Volume I

Final Environmental Impact Report

1990 LONG RANGE DEVELOPMENT PLAN ENVIRONMENTAL IMPACT REPORT

UNIVERSITY OF CALIFORNIA
Los Angeles

November 1990

FINAL ENVIRONMENTAL IMPACT REPORT
UNIVERSITY OF CALIFORNIA, LOS ANGELES
1990 LONG RANGE DEVELOPMENT PLAN

PROJECT #948060

State Clearinghouse Number 89072618

November 1990

Printed on Recycled Paper

This report was prepared by:

Capital Programs, Capital Planning
University of California
2256 Murphy Hall
Los Angeles, California 90024

with the assistance of the following consultants:

Cotton/Beland/Associates, Inc.
1028 North Lake Avenue, Suite 107
Pasadena, California 91104

EIP Associates
80 South Lake, Suite 600
Pasadena, California 91104

Crain & Associates
2007 Sawtelle Boulevard, Suite 4
Los Angeles, California 90025

ENSR Consulting and Engineering
1220 Avenido Acaso
Camarillo, California 93010

Hamilton, Rabinovitz & Alschuler, Inc.
10 Universal City Plaza
Suite 1960
Los Angeles, California 91608

Psomas and Associates
646 North Market Blvd., Suite 4
Sacramento, California 95834

and reviewed by:

Office of the President
Senior Vice President - Administration
University of California
300 Lakeside Drive
Oakland, California 94612

ERRATA SHEET FOR THE UCLA 1990 LRDP FINAL EIR VOLUME I

Section IV. C. Parking, Access, Traffic, Circulation and Other Transportation Modes

Mitigation Measure C-4.2, on page I-13 should read as follows:

Continue to provide remote parking and shuttle services for construction workers if onsite parking is unavailable.

Mitigation Measure C-4.2, on page C-51 should read as follows:

If onsite parking is unavailable, construction workers will park at remote lots designated by the campus and will utilize shuttle services to travel from the remote lot to the project site.

Section IV. F. Visual Quality

Mitigation Measure F-1.2, on page F-14 should be two separate mitigation measures as follows:

Mitigation Measure F-1.2: Following review of the project design, the third exhaust stack has been eliminated. The exhaust for the auxiliary boiler will be routed to one of the gas turbine/residual heat recovery stacks.

Mitigation Measure F-1.3: Revise the project design to reduce the height of the exhaust stacks.

The design objectives of the project recognize the campus' desire to screen views of the project components from adjacent areas. The height of the exhaust stacks will affect the ground level concentrations of air pollutants emitted from the cogeneration component of the Chiller/Cogeneration project. Reducing the height of the exhaust stacks would increase the ground level concentrations, which would result in a significant adverse impact, which the campus has deemed undesirable. The proposed height of the exhaust stacks is therefore necessary to partially mitigate the air quality impacts of the project. Reducing the stack height as a mitigation measure would lessen the significance of the projects' visual impacts, but it would require sufficient changes to the overall project design such that achieving the objectives of the project would be infeasible. While considered in this EIR, this mitigation measure has not been incorporated into the project at this time by the campus.

Section IV. I. Air Quality

Mitigation Measure I-1.2 on page I-13.1 should read as follows:

Construction contracts will contain specifications designed to control construction-related emissions, including: regular watering of exposed ground surfaces; covering stockpiles of excavated materials; street sweeping if silt from construction sites is carried over to adjacent public thoroughfares; and keeping the engines on construction equipment in good operating condition.

Section IV. K. Utilities

The second sentence of Mitigation Measure K-2 on page K-10 should read as follows:

The recycling component of this program shall include a "white paper" recycling program for classrooms and offices and the use of "green waste" for composting.

Section IV. M. Hazardous Materials

Mitigation Measure M-1, page M-23, paragraph four, first sentence should read as follows:

The Campus will also prepare a Risk Management and Prevention Program (RMPP) for the project which will meet the following objectives: 1) systems safety review of design for new and existing equipment; 2) safety evaluation of standard operating procedures; 3) systems review for reliability; 4) preventive maintenance procedures; 5) risk assessment for failure of specific pieces of equipment or operating alternatives; 6) emergency response planning; and 7) internal or external auditing procedures to ensure that safety programs and safety engineering controls are being executed as planned.

Impact M-2 on page I-25 of the Summary Table should read as follows:

Chiller/Cogeneration project will involve installation of new storage tanks.

Impact M-2 on page M-23.1 should read as follows:

The Chiller/Cogeneration project will involve installation of new storage tanks. Storage tanks for ammonia (used in emission controls) and fuel oil (backup fuel) will be installed on the project site as part of the project.

Section VI. Alternatives

Alternatives 2 and 7 specifically consider aspects of the Chiller/Cogeneration project in their assessments of environmental impacts.

Alternative 2 assumes that the Chiller/Cogeneration project would be included in the analysis as a "new project", one that has not been previously approved in conformance with CEQA. Subsequent to the publication of the Draft EIR, the Chiller/Cogeneration project was approved in conformance with CEQA. The Final EIR treats, for the purposes of Alternative 2 only, the Chiller/Cogeneration project as a "new project". Therefore, the analysis notes that effect of the absence of the Chiller/Cogeneration facility on Visual Quality and Energy.

If the Chiller/Cogeneration facility was not considered a "new project", the analysis in Alternative 2 would note that the effect on Visual Quality and Energy would remain the same as in the proposed 1990 LRDP.

This version of Alternative 2 would remain infeasible under this scenario because, like the original Alternative 2, it would not meet the 1990 LRDP project objectives and overriding considerations.

Since Alternative 7 was drafted, reviewed and considered prior to the approval of the Chiller/Cogeneration project as a separate project in conformance with CEQA, the analysis in Alternative 7 considers the option of moving the Chiller/Cogeneration facility off-site. The Final EIR includes this analysis for the purposes of Alternative 7 only.

Given the Chiller/Cogeneration project's current separate project status, the Chiller/Cogeneration facility will not be moved to an off-site location.

The analysis in Alternative 7 would change under this revised scenario because the visual quality effect of an off-campus Chiller/Cogeneration facility would not occur. Also, the beneficial energy impact of an on-campus Chiller/Cogeneration facility would be realized. This version of Alternative 7 would remain unfeasible because of its lack of relationship to the 1990 LRDP project objectives and overriding considerations.

INTRODUCTION TO THE FINAL 1990 LRDP EIR

This document is the Final Environmental Impact Report (FEIR) for the 1990 LRDP. A final EIR is defined by CEQA as "...an EIR containing the information contained in the Draft EIR, comments either verbatim or in summary received in the review process, a list of persons commenting, and the response of the Lead Agency to the comments received." [Section 15362(b)].

Organization of the Final EIR

This FEIR contains four volumes. Volume I includes the Draft EIR, and Volume II contains the appendices to the Draft EIR. Volume III contains the Responses to Comments on the original Draft EIR (released for public review in March, 1990). Volume IV includes a list of persons that commented on the Revised Draft EIR released for public review in August 1990), comments and responses on the Revised Draft EIR, a transcript of the public hearing, written correspondences, and appendices related to information provided in response to comments.

All further references to the 1990 Draft LRDP EIR and related impacts refer to the August 1990 Draft EIR.

Review Process

The 1990 Draft LRDP and Draft EIR of August, 1990 were circulated for public review from August 24, 1990 to October 8, 1990. The Draft LRDP and Draft EIR were mailed to approximately 600 individuals and public agencies. The documents were also available for public review at all University libraries and three local community libraries. All interested persons were invited to submit written comments on the Draft EIR during this review period.

A public hearing to receive comments on the Draft EIR was held September 26, 1990. Notices advertising the public hearing and availability of the Draft EIR document were placed in the following publications: the Santa Monica Evening Outlook and Los Angeles Times on 9/23/90 and 9/26/90; and the UCLA Daily Bruin on 9/28/90. In addition, notices were placed on all University bulletin boards advertising the availability of the Draft EIR from 9/19/90 through 10/8/90.

Relationship of Chiller/Cogeneration Project to the 1990 LRDP

The analysis in the Final EIR for the 1990 LRDP considers the impacts of the UCLA chiller/cogeneration facility. The Final EIR for the chiller/cogeneration facility was recently certified by The Regents. It should be noted that the Draft 1990 LRDP EIR was prepared before the chiller/cogeneration EIR was finalized, thus the potential impacts of the chiller/cogeneration facility could not be stated with certainty. Since the chiller/cogeneration project EIR has now been certified, the Final 1990

LRDP EIR has been modified and reflects the environmental impacts of the chiller/cogeneration facility as stated in the certified EIR for the chiller/cogeneration facility.

The chiller/cogeneration facility is a separate project: its approval was not dependent in any way on the approval of the 1990 LRDP, and the chiller/cogeneration project included an amendment to the 1983 LRDP. Similarly, the 1990 LRDP is a wholly distinct project from the chiller/cogeneration facility; approval of the 1990 LRDP is in no way dependent upon the implementation of the chiller/cogeneration project.

The EIRs for both the chiller/cogeneration project and the 1990 LRDP address the impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the chiller/cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the chiller/cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is <u>not</u> intended to suggest that: (1) the chiller/cogeneration facility is part of the 1990 LRDP; (2) the chiller/cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

The chiller/cogeneration facility, as explained in the certified Final EIR, consists of a combined central chiller plant to produce 16,000 tons of cooling capacity to serve buildings on the southern portion of the main campus and a 42.8 megawatt cogeneration plant to serve the entire main campus. In certifying the EIR for the chiller/cogeneration facility, the Regents found that the facility was necessary in order to, among other things, replace deteriorating components of the utility infrastructure, obtain the intrinsic environmental and energy benefits of cogeneration, improve transmission line service, and reduce the campus's dependency on Los Angeles Department of Water and Power. It was designed and its EIR was certified to meet current and projected utility and infrastructure requirements of the existing campus, regardless of the ultimate disposition of the 1990 LRDP.

Revisions/Clarifications to the Draft EIR

The Final LRDP EIR has been revised to clarify conclusions, insert additional mitigation measures, and insert new information. Based upon the Final EIR for the Chiller/Cogeneration project, certain components of the project were revised, including:

- improvement of the Selective Catalytic Reduction (SCR) system to reduce the emissions of oxides of Nitrogen (NOx). Although this will increase the estimated volume of SCR catalyst used, the estimated volume of SCR catalyst will remain within the 1,200 to 1,800 cubic feet estimate provided in this Final EIR. The revision to NOx control will require the use of approximately 15 percent more ammonia. Therefore the estimate of ammonia deliveries has increased from 3 to 4 per year to 4 to 5 per year in this Final EIR. Water consumption and wastewater discharge are not expected to change.

- redesign of the cooling towers to include high efficiency mist eliminators to reduce the cooling tower draft rate and reduce particulate (PM_{10}) emissions.

- engineering modifications to the exhaust stacks to increase the exit velocity of exhaust gases.

- inclusion of a double-walled storage tank for ammonia.

As a result of the modifications to the NOx control equipment and cooling towers, the project emissions would be less than the measurable impact levels defined by the South Coast Air Quality Management District. Therefore, the air quality impact of the chiller/cogeneration project is considered less than significant.

The revisions incorporated into the project are considered minor, and the inclusion of these revisions in this Final EIR is not considered significant new information, as they do not involve any substantial changes in environmental impacts.

The generation numbers shown for energy consumption and wastewater generation were in error, and have been corrected in the Final EIR. Since the conclusion about the level of impact did not change for either energy or wastewater, these revisions were not considered significant new information.

Throughout the Draft EIR, clarifications and additions have been made to the text subsequent to public circulation. These are indicated by line out and underline. That is, text that has been deleted is lined out, and text that has been added is underlined.

Clarifications and changes were made to specific sections of the EIR, including:

- Land Use

  Significance determinations for each zone were clarified, and an additional mitigation measure for the Southwest campus zone was added.

- Parking, Access, Traffic

  Two new mitigation measures were added that specify the cap of 139,500 average daily vehicle trips and acknowledge the campus commitment not to occupy new facilities if the trip cap would be exceeded.

- Archaeological/Historical

  The EIR acknowledges buildings that were included in the State inventory of historic buildings subsequent to distribution of the August, 1990 Draft EIR. A new mitigation measure has been added to provide for campus consultation with the State as appropriate regarding alterations to buildings included in the State inventory.

- Visual Quality

  A new mitigation measure was added to recognize that the third exhaust stack for the Chiller/Cogeneration project has been deleted. A new mitigation measure was added to maintain a landscaped buffer around the western, northern, and eastern boundaries of the main campus. The retention of open spaces designated in the LRDP has also been incorporated as a mitigation measure.

- Hydrology

  Mitigation measure H-1.1 has been revised to include a statement that future projects should be designed to minimize runoff.

- Air Quality

  Based upon revisions to the Chiller/Cogeneration project, the impact of the LRDP is deemed less than significant.

- Noise

  A new mitigation measure has been added to require an acoustical analysis of the Chiller/Cogeneration project.

- Utilities

  The estimate of wastewater discharge in the August, 1990 EIR was in error, and a correct estimate is now included.

- Energy

  The estimate of future energy consumption in the August, 1990 EIR was in error. A correct estimate is now included.

- Hazardous Materials

  Mitigation measure M-1 has been revised per information in the Final EIR for the Chiller/Cogeneration project. A new mitigation measure has been added to acknowledte the requirement to apply for necessary wastewater permits for the Chiller/Cogeneration project.

None of these revisions or clarifications are considered significant new information, as none of the conclusions about the level of impact were changed, except for air quality, where the impact is now deemed less than significant.

Mitigation Monitoring Program

A Mitigation Monitoring Program for the 1990 LRDP will be adopted by the Regents if they make the findings required by Section 21081(a), pursuant to Public Resources Code Section 21081.6. A copy of this mitigation monitoring and reporting program is included in this Final EIR, in Volume IV.

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS

VOLUME I FINAL EIR

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS
(continued)

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS
(continued)

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS
(continued)

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS
(continued)

UCLA FINAL 1990 LRDP EIR
TABLE OF CONTENTS
(continued)

LIST OF TABLES

LIST OF TABLES
(Continued)

LIST OF TABLES
(Continued)

LIST OF TABLES
(Continued)

LIST OF TABLES
(Continued)

LIST OF FIGURES

LIST OF FIGURES
(Continued)

LIST OF FIGURES
(Continued)

EXECUTIVE SUMMARY

I. Introduction

Background

In 1988, the University of California, Los Angeles (UCLA) began a planning process to revise its Long Range Development Plan (LRDP) and prepare an Environmental Impact Report (EIR) on that Plan. This effort culminated in publication of a Draft LRDP and Draft EIR, dated March, 1990. The Draft EIR was circulated for public review in accordance with the requirements of the California Environmental Quality Act (CEQA). In response to numerous comments received on the documents during the public review period, UCLA made changes to the Draft LRDP and the Draft EIR and recirculated the documents for additional public review.

Purpose of Summary

UCLA has given careful consideration to the comments received from public agencies, members of the campus community, and members of the general public. In light of these comments, UCLA made revisions to the 1990 LRDP and revised the Draft EIR. This summary highlights the changes made in the Plan, outlines key issues raised through the prior review process, and indicates how they were addressed in the revised LRDP and Draft EIR. In addition to this summary, the reader is referred to the Draft 1990 LRDP and revised Draft EIR, dated August, 1990, for a discussion of campus development plans, potential environmental impacts, and proposed mitigation measures.

Consultation and Review Process

Prior and subsequent to publication of the Draft LRDP and Draft EIR in March, 1990, UCLA engaged in a consultation process with local agencies and campus and community groups. Key issues and concerns about the LRDP and its potential environmental effects have been discussed. This public participation process included the following activities:

- Community workshops;
- Public meetings with campus groups and committees and local community groups;
- Public workshop on the Draft LRDP and Draft EIR;
- Public hearing on the Draft LRDP and Draft EIR;
- A forty-seven day public review period during which written comments were received on the Plan and Draft EIR;

- Advertisements in various newspapers regarding the availability of the Plan and Draft EIR for review, and providing notice of the workshop and public hearing;
- Discussions with local agencies regarding potential impacts and potential mitigation measures;
- Summary documents of the Plan and Draft EIR;
- Public information articles in various campus publications regarding the Plan; and
- Press briefing, press releases, and discussions with local media.

The decision to revise the Draft EIR and recirculate it for additional public review resulted in a second public review period, during which members of the public and interested agencies had a second opportunity to comment on the revised Draft EIR. Although not required by CEQA, a second public hearing was held September 26, 1990 to accept testimony on the revised Draft LRDP and August, 1990 Draft EIR.

Following the close of this second review period, written responses were prepared on comments received during the second review period. The revised Draft EIR, letters and correspondence, and responses to comments received during both review periods, comprise the Final EIR. That document will be forwarded to the Regents of the University of California for certification in November, 1990, at the time the Regents consider adoption of the Draft 1990 LRDP.

The overall public review period and consultation process for this Long Range Development Plan has been extended four months from the originally proposed target date of submittal to the Regents of July, 1990. By revising the LRDP and its Draft EIR and providing for additional public review and comments, the campus has committed to developing a Plan and EIR which respond to local community and agency concens, while carrying out UCLA's mission of instruction, research, and public service.

Contents of the Summary

Section II of this Executive Summary discusses the changes to the LRDP resulting from the public consultation process. Section III discusses the changes made to the revised Draft EIR.

II. Changes to the Draft 1990 Long Range Development Plan

The Draft 1990 LRDP was revised:

- to reduce the total amount of square footage proposed by 750,000;
- to eliminate the proposed academic residential conference center (included in the reduction of 750,000 square feet);
- reduce planned growth in student enrollment from the originally proposed 528 students to 105 students, for a total 2005 enrollment of 34,779 students; and
- reduce the projected growth in faculty and staff from 3,788 to 3,128 persons.

The section on campus-wide development objectives now includes a subsection dealing with environmental issues and policies, including CEQA compliance, water, wastewater, solid waste, air quality, and traffic and transportation. The proposed cap on average daily vehicle trips, a commitment not to exceed the cap, and an acknowledgement of the role of the City of Los Angeles in monitoring compliance with the cap was included in the revised Draft LRDP.

III. Changes to the Draft Environmental Impact Report

Project Description

All changes to the Draft 1990 LRDP were also incorporated into changes in the project description in the August 1990 Draft EIR.

Environmental Impacts

Traffic and Transportation

Many comments received on the Draft EIR focused on the lack of sufficient analytical information to permit the reader to independently reach a conclusion regarding the adequacy of the traffic analysis and the ability of the UCLA campus to increase participation in ridesharing programs by 12 percent.

The revised Draft EIR included an appendix entitled UCLA Long Range Development Plan Transportation Systems Analysis Procedures and Results, which greatly expands the amount of analytical detail regarding the potential traffic impacts of LRDP implementation. The Transportation Systems document includes several subsections: Computerized Transportation Model Description; Transportation Demand Management (TDM) Program Goals Analysis; LRDP Physical Street Improvement Mitigation Measures; and Relationship of SCAQMD Regulation XV and LRDP Trip Reduction Requirements.

In accord with the reduction in the square footage proposed in the revised Draft LRDP and the related reduction in future campus population, the cap on the average number of campus-related daily vehicle trips has been reduced from 145,000 to 139,500.

The revised Draft EIR incorporated revised standards of significance for traffic impacts. A significant impact was previously defined as an increase of 0.02 at intersections at Level of Service (LOS) E or F; the revised Draft EIR utilized a more stringent standard with significant impact defined as an increase of 0.01 for intersections at LOS E or F, 0.02 for an intersection at LOS D; and 0.04 at other intersections as the threshold of significance. Although the University is not subject to the jurisdiction of the City of L.A., this is consistent with the standards recently adopted by the City.

Utilities

Based upon the reduction in square footage proposed in the revised Draft LRDP, the revised Draft EIR reduced the projected increase in water consumption and wastewater discharge associated with LRDP implementation. The revised Draft EIR incorporated an expanded list of mitigation measures for water consumption, and an expanded discussion of the wastewater treatment capacity of the Los Angeles City Hyperion Treatment System.

Population, Employment, and Housing

The estimate of campus population was reduced, per the revised Draft LRDP. An analysis of the effect of LRDP implementation on the jobs/housing balance in the vicinity of the campus has been included as an appendix, and summarized in this section of the revised Draft EIR.

Geology, Soils, and Seismicity

Additional information on regional geology and seismicity was incorporated into the revised Draft EIR.

Air Quality

New information regarding the air quality impacts of the South Campus Central Chiller/Cogeneration facility were incorporated into the revised Draft EIR. The document also included an analysis of the potential construction emissions associated with LRDP implementation, and an analysis of the potential carbon monoxide impacts due to regional traffic increases.

Noise

An analysis of the potential increases in ambient noise levels due to regional increases in traffic was included, along with a discussion of the potential impacts of construction noise on adjacent residential land uses.

Energy

Due to the reduction in square footage proposed in the Plan, the future projected use of energy resources was recalculated.

Hazardous Materials

The revised Draft EIR included additional information on the potential hazards of the use and storage of ammonia associated with the proposed South Campus Central Chiller/Cogeneration facility, along with proposed mitigation measures.

Public Services

Crime statistics for the last three years on the UCLA campus were provided.

In addition to the additional information and revisions to quantitative information, the revised Draft EIR also included (as a separately bound appendix) responses to comments received during the review period for the March, 1990 Draft EIR.

<u>Mitigation Monitoring Program</u>

<u>A mitigation monitoring program has been prepared and is included in Volume IV.</u>

I. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This summary focuses on the potential environmental effects of the proposed Draft 1990 Long Range Development Plan (LRDP) for the University of California at Los Angeles (UCLA). The level of significance for each impact is defined, and mitigation measures are identified that will reduce impacts from implementation of the Draft LRDP and cumulative development projected to occur in the surrounding community. Areas of controversy that have been raised by members of the community, the University, or agency representatives are also included in the summary.

The summary table at the end of this section summarizes potential environmental impacts, mitigation measures, and the level of significance - both before and after mitigation.

Project Description and Regional Planning Background

This Environmental Impact Report (EIR) has been prepared to evaluate the potential environmental impacts resulting from implementation of the Draft 1990 LRDP. Existing development and projects under construction on campus total 18,932,733 gross square feet (gsf) of building area, including parking structures. Approval of the 1990 Draft LRDP would provide for an additional 2,610,000 gsf for academic, research and support facilities and 1,100,000 gsf of residential facilities for approximately 2,700 students, faculty, and staff.

The Draft 1990 LRDP, and this EIR, also address regional planning issues of significant community concern. While these regional issues are addressed in detail in this EIR's analysis of impacts and mitigation measures, three overall regional planning objectives have guided the preparation of the Draft 1990 LRDP: commitments to effective transportation controls, land use planning on the campus that promotes a "jobs/housing balance," and the conservation of limited resources. In addition to the mitigation measures that are included in this EIR, these regional planning commitments are reflected in the Draft 1990 LRDP's land use planning elements, including housing (using a significant portion of remaining land use resources to develop affordable student, faculty and staff housing) and transportation and parking (including mitigation measures to limit daily traffic trips, expanding existing alternate transportation programs, and committing to no net increases in automobile parking spaces during Draft 1990 LRDP implementation).

The need for additional space and facilities is derived from the program proposals described in the Draft 1990 LRDP, and is based upon recent academic strategic planning processes. These program proposals relate to: existing deficiencies in the amount and type of space, technological or functional obsolescence of existing facilities, and planned and unanticipated program changes that may require additional space during the fifteen year period of the Draft 1990 LRDP.

The purpose of the Draft 1990 LRDP is to establish a land use planning framework for current and projected facility needs and to articulate housing and transportation goals that affect land use. The Draft 1990 LRDP is a land use plan, and does not set priorities for the program proposals, propose implementation plans, or commit the campus to any specific project. If The Regents of the University adopt the Draft 1990 LRDP, approval of any future projects must be preceded by analysis of project specific environmental effects in conformance with CEQA.

Areas of Controversy

The areas of controversy regarding the Draft LRDP are issues that have been raised by members of the community, or agency representatives and include: traffic, building density, parking, loss of open space, removal of landscaping, air quality and regional infrastructure.

Significant Impacts

Implementation of the Draft LRDP is anticipated to generate significant impacts in the following areas: ~~air quality~~, visual quality, water consumption, wastewater, and land use. The summary table in this section describes the type of impacts, the level of significance of each impact before and after incorporation of mitigation measures, and recommended mitigation measures intended to reduce environmental impacts below a level of significance where possible.

Significant cumulative impacts could also result from implementation of the LRDP, in conjunction with the development projected to occur in the related projects area and the region over the next fifteen years. The areas where significant cumulative impacts are anticipated include traffic, air quality, water consumption, wastewater, and solid waste.

A number of mitigation measures are proposed in this document to address project-specific and cumulative impacts. Several of these mitigation measures are located off-campus, and therefore implementation of those measures is not within the jurisdiction of The Regents. The University will, however, upon the jurisdiction's determination to proceed with each mitigation measure, negotiate with the jurisdiction to determine the University's reasonable pro rata share of the cost for such improvements.

State, Federal and local policies, plans and ordinances govern activities related to transportation, air quality, water consumption, wastewater, and solid waste. These policies are described below.

Regional plans to improve traffic conditions have been developed in the SCAG Regional Mobility Plan and the transportation elements of the Los Angeles General Plan, Westwood Community Plan, and certain interim control ordinances; however, a comprehensive traffic mitigation program for the Westwood area has not yet been developed.

In terms of cumulative air quality impacts, developments will be required to comply with applicable transportation management and emission control measures imposed by the South Coast Air Quality Management District (SCAQMD) pursuant to the 1989 Air Quality Management Plan and the California Clean Air Act.

State requirements for water conservation include the building standards in Title 24 of the Administrative Code.

Development within the City of Los Angeles is required to comply with the City's Water Conservation Ordinance and the Xeriscape Landscape Ordinance. These ordinances address water consumption and wastewater.

To implement the Integrated Solid Waste Management Act, the City and County of Los Angeles must plan to achieve, by 1995, a 25 percent reduction in solid waste disposed of by landfill or incineration and, by 2000, a 50 percent reduction.

Unavoidable Adverse Impacts

Even with incorporation of the recommended mitigation measures, some residual adverse impacts could be unavoidable. Areas where project impacts remain significant and unavoidable include: ~~air quality~~, visual quality, land use, water consumption, and wastewater. Areas where cumulative impacts would remain significant and unavoidable include: traffic, air quality, and utilities (water consumption, wastewater, and solid waste).

This document proposes several mitigation measures for project related and cumulative traffic impacts. Even following the implementation of these commitments, cumulative increases in traffic on local and regional roadways continue to be considered a significant unavoidable impact. In addition, because off-campus roadway improvements and regional transportation strategies are not within the jurisdiction of The Regents to implement, and because some of these improvements and strategies are unfunded or are otherwise uncertain from a technical, economic, legal or political perspective, these impacts are considered significant and unavoidable.

UCLA will comply with applicable transportation management and emission control measures imposed by the SCAQMD pursuant to the 1989 Air Quality Management Plan and the California Clean Air Act. SCAQMD is expected to adopt emissions control measures to implement the plan and to attain ambient air quality standards in the South Coast Air Basin. Because these regional measures are not within the jurisdiction of The Regents to implement, the cumulative air quality impacts of regional growth are considered significant and unavoidable.

The DWP 1985 Urban Water Management Plan includes regional water demand and supply projections as well as demand management and supply enhancement elements. Because these regional elements are not within the jurisdiction of The Regents to implement, and because these elements include measures which are unfunded or otherwise uncertain, the cumulative water consumption impacts of projected regional growth are considered significant and unavoidable.

The City of Los Angeles plans to increase the capacity of the Hyperion Treatment System, but anticipates that limitations will continue to be placed on net new increases of sewer flow to ensure that the improved system can provide adequate service to existing and new users. Thus, potential demand is projected to continue to exceed potential future capacity. Because neither the proposed capacity expansion nor the proposed user limitations are within the jurisdiction of The Regents to implement, and because some elements of planned capacity expansions and demand management strategies are unfunded or are otherwise uncertain, the cumulative wastewater system demand impact of projected regional growth is considered significant and unavoidable.

Because projected regional landfill demand for solid waste disposal continues to exceed regional landfill supply, and because the development and implementation of City and County plans to increase landfill capacity and to conform to the Integrated Solid Waste Management Act are not within the jurisidiction of The Regents, the cumulative solid waste impacts of projected regional growth are considered significant and unavoidable.

Mitigation Monitoring

As of January 1, 1989, all public agencies are required to adopt a mitigation reporting and monitoring program to assure that proposed mitigations are incorporated during project implementation. A mitigation reporting and monitoring program will be developed for the impacts described in this EIR and will be made available for public review in the Final EIR. The draft Mitigation Monitoring Program is included in Volume IV of the Final EIR.

Alternatives

Seven alternatives to the proposed Draft 1990 LRDP are considered in this EIR. Each alternative is described below.

1. No Additional Development - The proposed Draft 1990 LRDP would not be implemented, and UCLA would complete only those projects currently under construction and would not develop any additional buildings or facilities on campus.

2. No New Project - No additional projects would be developed beyond those that have been previously approved in conformance with CEQA.

3. Reduced Development - Total new development would be reduced by an amount that could eliminate or substantially reduce potentially significant or adverse environmental impacts.

4. High Density on Main Campus - Future development would be focused primarily on the main campus, particularly the Core Campus zone, and would preserve the Southwest Zone for potential future needs beyond the timespan of the proposed Draft 1990 LRDP.

5. No Southwest Housing - Implementation of the proposed Draft 1990 LRDP would occur, but without the housing complex proposed for the Southwest Zone.

6. Vacate Leased Space in Westwood - Space currently leased by the University in Westwood and West Los Angeles would be vacated, and those uses would be relocated to permanent facilities in the Southwest zone in addition to the development proposed in the Draft 1990 LRDP.

7. Off-Site Development - All development proposed in the Draft 1990 LRDP would be accommodated on an off-campus site.

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Land Use			
A-1: Implementation of Draft 1990 LRDP will result in land use intensification and potential for incompatibilities with off-campus land uses for the following zones: Northwest; Central; Core Campus; Bridge; and Campus Services.	LS	A-1: Criteria for siting and design of future development: -Landscape buffers at periphery; -Periphery development access points oriented toward campus; -Zone-specific development compatible with height and bulk of existing land use; and -Incompatibility between campus peripheral uses and adjacent community uses shall be reduced to a less-than-significant level by adoption of feasible mitigation measures.	LS
A-2: Intensification of land uses within the health sciences zone and Southwest zone is considered significant due to potential incompatibilities with off-campus land uses.	S	A-2: To the extent feasible, implement Mitigation Measure A-1 as well as other feasible project-specific mitigation measures.	SU
		A-3: Implement land use planning principles and assumptions for the Southwest Zone contained in the 1990 LRDP.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
POPULATION, EMPLOYMENT AND HOUSING			
B-1: Additional 4,695 average weekday on-campus population.	LS	B-1: None required or recommended.	LS
B-2: Additional 2,700 on-campus housing spaces.	LS	B-2: None required or recommended.	LS
B-3: Population increases could result in demand for housing for up to 2,430 faculty and staff beyond what would be provided under the Draft LRDP.	LS	B-3: None required or recommended.	LS
B-4: ~~Purchase of ± 830 existing bed spaces/units within one mile of campus could displace existing residents.~~	~~LS~~	B-4: ~~Implementation of University of California Relocation Regulations to provide relocation assistance to existing tenants.~~	~~LS~~

S = Significant
LS = Less than Significant
S8 = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
POPULATION, EMPLOYMENT AND HOUSING			
B-5: Up to 4,171 net additional staff and faculty jobs and 933 additional non-student housing units to the SCAG Central L.A. sub-region forecast for the year 2010.	LS	B-5 None required or recommended.	LS
PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES			
C-1: Vehicle trips would increase as a result of projected population increase.	S	C-1.1: ~~Continue to aggressively implement~~ Implement additional features of the Transportation Demand Management (TDM) Program which includes: -Shuttle bus services; -Bus pool and vanpool services; -Annual distribution of the UCLA Commuter's Guide; -Carpool matching and parking incentive programs;	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<u>PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES</u>			
		-Parking control management; -Financial incentives for carpool, vanpool, and bus-pool participants; -Restrict access to main campus facilities for on-campus residents;	
		C-1.2: Development of Southwest zone housing for 2,700 students, faculty and staff; and	
		C-1.3: Commitment to no net increase in supply of parking beyond currently approved level of 25,169 spaces.	
		<u>C-1.4</u>: <u>Total average daily vehicle trips from all vehicles entering and exiting main campus and parking facilities on Southwest zone and UCLA-controlled parking facilities at Veterans Admin. will be maintained at 139,500</u>.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES			
		C-1.5: If trip cap is exceeded, campus will implement necessary measures to reduce trip generation below the cap. If a project proposed during the LRDP planning horizon will cause exceedance of cap, such project will not be occupied until appropriate trip reductions have been achieved.	
C-2: Traffic patterns will have a significant impact on roadway segments and the intersection of Veteran Avenue and Wilshire Blvd.	S	C-2: Improve street system and traffic signals in the vicinity of Southwest zone including: -Widen Veteran Ave. north of Wilshire Blvd. providing dual southbound right-turn-only lanes onto Wilshire Blvd;	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE 1-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<u>PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES</u>		-Realign Weyburn Drive between Gayley Ave. and Veteran Ave. south of existing intersection of Veteran Ave. and Weyburn Drive. -Install new traffic signal at Veteran Ave. with no-right-turn-on-red for westbound travel from Weyburn to northound Veteran Ave; -Install traffic signal at intersection of Kinross and Veteran avenues and design to provide for emergency vehicle exit from existing L.A. City fire station; -Connect following traffic lights (new signals) to L.A. City's Automated Traffic Surveillance and Control (ATSAC) System: - Kinross and Veteran Avenues, - Realigned Weyburn Drive and Veteran Avenue,	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<u>PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES</u>			
		- Veteran Ave. and extension of LeConte Ave., - Levering and LeConte Avenues.	
C-3: Expansion of TDM Program will increase use of alternative transportation modes and demand for off-campus parking.	LS	C-3.1: Campus will actively promote alternative transportation modes which do not require individual car parking spaces (e.g. vans, busses, shuttles)	LS
		C-3.2: Encourage public agencies to assure that public transit systems have adequate capacity.	
		C-3.3: Campus will maintain and enhance as warranted supply of parking spaces for two-wheeled vehicles.	
		C-3.4: Campus will work with appropriate agencies and interested groups to promote a comprehensive system of bicycle routes in the vicinity of the campus.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES			
		C-3.5: Site future development on the Southwest zone to accommodate a transit hub for Westwood Village.	
C-4: Construction of new facilities could result in temporary elimination of on-campus parking spaces and could require additional temporary parking for construction workers.	LS	C-4.1: Continue to review parking implications of proposed facilities on a project-specific basis. Whenever feasible, undertake supply enhancement prior to removal of existing parking spaces. C-4.2: Continue to provide off-campus parking and shuttle services for construction workers.	LS
BIOLOGICAL RESOURCES			
D-1: Landscaping could be affected by implementation of the Draft 1990 LRDP.	S	D-1.1: Project-specific analysis; D-1.2: Removed trees available to public;	LS ~~(depending on project specific~~

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
BIOLOGICAL RESOURCES			
		D-1.3: New landscaping;	~~impacts.)~~
		D-1.4: Perimeter landscaping;	
		D-1.5: Oak tree replacement.	
ARCHAEOLOGICAL/HISTORICAL RESOURCES			
E-1: Possibility of archaeological or historical remains.	S	E-1: Archaeological survey, determination, and appropriate actions.	LS ~~(depending on project-specific impacts)~~
E-2: Possibility of demolition or substantial remodeling of historic structures.	S	E-2.1: Historic Structures Survey.	LS ~~(depending on project-specific impacts)~~
		E-2.2: Additions and/or expansions of existing buildings will be designed to complement existing architectural character.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
ARCHAEOLOGICAL/HISTORICAL RESOURCES (continued)		E-2.3: If any projects are proposed within the designated Historic Building zone, or would alter or affect the historical aspects of any buildings included in the State Inventory, the Campus will consult as appropriate with the State Historic Building Code Board and/or the State Historic Preservation Officer.	
VISUAL QUALITY			
F-1: Chiller/cogeneration facility: cooling towers and exhaust stacks	S	F-1.1: Building materials compatible with adjacent buildings and provision of rooftop screening devices are design objectives of the project.	SU
		F-1.2: Elimination of the third exhaust stack.	
F-2: Additional development under LRDP could have adverse impact.	LS	F-2.1: F-2: Each project other than the Chiller Cogeneration facility will be designed to: Retain public views; Protect designated open spaces and view corridors; Light/glare, shade/shadow measures.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
VISUAL QUALITY (continued)			
		F-2.2: Maintain western, northern, eastern edges of the main campus as a landscaped buffer. Place buildings of appropriate scale on the edge only to mark various campus entrances.	
		F-2.3: The Franklin O. Murphy Sculpture Garden, Dickson Plaza, Janss Steps and the Mildred C. Mathias Botanical Garden shall be preserved as open space during the LRDP planning period.	
GEOLOGY, SOILS AND SEISMICITY			
G-1: Construction in high seismic risk zone; Possible groundshaking and structural damage.	S	G-1.1: On-site geotechnical investigations by a California Certified Engineering Geologist consistent with University Policy on Seismic Safety;	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
GEOLOGY, SOILS AND SEISMICITY			
		G-1.2: Adherence to Title 24 of California Administrative Code/Uniform Building Code Seismic Zone 4 standards.	
		G-1.3: Continue to implement seismic upgrade of existing buildings.	
G-2: Construction in area of potentially unstable slopes or differential settlement.	S	G-2.1: On-site geotechnical investigations; G-2.2: Site work in compliance with University Policy on Seismic Safety.	LS
G-3: Construction could result in increased erosion.	S	G-3: Project specific erosion-control plans.	LS
HYDROLOGY AND WATER QUALITY			
H-1: Implementation of the LRDP will have an impact on the stormwater drainage system.	S	H-1.1: Upgraded stormwater drainage system, measures to reduce runoff; H-1.2: Open spaces, landscaping, semi-permeable pavements.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<u>HYDROLOGY AND WATER QUALITY</u>			
H-2: Potential soil erosion downstream during construction.	S	H-2: Project-specific erosion-control plans.	LS
H-3: Potential excavation impacts on groundwater.	S	H-3: Groundwater levels assessed and mitigated on a project-specific basis <u>if project will involve excavation of soils</u>.	LS
<u>AIR QUALITY</u>			
I-1: Demolition of existing structures and construction of new facilities would generate short-term emissions of air pollutants.	LS	I-1.1: Minimize air quality impacts by good construction practices and conformance with applicable SCAQMD requirements. I-1.2: Construction contracts will contain specifications designed to control construction-related emissions.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
AIR QUALITY (continued)			
I-2: Potential localized increases in carbon monoxide emissions from campus-related traffic.	LS	I-2: Implement traffic mitigation measures C-1.1, C-1.2, C-1.3, C-1.4, C-2, C-3.1, C-3.2, C-3.3, C-3.4, and C-3.5.	LS
I-3: Implementation of Draft 1990 LRDP would result in new development requiring electricity, cooling, and heating services which could increase air emissions in the South Coast Air Basin.	S LS	I-3: Development of chiller/cogeneration facility, which will include control and design measures to meet all emission requirements of the SCAQMD and compliance with applicable air quality laws and regulations.	S LS
I-4: Implementation of the Draft 1990 LRDP would increase emissions of toxic air contaminants.	LS	I-4.1: Design of chiller/cogeneration facility incorporates Best Available Control Technology (T-BACT)	LS
		I-4.2: Fume hood operation monitored as required by California Code of Regulations Title 8.	
		I-4.3: Effect of stack shape and exhaust velocity will be analyzed in selecting appropriate design for fume hood vents.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<u>AIR QUALITY</u> (continued)		I-4.4: New or modified air exhaust systems will be designed so that vents are on or above the roof level of buildings.	
		I-4.5: Fume hoods where Iodine 125 would be used in its gaseous state for iodination would be provided with a filter to reduce emissions of the radioisotope to the atmosphere. Xenon 133 would be used only in association with the proper trapping device to control emissions.	
<u>NOISE</u>			
J-1: Construction-related noise would cause short-term increase in ambient noise levels in vicinity of project sites.	~~LS~~ <u>S</u>	J-1: Implement following measures to minimize noise levels: by contract specifications, schedule construction activities to minimize disruption to area residences and campus users; by contract specification, require noise from construction equipment to be muffled or otherwise controlled; schedule loading and unloading in morning or afternoon hours where	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
NOISE (continued)		possible; stationary equipment placed to direct noise away from sensitive receptors; and stockpiling and staging areas located as far as practical from sensitive receptors.	
J-2: Draft LRDP will result in long-term noise impacts.	LS	J-2: Environmental documentation will be prepared for each project, which will include an assessment of the noise impacts of each project. Implementation of specific mitigation measures will be considered for each proposed project.	LS
J-3: Proposed housing in Southwest zone could expose future occupants to ambient noise levels in excess of State standards.	S	J-3: Proposed dwellings located or designed so that interior noise level will not exceed 45 Ldn; and potential noise impacts will be evaluated as part of design review for all projects and, if necessary, project-specific mitigation measures will be identified. All housing will comply with Title 24 of the California Administrative Code.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
NOISE (continued)			
J-4: Operation of Chiller/ Cogeneration facility will result in long-term increases in ambient noise levels	S	J-4: Acoustical analysis report to be prepared prior to construction of the Chiller/Cogeneration project which contains mitigation measures to limit ambient noise level increases of nearest sensitive receptor to no more than 3 dBA.	LS
UTILITIES			
K-1: LRDP implementation will result in an increase in water consumption	S	K-1.1 Monitor annually amount of new building area on campus to determine additional demands on water system.	SU
		K-1.2: New facilities (except patient care in medical center) shall be equipped with low flow showers, toilets, and urinals in conformance with state law.	
		K-1.3: If consistent with proposed uses, new landscaping shall use drought-resistant plants.	
		K-1.4: Provide maintenance service to promptly detect and repair leaks in water and irrigation pipes.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
UTILITIES (continued)		K-1.5: Retrofit cast iron irrigation pipes with PVC pipes and automatic timer system.	
		K-1.6: Avoid using water to clean sidewalks, walkways, driveways, and parking areas.	
		K-1.7: Avoid serving water at UCLA food service facilities except upon request.	
		K-1.8: Promptly detect and repair leaks.	
		K-1.9: Provide ongoing water treatment programs for campus cooling equipment.	
		K-1.10: Provide education for Facilities Management and general Campus employees on the importance of water conservation.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
UTILITIES (continued)		K-1.11 Reduce water pressure in plumbing and pipe systems where feasible to reduce the flow of water from faucets, showers, and other plumbing fixtures.	
		K-1.12 If individual projects under the 1990 LRDP create additional water demand beyond available water supplies, development shall be deferred pending availability of adequate water supply.	
K-2: Additional 20,105 pounds of solid waste daily.	S	K-2: Develop and implement a solid waste reduction and recycling program designed to result in a minimum 25% reduction in total quantity of campus solid waste disposed of in landfills during the LRDP plan period.	LS
K-3: Additional ~~997,530~~ 900,750 gallons of wastewater daily.	S	K-3.1: Implementation of water conservation measures K-1.1 through K-1.7.	SU
		K-3.2: Project specific evaluation of sewer line and treatment plant capacity.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
UTILITIES (continued)		K-3.3: The campus will negotiate with L.A. City to determine the campus' fair share of the cost for sewer system improvements and will reimburse the agreed upon amount to the City.	
ENERGY			
L-1: Additional electricity consumption over current levels.	LS	L-1: None required or recommended.	LS
L-2: Additional gas consumption over current levels.	LS	L-2: None required or recommended.	LS
L-3: Implementation of the LRDP will result in increased efficiency in the use of energy by UCLA.	LS	L-4: None required or recommended.	SB
HAZARDOUS MATERIALS			
M-1: Increased use of hazardous materials on campus.	S	M-1.1: For Chiller/Cogeneration Facility, incorporate ammonia pressure containers and other safety features as required per Calif. Code of Regs., OSHA Regs., ANSI Safety requirements, and the UCLA Business Plan. Prepare Risk Management and Prevention Program.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
HAZARDOUS MATERIALS (continued)			
		M-1.2: Inform employees and students of hazardous materials minimization strategies and require the implementation of these strategies.	LS
		M-1.3: Before Chiller/Cogeneration Facility is operational, update Disaster Response Plan and Business Plan as necessary.	LS
M-2: Chiller/Cogeneration Project will involve installation of new underground storage tanks.	LS	M-2: None waranted.	LS
M-3: Increased quantity of hazardous materials transported to UCLA.	LS	M-3: None required or recommended.	LS
M-4: Increased generation of hazardous waste on campus.	LS	M-4: ~~None required or recommended.~~ Once Chiller/Cogeneration project design is finalized, UCLA will apply for appropriate industrial wastewater discharge or other permits associated with wastewater discharge and treatment to the Los Angeles Department of Sanitation.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PUBLIC SERVICES (continued)			
PUBLIC SERVICES			
N-1: Additional police personnel required to maintain existing service levels.	S	N-1.1: Assess police staffing and equipment needs, encourage increase in staffing levels and equipment to meet needs generated by on-campus population increases.	LS
		N-1.2: The Campus police will continue its current practice of cooperating with the L.A. City Police Department in policing areas adjacent to the campus.	
		N-1.3: Provide campus police and West Los Angeles police with diagrams with floor plans of new structures.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PUBLIC SERVICES (continued)			
N-2: Increased need for fire protection systems and prevention services on campus.	S	N-2.1: New structures designed with adequate fire protection features in compliance with state law and the requirements of the state fire marshall. Building designs reviewed by appropriate campus staff and government agencies.	LS
		N-2.2: The adequacy of water supply and water pressure will be determined before implementation of specific projects.	
		N-2.3: Adequate access will be provided to within 50 feet of the main entrances of occupied buildings to accommodate emergency ambulance service.	
		N-2.4: Adequate access for fire apparatus will be provided within 50 feet of stand pipes and sprinkler inlets.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PUBLIC SERVICES (continued)			
		N-2.5: Service roads, plazas, and pedestrian walks that may be used for fire or emergency vehicles will be constructed to withstand loads up to 45,000 pounds.	
		N-2.6: As implementation of the Draft 1990 LRDP occurs, assess campus fire prevention staffing needs, encourage increases in staffing as determined by such needs assessments.	
N-3: Proposed development will increase the need for local fire suppression and emergency response services.	~~LS~~ S	N-3.1: Accident prevention features reviewed and incorporated into new structures to minimize the need for emergency response from L.A. City where feasible.	LS
		N-3.2: Provide specialized training as needed to local emergency response personnel and encourage increased staffing levels for local fire agencies.	

