be maintained in sound operating conditions at all times.
  - k. Signage lighting shall follow Title 17, Chapter 17.60.060 design standards as established in the Los Angeles Municipal Code. Exposed bulbs forming a part of a sign shall be permitted, provided they do not exceed fifteen watts per bulb; signs in the C-2, C-C, C-B, M-1, M-2 and M-3 zone districts may be allowed up to forty watts per bulb. Neon signs shall not exceed thirty milliamperes. Bulbs providing indirect lighting not visible from off the premises of the sign are not subject to this subsection. Exposed reflector-type lamps forming part of a sign or used to illuminate a sign are prohibited in all instances. Flashing signs are only permitted in the C-2, C-C, C-B, M-1, M-2 and M-3 zone districts and shall not exceed a total of sixty milliamperes for neon signs, and ten watts for incandescent signs.
  - l. Exterior lighting shall be designed downward in a manner that will reduce light and glare pollution onto neighboring properties and roadways.
  - m. All security lighting shall be connected to a timer and/or motion detector.
  - n. Exterior lighting shall use one of the following types of light: Metal Halide, High Pressure Sodium, Fluorescent, or Light Emitting Diodes (LED).
  - o. Lighting of signs attached to buildings shall be arranged so as not to produce a glare on other properties in the vicinity, and

the source of light shall not be visible from adjacent property or a public street.