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

TABLE I-1
SUMMARY OF ENVIRONMENTAL EFFECTS
(continued)

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
PUBLIC SERVICES (continued)			
N-4: Implementation of Draft 1990 LRDP will cause increased enrollment demand on local public schools.	LS	N-4: None required or recommended.	LS
N-5: Increased demand for parks and recreational facilities on- and off-campus.	LS	N-3: None required or recommended.	LS

S = Significant
LS = Less than Significant
SB = Significant Beneficial
SU = Significant Unavoidable Impact Requiring a "Statement of Overriding Considerations" Prior to Project Approval

II. INTRODUCTION

Purpose of the Environmental Impact Report

This Draft EIR addresses the potential environmental impacts resulting from implementation of the proposed UCLA Draft 1990 LRDP intended to guide campus development through the year 2005. The California Environmental Quality Act (CEQA) gives specific direction on the purpose of the EIR. As stated in Section 21002.2 of CEQA: "The purpose of an EIR is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." The EIR process also provides an opportunity for public participation to further inform the environmental analysis and the proposed Draft 1990 LRDP.

This EIR has been prepared in accordance with CEQA and the University of California Procedures for Implementing the California Environmental Quality Act (effective March 17, 1989). The determination that the University is the "lead agency" is made in accordance with Section 15367 of the California State CEQA Guidelines, which defines the lead agency as "the public agency which has the principal responsibility for carrying out or approving a project."

The Draft 1990 LRDP is a general plan for future development, and thus this EIR was prepared as a "program" EIR. A program EIR is appropriate when the proposal is a series of actions that can be considered as one large project. The program EIR establishes a comprehensive analytical framework for analyzing overall impacts of the Draft 1990 LRDP implementation as well as a basis for subsequent project-specific "tiered" environmental documentation.

Project Description and Regional Planning Background

The subject of this Draft EIR is an analysis of the potential impacts that would result from development of the building space proposed in the Draft 1990 LRDP. The Draft 1990 LRDP is a land-use plan, intended to guide physical development of the Westwood campus until the year 2005. The Draft 1990 LRDP circulated in conjunction with this EIR contemplates the development of: approximately 2,600,000 gross square feet of new academic, research, administrative, student support, and auxiliary services space; and additional on-campus housing for approximately 2,700 students, faculty and staff, at a total of 1,100,000 gross square feet.

The Draft 1990 LRDP, and this EIR, also address regional planning issues of significant community concern. While these regional issues are addressed in detail in this EIR's analysis of impacts and mitigation measures, three overall regional planning objectives have guided the preparation of the Draft 1990 LRDP: commitments to effective transportation controls, land use planning that promotes a "jobs/housing balance," and the conservation of limited resources. In addition to the mitigation measures that are included in this EIR, these regional planning commitments are reflected in the Draft 1990 LRDP's land use planning elements, including housing (using a significant portion of remaining land use resources to develop affordable student, faculty and staff housing) and transportation and parking (including mitigation measures and land use planning elements to limit daily traffic trips to the levels currently approved, expanding existing alternate transportation programs, and committing to no net increases in automobile parking spaces during Draft 1990 LRDP implementation).

The need for additional space and facilities is derived from the program proposals described in the Draft 1990 LRDP, and is based upon recent academic strategic planning processes. These program proposals relate to: existing deficiencies in the amount and type of space, technological or functional obsolescence of existing facilities, and planned and unanticipated program changes that may require additional space during the fifteen year period of the Draft 1990 LRDP.

The purpose of the Draft 1990 LRDP is to establish a land use planning framework for current and projected facility needs and to articulate housing and transportation goals that affect land use. The Draft 1990 LRDP is a land use plan, and does not set priorities for the program proposals, propose implementation plans, or commit the campus to any specific project. If The Regents of the University adopt the Draft 1990 LRDP, approval of any future projects must be preceded by analysis of project specific environmental effects in conformance with CEQA.

Use of EIR

The information included in this Draft EIR is intended to enable the reader to make an independent evaluation of the environmental setting, impacts, and mitigation measures of the proposed Draft 1990 LRDP, and the potential cumulative effects resulting from implementation of the Draft 1990 LRDP in combination with related projects in the surrounding community.

To allow concerned agencies and interested members of the public the opportunity to comment on the EIR, the Draft EIR will be distributed for public review in accordance with CEQA. A public hearing will be held in September, 1990 to accept public testimony concerning the Draft EIR. Comments received by the University on the Draft EIR, along with responses to such comments, will be included in the Final EIR.

EIR Format and Contents

CEQA requires that an EIR contain certain areas of description and analysis including a summary; project description; description of environmental setting and impacts; alternatives; and growth-inducing and cumulative impacts. The contents of the EIR are briefly listed and described below.

I. Introduction. Explains the purpose of the EIR, the description of the project, how the EIR will be used, and the contents of the EIR.

II. Summary. Describes the purpose and characteristics of the Draft 1990 LRDP, controversial issues that have been raised; impacts expected to result from the proposed plan, and a summary table of environmental impacts.

III. Project Description. Provides a description of the project location and characteristics, including Draft 1990 LRDP objectives, proposed land use, anticipated development needs, population projections, and transportation, circulation, and parking.

IV. Environmental Setting, Impacts and Mitigation Measures. Consists of analyses and discussion of the existing environmental setting, environmental impacts, and cumulative impacts of the proposed Draft 1990 LRDP and related projects for the following impact areas: Land Use; Population, Employment and Housing; Traffic/Circulation and Parking; Biological Resources; Historic and Archaeological Resources; Visual Quality; Geology, Soils and Seismicity; Hydrology and Water Quality; Air Quality; Noise; Utilities; Energy; Hazardous Materials; and Public Services.

V. Analysis of Short-Term Versus Long-Term Effects. Describes project-related impacts that will foster growth, significant effects of the proposed plan, and short-term and long-term impacts.

VI. <u>Alternatives</u>. Seven alternatives to the proposed plan are described in this section:

1. <u>No Project</u> - The proposed Draft 1990 LRDP would not be implemented, and the University would complete only those projects currently under construction and would not develop any additional buildings or facilities on campus.

2. <u>No New Projects</u> - No additional projects would be developed beyond those that have been previously approved in conformance with CEQA.

3. <u>Reduced Development</u> - Total new development proposed would be reduced by an amount that could eliminate or substantially reduce potentially significant or adverse environmental impacts.

4. <u>High Density on Main Campus</u> - Future development would be focused primarily on the main campus, particularly the Core Campus zone, and would preserve the Southwest Zone for potential future needs beyond the timespan of the proposed Draft 1990 LRDP.

5. <u>No Housing in Southwest Zone</u> - Implementation of the proposed Draft 1990 LRDP would occur, but without the housing complex proposed for the Southwest zone.

6. <u>Vacate Leased Space in Westwood</u> - Space currently leased by the University in Westwood and West Los Angeles would be vacated, and those uses would be relocated to permanent facilities in the Southwest Zone in addition to the development proposed in the Draft 1990 LRDP.

7. <u>Off-Site Development</u> - All development proposed in the Draft 1990 LRDP would be accommodated on an off-campus site.

Concurrent Review of Project EIRs

During the public review period for the Draft 1990 LRDP and Draft EIR, two project specific EIRs ~~will~~ concurrently proceed<u>ed</u> through the CEQA review process: the Chiller/Cogeneration revised Draft EIR, <u>which was certified by the Regents September 20, 1990</u>; ~~released August 1, 1990 for the public review period which will end on August 30, 1990, with a public hearing scheduled for August 21, 1990;~~ and the Patient Family Guest House Final EIR which ~~will be distributed in early September, 1990 for consideration by the Regents at the September 20-21, 1990 meeting~~. <u>was certified by the Regents September 20, 1990</u>.

The ~~proposed~~ Chiller/Cogeneration project includes an amendment to the 1983 LRDP, which was ~~will be~~ considered by the Regents along with approval of the project. ~~In the event the Chiller Cogeneration project is not so approved, it will become part of the 1990 Long Range Development Plan and the potential environmental effects have therefore been included in this Draft EIR~~. As discussed in greater detail in Section III., Project Description, and Section IV., Environmental Settings, Impacts and Mitigation Measures, the impacts of these projects, as well as cumulative impacts from other reasonably foreseeable development off-campus, are also addressed in this EIR.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the visual quality impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

III. PROJECT DESCRIPTION

This section provides a discussion of the UCLA campus location and a description of the proposed Draft 1990 Long Range Development Plan (Draft 1990 LRDP). The Draft 1990 LRDP is a comprehensive land use plan that guides physical development of the campus to the year 2005. The Draft 1990 LRDP identifies the program goals to be achieved during the planning period, estimates the building space required to achieve these goals, and provides a land use map to guide the physical planning process.

Project Location

UCLA is located in the City of Los Angeles, north of Westwood Village. Figure III-1 shows the location of UCLA in a regional context.

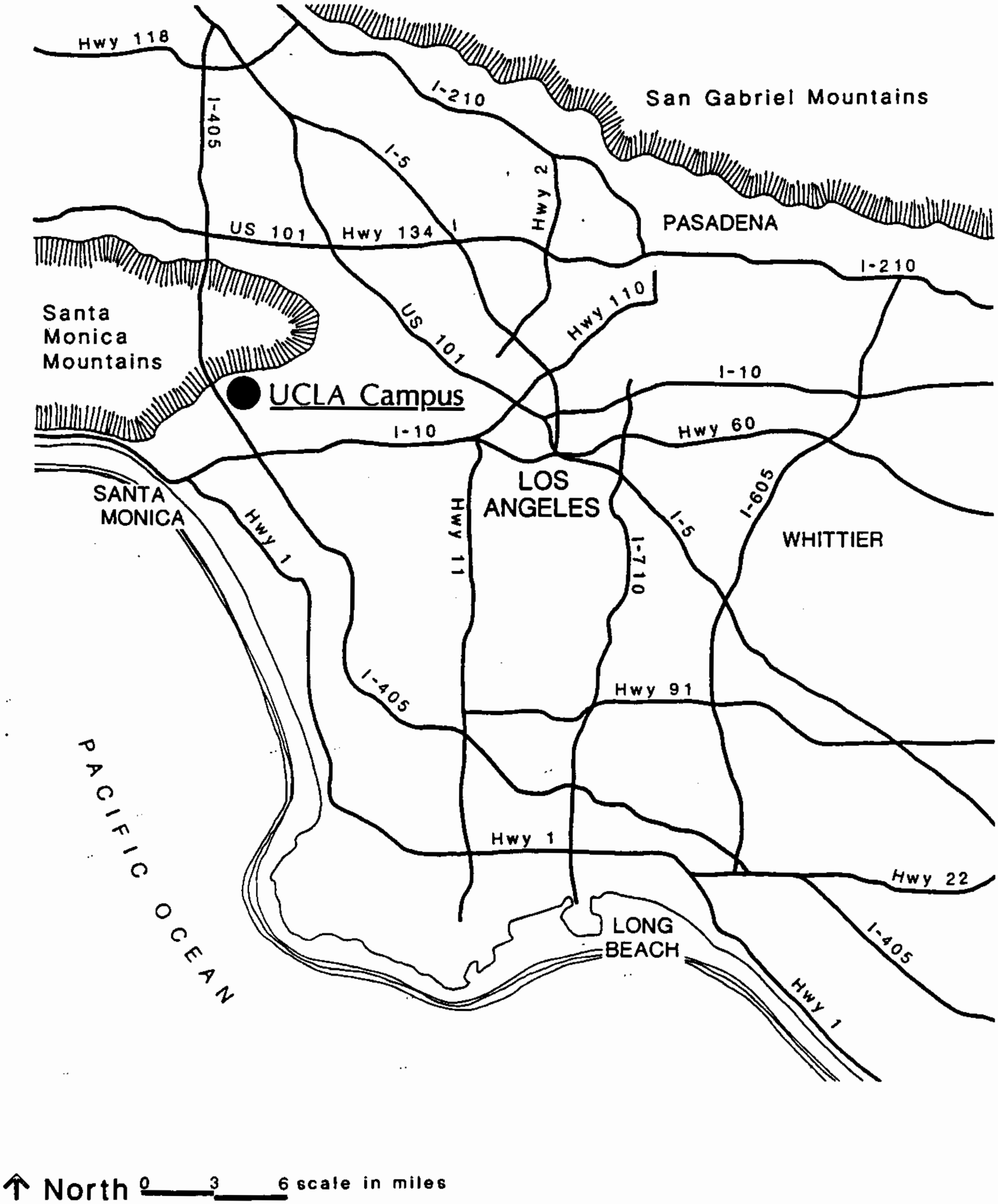
Figure III-2 shows the 419-acre Westwood campus area to be considered in this EIR. Off-campus properties owned by the Regents of the University of California and operated by UCLA are not part of the Draft 1990 LRDP. The Draft 1990 LRDP is for the UCLA campus only. Figure III-3 shows major buildings and features on-campus.

Description of the Draft LRDP

The subject of this EIR is an analysis of potential environmental impacts that would result from the development proposed in the UCLA Draft 1990 LRDP and associated population growth. The existing LRDP was approved by the Regents of the University in 1983. The Draft 1990 LRDP is a land-use plan to guide physical development of the Westwood campus during a fifteen-year planning horizon to the year 2005. Based on campus academic goals, the Draft 1990 LRDP includes the following elements:

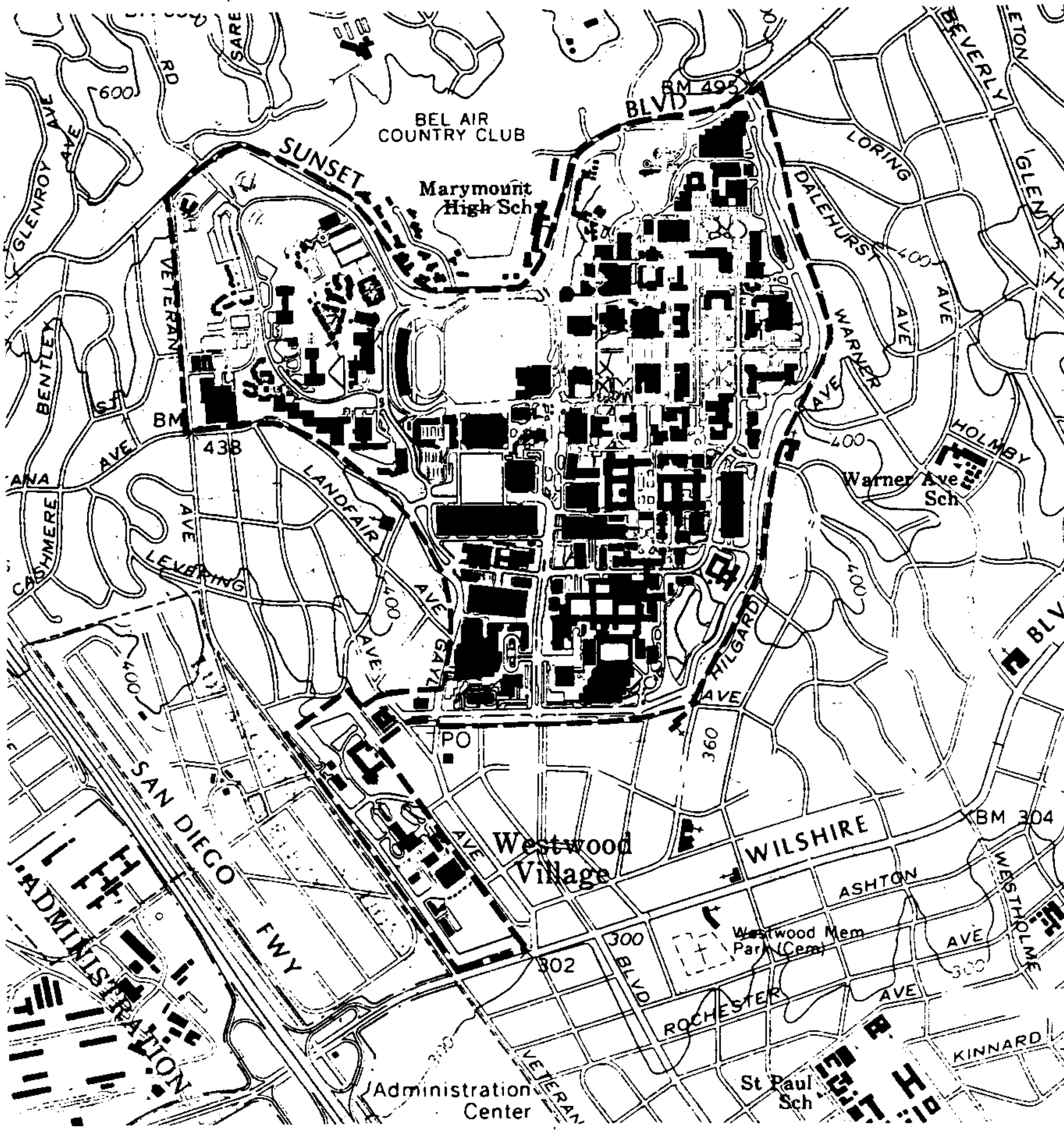
- A projected optimal on-campus enrollment of approximately 34,779 students; an increase of approximately 105 over the existing on-campus enrollment.

- Academic, research, administrative, medical, cultural, recreational, auxiliary services, and student support building space proposals of approximately 2,610,000 gross square feet, to meet academic objectives described in the Draft 1990 LRDP including: to correct deficiencies and technological obsolescence in existing facilities; accommodate new program directions in instruction, research, and public service functions; and provide capacity for unanticipated future program requirements.



UCLA
Long Range
Development Plan EIR

Figure III-1
Regional Vicinity Map



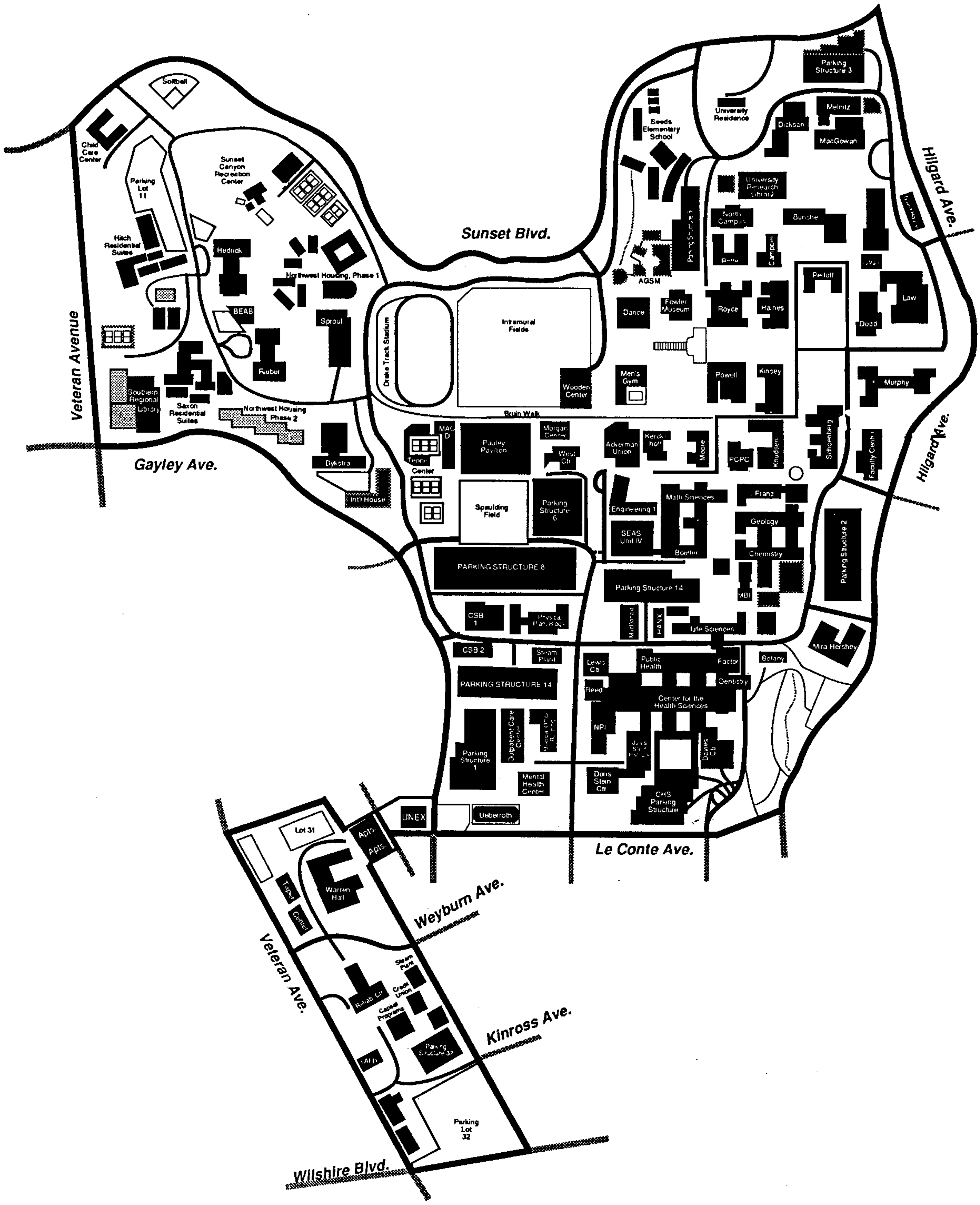
Project Boundaries

SOURCE: UCLA, USGS

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure III-2
Project Vicinity



Existing or Under Construction

Construction Pending

Previously Approved

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure III-3
Campus Map

- Consistent with regional planning efforts to improve the jobs/housing balance, the proposed development of a residential housing complex in the Southwest Zone to house approximately 2,700 students, faculty, and staff within a total of approximately 1,100,000 gross square feet of building area. The residential development would be accompanied by approximately 75,000 gross square feet of indoor recreation facilities and adjacent outdoor informal play areas and recreation facilities.

- Consistent with regional planning efforts to improve traffic and air quality, continued promotion and expansion of the existing Transportation Demand Management program as described in Subsection IV-C, Traffic and Circulation, the Draft 1990 LRDP proposes a cap on the total number of parking spaces of approximately 25,169. The land use planning elements in the Draft 1990 LRDP, in conjunction with the transportation mitigation measures included in this Draft EIR, will result in a decrease in daily UCLA-related trips from 145,000 vehicle trips per day to 139,500 trips per day.

- Improvements to the existing campus roadway network to enhance circulation within the campus and in the vicinity of the campus.

<u>Campus Land Use Zones</u>

While this program EIR analyzes the impacts resulting from overall campus development, the Draft 1990 LRDP also identifies land use zones and, within each zone, development densities and land use planning guidelines. Since the Draft 1990 LRDP does not propose specific buildings or building sites, the density and land use guidelines for each zone will inform the design and siting of future campus facility development. At the program EIR level, the density and land use planning principles guiding future development within zones are not sufficiently detailed to allow for a detailed analysis of specific sites or future facility configurations. Rather, the application of these density and use principles is used to evaluate programmatic impacts in this Draft EIR, which will in turn inform the more detailed level of tiered environmental review that will be prepared in conjunction with future development proposals.

The projected allocation of future building space capacity to various campus land use zones is shown in Figure III-4. A brief description of the land use proposed for each zone of the campus shown on Figure III-4 is as follows:

Northwest. Virtually all of the undergraduate residential development on-campus is in the northwest zone, which also includes some nonresidential uses.

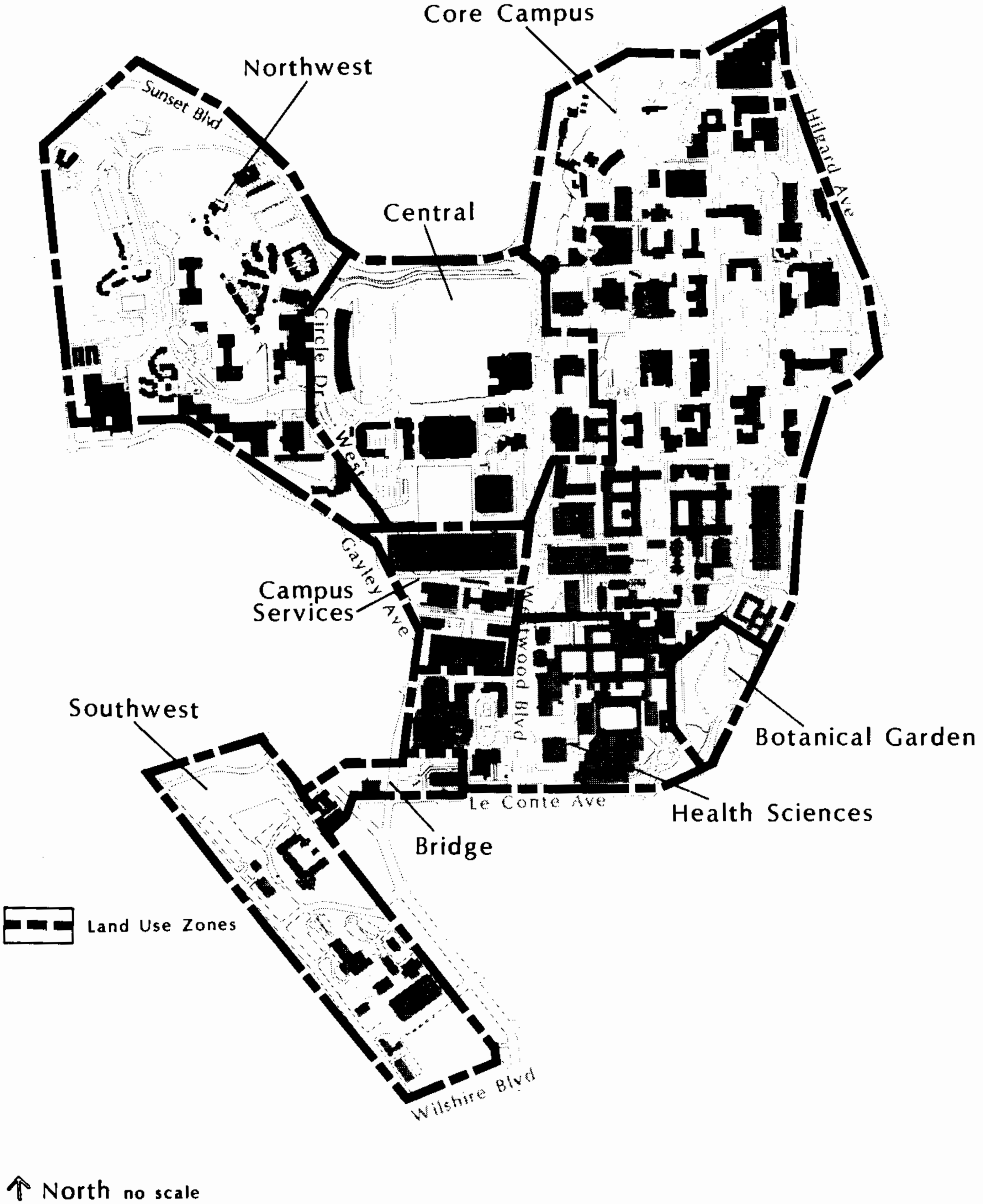
These nonresidential uses include the existing Southern Regional Library Facility and a previously-approved expansion of this library facility, Ornamental Horticulture buildings, the Child Care Center, the Business Enterprises Administration Building, and the Sunset Canyon Recreation Center which includes swimming pools, tennis courts and a baseball diamond.

In addition to the existing 4,278 beds housing students on North Campus, space for an additional 1,256 beds is under construction, and 1,400 beds have been previously approved in conformance with CEQA.

Central. With the exception of the Sunset Canyon Recreation Center, most of the athletic and recreational facilities on-campus are in the geographic center of the campus between Northwest and the core campus zones. Facilities include the Ackerman Student Union, athletic facilities, and multiple use athletic fields. The open space is used for intramural sports, intercollegiate athletics, military science programs, and various recreational activities.

Core Campus. Classrooms, academic offices, and research facilities are located in the core campus. The northern area has become the main focus of the campus in the liberal arts and serves also as a cultural center for the University and the community. The core campus includes the University Research Library; facilities for the fine arts, social sciences, humanities, law, and management; theaters and a museum. The central core area contains physical, life, and engineering sciences, education, psychology, music, and the College Library, as well as the administration building and the Faculty Center.

Botanical Garden. The Mildred E. Mathias Botanical Garden is located at the southeast corner of the campus.



UCLA
Long Range
Development Plan EIR

Figure III-4
1990 LRDP Land Use Zones

Bridge. The Bridge forms the physical link between the Main Campus zones and the Southwest zone. The Ueberroth Building, University Extension, and faculty and student housing are located in this zone.

Health Sciences. Life and health science facilities are located in the southern portion of the main campus. These facilities include the Medical Center, the Schools of Dentistry, Medicine, Nursing and Public Health, and the Ambulatory Care Center.

Campus Services. South of the multiple use athletic field is the service area for the campus, containing facilities such as the central garage for University vehicles, the headquarters of the Facilities Division, mail and messenger services, fleet services, and the Central Steam Plant.

Southwest Zone. Land uses on Southwest zone include parking, outpatient medical facilities, a steam plant, medical research facilities and administrative offices.

The 1983 Long Range Development Plan

The previous LRDP was adopted by the Regents February 18, 1983. The 1983 LRDP addressed current and projected facilities requirements of the UCLA campus, proposed building sites for new construction, and provided planning guidelines for future development. Proposed facilities totalled 3,883,900 gross square feet, with a net increase of 3,550 parking spaces. A buildout daily population of 48,500 - 53,500 was projected based on a three-quarter-average of persons who use the campus, including students, faculty, staff, and visitors. The 1983 LRDP did not include a proposal for a daily vehicle trip cap. The ~~proposed~~ chiller cogeneration project includes an amendment to the 1983 LRDP, which will be considered by the Regents along with approval of the project. In the event the chiller cogeneration project is not approved, it will become part of the 1990 Long Range Development Plan and the potential environmental effects have therefore been included in this Draft EIR. A project specific Draft EIR for the chiller cogeneration project was released for public review on August 1, 1990 (SCH# 87090208).

Anticipated Development Needs

Table III-1 provides a summary of the program proposals in the Draft 1990 LRDP. It includes 2,610,000 gross square feet of proposed academic, research,

TABLE III-1
DRAFT 1990 LRDP SPACE PROPOSALS BY PROGRAM

	Approximate Gross Square Feet
Academic Programs:	
General Campus Professional Schools Architecture and Urban Planning, Education, Engineering and Applied Science, Law, Library and Information Science, Management, and Social Welfare	300,000
Fine Arts and Cultural Programs The Arts, Theater, Film & Television, Film & TV Archives	200,000
College of Letters and Science Honors and Undergraduate Programs, Humanities, Life Sciences, Physical Sciences, and Social Sciences	~~500,000~~ 550,000
Health Science Professional Schools Dentistry, Medicine, Nursing, and Public Health	500,000
University Library	200,000
Administrative and Auxiliary Programs:	
General Administration	~~255,000~~ 205,000
Medical Center	300,000
Child Care	40,000
Recreation	75,000
Student Support Student Affairs, Student Commons	190,000
Affiliated Units ASUCLA, ~~University Extension, Conference Center~~	50,000
Housing	1,100,000
TOTAL Program Proposals	**3,710,000**

Source: UCLA Capital Programs, June 1990.

administrative, medical, recreational, cultural, auxiliary services, and student support space; and housing for approximately 2,700 students, faculty, and staff which could result in an additional 1,100,000 gross square feet. For the purposes of this EIR, "the project" therefore refers to the potential for approximately 3.7 million gross square feet of additional residential, medical, recreational, cultural, academic, research and administrative, and auxiliary services building space on campus.

The 1990 existing campus environment includes 14,935,959 gross square feet of buildings and parking structures; 3,996,774 gross square feet of buildings and parking structures currently under construction. A description of the 1990 existing campus environment is provided in Appendix A, Volume II of the Draft EIR.

Two projects in the Northwest zone, Phase 2 of the Northwest Housing Complex and an expansion of the Southern Regional Library, were previously approved in conformance with CEQA. These projects include an additional 668,000 gross square feet of buildings and 208,000 gross square feet of parking structures. Since neither of these projects is currently under construction, they are not included in the environmental setting described in this EIR. Since both projects are reasonably foreseeable, however, they are included as related projects and addressed in the cumulative impacts analysis of this Draft EIR.

The Draft 1990 LRDP proposes additional building space and includes guidelines for distributing future uses among the campus planning zones. Program adjacencies and planning assumptions drawn from recent physical planning studies have been used to derive the land use scenarios. Potential program space allocations within each zone are detailed in Table III-2, and are the basis of a more refined analysis of potential zone-specific environmental effects.

It should be noted that this program is conceptual in nature. The total amount of space allocated to a program in any zone may be altered as individual projects are developed over time. The intent of this EIR is to address the total cumulative effect of campus development contemplated in the Draft 1990 LRDP, while utilizing conceptual space allocations for each zone to consider the possible zone-specific effects of development. Although the total amount of space proposed for development within each zone may ultimately be less than proposed in the Draft 1990 LRDP, this zone-specific total

TABLE III-2
POTENTIAL DISTRIBUTION OF PROPOSED PROGRAM SPACE AMONG CAMPUS PLANNING ZONES

Zone		Gross Square Feet
Northwest	Child Care	5,000
	Zone Total	5,000
Central	Affiliated Units	25,000
	Student Support	~~125,000~~ 100,000
	Zone Total	125,000
Core Campus	Professional Schools	300,000
	Letters and Science	250,000
	Arts	50,000
	Libraries	200,000
	Health Sciences	100,000
	Zone Total	900,000
Campus Services	Administration	155,000 ~~105,000~~
	~~Medical Center~~	~~50,000~~
	Zone Total	155,000
Botanical Garden	No construction planned	N/A
Health Sciences	Health Sciences	400,000
	Medical Center	300,000
	Zone Total	700,000
The Bridge	Medical Center	25,000
	Zone Total	25,000
Southwest	Arts	150,000
	Letters and Science	300,000
	Administration	50,000
	Child Care	35,000
	Student Support	90,000
	Recreation	75,000
	Housing	1,100,000
	Zone Total	1,800,000
Total All Zones:		**3,710,000**

Source: UCLA Capital Programs, June 1990.

may not be exceeded, except following further environmental review in conformance with CEQA and appropriate action by the Regents.

Campus Population

The Draft 1990 LRDP is based upon an optimal on-campus enrollment projection for the year 2005 of a total of 34,779 students. Staff and faculty could total approximately 21,945 by the year 2005. See Subsection IV-B., Population, Employment and Housing for a more complete discussion.

Traffic, Circulation and Parking

The Draft 1990 LRDP proposes improvements to the existing roadway network to enhance circulation within the campus and in the vicinity of the campus. These proposed improvements include the proposed realignment of Weyburn Avenue and the westward extension of Le Conte Avenue between Levering and Veteran avenues to facilitate access to the housing and related development proposed for the Southwest Zone.

The Draft 1990 LRDP proposes no net increase beyond the existing, under construction and previously approved parking, maintaining the current campus inventory of 25,169 parking spaces. Some parking spaces in the existing and previously approved inventory may be transferred among zones, including to the Southwest Zone, to accommodate the needs of the proposed residential complex.

UCLA Project Proposals

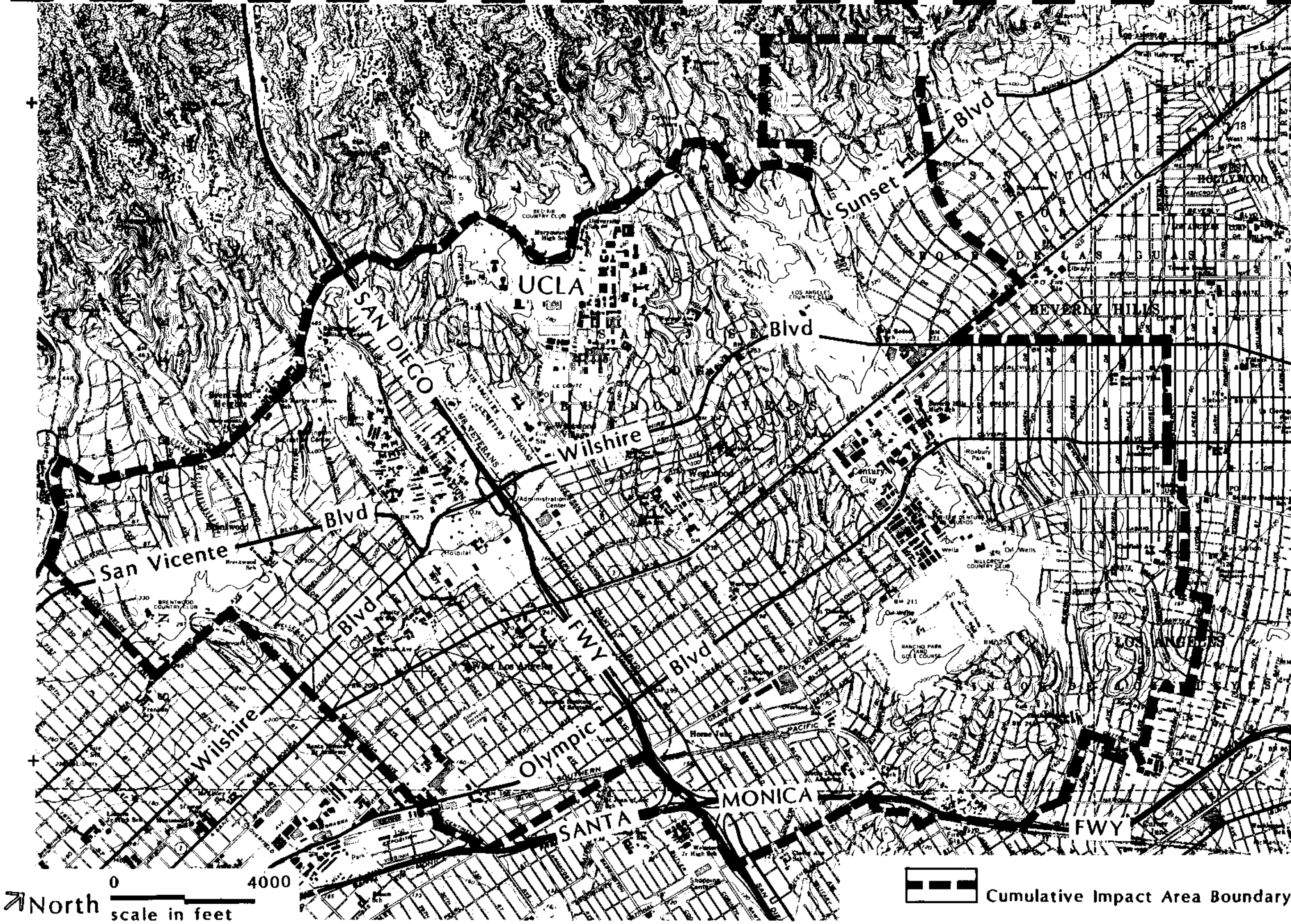
Two specific projects are planned ~~also proposed~~ by UCLA in the immediate future: a Chiller/Cogeneration Facility and an off-campus Patient-Family Guesthouse. Both projects have been analyzed in separate EIRs. The ~~proposed~~ Chiller Cogeneration project includes an amendment to the 1983 LRDP, which was ~~will be~~ considered by the Regents when ~~along with approval of~~ the project was approved. ~~In the event the Chiller Cogeneration project is not so approved, it will become part of the 1990 Long Range Development Plan and the potential environmental effects have therefore been included in this Draft EIR~~. The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the visual quality impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the

Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project. A project specific Draft EIR for the Chiller/Cogeneration Project was released for public review on August 1, 1990 (SCH# 87090208). The Patient-Family Guesthouse is not proposed to be located on the main campus and is thus not included in the Draft 1990 LRDP. The impacts of this proposed project are considered in the cumulative impacts analysis of this program EIR and are addressed in greater detail in a project-specific EIR. Since approval of the 1990 LRDP does not constitute a commitment to any particular project, both the Chiller/Cogeneration Facility and the Patient Family Guesthouse were ~~will be~~ considered and ~~may only be~~ approved by the Regents in separate actions informed by these project-specific EIRs.

Cumulative Impacts From Related Development

For the purposes of this EIR, the cumulative impacts of the Draft 1990 LRDP are analyzed in the context of the two previously approved on-campus projects that are not presently under construction, in conjunction with reasonably foreseeable off-campus development. Population, housing and nonresidential development building area for the analysis of cumulative impacts were derived from the Southern California Association of Governments (SCAG) Growth Management Plan, and includes the Related Projects list shown in Appendix C.

An area around the campus was identified to generally assess cumulative impacts of the Draft 1990 LRDP. This area, depicted in Figure III-5, includes the Westwood community planning area and extends to the south and west to encompass adjacent freeway access points to the San Diego and Santa Monica Freeways. Regional impacts on air quality, water supply, and other regional resources are also addressed in the cumulative impacts analysis.



UCLA
Long Range
Development Plan EIR

Figure III-5
Off-Campus Cumulative Impact Area

Alternatives

Seven alternatives to the proposed Draft 1990 LRDP are considered in this EIR. Each alternative is described below.

1. No Additional Development - The proposed Draft 1990 LRDP would not be implemented, and UCLA would complete only those projects currently under construction and would not develop any additional buildings or facilities on campus.

2. No New Project - No additional projects would be developed beyond those that have been previously approved in conformance with CEQA.

3. Reduced Development - Total new development would be reduced by an amount that could eliminate or substantially reduce potentially significant or adverse environmental impacts.

4. High Density on Main Campus - Future development would be focused primarily on the main campus, particularly the Core Campus zone, and would preserve the Southwest Zone for potential future needs beyond the timespan of the proposed Draft 1990 LRDP.

5. No Southwest Housing - Implementation of the proposed Draft 1990 LRDP would occur, but without the housing complex proposed for the Southwest Zone.

6. Vacate Leased Space in Westwood - Space currently leased by the University in Westwood and West Los Angeles would be vacated, and those uses would be relocated to permanent facilities in the Southwest zone in addition to the development proposed in the Draft 1990 LRDP.

7. Off-Site Development - All development proposed in the Draft 1990 LRDP would be accommodated on an off-campus site.

IV. ENVIRONMENTAL SETTINGS, IMPACTS AND MITIGATION MEASURES

The following sections describe the environmental setting of the project, impacts resulting from implementation of the Draft 1990 LRDP, mitigation measures to reduce the impacts of the Draft 1990 LRDP, and cumulative impacts from related development in the project area.

Existing Setting

The academic year 1989-90 is the "baseline year" in which the existing setting has been inventoried and described. This year has been used as "baseline" because it is the year when work on the Draft 1990 LRDP began.

The average weekday campus population for 1989-90 was approximately 53,735 and campus building space, including projects currently under construction and parking structures, totaled 18,932,733 gsf (gross square feet).

Proposed Project

Approval of the Draft 1990 LRDP would provide for an additional 2,600,000 gsf for academic, research and support facilities and 1,100,000 gsf of residential facilities for approximately 2,700 students, faculty, and staff. Table III-1 describes the development proposals by academic, administrative, and auxiliary programs. Potential allocation of future gross square feet by Draft 1990 LRDP land use zones is illustrated in Table III-2.

Determination of Significance

Under CEQA, a "significant effect" is defined as a substantial, or potentially substantial, adverse change in the physical environment. The specific criteria for determining the significance of a particular impact are identified prior to the impact discussion in each issue section, and are consistent with significance criteria set forth in the CEQA Guidelines.

Where impacts are identified as less-than-significant, CEQA does not mandate the adoption of all feasible mitigation measures. In addition, CEQA does not mandate consideration of impacts that do not affect the physical environment. However, consistent with the Draft LRDP's overall goal of maintaining and enhancing the campus environmental quality, this EIR identifies mitigation measures for many less-than-significant and non-physical impacts. It also identifies mitigations that were considered and subsequently found to be infeasible and therefore not recommended for incorporation in this Draft EIR.

All mitigation measures are recommended to the Regents as elements of the proposed project, and become binding when the Regents certify the EIR and approve the project.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the visual quality impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

Cumulative Impact

Under CEQA, the "cumulative effect" of a proposed project in conjunction with other reasonably foreseeable development in the project area must also be evaluated. For purposes of this EIR, cumulative growth includes implementation of the Draft LRDP, construction of the two previously approved on-campus projects that are not currently under construction (Phase 2, Northwest Housing and the expansion of the Southern Regional Library) and assumed buildout of the City of Los Angeles campus environs as derived from data provided by the Southern California Association of Governments (SCAG). The cumulative impacts are addressed, where applicable, at the end of each issue section.

The boundaries of the off-campus cumulative impact area are shown in Figure III-5. This area was chosen based upon anticipated traffic impacts of UCLA traffic.

Where regional resources are affected (air quality, water supply, landfill capacity, etc.), the cumulative impacts analysis considers regional demand beyond the boundaries of the off-campus cumulative impact area.

Future land use projections were based on data provided by SCAG. These data were disaggregated based on an examination of vacant or underutilized parcels and the historical turnover rates for developed parcels. In addition, these land use projections were compared to the related projects list contained in Appendix C. Where necessary, the SCAG growth projections were adjusted to account for individual projects on the related projects list. Except for Westwood Village, the total growth projected by SCAG exceeded that of the related projects list. Employment growth within Westwood Village was increased over SCAG projections to account for the proposed Nansei project. A summary of the cumulative impacts is presented on page I-2 of the summary.

A. Land Use

Environmental Setting

Existing Campus Land Use

The project site consists of the entire 419-acre UCLA campus as shown on Figure A-1. Figure A-1 also shows the eight campus planning zones. Existing and proposed land use will be discussed in terms of these eight zones. Land uses on the campus include academic, administrative, cultural, residential, research, recreation, and medical. Refer to Visual Quality (Subsection IV.F.) for a discussion of open space impacts.

The 1990 base built environment is described in the following paragraphs and summarized in Table A-1.

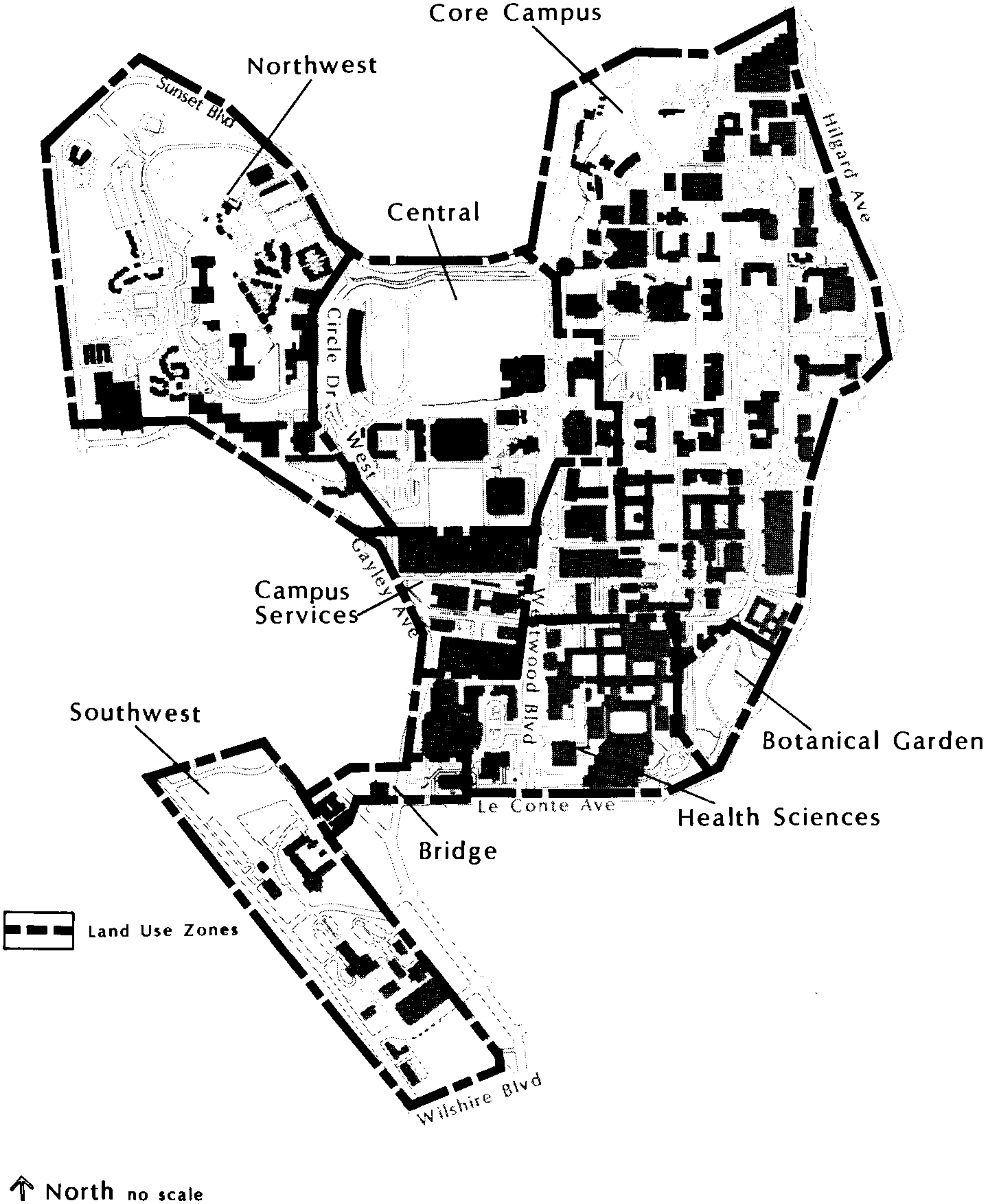
Core Campus (158.0 acres). The Core Campus is the primary academic, research and administrative area of the campus. Located on the northeast portion of the campus, Core Campus is generally bounded by Westwood Plaza on the west, Sunset Boulevard on the north, and Hilgard Avenue on the east, and Circle Drive South along the southern border. The Botany Building and Mira Hershey Hall are also considered part of this zone.

Core Campus contains the original campus buildings; the pedestrian plazas and walkways of Dickson Plaza and the Janss Steps; and Murphy Sculpture Garden. Art galleries, museums, auditoriums and theaters that serve the public as well as the campus community are also located on the Core Campus.

Botanical Garden (7.0 acres). Adjoining the Core Campus on the south, at the intersection of Le Conte and Hilgard Avenues, the Botanical Garden was established in 1930 and was renamed the Mildred E. Mathias Botanical Garden in 1979. In addition to its use as a teaching facility, the garden is also open to the public. There are no structures in this zone, with the exception of a lathhouse and a greenhouse.

Northwest (90.5 acres). Considered the primary residential area of campus, this zone is bounded by Veteran Avenue on the west, Sunset Boulevard on the north, Circle Drive West on the east, and Gayley Avenue on the south.

The Northwest Zone includes residence halls and suites for undergraduates. The Child Care Center is located in the northwest corner of the zone and the Southern Regional Library in the southwest corner. The Sunset Canyon Recreation Student Center, women's softball field,



UCLA
Long Range
Development Plan EIR

Figure A-1
1990 LRDP Land Use Zones

TABLE A-1

UCLA 1990 BUILT ENVIRONMENT BY ZONE*

(Gross Square Feet)

	Zone								
	Northwest	Central	Core Campus	Campus Services	Health Sciences	Botanical Garden	The Bridge	Southwest	Total Existing Development
Total Square Feet of Building Area	1,888,680	1,241,078	8,261,098	1,508,799	5,137,103	0	336,319	559,658	18,932,733

Source: UCLA Capital Programs

* Includes existing development, projects approved with an EIR that are currently under construction, and parking structures.

and several tennis courts are also located in Northwest. Several projects are currently under construction within this zone: the International Student Center, the Commons building, Phase I of two phases of student housing, and a parking structure.

(Two projects have been previously approved for development within this zone, but are not currently existing or under construction and thus are not included in the existing campus setting. Completion of these projects would add 876,000 gsf to this zone).

Central (61.5 acres). This zone is located between Core Campus and Northwest, bounded by Circle Drive West on the west, Sunset Boulevard on the north, Ackerman Student Union on the east, and Strathmore Place on the south.

The Central Zone contains most of the campus recreational and athletic facilities, a well as student activity centers. These facilities include intramural and athletic fields, Drake Track Stadium, Pauley Pavilion, the Wooden Center, the UCLA/Los Angeles Tennis Center, the James E. West Alumni Center, the Men's Gym, Ackerman Student Union and Kerckoff Hall, the Central Ticket Office and Morgan Intercollegiate Athletic Center and training facilities for athletes. The only project currently under construction in this zone is a ticket office.

Campus Services (21.5 acres). This zone is located south of Strathmore Place, bounded by Gayley Avenue on the west, Westwood Plaza on the east, and the southern edge of Parking Structure 14. Parking Structures 8 and 14 occupy most of the area of the zone. Facilities Management shops and yards, Mail and Messenger Service, Fleet Services, the Central Steam Plant, Community Safety, Telecommunications, and the Campus Police are also located in the Campus Services zone.

Health Sciences (40.5 acres). Encompassing one of the main entrances to the University, the Health Sciences zone is bounded on the west by Gayley Avenue, on the north by Parking Structure 14 and Circle Drive South, on the east by the Botanical Garden, and on the south by Le Conte Avenue.

The Health Sciences Zone is the location of the Medical Center and the Schools of Dentistry, Medicine, Nursing, and Public Health. These uses are housed in a number of structures, including the Factor Building, Neuropsychiatric Institute and Hospital, Jerry Lewis Center, Jules

Stein Eye Institute and Doris Stein Eye Research Center, Reed Neurological Research Center, Marion Davies Clinic, UCLA Medical Plaza, and Parking Structures 1, E and Center for Health Sciences.

Bridge (5 acres). The Bridge forms the physical link between the Main Campus zones and the Southwest zone. Essentially, the Bridge is made up of the Ueberroth Building on Le Conte Avenue, the University Extension Building at Gayley and Le Conte avenues, and student and faculty housing on Levering Avenue.

Southwest (35.5 acres). This zone is bounded by Veteran Avenue on the west, private residences on the north, Midvale Court (an alley) on the east, and Wilshire Boulevard on the south.

Approximately one-third of the Southwest zone is occupied by surface parking lots and one parking structure. In addition, this zone is the location of Warren Hall (a research center used by the Medical School), the Rehabilitation Center and ~~another~~ a steam plant, the University Credit Union, West Medical Building, Capital Programs Building, and several temporary structures.

Regional Planning Context

Several local and regional agencies have completed, or continue to work toward, the development of planning principles that address the many regional issues of concern in the Los Angeles area. The report of the Los Angeles 2000 Committee, published in November 1988, recognized traffic and air quality as major planning issues, and recommended the development of a variety of transportation alternatives as well as greater attention focused on achieving a local balance among jobs and housing. The South Coast Air Quality Management District Air Quality Management Plan, adopted in March of 1989, includes transportation management elements as part of an integrated approach toward reducing air pollution in the short- and long-term. The Southern California Association of Governments (SCAG) adopted its Growth Management Plan (GMP) in February of 1989. The goals of the GMP include: the protection of the environment through planned distribution of growth; the encouragement of "jobs/housing balance" within subregions; and the provision of adequate, accessible and affordable housing.

The City of Los Angeles has also adopted ordinances to address the problem of existing and future sewer treatment plant capacity. The City of Los Angeles Sewer Permit Allocation Ordinance includes measures to control access to the Hyperion Treatment System.

Los Angeles City also has a water conservation ordinance which includes requirements that all existing showerheads, water closets and urinals in commercial, industrial and residential structures be water saving, as well as other mandated water conservation actions.

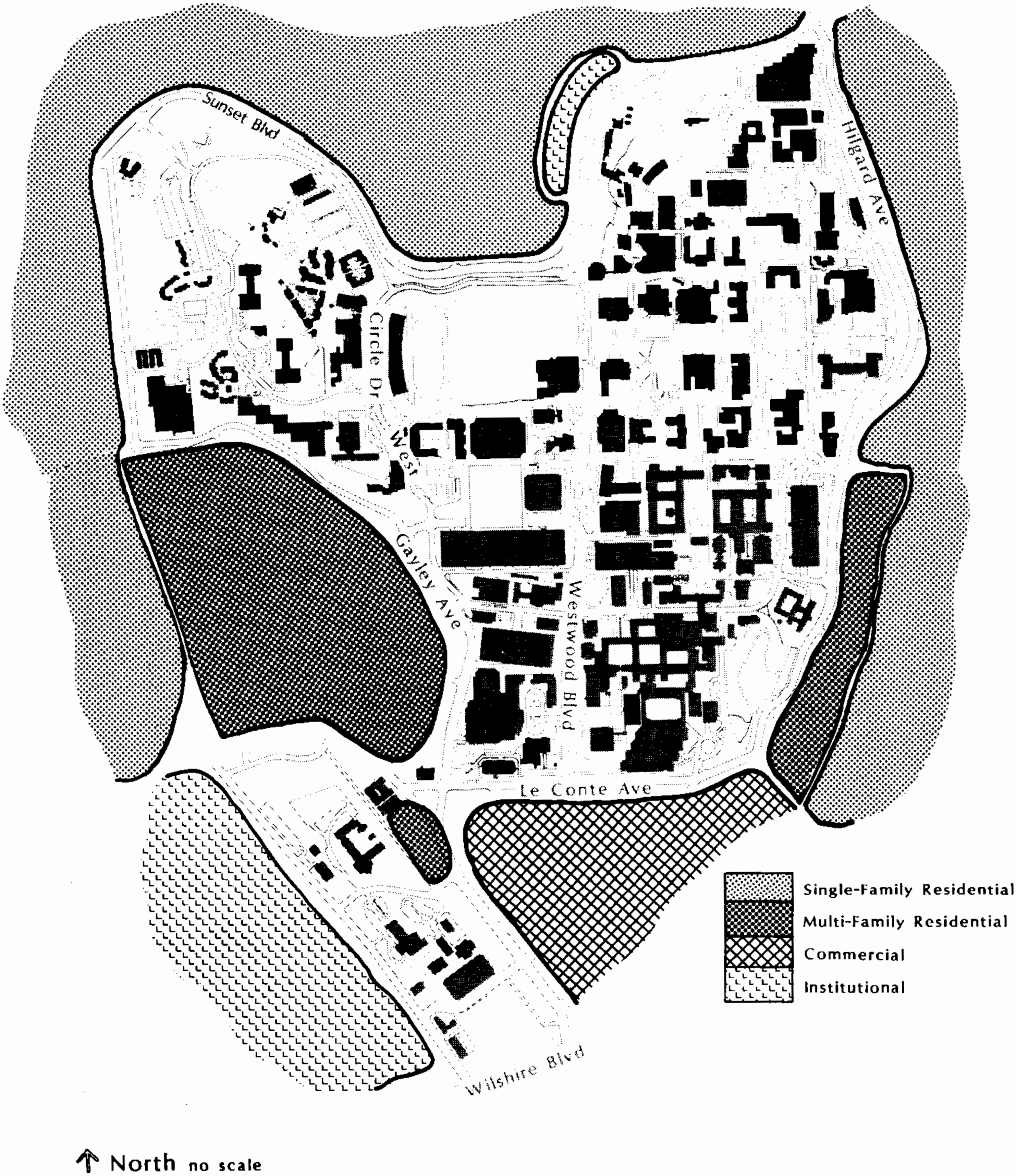
Among the most consistent themes emerging from these planning efforts are: reduce reliance on single-occupancy automobiles as the region's primary mode of transportation; pursue land use planning that promotes proximity among employment opportunities and housing supply; and conserve limited resources including water, energy, and wastewater treatment and landfill capacity. As noted in the Project Description, each of these principles - commitments to effective transportation controls, land use planning that promotes a "jobs/housing balance," and responsiveness to environmental concerns - form policy cornerstones of the Draft LRDP, and are also addressed in greater detail in specific analyses of impacts and mitigation measures in this EIR.

Surrounding Land Uses

Figure A-2 shows generalized land uses in the vicinity of the campus. Single-family homes in the Bel-Air and Holmby Hills communities border the site on the north and east. Single- and multiple-family housing is located on the west side of the campus, and the commercial area of Westwood Village is adjacent on the south.

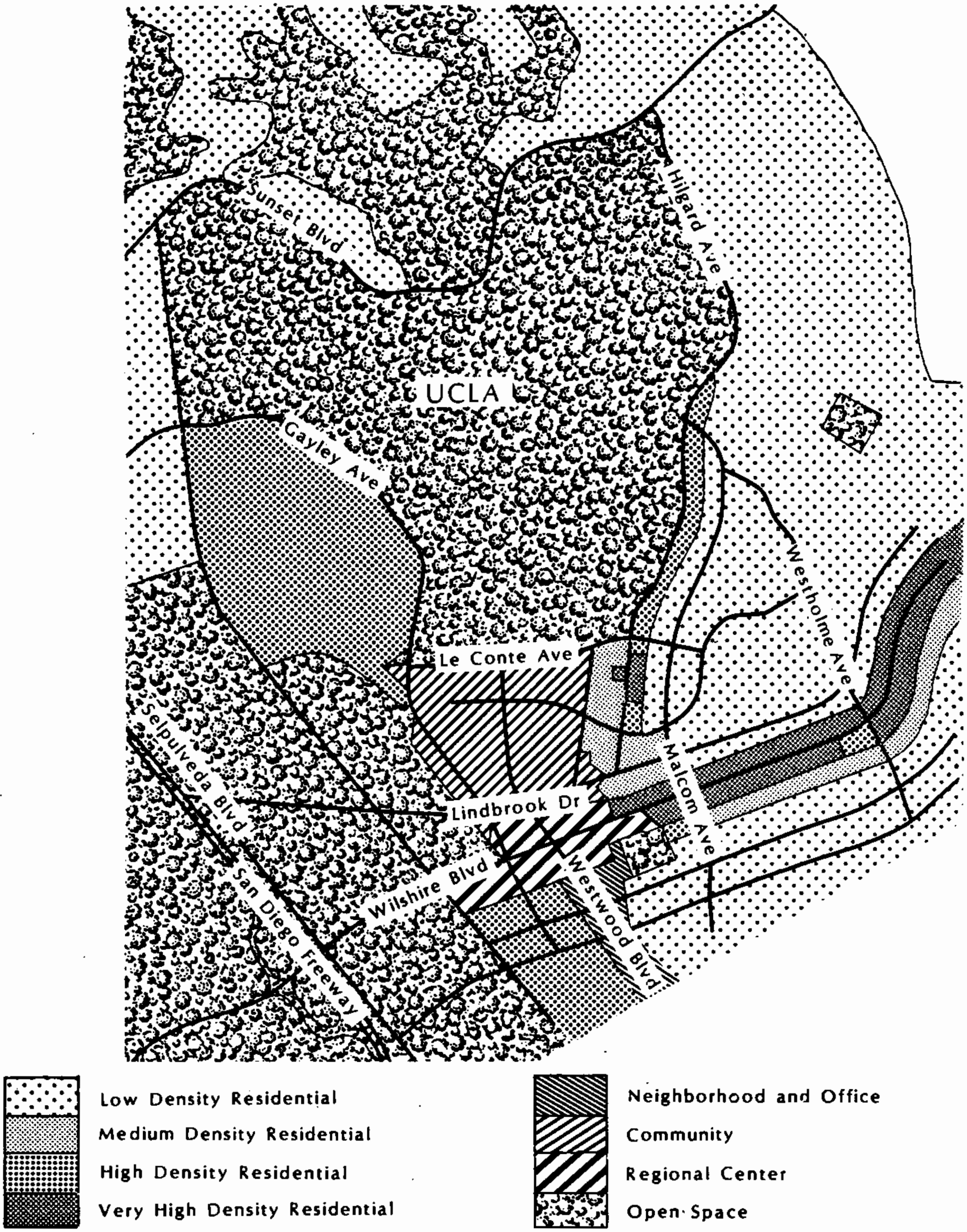
Relationship to Zoning and Local Plans

UCLA, as part of the University of California, created under the State Constitution, is not subject to local zoning ordinances and land use plans. The Westwood Community Plan, which is part of the City of Los Angeles General Plan, designates the campus as Open Space (Refer to Figure A-3). The City Zoning Code also designates the campus as Open Space. Under these plans, in the event that UCLA ever discontinues its use of the Westwood campus site, future non-UCLA uses would be subject to the land use permitting procedures of the city.



UCLA
Long Range
Development Plan EIR

Figure A-2
Surrounding Land Use
(Generalized)



SOURCE: Westwood Community Plan, 1989

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure A-3
Westwood Community Plan
Bel Air-Beverly Crest District Plan

Although UCLA is not subject to local zoning ordinances and land use plans, the campus works with City agencies and community groups, including the City Council, the City Planning Commission, the City Planning Department, the City Department of Transportation, and local business, tenant, and homeowner groups in recognition of the campus' role in Westwood and Los Angeles. University land use decisions, however, have been guided by the analyses and conclusions provided in this DEIR, including an analysis of local land uses, and will be further guided by the public review and comments on this DEIR.

Environmental Impact and Mitigation Measures

Under the CEQA Guidelines, a project would ordinarily be considered to have a significant effect on the environment if it would conflict with adopted environmental plans and goals of the community or if it would disrupt or divide the physical arrangement of an established community. The Draft LRDP's consistency with adopted community environmental plans and goals is analyzed in the traffic, air quality, water supply, wastewater, and solid waste sections of this EIR. Since the Draft LRDP is a land use plan limited to the existing UCLA campus, LRDP implementation would not divide or disrupt the physical arrangement of the community. The land use analysis in this EIR goes beyond these recommended guidelines and evaluates the significance of proposed campus land use intensification and the potential for incompatibilities between future campus development and adjacent community land uses.

Although not required by CEQA, some less-than-significant impacts concerning land use compatibility between campus activities and the adjacent community environs have also been analyzed. Accordingly, the EIR describes mitigation measures which could further reduce such less-than-significant land use impacts.

Impacts prefaced by an asterisk (*) are considered to be significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

As the Draft LRDP does not propose specific projects, the Draft LRDP's guidelines for development within the campus land use zones provide a basis for consideration of the potential zone-specific land use impacts. As projects are developed during the fifteen-year LRDP horizon, the specific effects will be considered in the environmental documentation for each program or project. The following descriptions of each zone consider the potential impact on land use intensity and compatibility that could occur under the Draft LRDP (Ref. 1), and identify mitigation measures.

LRDP Land Use Impacts and Mitigation Measures:

Impact A-1: Implementation of the Draft LRDP will result in land use intensification and the potential for incompatibilities with off-campus land uses.

The significance of this impact, and appropriate mitigation measures, are evaluated below for each campus zone. Zone-specific land use impacts and related mitigation measures are also addressed below. Unless otherwise indicated, land use impacts within each zone are considered less-than-significant. Refer to Visual Quality (Subsection IV.F) for a discussion of open space impacts.

Mitigation Measure A-1: The following criteria shall be used in the siting and design of future development:

- A landscaped buffer shall continue to be maintained at the periphery of the campus;

- Development on the campus periphery shall be designed to ensure that vehicular and pedestrian access points are oriented toward the campus, away from the community;

- Development within each campus zone shall be compatible with the height and bulk of existing land uses within each zone;

- The compatibility of specific future development projects on the campus periphery shall be subject to additional project-specific environmental review in conformance with CEQA, and incompatibility between proposed campus peripheral uses and adjacent community uses shall be reduced to a less-than-significant level by the adoption of feasible mitigation measures, including but not limited to specific design features and the use of alternate feasible project locations.

Northwest Zone:

The Draft LRDP provides for approximately 5,000 GSF of additional space for child care in the Northwest zone, which is considered consistent with the existing child care, residential, and recreational uses of the zone.

Following LRDP implementation, the Building Density Ratio* would remain at approximately 0.48. This ratio was based upon the analysis of existing development within this zone in conjunction with the development of Phase II of the Northwest Housing project, which has been previously approved in conformance with CEQA. (See also, the cumulative effects discussion regarding on-campus related projects.) The increased Building Density Ratio would not result in any incompatibilities with existing campus land uses, and is thus considered less-than-significant.

The expansion of the existing Child Care facility, which is located at the periphery of the zone, may adversely impact adjacent residential uses off-campus. This impact is considered less-than-significant.

Central:

The Draft LRDP provides for 125,000 GSF of additional space for Student Support and Affiliated Units. These uses are considered consistent with the existing recreational, athletic, and student support programs in the zone.

*Building Density Ratio = total building area divided by the land area. Although this ratio may provide some indication of relative building intensity, it should not be construed to indicate the relative fraction of land area covered by structures. For example, a Building Density Ratio of 2.0 would be calculated for each of the following scenarios:

- a two-story building at 100 percent lot coverage;
- a four-story building at 50 percent lot coverage; or
- an eight-story building at 25 percent lot coverage.

For the purposes of this EIR, an increase in the Building Density Ratio is considered less-than-significant unless it would result in incompatibilities with existing campus land uses.

The current Building Density Ratio for the Central zone is 0.46. Upon completion of the development proposed in the 1990 Draft LRDP, the Building Density Ratio could increase by 11 percent to a ratio of 0.51. The increased ratio would not result in any incompatibilities with existing campus land uses and is thus considered less-than-significant.

Like the Northwest zone, single-family residential uses are adjacent the Central zone across Sunset Boulevard. The Draft LRDP proposes to preserve the intramural playing fields on the campus border of Sunset Boulevard across from the residences. The intramural playing fields will provide an adequate buffer between off-campus uses and any new development proposed in conformance with the Draft LRDP. Therefore, the adjacent residences will not be significantly affected by new development in this zone, and no mitigation measures are warranted.

Core Campus Zone:

An additional 900,000 GSF of instruction, research, and support space is proposed under the Draft LRDP. This space would be allocated to the Professional Schools, the College of Letters and Science, Libraries, the Arts, and Health Sciences Schools. This zone would continue as the primary focus of general campus academic programs. The Building Density Ratio of this zone could increase from 1.20 to 1.33. The increased ratio would not result in any incompatibilities with existing campus land uses and is thus considered less-than-significant.

The Core Campus Zone is adjacent to a high school and single-family residential uses across Sunset Boulevard and Hilgard Avenue. If not carefully sited, additional buildings in this zone could intrude onto the low density uses off-campus. The implementation of Mitigation Measure A-1 will reduce this potential for land use incompatibilities to a less-than-significant level.

Campus Services Zone:

The Draft LRDP provides for 155,000 GSF of additional building space in this zone including a chiller/cogeneration facility and space for the medical center. Land uses currently include administrative support functions, utility and other infrastructure systems, and parking. The Building Density Ratio could increase from 1.75 to 1.92 as a result of the added space. The increased ratio would not result in any incompatibilities with existing campus land uses, and is thus considered less-than-significant.

The Campus Services zone is located in the central portion of the campus, and is adjacent on the west side to Gayley Avenue multi-family residential uses. Future development, including the chiller/cogeneration facility, within this zone ~~could result in potential incompatibilities with adjacent community land uses. Implementation of Mitigation Measure A-1, however, will reduce this potential for land use incompatibility between campus services zone development and adjacent community uses to a less-than-significant level~~. will not result in significant changes to campus land uses. Therefore, land use impacts associated with development planned for the Campus Services Zone are less-than-significant. Visual impacts associated with the proposed chiller/cogeneration facility, however, will remain significant and unavoidable. See Subsection IV-F, Visual Quality, for a discussion of this visual impact.

Botanical Garden Zone:

No development is proposed under the Draft LRDP. The garden will be maintained as a plant and open space resource for the campus, and as a buffer between the campus and adjacent residential uses.

No impacts are created by the project; therefore, no mitigation measures are required.

Health Sciences Zone:

The Draft 1990 LRDP provides for an additional 700,000 GSF of space for the Health Sciences Schools and the Medical Center to replace existing patient care facilities and improve and expand existing academic and research space. These uses are considered consistent with the existing land uses in this zone.

The Building Density Ratio could increase from 2.91 to 3.31. The increased ratio would not result in any incompatibilities with existing campus land uses, and is thus considered less-than-significant.

The Health Sciences Zone forms part of the southern edge of the campus, interfacing with commercial uses in Westwood Village. Existing and proposed land use on-campus is of greater density and intensity than what is existing and what would be permitted in adjacent areas of Westwood Village. If not carefully sited and designed, additional development within this zone could adversely affect the adjacent commercial uses in Westwood Village.

***Impact A-2: Intensification of land uses within the Health Sciences Zone and the Southwest Zone is considered significant, due to the potential for incompatibilities with off-campus land uses.**

Since there are few remaining sites available in the health sciences zone, it may not be feasible to fully implement Mitigation Measure A-1. Given the level of existing and proposed development for this zone, and the potential for incompatibilities with adjacent off-campus land uses, the intensification of land uses within this zone is considered significant.

Mitigation Measure A-2: Future development proposed for the Health Sciences Zone shall implement to the extent feasible, Mitigation Measure A-1, as well as other feasible project specific mitigation measures in order to reduce impacts from the land use intensification proposed for this zone.

Following implementation of Mitigation Measures A-1 and A-2, due to the uncertainties resulting from reliance on future project-specific mitigation measures, land use impacts resulting from proposed development in the Health Sciences zone are considered significant and unavoidable.

Bridge Zone:

An additional 25,000 GSF of building space is provided in the Draft LRDP for this zone. The existing uses of the zone include administration, auxiliary units (University Extension) and housing; the Draft LRDP proposes the allocation of the additional space to the Medical Center. The Building Density Ratio of this zone could increase from 1.59 to 1.71. The allocation of space for Medical Center functions would constitute a new land use for the zone. The increased ratio would not result in any incompatibilities with existing campus land uses and is thus considered less-than-significant.

The Draft LRDP also proposes the realignment of Weyburn Avenue and the Westwood extension of Le Conte between Levering and Veteran avenues; these circulation improvements would be partially located within the Bridge zone.

Abutting multiple-family residential uses could be significantly impacted by the increased intensity of development and circulation improvements proposed for the Bridge zone.

The implementation of Mitigation Measure A-1 will reduce this potential for land use incompatibilities to a less-than-significant level.

<u>Southwest Zone</u>:

The Draft 1990 LRDP provides for 1,100,000 GSF of housing for students, faculty, and staff. The development of this affordable housing for students, faculty, and staff in the Southwest zone introduces a new use which is considered compatible with existing permanent uses and adjacent uses as well as environmentally beneficial for the UCLA campus and the community. The Draft 1990 LRDP also provides for 700,000 GSF of academic, administrative, auxiliary services and support functions for this area; these uses are similarly consistent with existing permanent uses and adjacent uses.

The Building Density Ratio could increase from 0.37 to 1.53. The increased ratio would not result in any incompatibilities with existing campus land uses, and is thus considered less-than-significant.

Potential land use incompatibilities could result between off-campus land uses adjacent to the Southwest zone, which include multi-family residential, commercial, and institutional uses. (See Figure A-2) <u>This is considered a significant impact (Impact A-2)</u>.

The Draft 1990 LRDP includes the land use planning principles and assumptions for the Southwest zone listed below. These principles and assumptions will help to enhance the relationship between the Southwest and Westwood Village, as well as the main campus:

~~A. Create a campus-related environment which will serve to indicate the University's presence on the Wilshire Corridor.~~

~~2. Coordinate development in the Southwest with the Westwood Village street grid and the general density limitations of adjacent parcels along the Wilshire Corridor and in Westwood Village and the North Village.~~

3. Development should establish a central unifying element of open space to support the campus-like character of the zone.

4. Connect the Southwest to the rest of campus with transportation systems as well as physical and visual connections.

5. Develop a rental housing village in the Southwest Zone to serve identified campus populations. The housing village would be accompanied by appropriate services and support facilities including food services, child care, recreation, and transportation.

Mitigation Measure A-3: In order to reduce potential land use incompatibilities to a less-than-significant level, the following land use planning principles and assumptions from the 1990 LRDP will be implemented:

- Create a campus-related environment which will serve to indicate the University's presence on the Wilshire Corridor.

- Coordinate development in the Southwest with the Westwood Village street grid and the general density limitations of adjacent parcels along the Wilshire Corridor and in Westwood Village and the North Village.

The implementation of Mitigation Measure A-1 will also reduce this potential for land use incompatibilities between Southwest zone development and adjacent community uses to a less-than-significant level.

Cumulative Impact

Indirect land use impacts associated with the intensification of land uses in the UCLA vicinity would occur, but are considered less-than-significant impacts. The development of housing in the Southwest zone, together with population increases projected to occur under the Draft LRDP, will result in an increased demand for a variety of commercial and retail services in the Westwood area. Existing commercial establishments would economically benefit from this increased demand. In addition, a variety of development projects are proposed for the Westwood area which would further contribute toward meeting this increased demand. Development within the Westwood Area is within the land use planning jurisdiction of the City of Los Angeles and is subject to the requirements of the City of Los Angeles General Plan and the Westwood Area Specific Plan. This off-campus development would contribute to overall regional growth and affect traffic, air quality, housing, water, wastewater, solid waste, and other regional resources. The cumulative effects analysis for each of these impact areas addresses the physical effects of cumulative growth in greater detail.

TABLE A-2
LANO USE INTENSITY
CONCEPTUAL OEVELOPMENT PLAN
UCLA ORAFT LRDP EIR
1990 - 2005

Existing/ Proposed Development (1)	Land Use Zones								TOTAL
	Core Campus	Bot. Garden	Northwest	Central	Campus Services	Health Sciences	Bridge	Southwest	
EXISTING:									
GSF (2)	8,261,098	--	1,888,680	1,241,078	1,508,799	5,137,103	336,319	559,658	18,932,733
BDR (3)	1.20	--	0.48	0.46	1.61	2.91	1.54	0.36	1.04
LRDP PROPOSEO:									
GSF	900,000	--	5,000	125,000	155,000	700,000	25,000	1,800,000 (4)	3,710,000
BDR	0.13	--	Negl.	0.05	0.17	0.40	0.11	1.16	0.24
TOTAL:									
GSF	9,161,000	--	1,894,000	1,366,000	1,800,000	5,838,000	372,000	2,361,000	22,655,000
BDR	1.33	--	0.70	0.52	1.92	3.31	1.71	1.53	1.24

(1) Includes parking structures

(2) GSF = gross square feet

(3) 8DR = Building Oensity Ratio (total building area divided by land area). The BDR calculation includes parking structures and campus roadways.

(4) Includes dwelling units proposed on Southwest.

Source: UCLA Capital Programs, 1990

References

1. UCLA 1990 Draft Long Range Development Plan. University of California, Los Angeles, 1990.

B. POPULATION, EMPLOYMENT, AND HOUSING

This section examines the potential effects of the Draft 1990 LRDP on campus and community population, employment, and housing. In general, the permanent population of an area increases or decreases in proportion to the supply of housing, and the daytime population is a reflection of employment opportunities. Population, employment, and housing growth can result in significant impacts on the physical environment, such as increased traffic, deteriorated air quality, and an increased demand for public services. Physical impacts to the environment related to the indirect effects of growth are discussed in their own sections of this EIR. In general, employment opportunities which are near housing reduce commute time, and are thus considered environmentally beneficial. The housing proposed by the Draft LRDP will thus enhance the "jobs/housing balance."

Environmental Setting

<u>Population</u>

Average campus population, as shown in Table B-1, totaled 63,826 during the 1988-89 academic year. After adjustment for vacations, sick-leave, and variable schedules, the net average weekday attendance was approximately 53,735. Students are the largest single group, accounting for 54.3 percent of the population.

The 24-hour, resident campus population consists of approximately 4,300 single students, which constitute approximately 13 percent of the total student population.

The UCLA campus is located in the community of Westwood within the City of Los Angeles. In the fall of 1988, the Westwood Community Plan area contained a population of approximately 40,000, while the City of Los Angeles during the same period had a total estimated population of 3,400,500 (Ref. 1 and 2).

TABLE B-1
1990 DRAFT LRDP BASE CAMPUS POPULATION(1)

Population Group	Number	Percent of Total
Students(2)	34,674	54.3
Academic Employees(3)	4,619	07.3
Staff Employees(4)	14,198	22.2
Other Individuals(5)	10,335	16.2
Total	63,826	100.0
Average Weekday Attendance(6)	53,735	84.2

1. 1988-89 Three-quarter average headcount of persons on Campus.

2. Net number after subtraction of off-campus medical interns and residents, and students studying abroad. Of total number of students shown, approximately 7,260 hold part time academic or staff jobs on-campus.

3. Net number after subtraction of sabbatical leaves, off-campus assignments, and student employees.

4. Net number after subtraction of off-campus assignments and student employees.

5. Average weekday numbers of Extension and special program students, affiliated medical faculty, pre-school and elementary school children, post-doctoral scholars, Medical Center and NPH patients, visitors and volunteers, Dental Clinic patients, other campus visitors and volunteers.

6. Total adjusted for vacations, sick leave and variable schedules.

Source: UCLA Office of Budget, Institutional Planning, and Analysis, 1989.

Employment

Current campus enrollment and employment as compared to that in 1980-81 is shown in Table B-2. Growth during the period took place at an average rate of less than 1.0 percent per year. The highest rate of increase is shown among students (0.66%), while the lowest is among academic employees (0.22%).

UCLA also provides part-time on-campus employment to approximately 7,260 students.

From 1984 to 1988, total employment in the UCLA vicinity[1] increased by approximately 33 percent. Proportionately, this is almost twice as much employment growth as housing construction. The region registered a 3.5 percent increase in housing between 1984 and 1988. The result is that more workers drive longer distances between their residences and their places of work. According to SCAG, this job/housing imbalance is expected to continue as employment growth is concentrated in the highly urbanized areas while housing construction is focused in Riverside, San Bernardino, South East Orange, and other outlying, urbanizing counties. SCAG's Growth Management Plan (February 1989) discusses job/housing issues in detail.

Housing

The residential pattern as of 1985 of all UCLA students, faculty, and staff is shown in Table B-3. As shown by the survey, more than 60 percent of all students lived in Westwood or other Westside communities. Seventy percent of all students, faculty, and staff lived within 10 miles of campus. Only 6.5 percent of faculty and staff, and 5.6 percent of students lived outside Los Angeles County (Ref. 3).

---

(1) This is an area defined in the Southern California Association of Governments Growth Management Plan of February, 1989.

TABLE B-2
UCLA ENROLLMENT AND EMPLOYMENT GROWTH
1980-81 TO 1988-89

Population Group	1980-81	1988-89	Percentage Change	Average Annual Growth Rate
Students	31,555	33,433	6.0%	0.66%
Academic Employees	4,526	4,619	2.1%	0.22%
Staff Employees	13,654	14,198	4.0%	0.44%

Source: Statistical Summary of Students and Staff, University of California, Fall 1988.

TABLE B-3
UCLA STUDENT, FACULTY, AND STAFF RESIDENTIAL
DISTRIBUTION BY HOME LOCATION
1985

Location of Residence	Faculty/Staff Headcount(1)	Percent	Student Headcount	Percent
Westwood	1,304	6.3%	10,924	32.5%
Other Westside Communities	8,254	40.2%	9,833	29.3%
Adjacent Communities Within 10 miles	4,827	23.5%	3,783	11.3%
Subtotal 10 Mile Radius	14,385	70.0%	24,540	73.1%
Remainder LA County	4,831	23.5%	7,171	21.3%
Adjacent Counties(2)	793	3.9%	1,883	5.6%
Remainder California	232	1.1%	12	0.0
Out-of-State	309	1.5%	0	0.0
Total	20,550	100.0%	33,606	100.0%

(1) Includes Faculty, Staff and Medical Center Interns and Residents.
(2) Ventura, Orange, San Bernardino, and Riverside Counties.

Source: UCLA Office of Budget, Institutional Planning, and Analysis 1988.

The current supply of UCLA-owned housing is shown in Table B-4. In addition to the 4,278 existing on-campus single student spaces, 1,256 spaces are currently under construction. The campus also owns 663 single student spaces in apartments, 1,228 family apartment units, and 144 faculty rental units off-campus. All UCLA-owned off-campus rental housing is within 7 miles of campus. Within one mile of campus, 5,200 rental spaces are available to students through the private sector. The campus has provided faculty members with 90 units of for-sale housing within approximately 10 miles of the campus, which can only be resold to other faculty.

The Westwood Community Plan includes "recognition of the needs for University-related (UCLA) housing" and notes the campus' long range goal to house one-half of the student population in either UCLA-owned housing or in private-sector housing within one mile of campus.

An analysis of the housing supply in a sample of neighboring communities as shown in Table B-5, indicates that, while both population and housing have increased in the period between 1980 and 1989, population and household formation have increased at a greater rate than housing. More people competing for proportionately fewer housing units has resulted in a drop in the vacancy rate from 4.59 percent to 3.19 percent. A vacancy rate below 5 percent is commonly thought to reflect a housing shortage. A survey (City of Los Angeles Planning Department) of Westside communities, including Westwood, West Los Angeles, Palms, Mar Vista, Venice, Westchester, Playa del Rey, Brentwood, Pacific Palisades, Bel Air and Beverly Crest, shows a somewhat more optimistic trend. During the 1980-89 period, the number of dwelling units in these communities increased by 10 percent, from 163,200 to 179,548 units. At the same time, the vacancy rate rose from 5.2 percent to 5.9 percent.

Although some communities within 10 miles of campus have rent controlled housing, the primary shortage in housing occurs in affordable units. As a result, low income persons, including students, frequently live in crowded units nearer to campus or travel longer distances to acquire more suitable affordable housing.

TABLE B-4
UCLA HOUSING SUPPLY
1990

Housing Type	Number	
Student Housing UCLA-Owned:		
On-campus spaces	4,278	
Single student apartment spaces (off-campus)	663	
Family student housing spaces (Off-campus)	1,228	
Subtotal	6,169	
Private Sector Housing Spaces within one mile of campus rented by UCLA students	5,200	
TOTAL STUDENT HOUSING SPACES		11,369
Faculty Housing:		
Rental Units (off-campus)	144	
For-Sale Units (off-campus)	90	
TOTAL FACULTY HOUSING		234
TOTAL UCLA HOUSING SUPPLY		11,603

Source: LRDP Housing Options to 2005.

TABLE B-5
SAMPLE OF COMMUNITY HOUSING SUPPLY(1) - 1980 and 1989

Year/City	Households[1]	Total Units	Single-Family Units	Multi-Family 2-4 Units	Multi-Family 5+ Units	Mobile Homes	Percent Vacant
1980:							
Los Angeles	1,136,567	1,190,901[2]	575,392	122,129	486,603	6,777	4.56%
Culver City	15,909	16,718	7,874	2,096	6,581	167	4.83%
Santa Monica	43,902	46,418	10,131	5,323	30,672	292	5.40%
TOTAL	1,196,378	1,254,037	593,397	129,548	523,856	7,236	4.59%
1989:							
Los Angeles	1,243,588	1,283,889	583,589	46,401	646,984	6,915	3.14%
Percent Change[2]	9.4%	7.8%	1.4%	(-)62.0%	33.0%	2.0%	
Culver City	16,555	17,134	8,028	2,224	6,734	148	3.39%
Percent Change	4.1%	2.5%	2.0%	6.1%	2.3%	(-)11.4%	
Santa Monica	46,728	47,956	11,143	5,290	31,255	268	4.56%
Percent Change	6.4%	3.3%	10.0%	(-)0.6%	1.9%	(-) 8.2%	
TOTAL	1,306,871	1,348,979	602,760	53,915	684,973	7,331	3.19%
PERCENT CHANGE	9.2%	7.6%	1.6%	(-)58.4%	30.8%	1.3%	

1 Group quarters (University provided and university affiliated housing for students, among others), and their populations are not included. The group quarters population in 1980 was 68,059 persons and in 1989 it was 77,619 in the City of Los Angeles.

2 Percentages in each category = percent change from 1980 to 1989.

Source: California State Department of Finance, Summary Report E-5.

Jobs-Housing Balance[1]

"Jobs-housing balance" is a planning concept which has been suggested in the Southern California area as a strategy which can be used to alleviate traffic congestion and air pollution. The concept is that if people live closer to where they work, the number and length of their car trips can be reduced, congestion diminished and air quality improved. This concept is now a policy feature of four regional planning documents--the Growth Management Plan, the Air Quality Management Plan, the Regional Mobility Plan and the Regional Housing Needs Allocation Plan.

However, there is no consensus yet on how jobs-housing balance should be looked at when a particular development project is being evaluated. There are no national, State or regional norms in this field. There are no models of the impact of government policies designed to preserve or alter a jobs-housing balance within subareas or commute sheds.

The Southern California Association of Governments' (SCAG) adopted Growth Management Plan deals with the measurement problem by establishing target ratios of jobs to dwelling units in the year 2010 within each of 22 subregional areas within the six county areas of its jurisdiction. The target ratio for the year 2010 for the Central Los Angeles Subregion in which the Project is located is 1.82 jobs for each housing unit, SCAG also established a target ratio of 1.65 new jobs for each new housing unit added in the Central Los Angeles Subregion over the period between 1984 and 2010. One way to measure a project's jobs-housing impact is to see what happens to these ratios when the project is added to what is projected for the subregion in 2010. Since the degree of significance associated with any changes in these ratios is unclear, and recognizing the need for a way to evaluate the jobs-housing balance impacts of individual development proposals, SCAG recently adopted an 18-step formula for determining how a project would affect subregional jobs-housing balance.

However, SCAG's Regional Growth Management Plan acknowledges that "subregions" may not always be the most

---

1 The discussion of jobs-housing balance presented here is based on an analysis of this subject prepared for UCLA by Hamilton, Rabinovitz & Alschuler, Inc. (HR&A). The HR&A report is Appendix D in Volume II of this Draft EIR.

appropriate geographic context for assessing progress in meeting the policy goal of reduced vehicle miles traveled for a given project. Such is the case for the UCLA campus, which is located at the northwestern edge of its Subregion. Therefore, any jobs-housing balance analysis of the project that is confined to the SCAG Subregion would not consider residential development trends in the West Los Angeles area immediately adjacent to the project site, which is a principle location of faculty and student housing. Such an analysis would also be affected by the very high concentration of employment associated with the City's central business district, which is also located in this Subregion, but has little bearing on what happens around UCLA.

A "commute shed" geography is a more appropriate geographic context for measuring jobs-housing balance around UCLA. This is an area around the project site defined by the distance that can be traveled from home to work within 30 minutes, assuming prevailing average driving speeds during the AM and PM peak hours of traffic congestion. For UCLA, such an area stretches from the Ventura Freeway on the north to Marina Del Rey on the south, and from the Pacific Ocean on the west to about Western Avenue on the east. Using this alternative geographic zone, the area around the UCLA campus still exhibits a projected surplus of jobs over housing, and is an area in which new housing opportunities should be encouraged, but to a lesser degree than is the case for the Central Los Angeles Subregion, which is much more "jobs-rich/housing poor," according to SCAG criteria.

Furthermore, the data on which SCAG's jobs-housing balance goals rest does not take into account the commuter characteristics of "special attractors" such as a university (including UCLA), hospitals and airports. This means that SCAG's forecast of housing and employment to the year 2010 <u>does not count UCLA students or student housing</u> at all because its forecast model cannot handle the complexities of atypical commuting patterns associated with such uses. (Refer to Appendix D., Volume II for additional information.) Thus, a jobs-housing balance analysis for the Revised 1990 LRDP for purposes of testing consistency between the project and adopted regional planning policies is necessarily limited to employment and housing associated with net new UCLA faculty and staff, but not students and student housing. A discussion of the possible jobs-housing balance implications of counting the small number of additional students and the very large number of additional student housing units proposed in the Revised 1990 LRDP is provided in Appendix D., Volume II of the Revised Draft EIR to give the public and decision makers a clearer picture of this special context.

Environmental Impact and Mitigation Measures

For the purposes of this EIR, the creation of housing demand which exceeds the area's housing supply is considered significant if substantial growth or concentration of population results from the project. Although not required under CEQA, this EIR also considers socio-economic impacts (i.e., housing demand) that may be of community concern, and identifies mitigation measures for these non-physical effects on the environment.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

The Draft 1990 LRDP does not propose specific projects, rather it provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation for each program or project.

Impact B-1: Implementation of the Draft LRDP could add approximately 4,695 persons to the weekday average population on-campus.

Table B-6 compares the 1990 on-campus population with the population projected for the year 2005 under the Draft LRDP. The overall weekday average campus population is expected to increase by approximately 4,695 persons, or 8.7 percent, over the fifteen year period, with the largest numerical increase (2,342) to occur in non-academic staff positions.

Total regular on- and off-campus student enrollment, as shown in Table B-7, is expected to increase by 0.3 percent, or 105 students between 1989 and 2005. Table B-7 depicts the three-quarter (fall, winter, spring) average on- and off-campus student enrollment for the academic years 1989-90 and 2004-05. The general campus three-quarter average is expected to remain essentially the same as existing levels; a decrease in undergraduate enrollment will be balanced by an increase in graduate and professional school enrollment. The number of Health Sciences students will also remain essentially the same. The Health Sciences include a number of students who ordinarily do not take courses on campus. In 1989, about 30 percent (1,116) of the Health Sciences enrollment were off-campus students. In the year 2005 under the proposed Draft LRDP, the number of off-campus Health Sciences students is expected to be approximately 1,200, which is 38 percent of the three-quarter average for those programs.

The Draft 1990 LRDP provides for adequate academic and working space to accommodate the increases in student enrollment, faculty, and employment anticipated from potential new development. Therefore, no adverse or significant impacts on population and employment are anticipated to result from such increases.

Mitigation Measure B-1: No mitigation measures are required or recommended.

Impact B-2: Implementation of the Draft 1990 LRDP will provide on-campus housing units for up to 2,700 students, faculty and staff in the Southwest Zone. Impacts related to housing are considered less-than-significant.

In 1987, UCLA adopted the goal of housing approximately 50 percent of the student body in UCLA-owned housing or within one mile of campus in private sector housing. The 2005 housing goal for students, faculty and staff is a total of approximately 19,700 beds, of which approximately 9,600 will be provided on campus. The on-campus goal can be met upon the completion of all under-construction (1,256 spaces), previously approved (1,400 spaces), and Draft 1990 LRDP proposed housing for students.

Some of the housing proposed for the Southwest Zone will also be made available to faculty and staff. While a plan for the proposed housing has not been developed at the time of this EIR, it is expected that some of the residential units may accommodate families of UCLA personnel.

The Draft 1990 LRDP proposes housing for 2,700 students, faculty and staff. This represents an increase of 39 percent over the total of existing, under construction, and approved on-campus housing. The student population totals during the same LRDP period are projected to increase by less than 2.0 percent. The greater rate of increase in housing relative to the increase in student population will help to reduce the currently unmet demand for near-campus student housing. The staff and faculty housing proposed for the Southwest Zone would provide a positive impact on the community jobs-housing balance. Therefore, the increase in housing is considered neither adverse nor significant.

Mitigation Measure B-2: None warranted.

Impact B-3: Population increases projected to occur under the Draft 1990 LRDP could result in demand for housing for up to 2,430 faculty and staff persons beyond what would be provided by the campus under the Draft 1990 LRDP.

Implementation of the Draft LRDP could add up to 3,233 students, faculty and staff to the campus population (Table B-6). This does not include those in the "Other Individuals" category shown on Table B-6, since this category is comprised of patients, volunteers, extension students and other short-term campus visitors who would not seek housing in the campus vicinity due to the temporary nature of their on-campus visits. Housing for the 105 students will be provided on-campus through implementation of the LRDP, as will housing for 700 faculty and staff persons. Therefore, the total demand for additional housing units could be up to 2,430 units. However, some proportion of these additional faculty and staff persons will already live within reasonable commuting distance of the campus, and not contribute to the increase in housing demand in the area.

A 1987 survey of recent faculty appointees (UCLA 1987 Housing Survey of Recent Faculty Appointees) revealed that approximately 61 percent of recent faculty appointees were from out of state. This can be considered representative of any given year, since UCLA recruits faculty internationally.

According to projections prepared by the Southern California Association of Governments (SCAG), the housing stock in the UCLA vicinity could increase by 14,000 units by the year 2005. The maximum potential demand from additional UCLA faculty and staff is 22 percent of the anticipated additional supply within the vicinity by the year 2005. Therefore, this impact is considered less-than-significant.

Mitigation Measure B-3: No mitigation is required.

TABLE B-6
CAMPUS POPULATION
1990 DRAFT LRDP BASE - 2005 PROJECTED
(Three-Quarter Average Headcount Of Persons On-Campus)

Population Group	Headcount 1990 LRDP Base(1)	Headcount 2004-05 Projected	Change (#	%)
Students(2)	34,674	34,779	105	0.3
Academic Employees(3)	4,619	5,405	786	17.0
Staff Employees(4)	14,198	16,540	2,342	16.5
Other Individuals(5)	10,335	11,445	1,110	10.7
Total	63,826	68,169	4,343	6.8
Average Weekday Attendance(6)	53,735	58,430	4,695	8.7

1. 1988-89 three-quarter average headcount of persons on-campus.

2. Net number after subtraction of off-campus house staff and students studying abroad. Of total number of students shown, 7,260 hold part time academic or staff jobs on campus.

3. Net number after subtraction of sabbatical leaves, off-campus assignments, and student employees.

4. Net number after subtraction of off-campus assignments and student employees.

5. Average weekday numbers of Extension and special program students, affiliated medical faculty, pre-school and elementary school children, post-doctoral scholars, Medical Center and NPH patients, visitors and volunteers, Dental Clinic patients, other campus visitors and volunteers.

6. Total adjusted for vacations, sick leave and non-traditional scheduling.

Source: UCLA Office of Budget, Institutional Planning, and Analysis, 1989.

TABLE B-7
STUDENT ENROLLMENT(1)
1989 AND 2005
(Three-Quarter Average Of Persons On- and Off-Campus)

Students	1989-90 Headcount	2004-05 Planned Headcount	Percent Change
General Campus:			
Undergraduate	23,029	22,300	(-)3.4%
Education Credential	52	60	15.4%
Graduate and Professional	7,856	8,700	10.7%
TOTAL GENERAL CAMPUS	30,937	31,060	0.2%
Health Sciences:			
Undergraduate	62	50	141.9%
Graduate	3,675	3,669	10.3%
TOTAL HEALTH SCIENCES	3,737	3,719	12.4%
TOTAL STUDENT ENROLLMENT	**34,674**	**34,779**	**1.5%**

(1) Includes Health Sciences off-campus students: 1988-89 = 1,116
2004-05 = 1,193
and Education Abroad = 125

Source: UCLA Office of Budget, Institutional Planning, and Analysis, 1989.

~~Impact B-4: Purchase of approximately 830 additional existing bed-spaces/units within one mile of campus could displace some existing residents~~.

~~The University evaluates the availability and economic feasibility of existing and newly-developed multi-unit residential properties near the campus on an ongoing basis, thus is is not possible to predict which specific properties will be acquired to meet the remaining housing need shown on Table B-8. For the purpose of analysis~~, ~~this EIR makes the worst-case assumption that up to all 830 beds/units will be acquired through the purchase of existing housing units. This impact is considered less-than-significant~~.

~~Mitigation Measure B-4: In purchasing existing housing for student use, the campus will implement the University of California Relocation Regulations (approved by the Regents in 1977) to provide relocation assistance to existing tenants~~.

Impact B-5: Implementation of the Revised 1990 LRDP would add 4,171 net additional staff and faculty jobs and 933 additional non-student housing units to the SCAG Central Los Angeles Subregion forecast for the year 2010.

This impact is considered less-than-significant. Extrapolating the Revised 1990 LRDP proposals from the target year of 2005 to 2010, in order to match SCAG jobs-housing balance projection data, the project would add 4,171 net new jobs and 933 new dwelling units.[1] When these new jobs and dwelling units are added to the jobs and dwelling unit projects in SCAG's year 2010 forecast for the Central Los Angeles Subregion, the jobs-housing ratio for the year 2010 remains unchanged at 1.82, and the 1984-2010 ratio increases by 0.02, as shown in Table B-9.

---

[1]This extrapolation is based on the average annual employment growth and housing unit additions over the 1988-2005 LRDP planning horizon. This extrapolation is necessary because the SCAG data base used for job-housing balance analysis uses 2010 as its terminal year and there is presently no method for scaling back the SCAG data to match the terminal year of the LRDP. This extrapolation should not, however, in any way be seen to represent official UCLA policy about its plans for the period 2005 to 2010. The details of the extrapolation calculation are presented in Appendix D., Volume II of this Draft EIR.

TABLE B-8
UCLA HOUSING 1990-2005

UCLA Persons	1990 Existing	Under Construction(1)	Previously Approved(1)	Increase in Off-Campus Inventory by 2005	LRDP Proposed(1)	Total
UCLA-owned Rental						
Student(2)	6,075(3)	1,256	1,400	373	2,000	11,104(4)
Faculty(2)	144	0	0	0	150	294
Staff(5)	94	0	0	456	550	1,100
Subtotal	6,313	1,256	1,400	829	2,700	12,498(4)
Private Sector Rental student spaces within one mile of campus	5,200 (estimated)			1,300		6,500
TOTAL RENTAL	11,513	1,256	1,400	2,129	2,700	18,998(4)
FOR SALE FACULTY HOUSING	90	86	0	619	0	795
TOTAL INVENTORY	11,603	1,342	1,400	2,748	2,700	19,793(4)

1. On-campus.
2. When referring to students, the numbers reflect the number of beds to be provided. When referring to faculty, the numbers reflect the number of units to be provided.
3. Includes 4,278 on-campus and 1,797 off-campus spaces.
4. This total contains 611 spaces in excess of the student housing goal. These spaces are in off-campus apartments. These units would be used to meet as yet unknown campus housing needs.
5. Including post doctoral scholars.

Source: Capital Programs, January 1990.

TABLE B-9

SCAG JOBS-HOUSING BALANCE CALCULATION FOR THE
REVISED 1990 LRDP, 2010

	1984			2010			1984-2010		
	Jobs	DUs	Ratio	Jobs	Dus	Ratio	Jobs	Dus	Ratio
NO PROJECT									
	1,435,300	777,100	1.85	1,634,490	898,100	1.82	199,200	121,000	1.65
WITH PROJECT									
	1,435,300	777,100	1.85	1,638,661	899,033	1.82	203,361	121,933	1.67

Source: SCAG, HR&A

If the geographic focus of the jobs-housing balance analysis is a 30-minute commute shed around the UCLA campus, the additional faculty/staff jobs and non-student housing associated with the project would likewise have no impact on the year 2010 target ratio for the commute shed, as shown below in Table B-10.

TABLE B-10
CALCULATION OF THE SCAG JOBS-HOUSING BALANCE RATIO FOR THE REVISED 1990 LRDP WITHIN A COMMUTE SHED SURROUNDING UCLA, 2010

Scenario	Jobs	Dwelling Units	Jobs-Housing Ratio
WITHOUT PROJECT	697,891	440,052	1.59
WITH PROJECT	702,062	440,985	1.59

Source: SCAG, HR&A

According to the SCAG formula, the number of jobs associated with the project would not require any additional dwelling units beyond those associated with the LRDP, as extrapolated to 2010, to be judged by SCAG as being in compliance with subregional jobs-housing balance objectives. The 18-step calculation is presented in Table B-11 on the following page.

Mitigation Measure B-5: No mitigation is required. The Revised 1990 LRDP will not result in an adverse impact on subregional jobs-housing balance. The LRDP proposes development of on-campus housing for 2,700 graduate students, faculty, staff and their families, which will increase housing opportunities. In addition, the project includes an extensive Transportation Demand Management Plan designed to reduce vehicle trips by 12%, and a cap on the number of existing campus parking spaces and average daily vehicle trips to campus. These measures will directly address the basic objectives of the regional jobs-housing balance policy.

TABLE 8-11

APPLICATION OF AN 18-STEP JOBS-HOUSING
RATIO "CONFORMITY" FORMULA TO THE
UCLA LONG RANGE OEVELOPMENT PLAN

Subregion: Central Los Angeles

	Jobs	Housing	SCAG Data: J/H Ratio
Steps 1 & 2	1,435,300	777,100	Base Year (1984)
Steps 3 & 4	1,677,200	878,300	2010 Trend
Steps 5 & 6	1,634,500	898,100	2010 Policy
Steps 7, 8 & 9	241,900	101,200	Inc. to 2010 per Trend 2.39
Steps 10, 11 & 12	199,200	121,000	Inc. to 2010 per Policy 1.65
		826,200	Estimated 1988 Housing; CONSTANT

UCLA LRDP Incremental Data:

Step 13	Increase in Jobs	3,128	Proposed Employment Increase
Step 14		1,900	Additional Housing Needed per Policy
Step 15		1,309	Additional Housing Needed per Trend
Step 16		591	Housing Needed to Cause Trend to Reach Policy Goal
Step 17	Increase in Housing	700	Proposed Housing Increase
Step 18		(109)	Units Over Proposed Needed for Trend to Reach Policy Goal

Source: SCAG, HR&A

Cumulative Impact

Population growth and increased housing demand will occur in the surrounding area.

An incremental increase in the Westwood and West Los Angeles area resident population of up to 20,400 will result from the proposed project in combination with related current and future projects. Condominium development along Wilshire Boulevard will probably result in the greatest overall influx of new residents. Development in the off-campus related projects area could result in approximately 14,000 additional dwelling units by the year 2005, according to data derived from the Southern California Association of Governments Growth Management Plan. Such an increase could result in impacts on public services, utilities, open space resources, and other facilities and services as discussed in each impact subsection of this EIR. However, these indirect impacts as related to housing are considered less-than-significant since the additional housing units will improve the area's jobs/housing balance.

In addition, some existing residents within one mile of the campus could be displaced as a result of University acquisition of approximately 830 bed spaces/units in the campus vicinity. In purchasing existing housing for student use, the campus will implement the University of California Relocation Regulations (approved by the Regents in 1977) to provide relocation assistance to existing tenants.

References

1. Social, Economic, and Demographic Statistics report. City of Los Angeles Department of City Planning.

2. Summary Report E-5. California State Department of Finance, Annual Updates January 1989.

3. UCLA Office of Budget, Institutional Planning, and Analysis, 1988.

C. PARKING, ACCESS, TRAFFIC, CIRCULATION AND OTHER TRANSPORTATION MODES

This section summarizes the existing transportation conditions and the anticipated project and cumulative impacts on the Westwood area transportation system. Appendix E, in Volume II to this Draft EIR contains a description of the technical analyses conducted to determine the existing and future conditions. These technical analyses form the basis for this section. The following is a brief summary of the steps followed in conducting that analysis:

- Determination of UCLA Traffic Generation Rates - Extensive counts were taken at the UCLA campus to correlate the level of trip-making activity with the size and composition of the campus population. Cordon counts to establish total Campus trip generation were conducted for the Main Campus in 1985 and for the Southwest Zone and Veterans Administration lots in 1989.* Total campus generation was disaggregated to discrete campus user groups based upon counts conducted at individual parking areas and an examination of Parking Services records. This procedure is consistent with past University EIRs and is necessitated by the lack of established generation rates for University uses within the traffic engineering industry.

- Establishment of Existing and Future (Cumulative) Traffic Conditions - Traffic counts and field surveys were conducted during the fall of 1989 at 52 study intersections to determine the existing traffic conditions surrounding the UCLA campus. Future growth in traffic was projected through the year 2005 utilizing a microcomputer version of the regional transportation model. This model took into account all identified development projects throughout the Westood area as well as the anticipated growth from other not yet proposed or identified projects both within Westwood and throughout the five-county region.

---

*The 1985 cordon count was utilized for the Main Campus because it showed higher volumes than the 1989 count due to the temporary loss of parking spaces for related projects construction at the time of the 1989 cordon count.

- Calculation of Project Impacts - The future cumulative scenario included development, as approved, of all UCLA related projects. The analysis of trip generation changes due to implementation of the LRDP accounted for both the new projects and modifications to previously approved projects. The overall changes in campus trip generation were disaggregated to individual sections of the campus. The traffic from each section was assigned to the area street system by the computerized model in order to determine the impact of the LRDP on traffic conditions. For purposes of the EIR, significant traffic impacts were identified using the recently enacted and more stringent City of Los Angeles standards for the Westwood area.

Without implementation of the LRDP, projects for which there are currently approved EIRs would result in approximately 145,000 average daily vehicle trips. In the Draft LRDP released June 1990, an analysis was conducted which set a ceiling on the number of trips to be generated by UCLA related traffic at the 145,000 level when the 1990 LRDP is fully implemented. Following community and agency comment, the scope of the Draft 1990 LRDP was reduced (refer to Executive Summary) and a reduced trip cap of 139,500 average daily vehicle trips was established.

Although the cap on the number of average daily vehicle trips was reduced, all previously proposed mitigation measures were retained in the current draft LRDP. Most of the physical street improvements will mitigate cumulative impacts rather than those as a direct result of the implementation of the LRDP. Those mitigation measures necessitated by the LRDP will be implemented to mitigate the localized impacts created by specific projects and to ensure that the campus remains below the 139,500 average daily vehicle trip cap.

Specifically, street improvements will be made to the intersection of Veteran Avenue and Wilshire Boulevard as well as other components of the street network surrounding the Southwest Zone. Additionally, the Campus' TDM program will be expanded sufficiently to achieve a further 12% reduction in employee parking and trip generation. Also, the TDM program, combined with a shift in parking allocation percentage from employees to commuter students, will be used to better meet student commuter needs.

Parking (Automobiles):

Environmental Setting

The UCLA campus parking system currently accommodates approximately 20,084 automobiles. The 1983 LRDP proposed a total campus inventory of 22,700 spaces. The parking inventory, as detailed in Table C-1 and depicted in Figure C-1 includes 16,996 marked on-campus parking spaces (including 322 meters) for automobiles, 1,500 "stacked parking" spaces (attendants move vehicles as needed), and 1,588 near-campus spaces with shuttle service. (Ref.1) These spaces average 86% occupancy during the peak morning hours on weekdays and 91% on peak afternoon weekday hours (Ref.2). Of the total parking inventory, about 1,523 spaces are available for visitor parking on a per entry basis (Ref.3).

Automobile parking projects under construction (Structures 1, 12, and Northwest Campus Phase 1) and previously approved (Lot 3 expansion, and Northwest Campus phase 2), would add approximately 5,085 parking spaces to the current inventory, for a total of 25,169 spaces.

Access to campus parking spaces is controlled in several ways, including the issuance of parking permits, per-entry visitor parking, and parking meters. Differential and less than full-time work and study schedules allow parking spaces to be utilized by more than one vehicle per day. This turnover rate allows more permits to be issued than there are actual spaces.

Parking permits are provided to faculty, staff, and academic student employees (e.g., teaching assistants) at a current ratio of approximately 81 permits per one hundred employees. Commuter students are provided approximately 18 permits per one hundred students. Students living in on-campus residential facilities are provided approximately 15 permits per one hundred residents.

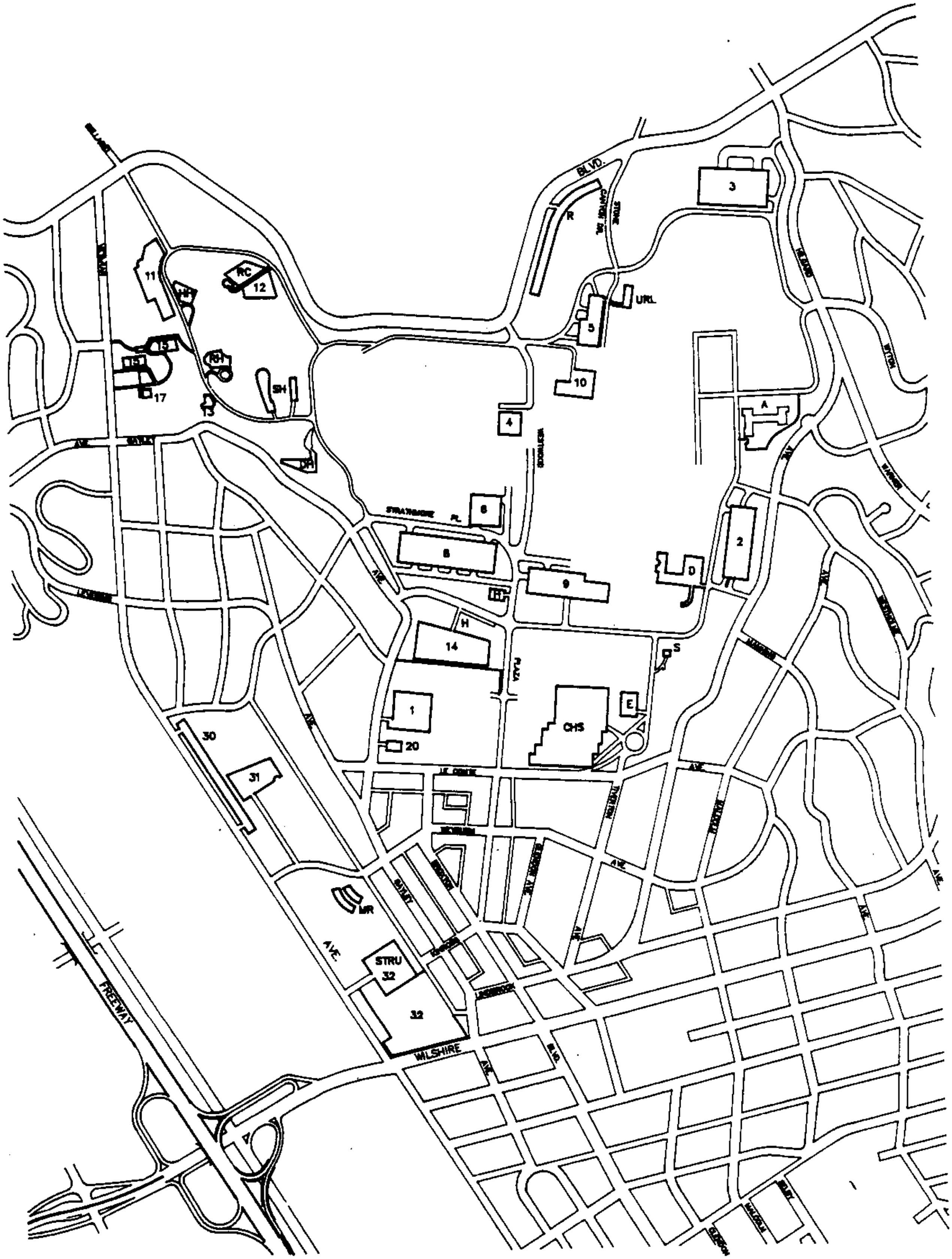
The price of parking on campus is based on full cost recovery, and is currently $30 per month for permit parking and $4 per entry for visitor parking. Prices of monthly permit parking for several lots in Westwood were surveyed in January, 1990. Permit rates to park in these lots, which supply parking to employees and patrons of Westwood Village, are shown in Table C-2. A parking survey conducted for the Los Angeles Business Council (formerly the West L.A. Chamber of Commerce) at 22 parking facilities within the Westwood area indicates

Table C-1
Existing UCLA Parking Structures/Surface Lot Spaces

Parking Area		Visitor Spaces	Permit Spaces	Meter Spaces	Total* Spaces
Main Campus					
Structures	1				0
	2	40	2,210		2,250
	3		1,168		1,168
	4		448		448
	5	20	872		892
	AGSM				0
	6	53	603	97	753
	8	63	3,951		4,014
	9		1,785		1,785
	12				0
	14		1,728		1,728
	20		27		27
	RC				0
Surf. Lots	A		156		156
	D		109		109
	DH		133	4	137
	E		131		131
	H	3	20		23
	HH	1	53	14	68
	MR		68		68
	R	12	62	5	79
	RH	1	54	12	67
	S		10		10
	SH	1	153	9	163
	URL	1		24	25
	10		18		18
	11	100	367		467
	13		47		47
	15		210		210
	17		12	28	40
	19	31	11		42
Southwest Campus					
	30		94		94
	31	12	204	6	222
	Struc. 32	16	907		923
	Surf. Lot 32		863		863
Veterans Adminstration					
Off-Campus	OC		1,076		1,076
	SA		12		12
	VA		500		500
Misc. Spaces		1,169	177	123	1,469
TOTAL		1,523	18,239	322	20,084

*December 1, 1989 Space Inventory

SOURCE: Crain & Associates



00	Parking Areas

North no scale SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-1
Locations of Existing
On-Campus Parking Areas

Table C-2
Westwood Area Parking Rates

Facility Location	Parking Rate Increment	Daily Maximum	Monthly Rate
Gayley Center 1145 Gayley	$0.75/30 min.	$5.00	$45/Tenants only
Westwood Medical Plaza Gayley Entrance 10921 Wilshire Blvd.	$1.20/30 min.	$8.00	$95/Unreserved $150/Reserved
First Interstate 10920 Lindbrook Ave.	$1.25/30 min.	$7.50	$80
Bank of America (Century Parking) 1101 Westwood 8lvd.	$1.25/30 min.	$7.50	$80
Gayley Ave. Parking 1050 Gayley Ave.	$1.00/30 min.	$6.00	None
Weyburn (Gayley) (Allied/Royal) 960 Gayley Ave.	$1.00/20 min.	$4.00	$50/mo (none available)
Broxton Village Parking 1031 Broxton Ave.	$0.75/30 min.	$4.50	None
Allied/Royal (Broxton) 1062 Broxton	$1.00/30 min.	$4.50	None
Weyburn Village 10920 Weyburn Ave.	$1.00/30 min.	$6.00	None
Westwood (Monty's Bldg.) 1100 Glendon Ave.	$1.75/30 min.	$8.00	$90/Unreserved $135/Reserved
Glendon Village (south of Bullocks) 1052 Glendon Ave.	$0.75/30 min.	$5.25	None
Glendon Village 1053 Glendon Ave.	$0.75/30 min.	$5.25	$55 (none available)
Bullocks 10861 Weyburn Ave.	$0.75/30 min. (2 hrs free w/validation)	$5.00	None
Weyburn/Hilgard 10800 Weyburn Ave.	$2.00 Flat (after 3:00 PM for public)		None

SOURCE: Crain & Associates

Table C-2 (Cont.)
Westwood Area Parking Rates

Facility Location	Parking Rate Increment	Daily Maximum	Monthly Rate
Tiverton 920 Tiverton Ave.	$4.00 Flat		None
Westwood/Le Conte (south of CHS) 10928 Le Conte Ave.	$1.00/20 min.	$7.00	$90/Unreserved $120/Reserved
Westwood Horizon Executive Parking 947 Tiverton Ave.	$0.50/30 min.	$4.00	$60
AMPCO SE corner Broxton/Le Conte	$0.85/30 min.	$6.50	$65/Tenants only
Oppenheimer Tower 10990 Wilshire Blvd.	$1.25/20 min.	$8.75	$85/Unreserved $150/Reserved
Tishman 10960 Wilshire Blvd.	$1.40/20 min.	$9.00	$100/Unreserved $140/Reserved (plus $15 for sign)
The Tower 10940 Wilshire Blvd.	$1.25/20 min.	$8.75 ($20-valet)	$100/Unreserved $225/Reserved
Tishman/Midvale (Unisys) 10920 Wilshire Blvd.	$1.40/20 min.	$9.00	$85/Unreserved $115/Tandem reserved $150/Reserved
Murdock 10990 Wilshire Blvd.	$1.25/20 min.	$8.75	$85/Rooftop unreserved $95/Unreserved $150/Reserved
Maxxam, Inc. 10880 Wilshire Blvd.	$1.25/20 min.	$8.00	$90/Unreserved $130/Reserved
Coast Savings 10866 Wilshire Blvd.	$1.25/20 min.	$8.00	$90/Unreserved $125/Reserved $135/Street level reserved
10958 Weyburn (bet. Santo Pietro & Gelare)	$3.00 Flat		None

SOURCE: Crain & Associates

that about 1,650 of the total 7,280 spaces contained in these lots and structures are available for general public use (Ref. 4). Based on the Westwood area parking rates, the campus rates are substantially below market value.

Access:

Access to the Westwood community, including the UCLA campus, is provided by the street system described in the Traffic and Circulation discussion in this sub-section. Important roadways providing access to the UCLA area include Wilshire Boulevard, Westwood Boulevard, Veteran Avenue, Hilgard Avenue and Gayley Avenue. Access to the regional freeway network is primarily provided by the Wilshire Boulevard, Montana Avenue and Sunset Boulevard interchanges with the San Diego Freeway (I-405).

Vehicular access to the UCLA main campus is provided at 13 entrances. As shown on Figure C-2, most main campus entrances and exits connect with Circle Drive, a peripheral roadway system; traffic circulation and access to parking facilities on the main campus are provided primarily along this roadway. Other roadways connect Circle Drive to the surrounding public street system and provide access to other interior parts of the campus. These are mostly two-lane access points, except for some segments which are four lanes wide or have flare-outs for turning lanes.

Vehicular access to the Southwest Zone is provided at six points. Two of the entrances lead from Veteran Avenue and Kinross Avenue directly to UCLA Parking Lots 32 and V34. Access to Lot 30 is also provided directly from Veteran Avenue. Weyburn Drive provides the other two access points to Southwest Zone at its intersections with Veteran Avenue and Midvale (an alley east of Gayley Avenue). Extensive shuttle systems are provided between the Southwest Zone (Lots 31 and 32) and the main campus, as well as from parking lots at the Veterans Administration to the main campus. Vehicular access to the leased parking lots on the Veterans Administration property is provided via the internal roadways on the Veteran Administration property.

Several ongoing or pending projects will improve vehicular access to the main campus, including:

- Signalization of Strathmore Place and Circle Drive West -- Currently this intersection is controlled by stop signs in the north, south and west directions with

Campus Access Location

SOURCE: Crain and Associates

North no scale

UCLA
Long Range
Development Plan EIR

Figure C-2
Location of Existing
Access Points to Campus

eastbound traffic allowed to flow freely. The close proximity to the intersection of Strathmore Place and Gayley Avenue, combined with heavy automobile, pedestrian and two-wheel vehicle traffic, causes heavy congestion during peak periods. Installation of a signal closely coordinated with the Strathmore Drive and Gayley Avenue signal is being implemented as part of the Northwest Campus Housing/Parking development.

- Signalization of Stone Canyon Drive and Sunset Boulevard -- At present, only right-turns are allowed from northbound Stone Canyon Drive at Sunset Boulevard. In conjunction with the Anderson Graduate School of Management/Parking Structure 3 project, this intersection will be signalized.

- Realignment of Circle Drive East at Wyton Drive -- Currently Circle Drive East is in close proximity to Hilgard Avenue at Wyton Drive. This section of roadway will be realigned to provide a greater spacing between these intersections, allowing for improved operations at each intersection. This improvement is being implemented in conjunction with the expansion of Parking Structure 3.

Other than those locations being addressed by the above measures, only one campus roadway segment currently experiences heavy congestion. During the PM peak traffic period, queues develop on Circle Drive South at Gayley Avenue, and along along Circle Drive West north of Circle Drive South.

Planned or anticipated access, highway, or street system improvements to be undertaken by other agencies by the year 2005 include the installation of an Automated Traffic Surveillance and Control (ATSAC) system throughout the Westwood area and high-occupancy vehicle lanes on the San Diego Freeway (I-405).

Traffic and Circulation:

The street and highway system serving the Westwood community and the UCLA campus carries high volumes and is limited by the lack of a uniform grid in the road system and barriers such as the San Diego Freeway and the Veterans Administration property on the west, and the Santa Monica Mountains to the north. The major arteries near the campus and their characteristics are listed on Table C-3.

Table C-3
East-West Arterials Serving UCLA Campus

	Width	No. of Travel Lanes*	Daily Traffic Volume East-bound	Daily Traffic Volume West-bound	Peak Traffic Volume AM East-bound	Peak Traffic Volume AM West-bound	Peak Traffic Volume PM East-bound	Peak Traffic Volume PM West-bound	Major/ Secondary Highway**	Parking	Median
1. Sunset Blvd. (east of San Diego Freeway)	56	4	22,000	19,000	2,100	1,000	1,500	2,000	Major	No	No
(east of Westwood Plaza)	56	4	17,000	19,000	1,600	1,100	1,200	1,800	Major	No	No
(west of Beverly Glen)	56	4	22,000	20,000	1,500	1,400	1,800	1,600	Major	No	No
2. Le Conte Ave. (east of Westwood Plaza)	56	4	8,000	10,000	400	700	600	800	Secondary	Yes	No
(west of Westwood Plaza)	56	4	9,000	9,000	600	500	700	800	Secondary	Yes	No
3. Wilshire Blvd. (east of San Diego Freeway)	102	8	56,000	50,000	4,600	3,000	3,600	3,900	Major	No	Eastbound double left turns
4. Santa Monica Blvd. (east of San Diego Freeway)	56-82	4-6	38,000	32,000	2,800	2,000	2,500	2,100	Major	No	No

* Through-lanes only, no turn lanes.
** Designated as Major or Secondary Highway in City of Los Angeles Master Plan.

SOURCE: Crain & Associates

Table C-3 (Cont.)
North-South Arterials Serving UCLA Campus

	Width	No. of Travel Lanes*	Daily Traffic Volume: South-bound	Daily Traffic Volume: North-bound	Peak Traffic Volume AM: South-bound	Peak Traffic Volume AM: North-bound	Peak Traffic Volume PM: South-bound	Peak Traffic Volume PM: North-bound	Major/ Secondary Highway**	Parking	Median
1. Veteran Ave.											
(north of Wilshire)	44	4	19,000	11,000	900	900	1,500	800	Secondary	No	No
(south of Sunset)	40	2	5,000	6,000	500	400	300	600	Secondary	Yes	No
2. Gayley Ave.											
(north of Le Conte)	50	2	13,000	12,000	1,000	1,200	1,100	800	Secondary	Yes	No
(east of Veteran)	40	2	8,000	8,000	900	300	500	1,000	Secondary	Yes	No
3. Westwood Blvd.											
(north of Wilshire)	85	6	17,000	17,000	1,100	1,200	1,500	1,200	Major	No	No
4. Westwood Plaza											
(north of Le Conte)	70	6	11,000	11,000	600	1,100	1,200	800	None	No	Yes
5. Hilgard Avenue											
(south of Sunset)	50	4	9,000	8,000	1,000	300	400	900	Secondary	Yes	No
(north of Le Conte)	50	4	6,000	6,000	500	400	400	500	Secondary	Yes	No

* Through-lanes only, no turn lanes.
** Designated as Major or Secondary Highway in City of Los Angeles Master Plan.

SOURCE: Crain & Associates

Directional peak traffic demands on Sunset Boulevard occur during the morning peak period and vary from about 2,100 vehicles per hour (VPH) eastbound (east of the San Diego Freeway), to approximately 1,500 VPH eastbound (east of Westwood Plaza). On Gayley Avenue traffic volumes are approximately 1,000 southbound per hour and 1,200 northbound per hour during the morning peak hour. During afternoon peak hour, peak directional flow on Gayley Avenue is 1,050 (VPH) southbound and 1,000 (VPH) northbound. Along Hilgard Avenue, peak directional traffic demand occurs during both the AM and PM peak period. South of Sunset Boulevard volumes on Hilgard Avenue average 950 VPH southbound in the AM peak hour and 950 VPH northbound during the PM peak hour. Other high-volume (above 1,000 VPH) arterials in either direction include:

- Wilshire Boulevard (E/W)
- Westwood Boulevard (N/S)
- Le Conte Avenue (E/W)
- Veteran Avenue (N/S)
- Beverly Glen Boulevard (N/S)

As shown on Figure C-3, fifty-two intersections near the campus were selected as the study area for the Draft 1990 LRDP analysis. These intersections were selected based on their importance in providing access to the campus and the regional highway system and the potential for the project to increase traffic volumes at these locations.

Projections of future traffic volumes in the Westwood area were generated by a version of the regional traffic forecasting model utilized by the Southern California Association of Governments (SCAG). The version of the SCAG model utilized for this analysis was developed for use on microcomputers and incorporates the EMME/2 modeling software package, and several specially developed program modules which replicate SCAG traffic modeling procedures. Although the SCAG modeling procedures are intended for regional forecasts, the refinement and use of these techniques provide an opportunity for the development of traffic scenarios that reflect the capacities and constraints of the Westwood area, while accounting for projected increases in traffic volumes throughout Los Angeles County, as well as traffic

Study Intersections

SOURCE: Crain & Associates

North no scale

UCLA
Long Range
Development Plan EIR

Figure C-3
Location of Study Intersections

from Ventura, San Bernardino, Riverside and Orange counties. Regional forecasts were aggregated to reflect input from remote regions (e.g., traffic from Ventura County was assigned to the Simi Valley [118] and Ventura [101] freeways and Pacific Coast Highway).

The projections for future increases in vehicle trips are based upon SCAG forecasts for population, additional residential units, and employment opportunities within the region. Refinements in the SCAG projections for the study area were necessary to provide more detailed assignment of future vehicle trips to individual streets within the Westwood area. These refinements for the study area were based upon an examination of private projects (e.g., approved or proposed projects as known by the L.A. City Department of Planning) and L.A. City zoning and general plan designations (including the Westwood Community Plan and Westwood Village Specific Plan). In some instances, the combined effects of known, proposed, or potential projects exceeded SCAG forecasts for the area. In those instances, the SCAG forecasts were augmented to account for potential growth in the Westwood area during the fifteen-year planning horizon of the Draft 1990 LRDP.

The combination of the local refinements to the traffic model and incorporation of regional growth projections is the basis for the forecast of future traffic conditions in the study area.

The traffic model was run under three separate scenarios:

1. Existing Conditions -- current SCAG population, employment and housing data were put into the computer program to predict current traffic conditions. This process permitted calibration of the traffic model, so that the SCAG data could be utilized to accurately predict future traffic volumes.

2. Future "Without Project" -- the combined effect of existing UCLA-related vehicle trips, traffic generated by the UCLA-related projects (previously approved through CEQA process), and future regional growth in vehicle trips (including SCAG forecasts and data on known and proposed projects in the study area), establishes the future conditions that would occur without implementation of the Draft 1990 LRDP.

3. Future "With Project" -- the combined traffic impact of existing and future campus-related vehicle trips, and regional growth, provides an estimate of traffic conditions in the study area if the Draft 1990 LRDP is fully implemented. This scenario includes the effect of all of the traffic mitigation measures (described later in this subsection) which have been incorporated into the Draft 1990 LRDP.

Table C-4 displays the results of a capacity analyses of existing and future "without project" conditions for the morning and afternoon weekday commuter peak hours at the 52 study intersections. The table identifies current (1990) and projected future (2005) conditions and Levels of Service (LOS) and Intersection Capacity Utilization (ICU) values for the study intersections. LOS describes the quality of traffic flow for given roadway and traffic conditions. ICU values are a ratio of the amount of traffic flow to the design capacity of the intersection.

Table C-4 shows that of the 52 study locations, 17 are currently operating near or above capacity (at LOS E or F) during the AM peak hour. During the PM peak hour, 22 of the study intersections are operating at LOS E or F. Traffic projections for the year 2005 (without project) indicate that 20 intersections in the morning peak hour and 28 intersections in the afternoon peak hour will be operating at or near capacity (LOS E or F). A total of 40 intersections in the AM peak hour and 48 intersections in the PM peak hour will be significantly impacted by cumulative projected growth in the region (unrelated to the proposed Draft 1990 LRDP).

Current trip generation rates for the campus are based upon traffic counts for the campus and the UCLA-controlled parking lots at the Veterans Administration. These traffic counts include all vehicles entering the campus and VA parking lots, and are generated for various components of the campus population. These rates have been derived from experience with various program and project-specific analyses undertaken since the 1983 LRDP EIR, as supplemented by campus-wide vehicle counts conducted in Winter Quarter, 1985 (Ref. 5), and Spring Quarter, 1989 (Ref. 6). Additional counts of specific on-campus parking structures, and near-campus residential facilities, were conducted the week of January 15-19, 1990. Trip generation rates, total campus trip generation, and future campus traffic (indicating increases in vehicle trips that would result from completion of projects under construction or previously

Table C-4
Summary of Existing (1990) and Future (2005) Traffic Conditions

Intersection	AM Peak Hour Existing ICU	AM Peak Hour Existing LOS	AM Peak Hour Without Project ICU	AM Peak Hour Without Project LOS	PM Peak Hour Existing ICU	PM Peak Hour Existing LOS	PM Peak Hour Without Project ICU	PM Peak Hour Without Project LOS
Church Ln./Ovada Pl./Sepulveda Blvd.	0.88	D	0.90	D	1.01	F	1.12	F
San Diego Fwy S/B on/off-ramps & Church Ln.	0.77	C	0.83	D	0.76	C	0.84	D
Sunset Blvd. & Church Ln.	0.90	E	1.08	F	0.94	E	1.15	F
Sunset Blvd. & San Diego Fwy N/B on/off-ramps	0.74	C	0.80	C	0.78	C	0.85	D
Sunset Blvd. & Veteran Ave.	0.96	E	1.04	F	0.93	E	1.01	F
Sunset Blvd. & Bellagio Wy.	0.91	E	1.01	F	1.11	F	1.23	F
Sunset Blvd. & Westwood Blvd.	0.71	C	0.78	C	0.78	C	0.84	D
Sunset Blvd. & Stone Canyon Rd.	0.71	C	0.78	C	0.78	C	0.88	D
Sunset Blvd. & Hilgard Ave./Copa de Oro Rd.	1.14	F	1.28	F	0.91	E	1.02	F
Sunset Blvd. & Beverly Glen Blvd./Bel Air Rd.	1.20	F	1.35	F	0.99	E	1.04	F
Sunset Blvd. (east I/S) & Beverly Glen Blvd.	0.98	E	1.06	F	1.15	F	1.19	F
San Diego Fwy. N/B off-ramp & Sepulveda 8l.	0.80	D	0.84	D	0.66	B	0.74	C
Montana Ave. & Sepulveda 8l.	0.91	E	0.95	E	0.98	E	1.11	F
Montana Ave. & Levering Ave.	0.67	B	0.75	C	0.79	C	0.89	D
Montana Ave. & Veteran Ave.	0.86	D	0.88	D	0.89	D	0.95	E
Strathmore Pl. & Gayley Ave.	0.91	E	1.03	F	0.87	D	0.96	E
Levering Ave. & Veteran Ave.	0.67	B	0.75	C	0.72	C	0.83	D
Wyton Dr. & Hilgard Ave.	0.42	A	0.46	A	0.40	A	0.48	A
Wyton Dr./Comstock Ave. & Beverly Glen Blvd.	0.66	B	0.73	C	0.80	D	0.89	D

SOURCE: Crain & Associates

Table C-4 (Cont.)
Summary of Existing (1990) and Future (2005) Traffic Conditions

Intersection	AM Peak Hour Existing ICU	AM Peak Hour Existing LOS	AM Peak Hour Without Project ICU	AM Peak Hour Without Project LOS	PM Peak Hour Existing ICU	PM Peak Hour Existing LOS	PM Peak Hour Without Project ICU	PM Peak Hour Without Project LOS
Westholme Ave. & Hilgard Ave.	0.62	B	0.68	B	0.56	A	0.65	B
Manning Ave. & Hilgard Ave.	0.53	A	0.54	A	0.56	A	0.60	A
Le Conte Ave. & Gayley Ave.	0.76	C	0.77	C	0.80	D	0.87	D
Le Conte Ave. & Westwood Blvd.	0.68	B	0.70	B	0.71	C	0.78	C
Le Conte Ave. & Tiverton Dr.	0.42	A	0.48	A	0.58	A	0.61	B
Le Conte Ave. & Hilgard Ave.	0.58	A	0.62	A	0.82	D	0.91	E
Weyburn Ave. & Gayley Ave.	0.70	C	0.71	B	0.78	C	0.82	D
Weyburn Ave. & Westwood Blvd.	0.42	A	0.43	A	0.79	C	0.82	D
Weyburn Ave. & Tiverton Dr.	0.41	A	0.45	A	0.49	A	0.55	A
Weyburn Ave. & Hilgard Ave.	0.46	A	0.50	A	0.55	A	0.61	B
Kinross Ave. & Westwood Blvd.	0.32	A	0.33	A	0.58	A	0.59	A
Lindbrook Dr. & Westwood Blvd.	0.46	A	0.48	A	0.64	B	0.66	B
Lindbrook Dr. & Tiverton Ave.	0.40	A	0.44	A	0.55	A	0.59	A
Constitution Ave. & Sepulveda Blvd.	0.56	A	0.59	A	0.66	B	0.79	C
Wilshire Blvd. & San Vicente Blvd.	1.03	F	1.12	F	1.21	F	1.30	F
Wilshire Blvd. & Sepulveda Blvd.	1.03	F	1.15	F	1.00	F	1.12	F
Wilshire Blvd. & Veteran Ave.	1.02	F	1.08	F	1.08	F	1.17	F
Wilshire Blvd. & Gayley Ave.	0.86	D	0.92	E	1.02	F	1.07	F
Wilshire Blvd. & Westwood Blvd.	0.82	D	0.85	D	0.86	D	0.89	D

SOURCE: Crain & Associates

Table C-4 (Cont.)
Summary of Existing (1990) and Future (2005) Traffic Conditions

Intersection	AM Peak Hour				PM Peak Hour			
	Existing		Without Project		Existing		Without Project	
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS
Wilshire Blvd. & Glendon Ave.	0.72	C	0.74	C	0.95	E	1.03	F
Wilshire Blvd. & Malcolm Ave.	0.56	A	0.58	A	0.84	D	0.90	D
Wilshire Blvd. & Westholme Ave.	0.68	B	0.70	B	0.79	C	0.92	E
Wilshire Blvd. & Beverly Glen Blvd.	0.81	D	0.85	D	0.79	C	0.87	D
Ohio Ave. & Sawtelle Blvd.	0.98	E	1.04	F	0.96	E	1.04	F
Ohio Ave. & Sepulveda Blvd.	0.88	D	0.94	E	0.99	E	1.08	F
Ohio Ave. & Veteran Ave.	0.80	C	0.84	D	1.02	F	1.10	F
Ohio Ave. & Westwood Blvd.	0.83	D	0.87	D	1.02	F	1.11	F
Santa Monica Blvd. & Sawtelle Blvd.	0.91	E	0.96	E	1.06	F	1.14	F
Santa Monica Blvd. & San Diego Fwy. (S/B)	1.05	F	1.10	F	1.08	F	1.16	F
Santa Monica Blvd. & San Diego Fwy. (N/B)	0.85	D	0.88	D	0.87	D	0.94	E
Santa Monica Blvd. & Sepulveda Blvd.	1.01	F	1.06	F	0.99	E	1.06	F
Santa Monica Blvd. (N-rdwy) & Veteran Ave.	0.98	E	1.03	F	1.08	F	1.17	F
Santa Monica Blvd. (N-rdwy) & Westwood Blvd.	0.92	E	0.97	E	1.07	F	1.15	F

SOURCE: Crain & Associates

approved, but not including implementation of the proposed Draft 1990 LRDP) are provided in Tables C-5a and C-5b. The values cited for UCLA Related Projects in Table C-5c are taken from the published environmental documents for these projects. As this table shows, if all UCLA related projects were built as proposed, including the parking portions of these projects, an increase of nearly 19,000 daily trips would occur. These potential increases do not include any traffic due to LRDP projects.

Other Transportation Modes:

Several studies have been conducted recently under the guidance of the UCLA Business and Transportation Services Administration and the UCLA Commuter Assistance - Ridesharing Department to ascertain the choice of transportation modes and commute patterns of the campus population. Travel to campus by students, faculty and staff was assessed for UCLA's 1990 SCAQMD Regulation XV Report (Ref. 7). The survey results showed the following mode split among commuter students: 36% drove alone, 11% were in a carpool of two or more people, 15% rode the bus, and 8% commuted on motorcycles or mopeds. Walking and bicycling accounted for the remaining 27%. The survey results for staff and faculty commuters showed that 71% drove alone to campus and 13% carpooled with at least one other person. Bus riders in this group amounted to 7%. The remainder travelled in a number of different ways, including walking or bicycling (4%), riding a moped or motorcycle (1%), and vanpooling or buspooling (4%).

A traffic count of the general campus population conducted in May, 1989, at all main campus access locations shows the following mode splits during the PM peak hour: 51.2% auto drivers, 13.6% auto passengers, 1.1% bicycle commuters, 3.7% on mopeds, scooters or motorcycles, 15.2% pedestrians, 2.8% public transit, 2.5% UCLA parking shuttle passengers, 1.8% vanpools and 8.0% Campus Express (Ref. 8). Although this traffic count shows a somewhat different breakdown than the surveys cited above, it provides an aggregate breakdown of mode choice.

The key finding of all three studies is that the automobile is the dominant transportation choice among those travelling to and from the campus. Automobile use would also be expected to be the dominant mode for Westwood area residents, employees and visitors.

Table C-5a
Current UCLA Trip Generation Rates

Group	Daily Traffic	AM Peak Hour I/B	AM Peak Hour O/B	PM Peak Hour I/B	PM Peak Hour O/B
Faculty/Staff/Student Employees*	3.04	0.24	0.01	0.04	0.23
Other Commuter Students	0.47	0.031	0.005	0.013	0.024
Resident Students	0.13	0.002	0.002	0.005	0.007
Other Individuals**	2.64	0.13	0.09	0.13	0.18

Table C-5b
Current UCLA Trip Generation

Group	Population/ Amount	Daily Traffic	AM Peak Hour I/B	AM Peak Hour O/B	PM Peak Hour I/B	PM Peak Hour O/B
Faculty/Staff/Student Employees*	21,650	65,748	5,126	190	964	4,905
Other Commuter Students	26,400	12,413	816	142	355	638
Resident Students	4,200	565	7	7	21	29
Other Individuals**	10,335	27,300	1,365	910	1,365	1,820
Through Traffic/Two-Wheel Vehicle	N/A	18,574	625	373	589	248
Shuttles	N/A	1,800	70	70	75	75
Total	62,585	126,400	8,009	1,692	3,369	7,714

Table C-5c
Future UCLA Trip Generation (Without LRDP Traffic)

Group	Daily Traffic	AM Peak Hour I/B	AM Peak Hour O/B	PM Peak Hour I/B	PM Peak Hour O/B
Current Trip Generation	126,400	8,009	1,692	3,369	7,714
UCLA Related Projects Generation***	18,777	1,212	382	717	1,594
Total	145,177	9,221	2,074	4,086	9,308

* Includes only those students with academic appointments who are eligible for employee parking permits.

** Total daily individuals including patients, vendors and other visitors.

*** The calculations for the previously-approved UCLA related projects (those not currently under construction) are based on the approved EIRs for these projects.

SOURCE: Crain & Associates

However, it should be noted that at UCLA the use of alternative modes to driving alone has been increasing over the past several years. This increase has been due, in large part, to UCLA's aggressive Transportation Demand Management (TDM) program, adopted in May, 1987. The following is a description of the modes other than the single-passenger car which are available to the campus community.

__Ridesharing__

In January 1984, the University created the UCLA Commuter Assistance - Ridesharing (CAR) department. This department provides personalized service to faculty, staff and students to facilitate the formation of carpools, vanpools, and buspools, and the utilization of other transportation modes. Those desiring information regarding ridesharing and other alternative modes to campus complete a ridesharing registration form. This form is included in the "UCLA Commuter's Guide," a free publication distributed annually to all staff, students and faculty. Using an on-campus terminal linked to the Commuter Computer database, CAR then assists in preparing carpool match lists for applicants. Carpools, defined at UCLA as three or more persons in a vehicle, receive discounted preferential reserved parking in prime parking locations throughout the main campus. In addition, CAR operates a vanpool and buspool program and provides campus commuters with assistance in matching these services with their commute needs.

In the last six years, CAR has been responsible for rapid growth of ridesharing at UCLA. As of Fall 1989, CAR has contributed to the formation of over: 550 student carpools, 120 faculty/ staff carpools, 70 vanpools, and 2 buspools serving over 3,000 participants. Program participation has been increasing, and the campus expects to initiate two additional buspool programs by Summer, 1990, and continue forming vanpools at the rate of approximately one van per month. The increased number of participants will also further improve the effectiveness of the programs, as a larger pool of potential ridesharing matches will be available.

The CAR department (in conjunction with Campus Parking Service and the Fleet and Transit department) is also providing other services to make ridesharing a viable commuting alternative, including the RIDE parking pass and the Guaranteed Ride Home program. The RIDE parking pass provides carpool, vanpool, and buspool participants with an opportunity to purchase guaranteed parking on a daily basis as needed, when work or other occasional commitments might otherwise preclude ridesharing participation. The Guaranteed Ride Home Program provides ridesharing participants a way home if an emergency requires them to leave early or a work commitment requires them to stay on campus beyond the time when their ride leaves the campus.

UCLA's ridesharing services are also offered to employees of members of the UCLA/Westwood Transportation Network. This transportation management organization has been established by UCLA to coordinate the ridesharing programs of employers throughout Westwood. Westwood employers are able to join the program by paying an annual fee. This major program not only leads to a larger base of participants, and therefore better service, especially among small employers (as chances of good carpool and vanpool placements increases as does the participant pool), but also contributes to a reduction of non-UCLA traffic in Westwood.

Bus Service

UCLA and Westwood are served by a number of bus lines operated by three transit companies: the Southern California Rapid Transit District (SCRTD), the Santa Monica Municipal Bus Lines and the Culver City Bus Lines. A total of sixteen bus routes serve UCLA with twelve of these bus lines directly serving the UCLA main campus. Eight lines directly serve UCLA Southwest zone via Wilshire Boulevard, with eight other lines passing within easy walking distance. The lines serving UCLA and Westwood Village offer extensive coverage of the west Los Angeles area and the City of Santa Monica. They also provide access to downtown Los Angeles, Los Angeles International Airport (LAX) and the San Fernando Valley. When transfer possibilities are considered, the overall bus system constitutes a good level of transit service connecting the University with much of the Los Angeles region.

The University also operates extensive shuttle bus services around the main campus from the southwest zone and the UCLA-controlled parking lots on the Veterans Administration property. An evening van service provides access to the main campus from the surrounding residential neighborhoods. In addition, a private operator provides a mini-bus service from the Federal Building to Westwood Village on evenings and weekends.

<u>Bicycles and Motor-Driven "Two-Wheeled Vehicles"</u>

There are several designated bicycle routes which serve the Westwood area. One route follows Tiverton Avenue south of the UCLA main campus. In the one-way segment between Weyburn Avenue and Lindbrook Avenue, a northbound bike lane and southbound off-street bike path are provided. Farther to the south, the bike route continues along Glendon Avenue.

Another route extends along the western side of Gayley Avenue north of Lot 32. The route crosses the Southwest Zone near the steam plant and continues to the southwest corner of Lot 32. An additional bike route with an alignment extending north of the present bike lane along Gayley Avenue is proposed for the area by the City of Los Angeles as part of its designated routes in the adopted Citywide Bicycle Plan. An alternative route proposed by the University follows Westwood Plaza on campus.

The travel mode survey conducted for the SCAQMD Regulation XV Report showed that 13% of the students commuted to campus on bicycles, mopeds or motorcycles (Ref. 9), while an earlier study showed that 14% of the on-campus resident students reported using bicycles, mopeds or motorcycles to get to class (Ref. 10). The faculty/staff portion of the SCAQMD Regulation XV Report showed that only about 1% of this group used motor-driven two-wheeled vehicles to commute to campus, and 1% ride bicycles (Ref. 11). Separate bike lanes are not provided on campus, but bicyclists can ride on all campus roadways.

Campus-wide, UCLA has 2,531 marked parking spaces for motorcycles and mopeds and 2,322 spaces in racks for bicycles distributed throughout the campus parking lots and in specially designated spaces within structures. Parking permits are not currently required for bicycles, mopeds and motorcycles (Ref. 12). There are no lockers or special security facilities available for bicycles.

<u>Pedestrians</u>

Walking forms an important commute mode to and from campus. The 1989 cordon count showed that 16% of the persons entering main campus during the morning peak hour were pedestrians (Ref. 13). Pedestrian routes to and from campus are provided by sidewalks along most City streets. Important pedestrian destinations include the residential areas to the west of the campus and the businesses in Westwood Village. Additionally, these pedestrian facilities tie the campus to the public bus stops which are located on the periphery of campus. Within campus, walking is the dominant mode. An extensive network of pedestrian facilities is provided for circulation between campus buildings, parking lots, recreational facilities and the campus periphery. The quality of these facilities varies greatly, from wide plazas to narrow sidewalks adjacent to campus roadways. In general, however, they provide for safe and convenient circulation within campus. In conjunction with projects currently under construction or previously approved through the CEQA process, several minor modifications and enhancements to pedestrian facilities will be undertaken (e.g., AGSM, NW Campus Housing, and signalization at Strathmore Drive).

Environmental Impact and Mitigation Measures

CEQA identifies an increase in traffic that is substantial in relation to existing traffic load and capacity of the street system as a significant adverse effect. For the purposes of this EIR, "substantial increases" are traffic volumes that would increase the Intersection Capacity Utilization (ICU) value by 0.01 at any intersection operating at Level of Service (LOS) E or F, by 0.02 at an intersection which is projected to operate at LOS D, or by 0.04 at an intersection projected to operate at LOS C or better. A long-term disruption to vehicular circulation, or an increase in parking demand that cannot be accommodated by previously approved parking improvements or measures to reduce campus parking demand, would also be significant impacts. Increases in the demand for alternative transportation modes that cannot be reasonably accommodated within existing or planned services would also constitute a significant impact.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

As projects are developed during the fifteen year Draft LRDP planning horizon, the specific effects on Parking, Traffic, Access, and Other Transportation Modes will be considered in the environmental documentation for each program or project.

***Impact C-1: Without mitigation measures, vehicle trips would increase as a result of the projected population increase resulting from implementation of the Draft 1990 LRDP.**

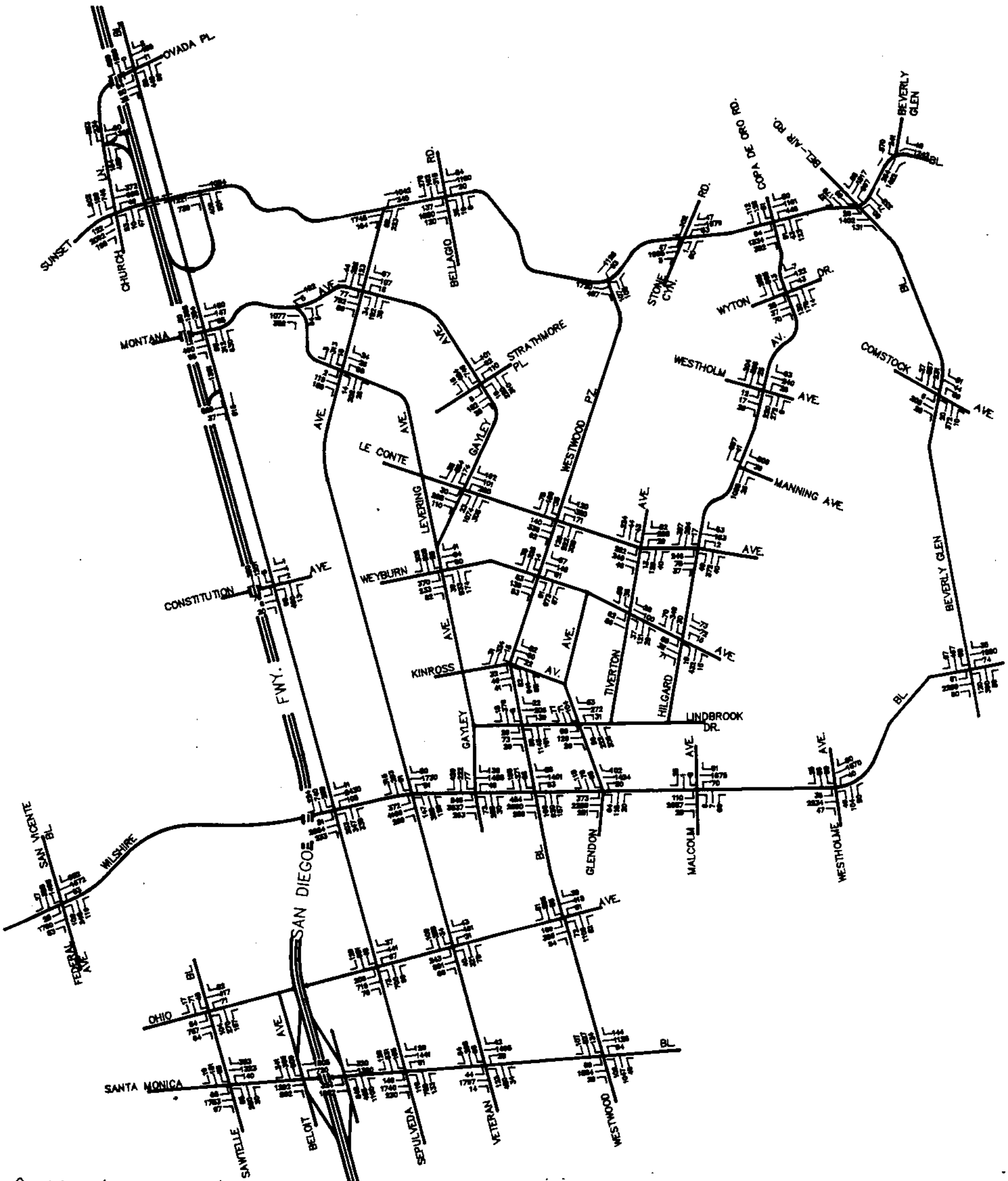
As described in the discussion of the environmental setting, the projections for future increases in vehicle trips are based upon SCAG forecasts for population, additional residential units, and employment opportunities within the region. The traffic model was run under three separate scenarios:

1. Existing Conditions -- current SCAG population, employment and housing data were put into the computer program to predict current traffic conditions. This process permitted calibration of the traffic model, so that the SCAG data could be utilized to accurately predict future traffic volumes.

2. Future "Without Project" -- the combined effect of existing UCLA-related vehicle trips, traffic generated by the UCLA-related projects, and future regional growth in vehicle trips (including SCAG forecasts and data on known and proposed projects in the study area), establishes the future conditions that would occur without implementation of the Draft 1990 LRDP.

3. Future "With Project" -- the combined traffic impact of existing and future campus-related vehicle trips, and regional growth, provides an estimate of traffic conditions in the study area if the Draft 1990 LRDP is fully implemented. This scenario includes the effect of all of the traffic mitigation measures (described below) which have been incorporated into the LRDP.

Figures C-4a and C-4b illustrate the results of the counts of the existing traffic volumes for the AM and PM peak hours, respectively. Figures C-5a and C-5b show the results of the future cumulative (without LRDP) traffic projects for the AM and PM peak hour conditions, respectively. Table C-4 provides the results of the analyses of existing and future "without project" conditions for the morning and afternoon weekday commuter peak hours at the 52 study intersections. The table identifies current (1990) and projected future (2005) conditions and Levels of Service (LOS) and Intersection Capacity Utilization (ICU) values for the study intersections. Table C-4 shows that of the 52 study locations, 17 are currently operating near or above capacity (at LOS E or F) during the AM peak hour. During

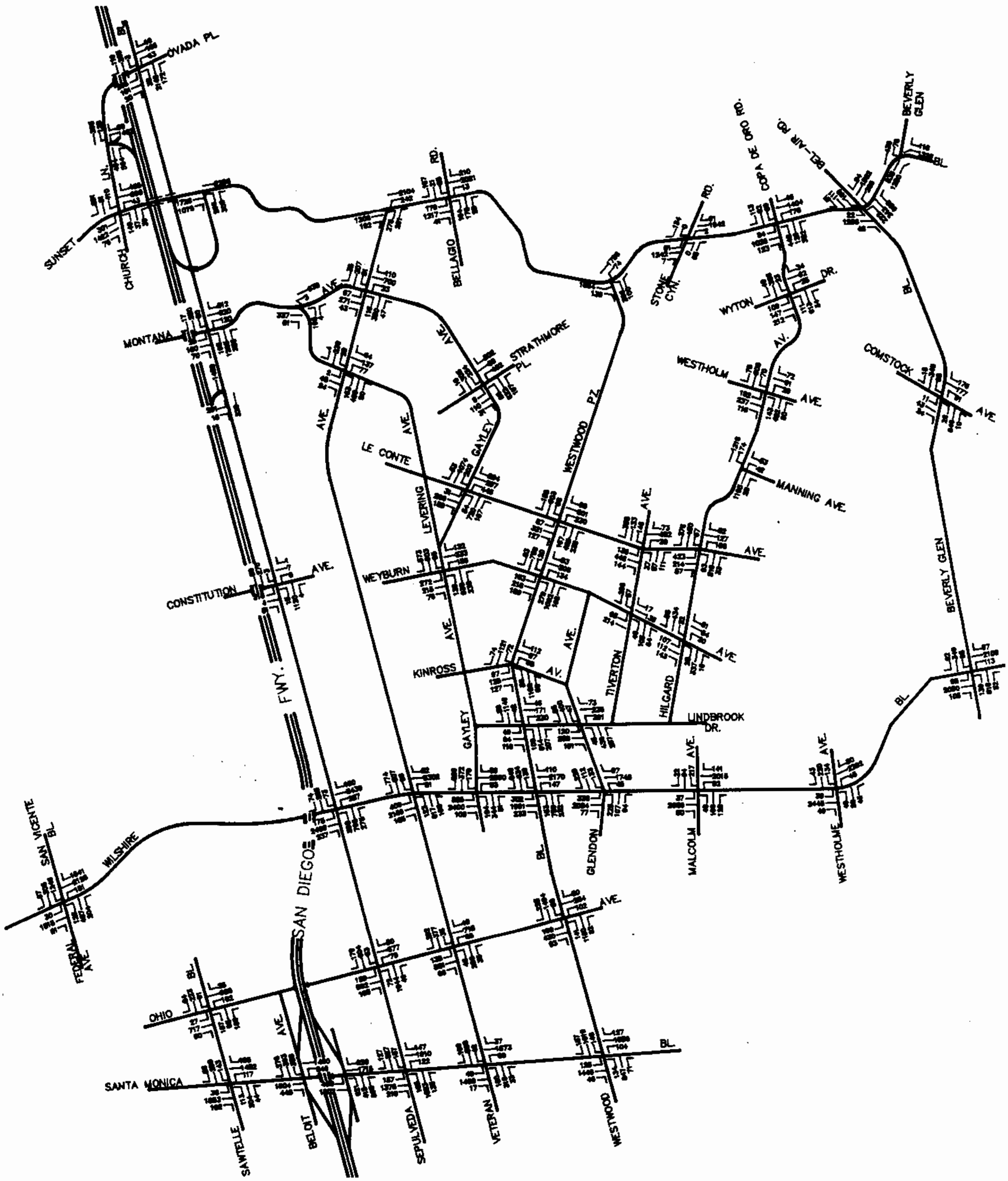


↑ North no scale

SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-4a
Existing (1989) Traffic Volumes
AM Peak Hour

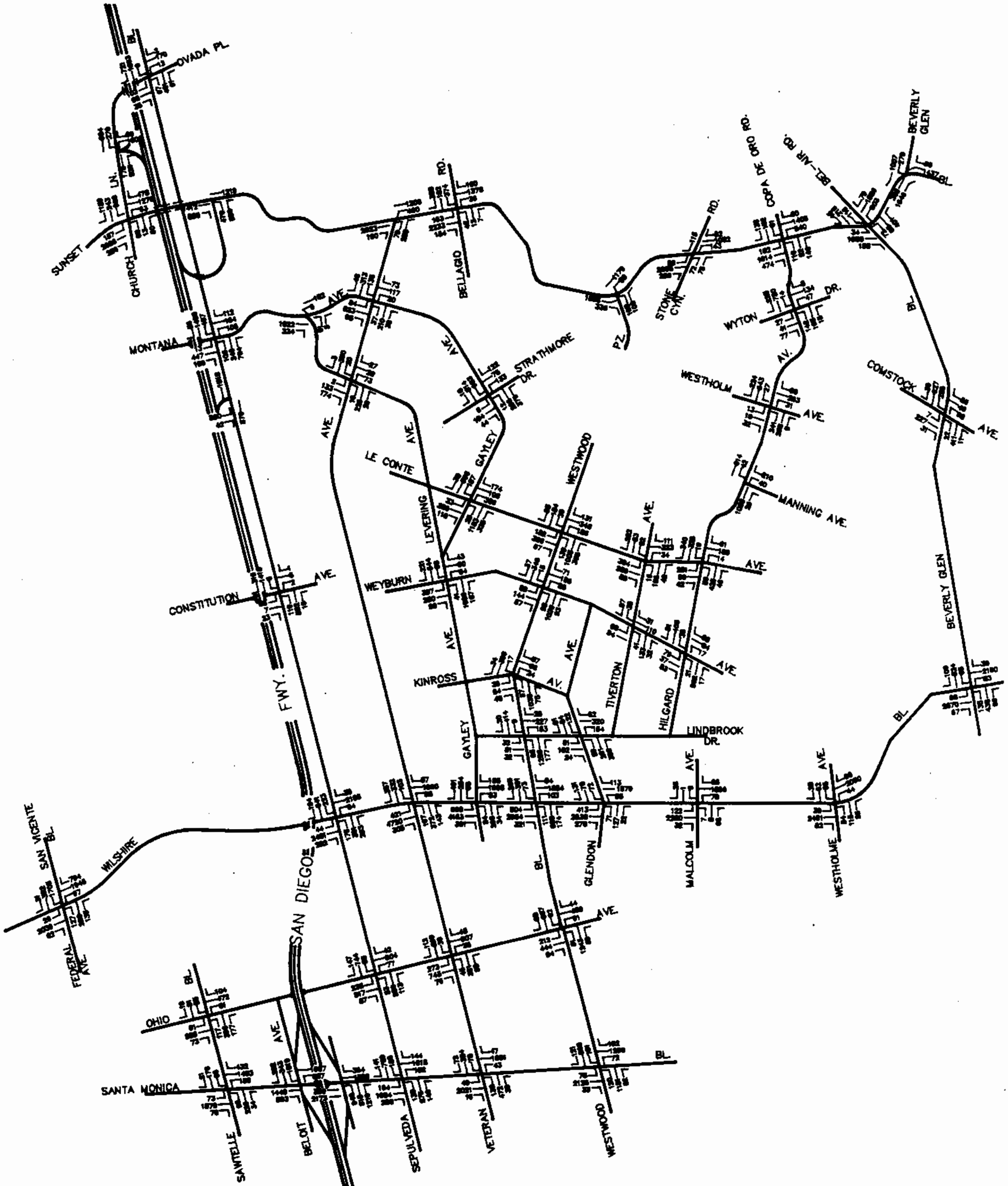


North no scale

SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-4b
Existing (1989) Traffic Volumes
PM Peak Hour

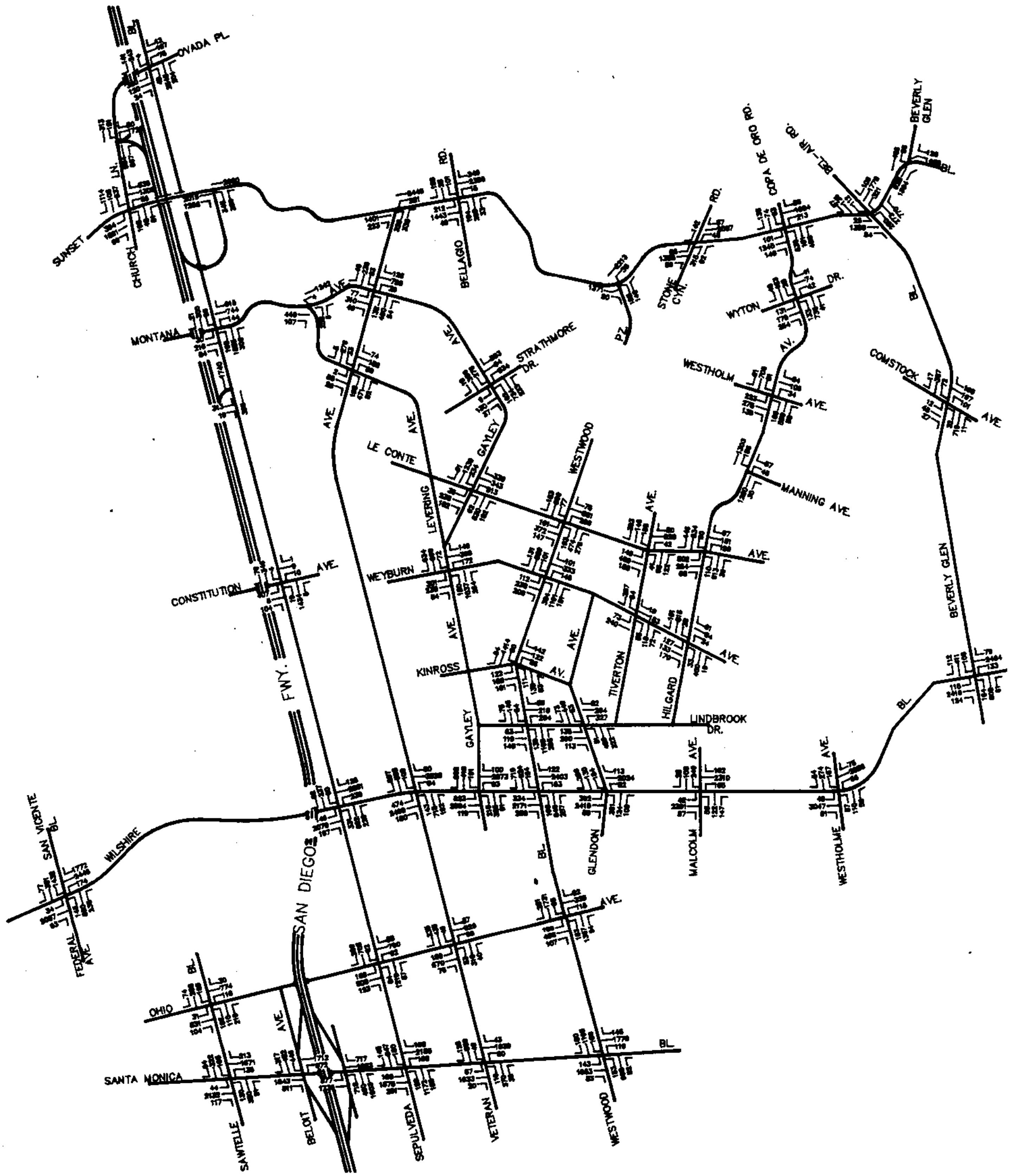


↑ North no scale

SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-5a
Future (2005) Traffic Volumes
without Project AM Peak Hour



↑ North no scale

SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-5b
Future (2005) Traffic Volumes without Project PM Peak Hour

the PM peak hour, 22 of the study intersections are operating at LOS E or F). Traffic projections for the year 2005 indicate that 20 intersections in the morning peak hour and 28 intersections in the afternoon peak hour will be operating at or near capacity (LOS E or F). A total of 40 intersections in the AM peak hour and 48 intersections in the PM peak hour will be significantly impacted by cumulative projected growth in the region (unrelated to the proposed Draft 1990 LRDP).

The impact of the proposed implementation of the Draft 1990 LRDP on traffic has been analyzed based upon: A) the future supply of parking, B) future campus parking demand, and C) trip generation rates by vehicles utilizing campus parking spaces.

A. Future Parking Supply: the Draft LRDP proposes to construct no net additional parking spaces, beyond those improvements to supply that are under construction or were previously approved. Automobile parking projects under construction (Parking Structures 1, 12 and Northwest Campus, Phase I) and previously approved Structure 3 expansion, and Northwest Campus, Phase II), would add approximately 5,085 parking spaces to the current inventory, for a total of 25,169 spaces. Thus, the Draft LRDP proposes to limit the total campus parking supply at this currently approved level.

B. Future Parking Demand: estimated by utilizing existing permit demand ratios, and adjusting these values to reflect the assumed impact of the continued expansion of the TDM program. This analysis assumes that during the Draft 1990 LRDP planning horizon, TDM will achieve a twelve percent reduction in parking demand below current levels for faculty, staff, and academic student employees (e.g., teaching and research assistants). Projected changes in permit allocation ratios are detailed in Table C-6a and b.

   The current and projected (with implementation of the LRDP) total number of parking spaces allocated to each user group are detailed in Tables 2b and 14b, respectively, of the Transportation Systems Analysis in Appendix E (Volume II) of this Draft EIR. As these tables show, the number of spaces required for UCLA employees will decrease from over 14,000 to less than 13,700 while the number of spaces allocated to commuter students will increase from approximately , 500 to about 4,200.

Table C-6a
Future UCLA Parking
Allocation Ratios With LRDP Including Mitigation

Group	Daytime Permits	On-Campus Spaces	Near-Campus Spaces
Faculty/Staff/Student Employee Commuters*	0.71	0.57	0.00
Faculty/Staff Residents	1.50	1.50	0.00
Other Commuter Students	0.27	0.12	0.07
Undergrad Resident Students	0.15	0.15	0.00
Graduate Resident Students	0.50	0.50	0.00
Other Individuals**	N/A	0.18	0.00
Child Care (per student)	0.31	0.31	0.00
Other Parking (per space)	N/A	1.00	0.00

Table C-6b
Future UCLA Parking
Allocation Ratios With LRDP Including Mitigation

Group	Population/ Amount	Daytime Permits	On-Campus Spaces	Near-Campus Spaces
Faculty/Staff/Student Employee Commuters*	24,113	17,009	13,656	0
Faculty/Staff Residents (Residing in Southwest Campus)	400	600	600	0
Other Commuter Students	21,834	5,987	2,677	1,565
Undergrad Resident Students	6,860	1,041	1,041	0
Graduate Resident Students	2,300	1,150	1,150	0
Other Individuals**	11,445	N/A	2,289	0
Child Care (students)	390	122	122	0
Other Parking (spaces)	300	N/A	300	0
Total		27,816	21,835	1,565

* Includes only those students with academic appointments who are eligible for employee parking permits.

** Average daily individuals including patients, vendors, university extension students and other visitors.

SOURCE: Crain & Associates

C. Trip Generation Rates: developed by utilizing current trip generation rates for various components of the campus population. These rates are based upon various program and project specific analyses undertaken since the 1983 LRDP EIR, as supplemented by campus-wide vehicle counts conducted in Winter Quarter, 1985, and Spring Quarter, 1989. Additional counts of specific on-campus parking structures, and near-campus residential facilities were conducted the week of January 15-19, 1990.

Mitigation Measure C-1.1: The Campus will ~~continue to aggressively~~ implement additional features of the expanding Transportation Demand Management (TDM) Program, coordinated by the Commuter Assistance-Ridesharing (CAR) department. The TDM will also reduce parking demand by 12% below current levels for faculty, staff, and academic student employees. Transportation control measures currently being implemented for the campus include:

1.1 Shuttle bus services around the UCLA campus and from several peripheral and remote parking and housing facilities (with implementation of the LRDP, shuttle bus service will be expanded by 50% above the already extensive system);

1.2 Buspool and vanpool services between the UCLA campus and the surrounding community (currently, over 70 vans participate in this program);

1.3 Annual distribution of the UCLA Commuter's Guide, a publication describing alternatives to single-occupancy vehicle use and TDM program alternatives to all UCLA commuters and distribution of this guide to all new UCLA commuters prior to their first day of commuting to campus;

1.4 Carpool matching and parking incentive programs (at UCLA, a carpool consists of three or more persons per vehicle), including the utilization of the Commuter Computer to match carpool applicants, and providing discounted and preferential main campus parking for carpool users;

1.5 Parking control management, including differential parking rates (e.g., parking cost determined by location of parking) and policy limitations on parking allocations to segments of the campus community (e.g., restricting the availability of parking for new employees);

1.6 Financial incentives for carpool, buspool and vanpool participants; and

1.7 Restricting access to main campus parking facilities for residents of existing and planned on-campus housing;

In addition, the following previously approved and proposed campus planning proposals will further reduce vehicular trip generation rates:

Mitigation Measure C-1.2: Development of additional housing in the Southwest zone as proposed in the Draft 1990 LRDP for 2,700 students, faculty and staff; and

Mitigation Measure C-1.3: Commitment to no net increases in the supply of parking (beyond the currently approved level of 25,169 spaces).

Following the implementation of these measures, vehicle trips generated by the UCLA-related population will be reduced from the 145,000 average daily vehicle trip level for the without project scenario shown in Table C-5c to 139,500 trips. Anticipated trip generation by user group is detailed in Table C-7a and b. ~~Maintenance of this daily trip level will be monitored in conformance with the Mitigation Monitoring Program which will be included in the Final EIR~~.

Mitigation Measure C-1.4: During the LRDP planning horizon, the total average daily vehicle trips from all vehicles entering and exiting the main campus and parking facilities on the southwest zone and UCLA-controlled parking facilities on the Veterans Administration grounds, will be maintained at 139,500. Maintenance of the average daily vehicle trip cap will include an annual vehicle count, conducted each fall.

Mitigation Measure C-1.5: In the event that the annual count determines that the cap has been exceeded, the campus will effect the necessary measures to reduce trip generation below the cap. If a project proposed during the LRDP planning horizon is estimated to cause an exceedance of the cap, such project will not be occupied until appropriate trip reductions have been achieved, and the net effect of occupying the project will not cause the trip cap to be exceeded.

Maintenance of this daily trip level will be monitored in conjunction with the City of Los Angeles and in conformance with the Mitigation Monitoring Program approved by the Regents, a draft copy of which is included in the Final EIR. Future project-specific environmental reviews will analyze the impact of the project on the trip cap.

Based on the implementation of these mitigation measures, UCLA-related vehicle trip levels will decrease as a result of Draft 1990 LRDP implementation, reducing this impact to a less-than-significant level.

***Impact C-2: Traffic patterns resulting from Draft 1990 LRDP implementation will have a significant impact on roadway segments and the intersection of Veteran Avenue and Wilshire Boulevard.**

Although the supply of campus parking and the total number of daily vehicle trips to campus is not projected to increase, changes in the location of these vehicle trips will occur. In particular, the Draft 1990 LRDP proposes to shift previously approved increments in parking supply from main campus locations to the Southwest zone, to accommodate the proposed uses of this area. The result of these changes in parking location will be a shift in vehicle trips from roadways on or in the vicinity of the northern portion of the main campus, to the streets in the immediate vicinity of the Southwest zone.

Table C-7a
Future UCLA Trip Generation Rates with LRDP

Group	Daily Traffic	AM Peak Hour I/B	AM Peak Hour O/B	PM Peak Hour I/B	PM Peak Hour O/B
Faculty/Staff/Student Employee Commuters*	2.67	0.21	0.01	0.04	0.20
Faculty/Staff Residents	3.56	0.12	0.26	0.19	0.11
Other Commuter Students	0.68	0.04	0.01	0.02	0.03
Undergrad Resident Students	0.13	0.002	0.002	0.005	0.007
Graduate Resident Students	0.50	0.00	0.05	0.04	0.02
Other Individuals**	2.64	0.13	0.09	0.13	0.18
Child Care (per student)	4.14	0.30	0.30	0.30	0.30
Other Parking (per space)	12.00	0.18	0.08	0.47	0.53

Table C-7b
Future UCLA Trip Generation With LRDP

Group	Population/ Amount	Daily Traffic	AM Peak Hour I/B	AM Peak Hour O/B	PM Peak Hour I/B	PM Peak Hour O/B
Faculty/Staff/Student Employee Commuters*	24,113	64,441	5,024	186	945	4,807
Faculty/Staff Residents	400	1,424	48	104	76	44
Other Commuter Students	21,834	14,847	976	170	424	764
Undergrad Resident Students	6,860	923	12	12	35	47
Graduate Resident Students	2,300	1,150	6	104	86	35
Other Individuals**	11,445	30,232	1,512	1,008	1,512	2,015
Child Care (per student)	390	1,613	117	117	117	117
Other Parking (per space)	300	3,600	54	24	141	159
2-Wheel Vehicle/Through Traffic	N/A	18,574	625	373	589	248
Shuttles		2,700	105	105	112	112
Total		139,504	8,478	2,204	4,037	8,347

* Includes only those students with academic appointments who are eligible for employee parking permits.

** Total daily individuals including patients, vendors and other visitors.

SOURCE: Crain & Associates

To improve traffic flow in the vicinity, the Draft 1990 LRDP proposes to straighten Weyburn Avenue across the Southwest zone and extend Le Conte Avenue west from Levering to Veteran Avenue. The intersection of Veteran and Le Conte would be designed with a "bend" to direct northbound traffic from Veteran onto the extended Le Conte route. This would provide more direct access from the San Diego Freeway to the campus, while reducing campus-related traffic in Westwood Village, and northbound traffic on Veteran Avenue.

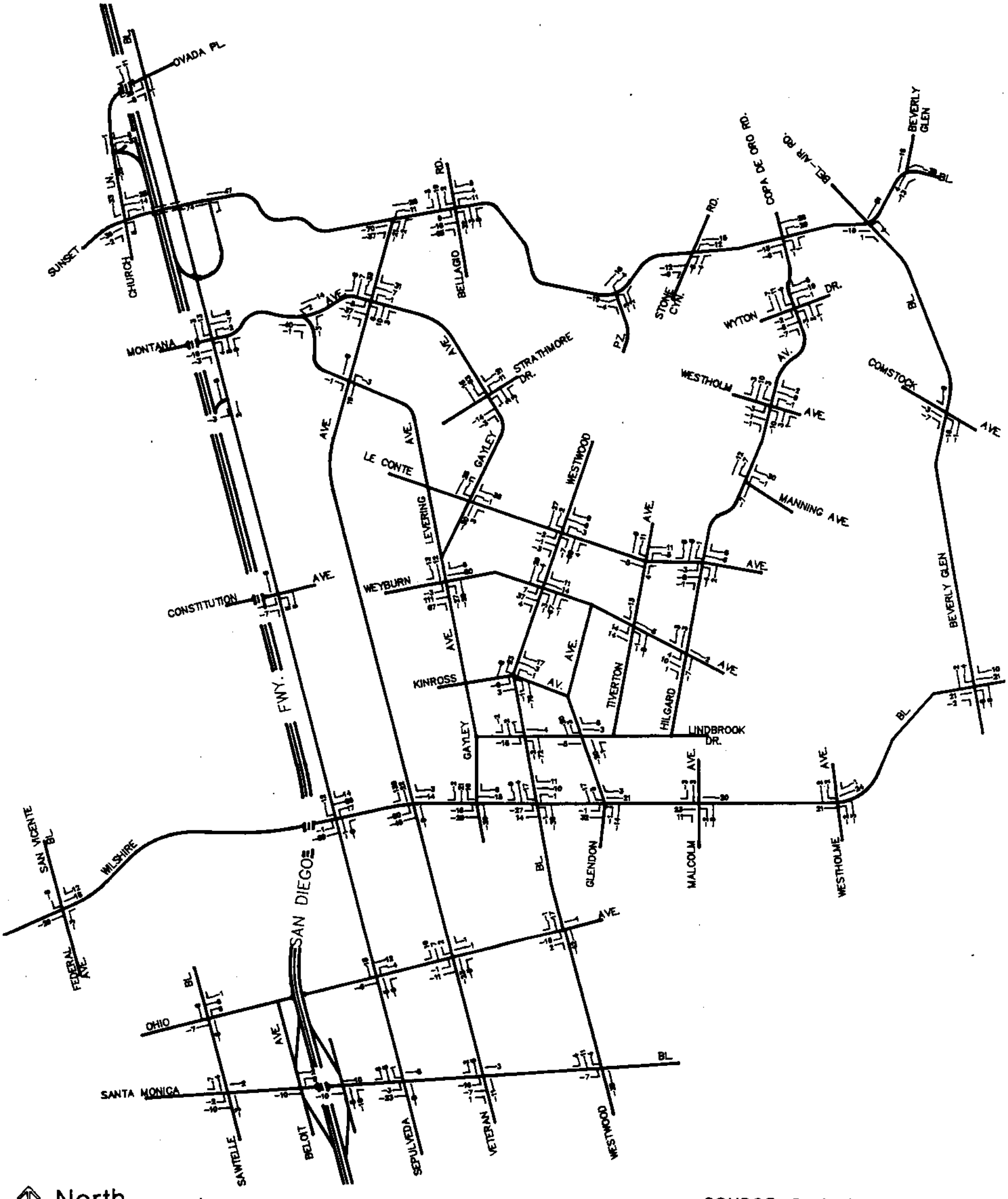
Figures C-6a and C-6b depict the net changes in traffic volumes anticipated to occur due to implementation of the LRDP including the mitigation measures under AM and PM peak hour conditions, respectively. Tables C-8 and C-9 summarize the future (2005) conditions at the 52 selected intersections both with and without implementation of the Draft 1990 LRDP as well as on the area freeway system. Although Table C-8 does detail the potential reductions in traffic volumes (primarily along the northern edge of the campus) that would result from the implementation of the Draft 1990 LRDP, significant impacts are projected to occur at the intersection of Wilshire Boulevard and Veteran Avenue. With the exception of the Wilshire Boulevard interchange with the San Diego Freeway (I-405), implementation of the Draft 1990 LRDP will not adversely impact any freeway segment or interchange on-ramp. The impact at the Wilshire Boulevard interchange with the San Diego Freeway, however, will not be significant.

Mitigation Measure C-2: Improve the street system and traffic signals in the vicinity of the Southwest zone, including:

2.1: Widen Veteran Avenue north of Wilshire Boulevard to provide dual southbound right-turn-only lanes onto Wilshire Boulevard.

2.2: Realign Weyburn Drive between Gayley Avenue and Veteran Avenue to provide a new roadway with improved alignment, south of the existing intersection of Veteran Avenue and Weyburn Drive. Install a new traffic signal at Veteran Avenue, with no right-turn-on-red for westbound travel from Weyburn to northbound Veteran Avenue.

2.3: Install a traffic signal at intersection of Kinross Avenue and Veteran Avenue and design installation to provide for emergency vehicle exit from the existing L. A. City fire station.

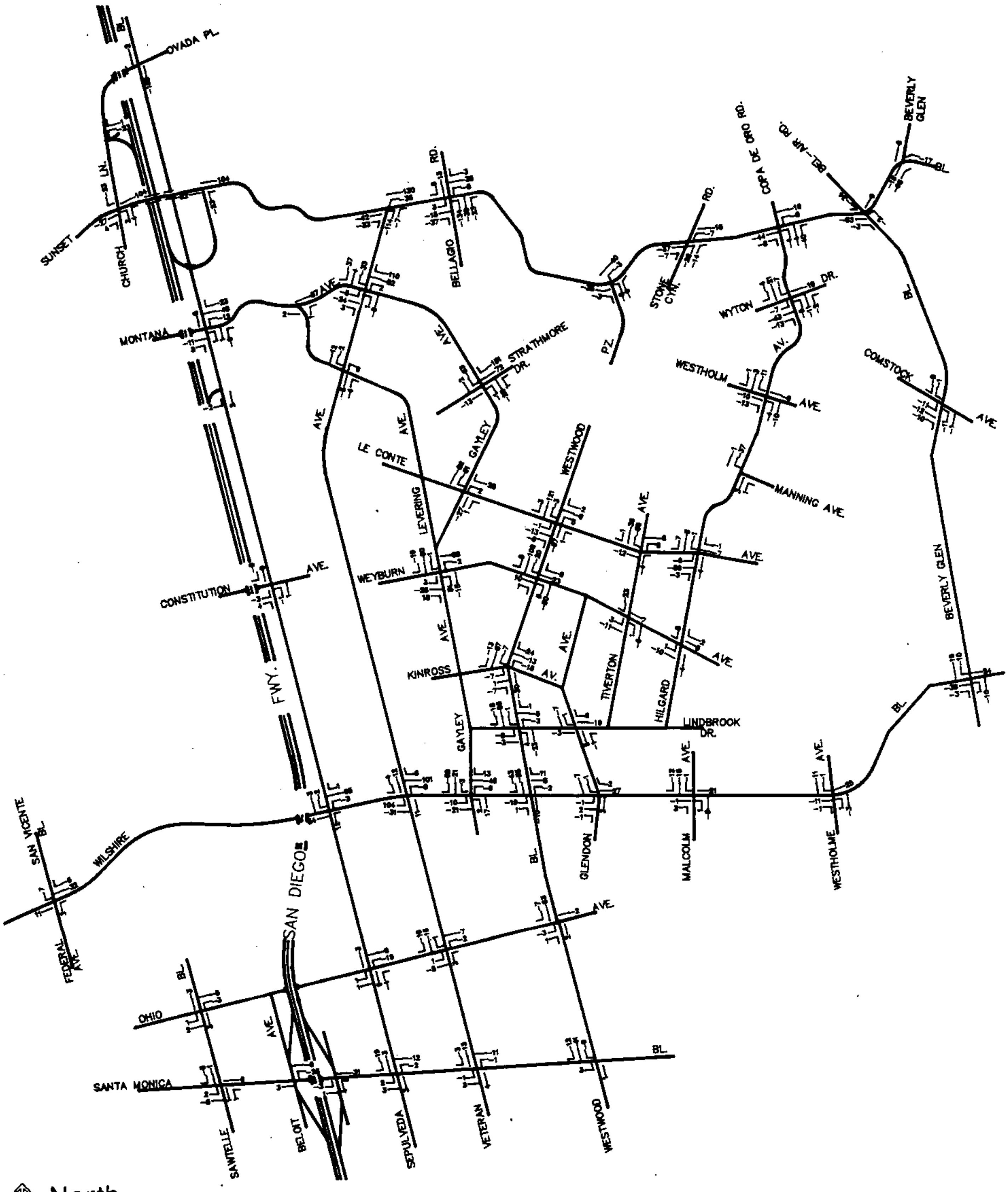


↑ North no scale

SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-6a
Project Traffic Volumes
with Mitigation AM Peak Hour



SOURCE: Crain & Associates

UCLA
Long Range
Development Plan EIR

Figure C-6b
Project Traffic Volumes with Mitigation PM Peak Hour

Table C-8
Summary of Future (2005) Conditions AM Peak Hour With and Without Project Traffic (Prior to Mitigation)

Intersection	AM Peak Hour: Existing ICU	Existing LOS	Without Project ICU	Without Project LOS	Cumulative Impact	With Project TDM & Parking Changes ICU	With Project TDM & Parking Changes LOS	Project Impact
Church Ln./Ovada Pl./Sepulveda Blvd.	0.88	D	0.90	D	+0.02*	0.88	D	-0.02
San Diego Fwy S/B on/off-ramps & Church Ln.	0.77	C	0.83	D	+0.06*	0.82	D	-0.01
Sunset Blvd. & Church Ln.	0.90	E	1.08	F	+0.18*	1.08	F	--
Sunset Blvd. & San Diego Fwy N/B on/off-ramps	0.74	C	0.80	C	+0.06*	0.78	C	-0.02
Sunset Blvd. & Veteran Ave.	0.96	E	1.04	F	+0.08*	0.99	E	-0.05
Sunset Blvd. & Bellagio Wy.	0.91	E	1.01	F	+0.10*	1.00	E	-0.01
Sunset Blvd. & Westwood Blvd.	0.71	C	0.72	C	+0.01	0.71	C	-0.01
Sunset Blvd. & Stone Canyon Rd.	0.71	C	0.77	C	+0.06*	0.76	C	-0.01
Sunset Blvd. & Hilgard Ave./Copa de Oro Rd.	1.14	F	1.28	F	+0.14*	1.25	F	-0.03
Sunset Blvd. & Beverly Glen Blvd./Bel Air Rd.	1.20	F	1.35	F	+0.15*	1.34	F	-0.01
Sunset Blvd. (east I/S) & Beverly Glen Blvd.	0.98	E	1.06	F	+0.08*	1.05	F	-0.01
San Diego Fwy. N/B off-ramp & Sepulveda Bl.	0.80	D	0.84	D	+0.04*	0.84	D	--
Montana Ave. & Sepulveda Bl.	0.91	E	0.95	E	+0.04*	0.93	E	-0.02
Montana Ave. & Levering Ave.	0.67	B	0.75	C	+0.08*	0.73	C	-0.02
Montana Ave. & Veteran Ave.	0.86	D	0.88	D	+0.02*	0.83	D	-0.05

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions AM Peak Hour With and Without Project Traffic (Prior to Mitigation)

	AM Peak Hour							
	Existing		Without Project		Cumulative	With Project TDM & Parking Changes		Project
Intersection	ICU	LOS	ICU	LOS	Impact	ICU	LOS	Impact
Strathmore Pl. & Gayley Ave.	0.91	E	1.03	F	0.12*	0.97	E	-0.06
Levering Ave. & Veteran Ave.	0.67	B	0.75	C	0.08*	0.74	C	-0.01
Wyton Dr. & Hilgard Ave.	0.42	A	0.46	A.	0.04*	0.43	A	-0.03
Wyton Dr./Comstock Ave. & Beverly Glen Blvd.	0.66	B	0.73	C	0.07*	0.72	C	-0.01
Westholme Ave. & Hilgard Ave.	0.62	B	0.68	B	0.06*	0.66	B	-0.02
Manning Ave. & Hilgard Ave.	0.53	A	0.54	A	0.01	0.51	A	-0.03
Le Conte Ave. & Gayley Ave.	0.76	C	0.77	C	0.01	0.75	C	-0.02
Le Conte Ave. & Westwood Blvd.	0.68	B	0.70	B	0.02	0.67	B	-0.03
Le Conte Ave. & Tiverton Dr.	0.42	A	0.48	A	0.06*	0.47	A	-0.01
Le Conte Ave. & Hilgard Ave.	0.58	A	0.62	A	0.04*	0.61	B	-0.01
Weyburn Ave. & Gayley Ave.	0.70	C	0.71	B	0.01	0.67	B	-0.04
Weyburn Ave. & Westwood Blvd.	0.42	A	0.43	A	0.01	0.40	A	-0.03
Weyburn Ave. & Tiverton Dr.	0.41	A	0.45	A	0.04*	0.45	A	--
Weyburn Ave. & Hilgard Ave.	0.46	A	0.50	A	0.04*	0.49	A	-0.01
Kinross Ave. & Westwood Blvd.	0.32	A	0.33	A	0.01	0.31	A	-0.02

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions AM Peak Hour
With and Without Project Traffic (Prior to Mitigation)

	AM Peak Hour								
Intersection	Existing ICU	Existing LOS	Without Project ICU	Without Project LOS	Cumulative Impact	With Project TDM & Parking Changes ICU	With Project TDM & Parking Changes LOS	Project Impact
Lindbrook Dr. & Westwood Blvd.	0.46	A	0.48	A	+ 0.02	0.46	A	- 0.02
Lindbrook Dr. & Tiverton Ave.	0.40	A	0.44	A	+ 0.04*	0.44	A	- -
Constitution Ave. & Sepulveda Blvd.	0.56	A	0.59	A	+ 0.03	0.58	A	- 0.01
Wilshire Blvd. & San Vicente Blvd.	1.03	F	1.12	F	+ 0.09*	1.11	F	- 0.01
Wilshire Blvd. & Sepulveda Blvd.	1.03	F	1.15	F	+ 0.12*	1.15	F	- -
Wilshire Blvd. & Veteran Ave.	1.02	F	1.08	F	+ 0.06*	1.11	F	+ 0.03*
Wilshire Blvd. & Gayley Ave.	0.86	D	0.92	E	+ 0.06*	0.91	E	- 0.01
Wilshire Blvd. & Westwood Blvd.	0.82	D	0.85	D	+ 0.03*	0.85	D	- -
Wilshire Blvd. & Glendon Ave.	0.72	C	0.74	C	+ 0.02	0.73	C	- 0.01
Wilshire Blvd. & Malcolm Ave.	0.56	A	0.58	A	+ 0.02	0.58	A	- -
Wilshire Blvd. & Westholme Ave.	0.68	B	0.70	B	+ 0.02	0.70	C	- -
Wilshire Blvd. & Beverly Glen Blvd.	0.81	D	0.85	D	+ 0.04*	0.85	D	- -
Ohio Ave. & Sawtelle Blvd.	0.98	E	1.04	F	+ 0.06*	1.04	F	- -
Ohio Ave. & Sepulveda Blvd.	0.88	D	0.94	E	+ 0.06*	0.94	E	- -
Ohio Ave. & Veteran Ave.	0.80	C	0.84	D	+ 0.04*	0.82	D	- 0.02

- - = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions AM Peak Hour With and Without Project Traffic (Prior to Mitigation)

	AM Peak Hour							
	Existing		Without Project		Cumulative Impact	With Project TDM & Parking Changes		Project Impact
Intersection	ICU	LOS	ICU	LOS		ICU	LOS	
Ohio Ave. & Westwood Blvd.	0.83	D	0.87	D	+0.04*	0.85	D	-0.02
Santa Monica Blvd. & Sawtelle Blvd.	0.91	E	0.96	E	+0.05*	0.96	E	--
Santa Monica Blvd. & San Diego Fwy. (S/B)	1.05	F	1.10	F	+0.05*	1.10	F	--
Santa Monica Blvd. & San Diego Fwy. (N/B)	0.85	D	0.88	D	+0.03*	0.87	D	-0.01
Santa Monica Blvd. & Sepulveda Blvd.	1.01	F	1.06	F	+0.05*	1.06	F	--
Santa Monica Blvd. (N-rdwy) & Veteran Ave.	0.98	E	1.03	F	+0.05*	1.02	F	-0.01
Santa Monica Blvd. (N-rdwy) & Westwood Blvd.	0.92	E	0.97	E	+0.05*	0.97	E	--

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions PM Peak Hour With and Without Project Traffic (Prior to Mitigation)

Intersection	PM Peak Hour: Existing ICU	Existing LOS	Without Project ICU	Without Project LOS	Cumulative Impact	With Project TDM & Parking Changes ICU	With Project TDM & Parking Changes LOS	Project Impact
Church Ln./Ovada Pl./Sepulveda Blvd.	1.01	F	1.12	F	+0.11*	1.07	F	-0.05
San Diego Fwy S/B on/off-ramps & Church Ln.	0.76	C	0.84	D	+0.08*	0.84	D	--
Sunset Blvd. & Church Ln.	0.94	E	1.15	F	+0.21*	1.12	F	-0.03
Sunset Blvd. & San Diego Fwy N/B on/off-ramps	0.78	C	0.85	D	+0.07*	0.83	D	-0.02
Sunset Blvd. & Veteran Ave.	0.93	E	1.01	F	+0.08*	0.89	D	-0.12
Sunset Blvd. & Bellagio Wy.	1.11	F	1.23	F	+0.12*	1.18	F	-0.05
Sunset Blvd. & Westwood Blvd.	0.78	C	0.79	C	+0.01	0.77	C	-0.02
Sunset Blvd. & Stone Canyon Rd.	0.78	C	0.87	D	+0.09*	0.86	D	-0.01
Sunset Blvd. & Hilgard Ave./Copa de Oro Rd.	0.91	E	1.02	F	+0.11*	1.01	F	-0.01
Sunset Blvd. & Beverly Glen Blvd./Bel Air Rd.	0.99	E	1.04	F	+0.05*	1.01	F	-0.03
Sunset Blvd. (east I/S) & Beverly Glen Blvd.	1.15	F	1.19	F	+0.04*	1.17	F	-0.02
San Diego Fwy. N/B off-ramp & Sepulveda Bl.	0.66	B	0.74	C	+0.08*	0.74	C	--
Montana Ave. & Sepulveda Bl.	0.98	E	1.11	F	+0.13*	1.08	F	-0.03
Montana Ave. & Levering Ave.	0.79	C	0.89	D	+0.10*	0.85	D	-0.04
Montana Ave. & Veteran Ave.	0.89	D	0.95	E	+0.06*	0.90	D	-0.05

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions PM Peak Hour With and Without Project Traffic (Prior to Mitigation)

	PM Peak Hour								
	Existing		Without Project		Cumulative	With Project TDM & Parking Changes		Project
Intersection	ICU	LOS	ICU	LOS	Impact	ICU	LOS	Impact
Strathmore Pl. & Gayley Ave.	0.87	D	0.96	E	+ 0.09*	0.85	D	- 0.11
Levering Ave. & Veteran Ave.	0.72	C	0.83	D	+ 0.11*	0.82	D	- 0.01
Wyton Dr. & Hilgard Ave.	0.40	A	0.48	A	+ 0.08*	0.45	A	- 0.03
Wyton Dr./Comstock Ave. & Beverly Glen Blvd.	0.80	D	0.89	D	+ 0.09*	0.87	D	- 0.02
Westholme Ave. & Hilgard Ave.	0.56	A	0.65	B	+ 0.09*	0.64	B	- 0.01
Manning Ave. & Hilgard Ave.	0.56	A	0.60	A	+ 0.04*	0.58	A	- 0.02
Le Conte Ave. & Gayley Ave.	0.80	D	0.87	D	+ 0.07*	0.83	D	- 0.04
Le Conte Ave. & Westwood Blvd.	0.71	C	0.78	C	+ 0.07*	0.74	C	- 0.04
Le Conte Ave. & Tiverton Dr.	0.58	A	0.61	B	+ 0.03	0.58	A	- 0.03
Le Conte Ave. & Hilgard Ave.	0.82	D	0.91	E	+ 0.09*	0.88	D	- 0.03
Weyburn Ave. & Gayley Ave.	0.78	C	0.82	D	+ 0.04*	0.83	D	+ 0.01
Weyburn Ave. & Westwood Blvd.	0.79	C	0.82	D	+ 0.03*	0.80	C	- 0.02
Weyburn Ave. & Tiverton Dr.	0.49	A	0.55	A	+ 0.06*	0.56	A	+ 0.01
Weyburn Ave. & Hilgard Ave.	0.55	A	0.61	B	+ 0.06*	0.61	B	- -
Kinross Ave. & Westwood Blvd.	0.58	A	0.59	A	+ 0.01	0.56	B	- 0.03

- - = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions PM Peak Hour With and Without Project Traffic (Prior to Mitigation)

Intersection	PM Peak Hour							
	Existing		Without Project		Cumulative Impact	With Project TDM & Parking Changes		Project Impact
	ICU	LOS	ICU	LOS		ICU	LOS	
Lindbrook Dr. & Westwood Blvd.	0.64	B	0.66	B	+0.02	0.65	B	-0.01
Lindbrook Dr. & Tiverton Ave.	0.55	A	0.59	A	+0.04*	0.59	A	--
Constitution Ave. & Sepulveda Blvd.	0.66	B	0.79	C	+0.13*	0.79	D	--
Wilshire Blvd. & San Vicente Blvd.	1.21	F	1.30	F	+0.09*	1.30	F	--
Wilshire Blvd. & Sepulveda Blvd.	1.00	F	1.12	F	+0.12*	1.11	F	-0.01
Wilshire Blvd. & Veteran Ave.	1.08	F	1.17	F	+0.09*	1.18	F	+0.01*
Wilshire Blvd. & Gayley Ave.	1.02	F	1.07	F	+0.05*	1.70	F	--
Wilshire Blvd. & Westwood Blvd.	0.86	D	0.89	D	+0.03*	0.87	D	-0.02
Wilshire Blvd. & Glendon Ave.	0.95	E	1.03	F	+0.08*	1.03	F	--
Wilshire Blvd. & Malcolm Ave.	0.84	D	0.90	D	+0.06*	0.89	D	-0.01
Wilshire Blvd. & Westholme Ave.	0.79	C	0.92	E	+0.13*	0.91	E	-0.01
Wilshire Blvd. & Beverly Glen Blvd.	0.79	C	0.87	D	+0.08*	0.86	D	-0.01
Ohio Ave. & Sawtelle Blvd.	0.96	E	1.04	F	+0.08*	1.04	F	--
Ohio Ave. & Sepulveda Blvd.	0.99	E	1.08	F	+0.09*	1.08	F	--
Ohio Ave. & Veteran Ave.	1.02	F	1.10	F	+0.08*	1.08	F	-0.02

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-8 (Cont.)
Summary of Future (2005) Conditions PM Peak Hour
With and Without Project Traffic (Prior to Mitigation)

	PM Peak Hour							
	Existing		Without Project		Cumulative	With Project TDM & Parking Changes		Project
Intersection	ICU	LOS	ICU	LOS	Impact	ICU	LOS	Impact
Ohio Ave. & Westwood Blvd.	1.02	F	1.11	F	+0.09*	1.09	F	-0.02
Santa Monica Blvd. & Sawtelle Blvd.	1.06	F	1.14	F	+0.08*	1.14	F	--
Santa Monica Blvd. & San Diego Fwy. (S/B)	1.08	F	1.16	F	+0.08*	1.15	F	-0.01
Santa Monica Blvd. & San Diego Fwy. (N/B)	0.87	D	0.94	E	+0.07*	0.94	E	--
Santa Monica Blvd. & Sepulveda Blvd.	0.99	E	1.06	F	+0.07*	1.06	F	--
Santa Monica Blvd. (N-rdwy) & Veteran Ave.	1.08	F	1.17	F	+0.09*	1.16	F	-0.01
Santa Monica Blvd. (N-rdwy) & Westwood Blvd.	1.07	F	1.15	F	+0.08*	1.14	F	-0.01

-- = No impact.
* = Significant traffic impact.

SOURCE: Crain & Associates

Table C-9
Project Traffic Volumes on Freeways in the Study Area

	Existing (1990) Daily Traffic	Future (2005) Daily Traffic	LRDP Daily Traffic
San Diego Freeway			
Mulholland Bl. to Sunset Bl.	267,000	293,000	- 1,700
Sunset Bl. to Montana Ave.	254,000	295,000	- 900
Montana Ave. to Wilshire Bl.	263,000	294,000	- 1,000
Wilshire Bl. to Santa Monica Fwy.	291,000	332,000	- 1,500
Santa Monica Bl. to Santa Monica Fwy.	307,000	345,000	- 1,700
Santa Monica Freeway			
Bundy Dr. to San Diego Fwy.	218,000	248,000	- 200
San Diego Fwy. to Overland Ave.	256,000	301,000	- 900
Overland Ave. to Robertson Bl.	260,000	310,000	- 900

SOURCE: Crain & Associates

Table C-9 (cont.)
AM Peak Hour
San Diego Freeway Ramp Volumes
for On-Ramps Serving UCLA

	Existing		Future (2005) Without Project		Project	
	Volume	V/C	Volume	V/C	Volume	Impact
Wilshire Boulevard						
Westbound to Northbound	288	0.24	330	0.28	+ 30	+ 0.03
Westbound to Southbound	796	0.55	920	0.64	+ 30	+ 0.02
Waterford Street						
Eastbound to Southbound	304	0.25	340	0.28	- 10	- 0.01
Sunset Boulevard						
Westbound to Northbound (at Sepulveda/Moraga)	361	0.25	420	0.29	- 30	- 0.02
Westbound to Southbound (from Church Ln.)	690	0.58	800	0.66	- 10	- 0.01

Table C-9 (cont.)
PM Peak Hour
San Diego Freeway Ramp Volumes
for On-Ramps Serving UCLA

	Existing		Future (2005) Without Project		Project	
	Volume	V/C	Volume	V/C	Volume	Impact
Wilshire Boulevard						
Westbound to Northbound	460	0.38	540	0.45	- 10	- 0.01
Westbound to Southbound	1,788	1.24	2,110	1.47	- 50	- 0.03
Waterford Street						
Eastbound to Southbound	354	0.30	430	0.36	- 40	- 0.03
Sunset Boulevard						
Westbound to Northbound (at Sepulveda/Moraga)	969	0.67	1,130	0.78	- 160	- 0.11
Westbound to Southbound (from Church Ln.)	692	0.58	820	0.68	- 30	- 0.03

SOURCE: Crain & Associates

2.4: Connect the following traffic signal lights to the L.A. City's Automated Traffic Surveillance and Control (ATSAC) system:

- Kinross Avenue and Veteran Avenue (new signal)
- Realigned Weyburn Drive and Veteran Avenue (new signal)
- Veteran Avenue and extension of Le Conte Avenue (new signal, new intersection)
- Levering Avenue and Le Conte Avenue (new signal)

Following the implementation of these measures, traffic impacts resulting from Draft 1990 LRDP implementation will be reduced to a less-than-significant level on all roadway segments and intersections.

Upon approval by the City of Los Angeles, Mitigation Measures C-2.1, 2.2, and 2.3 would be implemented by the University.

Since ATSAC signal improvements proposed in ~~Several of these~~ mitigation measure~~s~~ C-2.4 are located off-campus, ~~and therefore~~ although considered technically feasible, implementation of those measures is not within the jurisdiction of The Regents~~;~~. ~~however, each mitigation measure is considered technically feasible~~. To assist the City in implementing these mitigation measures, the University will, upon the City's determination to proceed with each mitigation measure, negotiate with the City to determine the University's reasonable pro rata share of the cost for such improvements and will reimburse the agreed-upon amount to the City through such mechanisms as may be negotiated between the University and the City.

This arrangement has been used successfully in the past to provide mitigation for UCLA projects. For example, the University has provided funding to ATSAC installation at seven intersections along Sunset Boulevard to mitigate project and cumulative impacts for Northwest Campus and Anderson Graduate School of Management projects. LADOT is currently in the process of installing this system. A second example of improvements provided by UCLA which required cooperation of another jurisdiction is traffic mitigation for the Lot 1 development project. In addition to funding five ATSAC installations, the University widened Gayley Avenue between LeConte Avenue and Circle Drive South as part of this project. All of these improvements required the approval of the City of Los Angeles.

Impact C-3: Expansion of the Transportation Demand Management program will increase employee utilization of alternative transportation modes and the demand for off-campus parking.

The expansion of the campus TDM program is assumed to result in a reduction in parking demand for faculty, staff, and academic student employees of approximately twelve percent from current levels. The impact of the reduction in parking demand would likely include: increased utilization of public transit, increased demand for ridesharing services, and increased demand for on-street parking in the vicinity of the campus. Increased demand for ridesharing services will require an expansion of the campus TDM program. Increased employee demand for public transit and off-campus parking will be offset by a similar decrease in commuter student demand. The total number of non-employee commuter students will be reduced from the 26,400 to approximately 21,800 through provision of on-campus housing (see Tables C-5b and C-7b). Also, both employees and commuter students will be offered alternatives to driving alone and to public transit (e.g., UCLA operated buspools and vanpools). Further, as shown in Table C-6, the number of UCLA provided on and near campus parking spaces per commuter student will increase from 0.13 under existing conditions to approximately 0.19 following implementation of the LRDP and the related projects. Total parking spaces allocated to commuter students will increase from approximately 3,500 spaces to about 4,200 spaces despite the decrease in commuter student population (see Tables 2b and 14b of the Transportation Systems Analysis, Appendix E in Volume II of this Draft EIR). The anticipated net change in commute mode for both employees and non-employee commuter students is shown in Appendix IV to the Transportation Systems Analysis (DEIR Appendix E, Volume II). This table shows that as a net effect, a higher percentage of the UCLA commuters will be able to utilize automobiles and fewer will utilize public transit. Thus, since the demand by UCLA employees for public transit and off-campus parking is not anticipated to increase, these impacts are considered not significant, <u>and no mitigation measures are warranted. The following mitigation measures will be incorporated into the project, however, to ensure the use of alternate transportation modes</u>.

Mitigation Measure C-3.1: The campus will actively promote the availability, cost, and convenience of alternative transportation modes to the campus community;

Mitigation Measure C-3.2: The campus will encourage appropriate public agencies to assure that public transit systems have adequate capacity to accommodate any cumulative increases in ridership, or that they provide additional facilities which encourage and support commuting alternatives (such as high-occupancy vehicle lanes);

Mitigation Measure C-3.3: The campus will maintain and enhance as warranted the supply of parking spaces for two-wheeled vehicles, including bicycles, motorcycles, and mopeds;

Mitigation Measure C-3.4: The campus will work with appropriate agencies and interested groups to promote a comprehensive system of bicycle routes in the vicinity of the campus; and

Mitigation Measure C-3.5: The campus will site future development of the Southwest zone so as to accommodate a contemplated transit hub for Westwood Village, to provide for connections between different transportation modes (e.g., bus and light rail) and improve public transit access to the campus. This hub will be sited in consultation with Los Angeles County Transportation Commission so that it may be converted for use as a Metro Rail station in the event Metro Rail is extended to Westwood.

Impact C-4: Construction of new facilities could result in the temporary elimination of on-campus parking spaces and could require additional temporary parking for construction workers.

Surface parking lots could be utilized as future building sites during the implementation of the Draft 1990 LRDP. This could result in temporary reductions in the supply of parking when such facilities would be developed. The campus currently provides off-campus parking and shuttle services for construction workers which has adequately mitigated this temporary impact during past construction activities. <u>Therefore, this impact is considered less-than-significant, and no mitigation measures are warranted. However, the following mitigation measures are included as part of the project to reduce potential adverse impacts</u>.

Mitigation Measure C-4.1: The campus will continue to review the parking implications of proposed facilities on a project-by-project basis, to project the supply and demand effects of each proposal. Whenever feasible, the campus will undertake supply enhancements prior to the removal of existing parking spaces.

Mitigation Measure C-4.2: The campus will continue to provide off-campus parking and shuttle services for construction workers.

Cumulative Impact

Cumulative increases in vehicle trips will adversely affect service levels on local and regional road networks.

Tables C-4, C-8, and C-9 show that traffic-related impacts on local and regional roadways will increase during the 2005 planning period as a result of projected cumulative development, even without implementation of the Draft 1990 LRDP.

The effects of the traffic increase projected by the regional traffic model for the 52 intersections and eight freeway segments in the study area are presented in Tables C-8 and C-9. The analysis of the street system serving the study area shows that of the 52 study intersections, 17 are presently operating at or near capacity during the morning peak hour, with 22 intersections at or near capacity during the afternoon peak hour.

Conditions are expected to intensity in the future as more development occurs in the Westwood area. Traffic projections for the year 2005 indicate that 20 intersections in the morning peak hour and 28 intersections in the afternoon peak hour will be operating at or near capacity (LOS E or F). A total of 40 intersections will be significantly impacted by cumulative growth (not including Draft 1990 LRDP related traffic) in the AM peak hour and 48 intersections will be significantly impacted in the PM peak hour.

Regional plans to improve some of these traffic conditions have been developed in the SCAG Regional Mobility Plan and the transportation elements of the Los Angeles General Plan, Westwood Community Plan, and certain interim control ordinances; however, a comprehensive traffic mitigation program for Westwood has not yet been developed. Since most of these improvements have not yet been approved or funded, this Draft EIR does not assume implementation of any such programs during the Draft 1990 LRDP planning horizon. Clearly, regional solutions to both the traffic congestion and related air quality problems will continue to be a high priority throughout the planning period. The following measures are proposed for consideration in an effort to improve traffic conditions in Westwood and the surrounding communities:

- UCLA will continue and expand the CAR ridesharing programs for carpool, vanpool, and buspool services to the UCLA/Westwood Transportation Network established by UCLA to coordinate the ridesharing programs of employers throughout the Westwood area. (This major program leads to greater participation and better services for UCLA and Westwood participants and contributes to a reduction in traffic in the Westwood area).

- UCLA will undertake specific measures to partially or completely mitigate significant cumulative impacts, including:

  Restripe to provide left-turn lanes for northbound and southbound traffic on Veteran Avenue at Ohio Avenue.

  Install northbound and southbound left-turn phases at Gayley Avenue and Wilshire Boulevard.

- The intersection of Circle Drive South and Gayley Avenue should be signalized. As part of the signalization, this intersection and the adjacent intersection of Circle Drive South and Circle Drive West should be redesigned to provide better traffic flow.

- Install ATSAC at the following intersections:

  - Gayley Avenue and Circle Drive South (new signal),

  - Hilgard Avenue and Wyton drive (existing signal),

  - Beverly Glen Boulevard/Wyton Drive/Comstock Avenue (existing signal),

  - Westholme Avenue and Hilgard Avenue (existing signal),

  - Manning Avenue and Hilgard Avenue (existing signal),

  - Circle Drive South and Westwood Plaza (existing signal), and

  - Westwood Plaza and Doris Stein/ACC Facility (existing signal).

- Install ATSAC video surveillance camera(s) on future development in the Southwest zone, to provide the ATSAC controllers with live video of the surrounding streets;

- Widen Constitution Avenue, west of Sepulveda Boulevard and improve the intersection at Sepulveda Boulevard to facilitate eastbound right-turning vehicles exiting Constitution Avenue at Sepulveda Boulevard. Widen and restripe Sepulveda Boulevard at Constitution Avenue to provide a separate northbound left-turn lane.

- Install a left-turn phase at Sepulveda and Wilshire Boulevards for southbound traffic, with a concurrent westbound right-turn phase for Wilshire Boulevard traffic.

Several of these mitigation measures are located off-campus, and therefore implementation of those measures is not within the jurisdiction of The Regents; however, each mitigation measure is considered technically feasible. To assist the appropriate jurisdictions in implementing these mitigation measures, the University will, upon the jurisdiction's determination to proceed with each mitigation measure, negotiate with the jurisdiction to determine the University's reasonable pro rata share of the cost for such improvements and will reimburse the agreed-upon amount to the jurisdiction through such mechanisms as may be negotiated between the University and the jurisdiction.

- The campus will continue to support regional transportation planning efforts, and work with appropriate City, County, and other agencies to encourage transportation improvements, such as:

  - Expansion of the UCLA/Westwood Transportation Management Organization;

  - Increased service on and expansion of existing bus transit routes serving the campus;

  - Extension of Metro Rail to Westwood;

  - Provision of light rail along the San Diego Freeway corridor;

  - Implementation of planned High-Occupancy-Vehicle lanes on the San Diego Freeway and other local freeways;

-Improvements to the Southern California system of park-and-ride lots;

-Enhancement and expansion to the City of Los Angeles system of bicycle routes; and

-Other increases in the Southern California system of alternative transportation mode facilities, especially those that will connect with the facilities serving the UCLA campus.

Even following the implementation of these campus commitments to assist with regional transportation issues, cumulative increases in traffic on local and regional roadways continue to be considered a significant unavoidable impact. In addition, because off-campus roadway improvements and regional transportation strategies are not within the jurisdiction of The Regents to implement, and because some of these improvements and strategies are unfunded or are otherwise uncertain from a technical, economic, legal or political perspective, these cumulative impacts are considered significant and unavoidable for purposes of this EIR.

References

1. UCLA Parking Services Records, December 1, 1989 (hereinafter cited as Parking Service Records).

2. Weekly Space Summary. UCLA parking Services, November 13-17, 1989.

3. Parking Services Records.

4. Westwood Parking Study. Western Los Angeles Regional Chamber of Commerce, September 1984.

5. The UCLA 1985 Cordon Count, Crain & Associates, February and March 1985.

6. The UCLA 1989 Cordon Count, Crain & Associates, May 1989 (hereinafter cited as 1989 Cordon Count).

7. UCLA 1990 SCAQMD Regulation XV Commuter Survey, UCLA Commuter Assistance-Ridesharing Department and Crain & Associates, March, 1990 (hereinafter cited as Regulation XV survey).

8. 1989 Cordon Count.

9. Regulation XV Survey.

10. UCLA Student Transportation Survey. UCLA Graduate School of Architecture and Urban Planning, June 6, 1985.

11. Regulation XV Survey.

12. Phone conversation with Commuter Assistance-Ridesharing Department Staff, January, 1990.

13. 1989 Cordon Count.

D. BIOLOGICAL RESOURCES

Environmental Setting

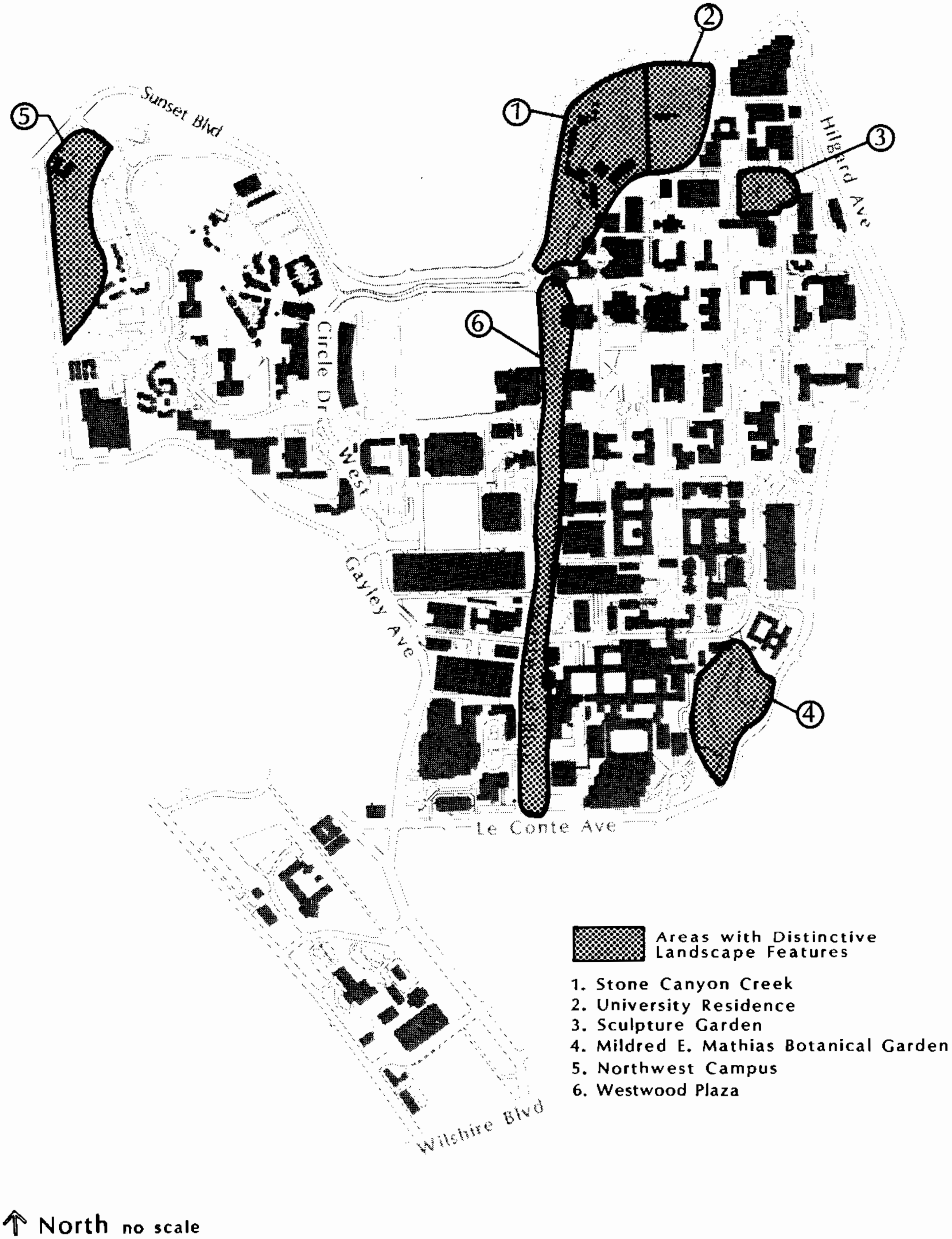
The term "biological resources" refers to both vegetation and wildlife. However, due to the level of human activity and lack of natural habitat on the campus, the wildlife population is typical of what is found in an urban environment. That is, most of the wildlife on the site consists of birds (including the rock dove [pigeon], spotted dove, mockingbird, Brewer's blackbird, starling, crow, and various migrant songbirds), and California ground squirrels (Ref. 1). No species of animal designated rare, endangered or threatened by the California Department of Fish and Game is known or suspected to exist on the campus (Ref. 1), and thus, no impacts to such species will result from implementation of the Draft LRDP.

Therefore, the discussion in this subsection is focused on campus landscaping.

The landscaping on-campus is considered one of its outstanding features (Ref. 2). The predominant landscape feature on the campus consists of a variety of specimen-sized trees (defined by City of Los Angeles standards as trees that have a trunk diameter of at least eight inches at four feet above ground level) which appear well maintained and in relatively good health. Most of the trees are not native to California, but represent species commonly used in California for temperate-climate landscaping. Other vegetation includes ornamental shrubs, grass lawns and groundcover herbage. Aside from the many specimen trees scattered throughout the campus, there are several areas which are particularly distinctive in terms of landscaping. These areas are considered distinctive because they contain specimen trees, and/or they are of special significance to the campus (e.g. a memorial grove). Each of these distinctive areas is described below and shown on Figure D-1.

<u>Stone Canyon Creek Area</u>.

One of the dominant features of landscaping in the vicinity of the creek is the stand of large Coast Redwood trees located northeast of the University Elementary School (UES) buildings, officially titled the Peter Muller Redwood Grove. The grove is one of the few of its kind to be found in Southern California (Ref. 3).



UCLA
Long Range
Development Plan EIR

Figure D-1
Distinctive Landscape Features

The heavily landscaped Stone Canyon Creek, although not a natural feature but a storm drain, is a unique resource to the UCLA campus and the greater Los Angeles area. A wide variety of trees have been introduced to the creek area, which is dominated by a stand of large (100+ feet) Canary Island Pine, and a number of large, rare Montezuma Cypress (Ref. 3).

From lower Circle Drive North, around the corner of Westwood Plaza, and north along Sunset Boulevard is a planting of Manna Gum trees which are old and large. This planting was donated by the Daughters of the American Revolution. The periphery of this area serves as a buffer between the campus and nearby residential uses.

University Residence. The University Residence, home to the UCLA Chancellor, was built and landscaped in 1930. Designed in the style of a northern Italian villa, the residence is complemented by its formal landscaping. The heavily landscaped front yard contains approximately one-half dozen specimen Coast Live Oaks, which are native trees, and serves as a buffer between the campus and adjacent residential uses.

On the slope above the Residence is a stand of large Spotted Gum, which is part of the grove currently preserved in the vicinity of Dickson Art Center as the Ralph Cornell Grove. This stand of trees is notable because of the size of the trees, quality, and status of the grove as a memorial.

Sculpture Garden. The Franklin D. Murphy Sculpture Garden is also landscaped in a formal style that showcases important sculptures by artists such as Henry Moore, Jacques Lipschitz, and Auguste Rodin (Ref. 2). Vegetation in the Sculpture Garden includes Coast Redwood; Canary Island Pine; various junipers; California Sycamore; and various flowering shrubs and perennials (Ref. 4).

Mildred E. Mathias Botanical Garden. Also serving as a buffer on the periphery of the campus, the eight-acre garden displays a diverse collection of plants including tropical and subtropical plants. Intended primarily for research and teaching purposes, the botanic garden is also open to the public.

Northwest Campus Recreation Center. The Sunset Canyon Recreation Area and residential areas of Northwest Campus are heavily planted and contain many specimen-sized trees. This area serves as an important visual and open space resource to the campus, as well as providing a buffer along Sunset Boulevard and Veteran Avenue.

Westwood Plaza. The Daughters of the American Revolution donated the large and stately specimen Manna Gum trees along Westwood Plaza, from Le Conte Avenue to Sunset Boulevard.

There are approximately 20,000 (5,000 less than 15 feet tall and 15,000 more than 15 feet tall) trees on the campus.(1) Specimen trees are defined by the City of Los Angeles as those with trunk diameters of at least eight inches at breast height (Ref. 1).

Environmental Impact and Mitigation Measures

According to CEQA, a project would be considered to have a significant impact on the environment if it would substantially affect a rare or endangered species of animal or plant or the habitat of the species.

Although not mandated by CEQA, this EIR evaluates impacts to campus landscaping in response to campus and community concerns. Development which could result in the removal of specimen trees and/or distinctive landscaping is considered significant.

In addition, the City of Los Angeles prohibits the removal of oak trees, except under certain conditions (Section 17.05R of the Zoning Code). Any oak trees that are removed or relocated must be replaced within the property by at least two oak trees. Each replacement tree must be at least a fifteen gallon specimen in size.

As new facilities are developed during the fifteen-year LRDP horizon, the specific effects on biological resources will be considered in the environmental documentation for each specific project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

(1) Based on 1985 survey conducted by UCLA Facilities Management.

***Impact D-1: Landscaping on the campus could be significantly adversely affected by implementation of the proposed Draft LRDP.**

As more structures are built, specimen trees and/or heavily landscaped areas may be removed or altered in order to make way for the new structure, provide for roadway realignments, or allow for construction equipment access to the building site. If distinctive landscape areas are removed, the following mitigation measures will ~~not~~ reduce impacts to a less-than-significant level.

The areas that will remain inviolate under the 1990 LRDP are the Sculpture Garden and the Mildred E. Mathias Botanical Garden.

Mitigation Measure D-1.1: If any distinctive landscape areas and/or specimen trees are on a site proposed for future project development, or may be affected by project-related activities, a project specific environmental analysis will be prepared in conformance with CEQA and shall include: identification of specimen trees and major landscape elements; a map showing specimen trees and major landscape elements by location and type; and the type and location of specimen trees and landscape features to be removed, relocated and retained.

Mitigation Measure D-1.2: Specimen trees recommended for relocation that cannot be accommodated on-campus will be made available to the public for a specified period of time to be determined by the construction schedule. These trees will be offered at no additional cost over the cost of boxing and removal.

Mitigation Measure D-1.3: All future development projects will include landscaping of the site as part of the project scope.

Mitigation Measure D-1.4: Consistent with Mitigation Measure A-1, landscaping along the campus perimeter shall be designed to provide an attractive perimeter and effectively screen and enhance future development.

A landscape buffer along the perimeter of the campus will protect landscape resources in the vicinity of the University Residence, Northwest Campus, and the University Elementary School.

Mitigation Measure D-1.5: Any Oak trees removed as part of a future project development will be replaced on a 2:1 basis. Replacement oak trees shall be at least 15-gallon, specimen size, measuring at least one inch in diameter at a point one foot from the base, and not less than seven feet, as measured from the base (2).

(2) Source: Los Angeles City Zoning Code, Section 17.05R.

Cumulative Impact	Future development may affect biotic resources.
	Development within the Westwood vicinity is within the planning jurisdiction of the City of Los Angeles and is subject to the requirements of the City of Los Angeles General Plan and the Westwood Village Specific Plan. Based on the Appendix C list of related projects considered in this EIR, there are no known significant biotic cumulative impacts, and thus no mitigation measures are required or recommended.

References

1. Draft Environmental Impact Report, UCLA Long Range Development Plan, University of California, Los Angeles, August 1982.

2. Architecture in Los Angeles, A Compleat Guide. David Gebhard and Robert Winter, 1985.

3. Graduate School of Management Landscape Analysis. Burton & Spitz Landscape Architecture, July 1987.

4. The University Garden. University of California, Los Angeles, 1968-69 revised edition.

E. ARCHAEOLOGICAL/HISTORICAL RESOURCES

Environmental Setting

The Westwood site for UCLA was selected in 1925. That same year, George W. Kelham, an architect from San Francisco, was selected to prepare a master plan for the campus. The Beaux-Arts plan provided for a tree-covered campus with red brick Romanesque architecture. Buildings were to be placed in a traditional cross axial arrangement.

Buildings on campus of potential historic or architectural significance are, for the most part, those that are at least fifty years old. These structures are located in the Core Campus Zone.

The first structure built on campus was the bridge over the arroyo, completed in 1927. Following were the first four major buildings grouped around the quadrangle. Kelham designed the Powell Library and the original Chemistry Building (now known as Haines Hall); Allison and Allison of Los Angeles designed Royce Hall and the original Physics-Biology Building (Kinsey Hall). Royce Hall is considered one of the best examples of the Romanesque style (Ref. 1). The design for the building was inspired by the Church of St. Ambrogio in Milan, Italy. Elements of the church used in Royce Hall include the asymmetrical towers, patterned brick, and tile insets.

Additional buildings were constructed during the 1930s: Moore Hall, Kerckhoff Hall, the Men's Gymnasium, the Women's Gymnasium (now the Dance Building), Mira Hershey Hall, and the University Residence. Allison and Allison were appointed as UCLA's Supervising Architects, replacing Kelham upon his retirement in 1935. Only three major buildings were constructed under the direction of David R. Allison: Franz Hall, the first wing of the Administration Building, and the Business Administration Building. (Photographs of the majority of these buildings are included as Figures E-2 through E-6). The arroyo was filled in on either side of the bridge during the tenure of Allison and Allison.

Of more recent construction (1950-58), the Corinne A. Seeds University Elementary School (UES) was designed by Richard Neutra and Robert Alexander, and because of its open plan classroom design, became a prototype for school design after World War II.

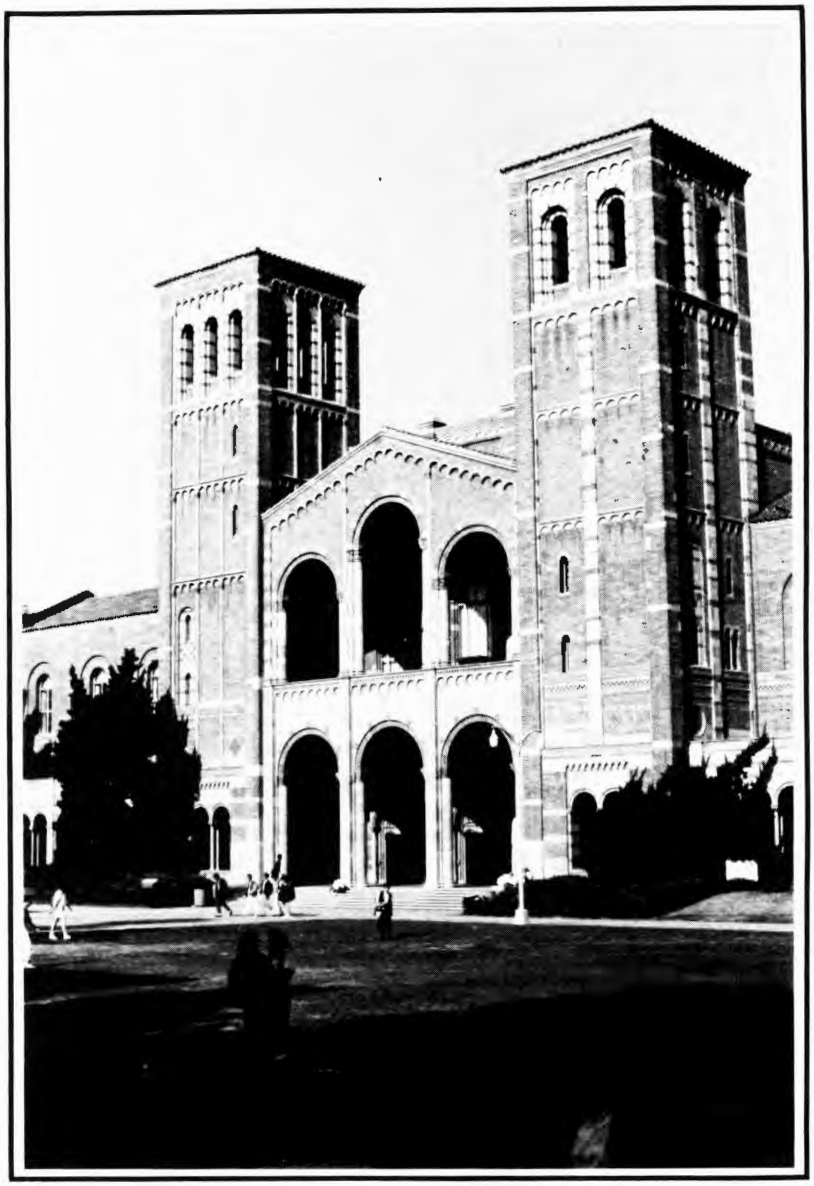
1 Royce Hall
2 Haines Hall
3 Kinsey Hall
4 Powell Library
5 Moore Hall
6 Kerckhoff Hall
7 Men's Gymnasium
8 Mira Hershey Hall
9 University Elementary School

SOURCE: Cotton/Beland/Associates, December 1989

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure E-1
Locations of
Architectural Resources



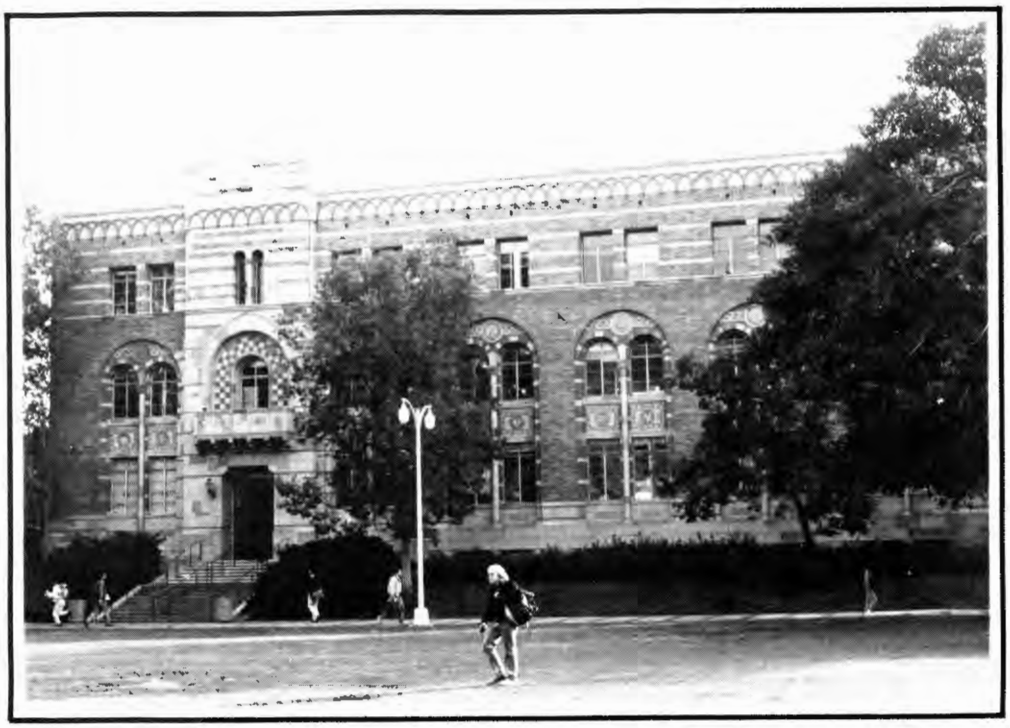
1. Royce Hall, 1929 (Allison and Allison)

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure E-2
Architectural Resources

2. Haines Hall (originally Chemistry Building), 1929 (George W. Kelham)



3. Kinsey Hall (originally Physics-Biology Building), 1929 (Allison and Allison)

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure E-3
Architectural Resources

4. Powell Library, 1929 (George W. Kelham)

5. Moore Hall, 1930 (George W. Kelham)

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

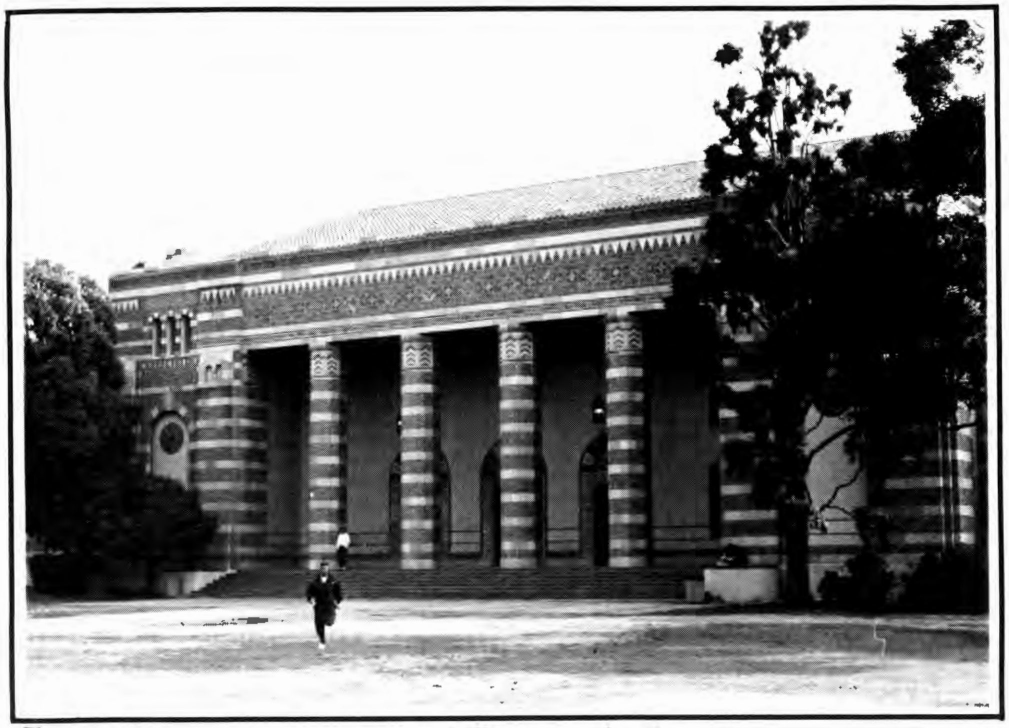
Figure E-4
Architectural Resources

6. Kerckhoff Hall, 1930 (Allison and Allison)

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure E-5
Architectural Resources



7. Men's Gymnasium, 1932 (Allison and Allison)

8. Mira Hershey Hall, 1931 (Douglas McLellan and Associates)

SOURCE: Cotton/Beland/Associates, December 1989

UCLA Long Range Development Plan EIR	Figure E-6 Architectural Resources

The campus landscaping is also an integral part of its historic fabric. Ralph D. Cornell was appointed Campus Landscape Architect in 1937 and continued to serve UCLA in a consulting capacity until 1972. His firm (Cornell, Bridgers, Troller, and Hazlett) designed many of the major landscape projects, including numerous basic features which provide a unifying landscape motif. Landscape features of the campus are discussed in Subsection IV-D., Biological Resources.

During the preparation of the Draft EIR for the 1983 UCLA Long Range Development Plan (Ref. 2), an archaeological and historical assessment of the UCLA campus was conducted. This assessment included research of archival sources and on-site surveys. It followed the guidelines established by the California State Historic Preservation Office, the Society for California Archaeology, and the Society for American Archaeology. No evidence of archaeological remains was discovered; there is always the possibility, however, that archaeological remains may be discovered during excavation for some future campus projects.

A review of the National Register of Historic Places, the California Inventory of Historic Resources, California Historic Landmarks, and the City of Los Angeles Cultural Heritage Commission listing of landmarks uncovered no officially designated historic buildings or structures on campus. However, each of the structures described above in this subsection may be eligible for listing on the above-mentioned registers and lists.

Subsequent to preparation of the Draft EIR, the following structures and their associated open spaces have been designated as eligible for listing on the National Register of Historic Places: the bridge under Dickson Plaza; Powell Library; Haines Hall; Royce Hall; Kinsey Hall; the Women's Gym; the Men's Gym; Kerckhoff Hall; Moore Hall; and portions of Murphy Hall.

Environmental Impact and Mitigation Measures

According to CEQA, effects on archaeological or historical resources are considered significant impacts if the proposed project would disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study.

As a land use guide intended to provide a comprehensive framework for future physical planning of the campus, the Draft LRDP does not include specific project proposals.

However, the Draft LRDP does include objectives pertaining to archaeological and historical resources. These objectives include:

- Preserve and enhance historic buildings and open spaces.

- Retain the human scale and rich landscape of the campus while enhancing its function as a mature university in a dense urban environment.

- Site new building projects with consideration for use adjacencies, the defining of open space, and the refinement of the existing built environment.

- Respect and reinforce the architectural and landscape traditions that give the campus its unique character.

As a program EIR, this document cannot predict adverse or significant impacts on specific historical resources because specific building proposals are not included in the Draft LRDP. However, the Draft LRDP objectives listed above are intended to minimize impacts on historical resources. A case-by-case analysis of future development proposals will be required in order to determine potential impacts.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

***Impact E-1: There is always the possibility that archaeological or historical remains may be unearthed during excavation for specific projects. In such an event, the conditional mitigation measure listed below will mitigate the impact to a less-than-significant level.**

Mitigation Measure E-1: If any archaeological or historical remains are uncovered during excavation or construction, work in the affected area will be suspended. In such an event, a non-University archaeologist recommended by the State Historic Preservation Office will conduct a survey of the affected area. A preliminary determination will then be made as to the significance of the survey findings. If considered significant, the survey remains will be preserved and appropriate professional actions taken in conformance with Appendix K of the CEQA Guidelines, which is included as Appendix E of this Draft EIR.

***Impact E-2: If implementation of the Draft LRDP causes an historic structure to be demolished or remodeled to the point where its historic significance is lost, it will be considered a significant impact.**

Mitigation Measure E-~~2~~ 2.1: Prior to undertaking a development project that may affect one of the potentially historic structures described earlier in this subsection, an Historic Structures Survey of the building(s) and site will be undertaken in accordance with CEQA and the guidelines established by the United States Department of the Interior. As part of the survey, a complete photo-documentation and videotaping of the current building(s) and site will be completed before any new excavation or construction activity is begun on the site. The survey will be made available to architectural historians, educators, architects, landscape architects, students, and other interested individuals. Since no development projects are currently foreseen that would result in significant impacts to a potentially historic structure, this impact is not considered significant at the program EIR level. A further evaluation for potential significance will be required in conjunction with project-specific environmental evaluation in conformance with CEQA.

Mitigation Measure E-2.2: Additions to or expansions of existing structures will be designed to complement the existing architectural character of the buildings. The style and character of existing construction will be respected in the design of building additions. Features and elements to be taken into account during the design phase will include, but not be limited to, building mass and form, building proportion, roof profile, architectural detail and fenestration, the texture, color and quality of building materials, and the landscape setting.

Mitigation Measure E-2.3: If any projects are proposed within the designated Historic Building zone, or that would alter or affect the historical aspects of any buildings included in the State Inventory, the campus will consult as appropriate with the State Historic Building Code Board and/or the State Historic Preservation Officer.

Cumulative Impact

Historic resources could be affected by future development anticipated to take place over the next fifteen years in the related projects area.

The Westwood Village Specific Plan identifies historic buildings within its planning area and includes policies and implementation measures for preserving them. If historic resources outside the Specific Plan are affected, the City of Los Angeles Cultural Heritage Commission may be able to mitigate potential impacts within its jurisdiction. However, the Cultural Heritage

Commission is not permitted to solicit or initiate applications for landmark status; it can only respond to official applications prepared by others, often local preservation and neighborhood groups.

The preparation of EIRs for future projects within the City's jurisdiction can also result in the mitigation of potential impacts on archaeological and historic resources within the related projects area. Since none of the related projects identified to date would result in impacts to Westwood area structures with landmark status, there is no known cumulative impact to historic or archaeological resources.

References

1. Architecture in Los Angeles, A Compleat Guide. David Gebhard and Robert Winter, 1985.

2. Draft Environmental Impact Report, UCLA Long Range Development Plan. University of California Los Angeles, August 1982.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the visual quality impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/ Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

F. VISUAL QUALITY

Environmental Setting

Off-Campus Visual Quality

The campus is located in the foothills of the Santa Monica Mountains and is visible from nearby residential neighborhoods, adjacent streets, and Westwood Village. Most of the main campus edges are heavily landscaped with specimen trees and shrubbery which obscure views of campus buildings from the street. Figures F-2 through F-4 show photographs of views to the campus.

On-Campus Visual Quality

The Core Campus is organized around a series of quadrangles and courtyards linked by pedestrian walkways. The original site plan for the campus shows buildings arranged in the shape of a cross along east-west and north-south axes which formed the basis for the orientation of open space in the Core Campus. The quadrangles and courts of these axes provide view corridors, of which the most notable examples are Dickson Plaza and the Janss Steps. Figures F-6 through F-8 show various view corridors on the main campus, and Figure F-9 shows the series of linked pedestrian pathways and open space areas that cover most of the campus.

Along with the pedestrian pathways and open space, the lush landscaping serves to complement the different styles of architecture found on the campus. The most distinctive areas of landscaping are the Mildred Mathias Botanical Garden, the Franklin D. Murphy Sculpture Garden, the University Residence, the Stone Canyon Creek area, and the Northwest campus. (Refer also to Subsection IV-D: Biological Resources for a discussion of these areas.)

The 1990 Draft LRDP contains planning principles and assumptions which address preservation of selected open space areas.

Several campus open areas have been developed to an exceptional level of spatial and aesthetic excellence or hold cherished places in campus history and tradition. These will be maintained as inviolate open space during the period of this 1990 Draft LRDP. They include:

Mildred E. Mathias Botanical Garden, in the southeast corner of campus contains 3,500 species of exotic and native plants and provides a unique aesthetic, teaching, and research resource.

North no scale

UCLA
Long Range
Development Plan EIR

Figure F-1
Photograph Locations-
Views to Campus

1. Sunset Boulvard looking toward Athletic Field

2. Hilgard Avenue at Wyton

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure F-2
Views to Campus

3. Le Conte Avenue at Westwood Boulevard

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure F-3
Views to Campus

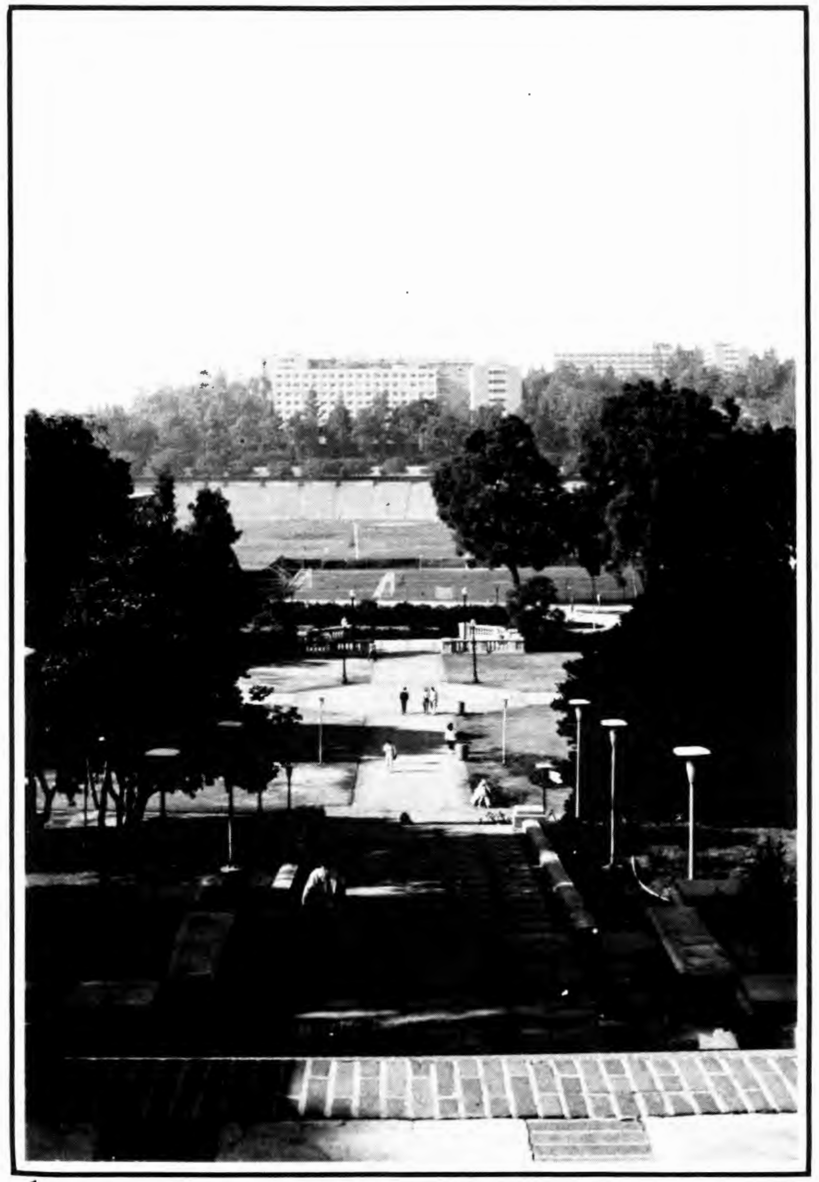
4. View of core campus from Circle Drive West

SOURCE: Cotton/Beland/Associates, December 1989

Figure F-4
View of Campus From Northwest Zone

UCLA
Long Range
Development Plan EIR

Figure F-5
Photograph Locations-
View Corridors



1. View of Janss steps from Dickson Plaza

2. View of Dickson Plaza looking east

SOURCE: Cotton/Beland/Associates, December 1989

Figure F-6
View Corridors on Campus

3 Dickson Plaza looking south toward Inverted Fountain

4 Bruin Walk looking southwest

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

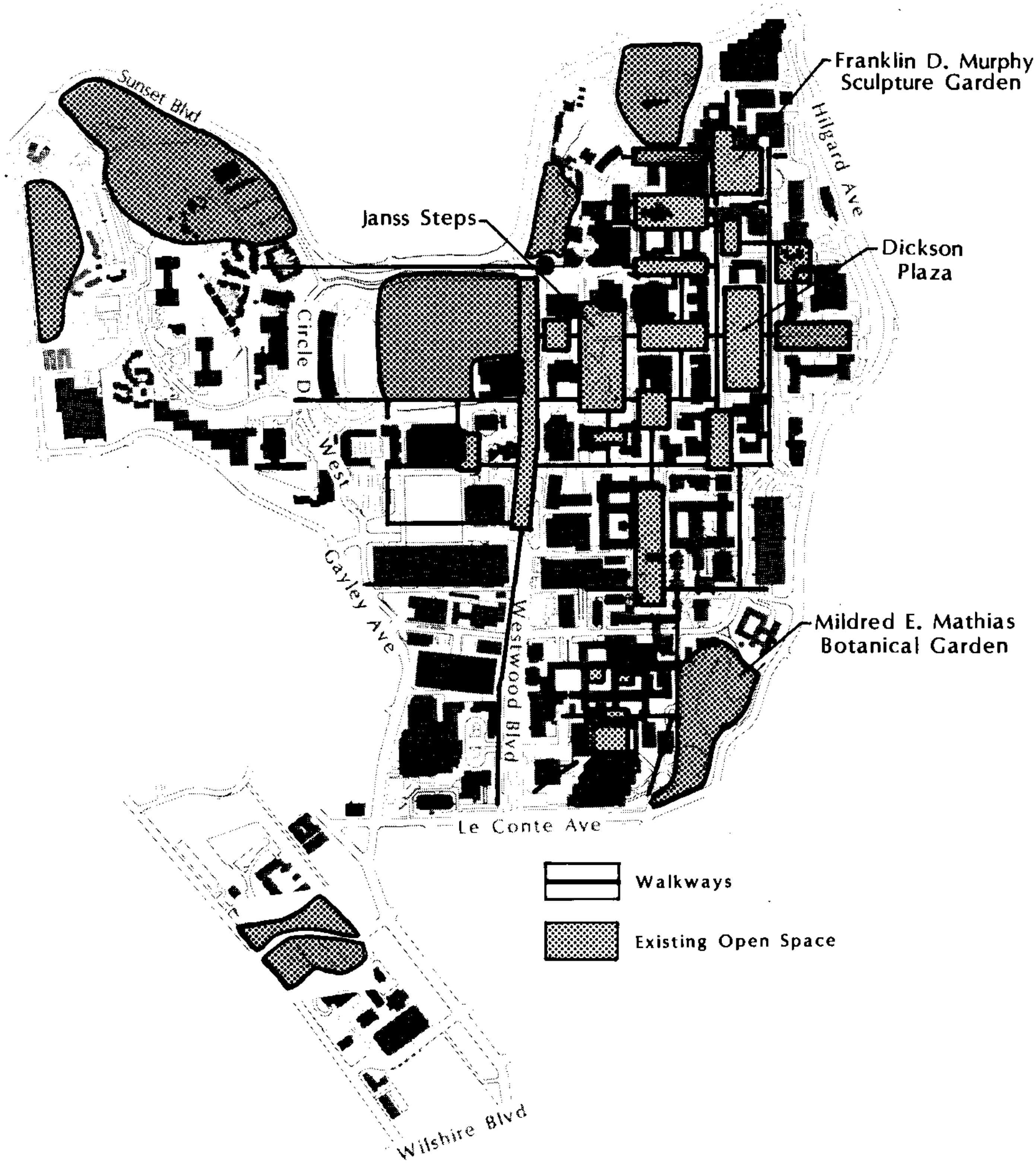
Figure F-7
View Corridors on Campus

5. Westwood Boulevard Looking North

SOURCE: Cotton/Beland/Associates, December 1989

UCLA
Long Range
Development Plan EIR

Figure F-8
View Corridors on Campus



SOURCE: Capital Planning, 1990

North no scale

UCLA
Long Range
Development Plan EIR

Figure F-9
Open Space/
Pedestrian Pathways

The Franklin D. Murphy Sculpture Garden, an idyllic setting containing one of the world's premier collections of sculpture, located in the northern Core Campus.

Dickson Plaza, located at the heart of Core Campus, constitutes the east-west axis of the original Kelham campus plan. It is bordered by some of the oldest and grandest campus buildings including Powell Library, and Haines, Kinsey, and Royce Halls.

The Janss Steps, the east-west connection between the north central entrance to the campus and Dickson Plaza, situated between the Dance Building and the Men's Gym.

Recreational open space is important to the quality of life and the health of the campus community. Four major sites have been identified for retention as recreational space during the period of the LRDP.

Sunset Canyon Recreation Area, in the Northwest Zone, provides informal playing fields and an amphitheater in a rolling landscape edged with trees.

Drake Stadium, in the Central Zone, provides an arena for intramural and intercollegiate athletics.

The Intramural Field, the campus' largest contiguous open space, is a critical component of UCLA's recreational facilities. It is located in the Central Zone, adjacent to Drake Stadium.

Spaulding Field, also in the Central Zone, is the site of intramural field sports and an important athletic practice field.

Some formal open spaces may be considered for renewal or redefinition of their edges. These include:

Dickson Court, the segment within Dickson Plaza bracketed by Perloff Hall on the north and Schoenberg Hall on the south.

The Court of Sciences, located in the southern portion of the Core Campus.

The various Medical Center courtyards and plazas in the Health Sciences Zone.

Bruin Plaza, pedestrian and transit interface which anchors the northern reach of Westwood Plaza.

The campus is continuing at the present time to plan and develop significant open spaces. Among these are:

The UCLA Medical Plaza, newly developed amidst the Outpatient Care Center, the Medical Office Building, and the Mental Health Center as part of the Lot 1 project scheduled to open in mid-1990.

The Gateway, landmark entrance to the campus from the south, located at the intersection of Le Conte Avenue and Westwood Plaza, to be developed by 1991.

The Northwest Play Area is being developed with Phase I of the Northwest Housing project to provide informal outdoor space for student residents.

The northeast corner of Le Conte and Gayley, in the Bridge Zone, will become a landscaped open space as part of the Lot I Development.

The Draft LRDP also contains guidelines for the siting and design of new development:

1. Site new building projects with consideration for use adjacencies, the defining of open space, and the refinement of the existing built environment;

2. Respect and reinforce the architectural and landscape traditions that give the campus its unique character;

~~3. Maintain the western, northern and eastern edges of the main campus as a landscaped buffer complementing the residential uses of the surrounding community~~. ~~Place buildings of appropriate scale on the edge only to mark the various campus entrances; and~~

4. ~~Some of the open space and pedestrian pathways shown on Figure F-9 are to be maintained as inviolate open space during the LRDP planning period. These are~~: ~~the Franklin D. Murphy Sculpture Garden; Dickson Plaza; Janss Steps; and the Mildred E. Mathias Botanical Garden~~.

Environmental Impact and Mitigation Measures

Under CEQA, a significant impact on visual quality is defined as one which has a substantial and demonstrable negative aesthetic effect. Since no empirical criteria exist with which to assess visual impacts, the assessment of visual impacts is, by its nature, a subjective undertaking. Some readers may feel that any change in the visual environment is significant, while others may believe a change is beneficial. For the purposes of this EIR, the development of an incongruous structure relative to its location, loss of a major public scenic view, or loss of a major open space resource is considered a significant visual impact.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

The Draft LRDP provides a basis for consideration of the potential zone-specific impacts on visual quality. As projects are proposed during the fifteen-year LRDP implementation, the specific visual effects will be considered in the environmental documentation for each program or project.

***Impact F-1: The ~~proposed~~ chiller/cogeneration facility, to be located in the Campus Services Zone, will constitute a significant impact on visual quality.**

The ~~proposed~~ chiller/cogeneration facility is planned to be three to four levels above grade. Major pieces of mechanical equipment such as cooling towers and exhaust stacks will be visible on the roof, partially hidden by rooftop screening devices with an average height of 70 feet above grade. The top of the cooling towers will be approximately 95 feet above grade, and the exhaust stacks of the cogeneration facility will be approximately 125 feet above grade. Existing buildings on-site range in height from 27 to 50 feet.

Lowering the height of the cooling towers and exhaust stacks is not feasible because reducing the height will result in an increase in ground level concentrations of criteria pollutants, contributing to already significant impacts. Stacks of this height will create dispersion of criteria pollutants, which reduces their concentration at ground level.

Although the site currently includes some similar equipment, views of the site from surrounding residences and campus buildings will be affected because of the height of the new facility. The cooling towers and exhaust stacks will be visible from Westwood Plaza, from residential structures along Gayley Avenue, and from the tallest buildings on-campus (e.g., Bunche Hall and the Factor Health Sciences Center).

Mitigation Measure F-1.1: Building materials that are compatible with adjacent buildings and the provision of rooftop screen devices are design objectives of the project.

Although the design has not been completed, the design objectives of the project recognize the campus' desire to screen views of the mechanical equipment components of the project from adjacent areas. The "industrial" nature of the existing uses will be replicated by the proposed project, although the bulk and mass of the project will be greater. Screening of taller mechanical equipment will be included in the project design, however some elements of the project, including cooling tower and exhaust stacks, will be visible from adjacent areas, including nearby residential facilities along Gayley Avenue. Views of the taller components of the project will generally be screened from views from other areas by existing structures, mature trees along the northern edge of the campus, and variations in topographic elevations. Despite these measures, this impact remains significant and unavoidable.

Mitigation Measure F-1.2: Revise the project design to reduce the height of the exhaust stacks and eliminate the third exhaust stack.

The design objectives of the project recognize the campus' desire to screen views of project components from adjacent areas. The height of the exhaust stacks will affect the ground level concentrations of air pollutants emitted from the cogeneration component of the Chiller/Cogeneration project. Reducing the height of the exhaust stacks would increase the ground level concentrations, which would result in a significant adverse impact, ~~thus aggravating~~ air quality impacts ~~of the project~~, which the campus has deemed undesirable. The proposed height of the exhaust stacks is therefore necessary to partially mitigate the air quality impacts of the project. Reducing the stack height as a mitigation measure would lessen the significance of the projects' visual impacts, but it would require sufficient changes to the overall project design such that achieving the objectives of the project would be infeasible. While considered in this EIR, this mitigation measure has not been incorporated into the project at this time by the campus.

Following review of the project design, the third exhaust stack has been eliminated. The exhaust for the auxiliary boiler will be routed to one of the gas turbine/ residual heat recovery stacks.

Impact F-2: Implementation of the 1990 Draft LRDP could have an adverse impact on visual quality.

Because the 1990 Draft LRDP does not propose specific development projects, this Program EIR evaluates visual impacts generally; an additional, project-specific evaluation of visual impacts will be included in the environmental documentation for future development projects. Implementation of the planning principles and the development guidelines presented in the Draft LRDP will ensure that impacts to visual quality are minimized, and overall implementation of the Draft LRDP is not anticipated to result in significant impacts to visual quality.

Mitigation Measure ~~F-2:~~F-2.1: Once specific projects are designed, environmental documentation will be prepared for each project. The environmental documentation will include an assessment of the visual impacts of the project. Each project will be designed to:

- minimize impacts on public views into the campus;

- protect designated open spaces and view corridors on-campus; and

- minimize impacts of light and glare and shade and shadow on adjacent uses, both on-and off-campus.

Mitigation Measure F-2.2: The following mitigation measure is from the LRDP guidelines for the siting and design of new development:

- Maintain the western, northern and eastern edges of the main campus as a landscaped buffer complementing the residential uses of the surrounding community. Place buildings of appropriate scale on the edge only to mark the various campus entrances.

Mitigation Measure F-2.3: The following mitigation measure is from the LRDP guidelines for the siting and design of new development:

- Some of the open space and pedestrian pathways are to be preserved as open space during the LRDP planning period. These are: the Franklin D. Murphy Sculpture Garden; Dickson Plaza; Janss Steps; and the Mildred E. Mathias Botanical Garden.

In addition, implementation of mitigation measures described in the Biological Resources Subsection IV-D and Land Use Subsection IV-A will further reduce these potential impacts on visual quality.

Cumulative Impact

Future development may result in incongruous buildings in relation to their locations and/or affect major public scenic views.

Development within the Westwood vicinity is within the planning jurisdiction of the City of Los Angeles and is subject to the requirements of the City of Los Angeles General Plan and the Westwood Village Specific Plan. Based on the Appendix C list of related projects considered in this EIR, there are no known significant visual cumulative impacts, and thus no mitigation measures are required or recommended.

G. GEOLOGY, SOILS, & SEISMICITY

Regional Geology

Environmental Setting

The macro-geology of Southern California is composed of several large plates which move relative to each other. The primary line of contact between these plates is the San Andreas Fault Zone, lying about 41 miles northeast of the UCLA campus. The area west of the San Andreas Fault is known as the Pacific Plate, which is moving north relative to the North American plate on the east side of the fault (Figure G-1).

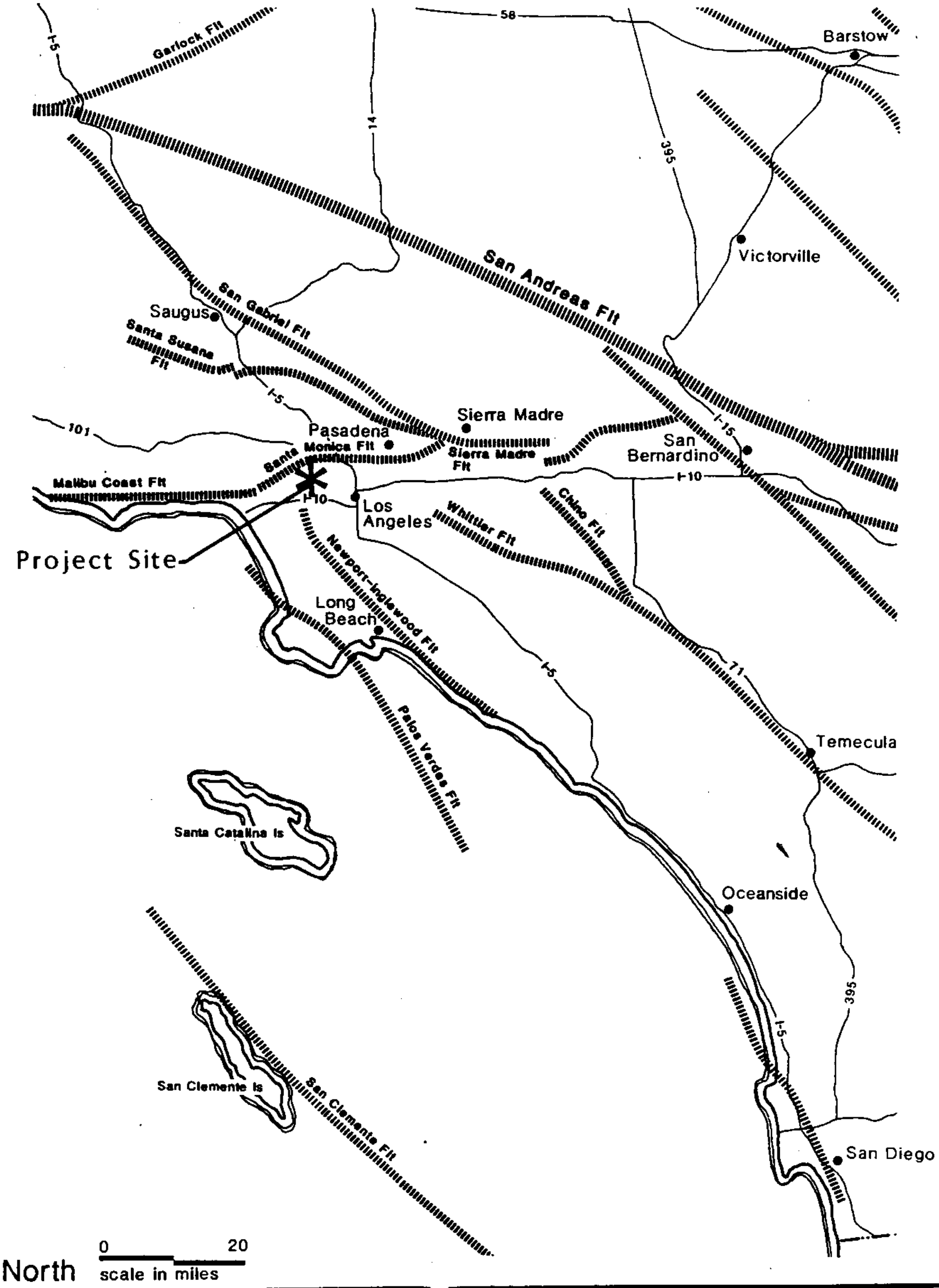
The Santa Monica Mountains, to the north of the campus, form the central portion of the so-called Transverse Ranges, running about 275 miles eastward from Point Arguello into the Mojave Desert (Ref. 1). The eastern Santa Monica Mountains are formed by a broad west-plunging anticline (Ref. 2).

Consisting of several large areas of uplifted basement rocks, these mountainous blocks are seismically active and are transected by a north-west trending branch of the Santa Monica fault and numerous small faults. The south flank of the anticline is truncated by the main (subterranean) trace of the Santa Monica fault, along which it is uplifted.

The geologic formations in the Los Angeles Basin belong to two geomorphic provinces: the Transverse Ranges and the Peninsular Ranges. The Transverse Ranges trend east-west across the northern part of the Basin and comprise the Santa Monica, Verdugo, and San Gabriel Mountains and the San Fernando Valley. The rock types exposed in the vicinity of the campus include Jurassic (1763 to 144 million years old - myo), Cretaceous (97 to 66 myo) and Late Miocene (11 to 5 myo) marine sedimentary rocks. The Peninsular Ranges trend northwest-southeast and comprise numerous groups of hills (Baldwin Hills, Beverly Hills, Elysian Hills, Renetto Hills, etc.) rising toward the Santa Ana Mountains. The sediments exposed in the vicinity of the campus include Pleistocene non-marine sedimentary deposits (2 million to 10 thousand years old). The underlying marine sedimentary rocks are of Late Pliocene age (more than 2 myo).

Regional Seismicity

The Los Angeles Basin is part of one of the most active seismic regions in the United States. Each year, low and moderate intensity earthquakes occur within or near the



UCLA
Long Range
Development Plan EIR

Figure G-1
Regional Seismicity

region. There are several active and potentially active fault zones that could affect development in the area. These include faults that are historically active (during the past 200 years), those that have been active in the geologically recent past (about the last 10,000 years, usually referred to as Holocene faults) and those that have been active at some time during the Quaternary geologic period (the last 2 million years). The San Andreas fault is an example of an historically active fault. Many other faults occur throughout the Los Angeles Basin that have been classified as Quaternary or older because they do not display evidence of recent movement.

The campus is situated near the juncture of two important faults in the Santa Monica Fault Zone, containing the Malibu Coast/Santa Monica/Raymond/Sierra Madre/Cucamonga fault zone and the Newport-Inglewood fault (Figure G-1). The Santa Monica fault segment of the Santa Monica fault is buried from Las Flores Canyon to South Pasadena; however, it appears to roughly parallel Wilshire Boulevard in the vicinity of the campus. The Santa Monica fault forms the southern limit of the Santa Monica Mountains and the Transverse Ranges. The Santa Monica segment separates the structurally elevated Northwest Block of the Los Angeles Basin from the Central and Southwest Blocks. The basement surface has been uplifted over 7,500 feet in this zone. The base of the upper Miocene and lower Pliocene strata have been upthrown about 6,500 feet and 3,000 feet respectively, while the base of the upper Pliocene unconformably transgresses the faults (Ref. 3).

The Newport-Inglewood fault terminates approximately 3 miles east of the campus (Ref. 4). Both of these fault zones show historical seismic activity (Ref. 5) but no historical evidence of surface displacement, thus they are considered Quaternary faults (Ref. 6).

Estimated maximum earthquake magnitudes resulting from potential seismic activity on various active faults are shown below on Table G-1.

TABLE G-1
ESTIMATED MAXIMUM CREDIBLE EARTHQUAKE
FOR SELECTED SOUTHERN CALIFORNIA FAULTS

Fault	Magnitude
San Andreas (central section)	8.25
Garlock	7.75
Malibu/Santa Monica/Raymond	7.5
San Andreas (south section)	7.5
San Jacinto	7.5
Whittier/Elsinore	7.5
Newport Inglewood	7.0
Palos Verdes	7.0
Simi	6.5
Northridge	6.5
Santa Susana	6.5
San Fernando	6.5
Sierra Madre	6.5
Cucamonga	6.5

Source: California Division of Mines and Geology, 1974

Local Geology

Situated at the boundary between the Northwestern Block and the Southwestern Block (Figure G-1), the campus straddles the buried Santa Monica fault and lies just west of the Newport Inglewood fault. This is a geologically complex location and the UCLA campus is underlain by a variety of rock types.

The Santa Monica Mountains are composed primarily of an uplifted basement complex characterized by the Santa Monica Slate. The metasedimentary Santa Monica Slate is thought to be of Triassic or late Jurassic age and is an intensely jointed ark grey to black slate containing minor amounts of sheared metasiltstone and metasandstone. Large portions of this formation have been altered by contact with metamorphism to mica schist, phyllite, and spotted cordierite slate (Ref. 7). The locally exposed Santa Monica Slate is weathered and eroded. It contributes major materials to the alluvial fans on which the campus rests.

South of the Santa Monica fault, the basement rocks are about 13,000 feet below sea level. The campus is situated at the north end of a huge doubly plunging syncline whose locus is about 31,000 feet below sea level in the area of the confluence of the Los Angeles and Rio Hondo Rivers. At the basement level, the Newport-Inglewood fault forms the boundary between quite different geologic tracts.

The basement rocks of the area west of the Newport-Inglewood fault deformation zone are Catalina Schist, a formation of unknown age or stratigraphic position thought to be related to a similar schist exposed on Santa Catalina Island. Catalina Schist is a complex fine-grained chlorite-quartz schist and blue glaucophane- or crossite-bearing schist, but includes several other less abundant mineralogical configurations as well (Ref. 8). Near the Newport-Inglewood fault, metamorphism has produced exceptional garnet-bearing schist, serpentinite, metagabbro, and metavolcanic rocks.

The superadjacent rocks of both the Southwest and Northwest Blocks consist chiefly of marine clastic and organic sedimentary strata of middle Miocene to Recent age, locally including igneous rocks of middle Miocene age. In the vicinity of the campus, the lower sequence, foraminifera of Kleinpell's Relizian Stage, consists of marine sandstone, siltstone, and minor amounts of conglomerate (Ref. 9) and locally containing marine mollusks and foraminifera. These formations, as much as 1000 feet thick in the area of the campus, evidently were derived from basement sources east of the Newport-Inglewood fault and deposited in a shallow marine environment.

The upper sequence of middle Miocene rocks is as much as 9,000 feet thick. Underlying the campus, they consist of andesitic and basaltic flows, tuffs, and breccias containing interbedded foraminifera bearing sediments. These formations of volcanic origin are exposed in the central and western areas of the Santa Monica Mountains. The volcanic rocks are overlain by marine conglomerate (derived from eastern basement sources), sandstone, siltstone, and shale (Ref. 10).

The campus may lie along the edge of a broad lens of upper Pliocene fine- to coarse-grained sand (at Santa Monica) mantled by a thin veneer of poorly stratified nonmarine sand, silt, and soil (Ref. 11).

Most of the campus is immediately underlain by older alluvial deposits of continental origin and Upper Pleistocene (Ref. 12) (Holocene) and Pleistocene age (Ref. 13). Weathered on the surface to a red or brown color, these deposits generally consist of unconsolidated and poorly sorted clays, sands, and gravels which have been elevated and are often cut by small-displacement faults (Ref. 14). These soils are observed in borings as silt, sandy silts, medium dense to very dense clayey and silty sands, sand, gravelly sand, stiff to hard clays, and gravel and (locally) cobbles. Santa Monica Slate fragments were reported in native soils at sites 84A, 85A, 87C, 88B, and 88E.

Geologic Hazards

Geologic hazards affecting the campus include seismic shaking (earthquakes), liquefaction, erosion, and landsliding. Of these, liquefaction and landsliding hazards would result primarily from earthquake-induced groundshaking.

Seismic Shaking

The UCLA campus is exposed to the possibility of groundshaking from earthquake episodes on several different faults. The dominant, active structural elements in the Los Angeles basin include the San Andreas fault, the Newport-Inglewood fault, the Santa Monica fault, and the Sierra Madre, Palos Verdes, Whittier-Elsinore, and San Jacinto faults. Of the approximately 6 centimeters (cm) per year of total relative displacement between the Pacific and North American plates, up to 4 cm is accounted for by strain accumulation and release along the San Andreas fault itself; the remainder is distributed along other faults.

Harding Lawson Associates (HLA), in their geotechnical engineering investigation for the proposed Medical Research Laboratory (Ref. 15) conducted a seismic risk analysis for that site. Using published seismic coefficients and maximum credible earthquake magnitudes for each of the faults (Ref. 16) HLA used both truncated (Ref. 17) and extended (Ref.18) seismic source models to predict seismic risk from effective ground acceleration. The truncated model is appropriate for use where the epicenter of the event is distant. Nearby faults (the Newport Inglewood and Malibu Coast faults) were treated as extended seismic sources "because ground motions at the site result from the portion of the fault rupture that is closer to the site than is the epicenter" (Ref. 19). HLA conclude that the primary sources of seismic risk are the relatively nearby Malibu Coast and Newport Inglewood faults and that "the effective acceleration, which is less than the peak free-field ground acceleration and more closely relates to structural response and to the damage potential of an earthquake, is considered to be more appropriate for design purposes than (peak ground acceleration)" for close proximity events (Ref. 20). HLA estimates the effective ground acceleration value for lower-level events (50% probability of exceedance) as 0.21 g and the value for upper-level events (10% probability of exceedance) as 0.31 g. In other words, an earthquake on a local fault has a 50% probability of producing ground acceleration equivalent to 0.21 times gravity and a 10% probability of exceeding 0.31 gravities.

Landsliding

As shown in Table G-2, landslides occurring in both rock and soil have been classified into 14 types in three major categories on the basis of distinctions in movement, internal disruption, and geologic environments (Ref. 21). Of these, the most common are rock falls, disrupted soil slides, and rock slides ("very abundant"). Next most common are soil lateral spreads, soil slumps, soil block slides, and soil avalanches ("abundant") (Ref. 22). Soil falls, rapid soil flows, and rock slumps are considered "moderately common." Leading causes of landslide deaths are rock avalanches ("uncommon"), rapid soil flows ("moderately common"), and rock falls ("very abundant").

Local Geology and Soils

UCLA lies on the gently rolling terrain of alluvial deposits from the southern slopes of the Santa Monica Mountains. The south sloping surface topography results from drainage patterns of Dry and Stone Canyons, north of the campus.

Most of the campus is immediately underlain predominantly by older alluvial deposits of continental origin and Upper Pleistocene (Holocene) and Pleistocene age (Refs. 5 & 6). Weathered on the surface to a red or brown color, these deposits generally consist of unconsolidated and poorly sorted clays, sands and gravels, which have been elevated and are often cut by small-displacement faults (Ref. 5).

Extensive grading for site development, building pads and landscaping has been done on the Campus over the past 60+ years. As a result, the natural surface features of the campus have been altered. Except for the area under the Arroyo bridge, the large arroyo of Stone Canyon has been completely filled through the east-central portion of the

Map Reference	Project Name	Date	# Borings	Max. Depth of Fill	Min. Depth to Groundwater
45	Compacted Fills-Arroyo Area	9/17/45	9	N/R[1]	N/R
81	Tennis Stadium	4/2/81	8	14'	30+
84A	Stone Canyon Child Care Ctr.	2/23/84	5 Trenches	6.5'	N/C
84B	Cultural History Museum	9/24/84	5	15'	N/R
89C	Engineering IV	10/2/84	3	4'	42.5'[2]
85A	School of Law	5/3/85	5	1.5'	N/R
85B	Lot 1 Medical Facility	5/30/85	4	N/R	33'
85C	Engineering IV and Central Plant	9/25/85	5	12'	50'
87A	AGSM	6/15/87	5	12'	50'
87B	CHS Annex	9/22/87	4	2'	N/R
88A	James E. West Center Expansion	2/9/88	see note [3]	N/R	38'
88B	NW Campus Housing & Parking	3/3/88	17 (+3 pits)	34'	39
88C	Medical Research Laboratory	3/4/88	6	16'	36'
88D	James E. West Center Expansion	9/8/88	1	5.5'	42'
88E	Southern Regional Library Access Road	12/21/88	2 (+2 pits)	21'	N/R
89	AGSM	11/17/89	3	5'	N/R

[1] N/R = Not Reported

[2] perched condition

[3] Ref 8/73 borings

SOURCE: Reference 8

UCLA
Long Range
Development Plan EIR

Table G-2
Selected Soil Samples
University of California, Los Angeles

Core Campus study area. Earth used to fill this area was taken from hilltops adjoining both sides of the head of the arroyo (see Figure G-2). As a result of these campus-wide efforts, man-made fills cover much of the site to varying depths. Because borrow sites were often near the areas filled, it is sometimes difficult to distinguish between fill and natural soils. However, fill materials were often uncompacted and recent explorations have reported resulting unconsolidated materials as well as the presence of debris, organic materials, and voids (Ref. 7).

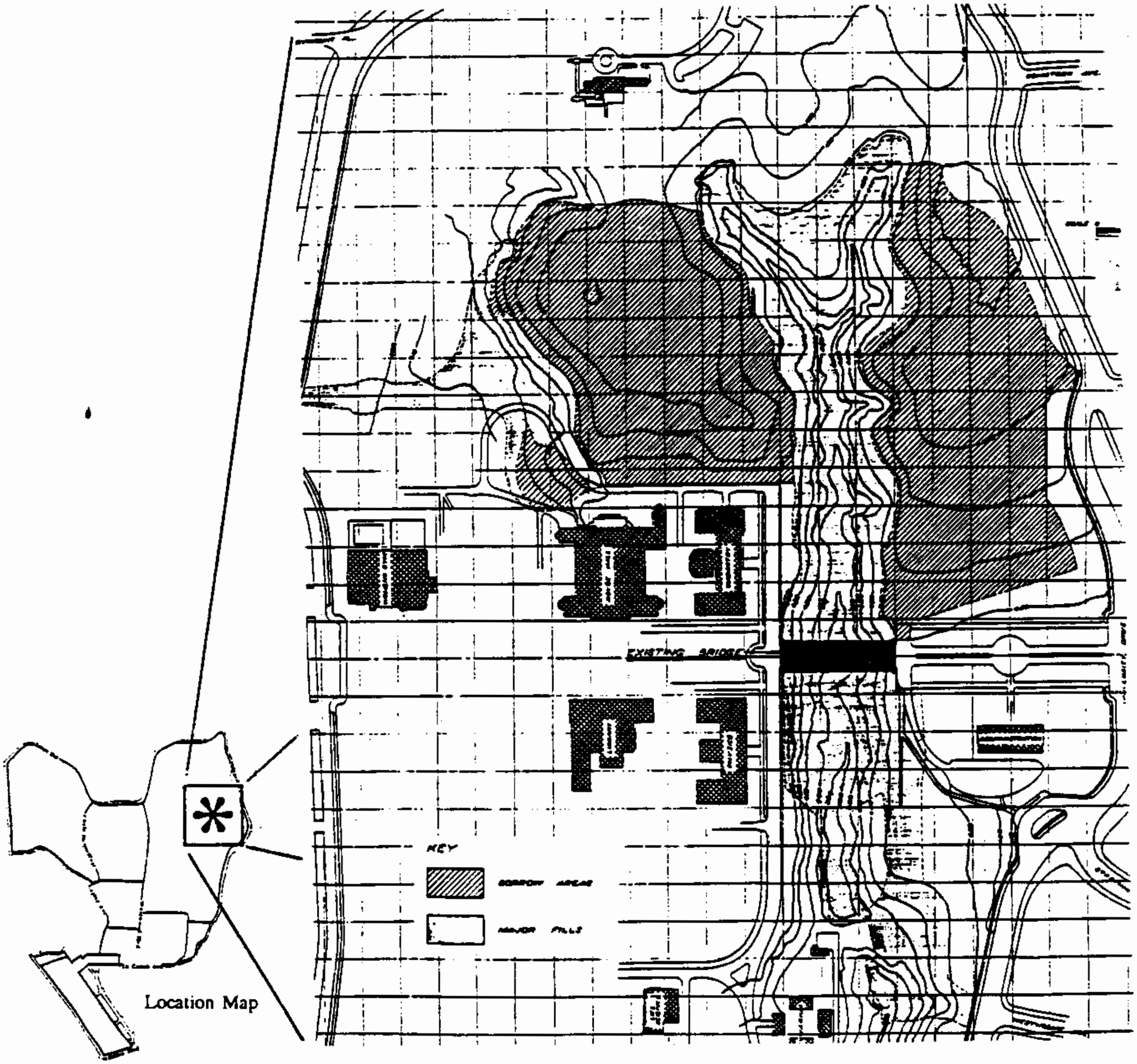
A large library of campus-specific soils reports is available in the UCLA construction archives. From this collection, a representative sample of 16 recent reports were reviewed in detail to determine specific soil types and conditions within each planning area of the Campus. The reports reviewed are cited in the references at the end of this subsection. Table G-2 summarizes the soils-related findings of the reports.

Environmental Impact and Mitigation Measures

The exposure of people or structures to major geologic hazards constitutes a significant impact. For the purposes of this EIR, the location of structures in areas subject to seismic hazard or liquefaction without adequate structural design mitigation are considered to constitute a significant impact.

The Draft 1990 LRDP does not propose specific projects, rather it provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.



Source: David R. Allison (Dames & Moore) Report of Engineering Investigations, Proposed Compacted Fills, Arroyo Area, UCLA, September 17, 1945.

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure G-2
Cut and Fill Stone Canyon
Arroyo Area UCLA Campus

***Impact G-1: Construction of projects within a zone of high seismic risk could result in structural damage from groundshaking.**

Although there are no known active earthquake faults on-campus, several major active faults have the potential to generate a major earthquake near the Campus. Implementation of the following mitigation measures will reduce potential impacts to a less-than-significant level.

Mitigation Measure G-1.1: On-site geotechnical investigations shall be conducted under the direct supervision of a California Certified Engineering Geologist (CEG). The investigations should include studies to determine the location of any suspected fault traces and would specifically address the anticipated ground acceleration at the building site, the potential for displacement caused by seismically induced vibration, liquefaction, soil densification, landsliding, or other earth movements. The CEG would interpret field data in the context of local and regional soils/geologic/ seismic conditions and would present recommendations to the Campus for the abatement of geotechnical hazards at the site, consistent with the provisions of the University Policy on Seismic Safety, which is incorporated herein by reference.

Mitigation Measure G-1.2: As stipulated in the University Policy on Seismic Safety, all construction shall comply with the current provisions of Title 24 of the California Administrative Code and would comply with the most recent edition of the Uniform Building Code Seismic Zone 4 standards or local seismic standards, whichever is more stringent. Nonstructural building elements (e.g., fixtures, permanent equipment, etc.) shall be anchored to minimize potential hazards.

Mitigation Measure G-1.3: The campus will continue its program of upgrading existing buildings to meet current seismic codes.

***Impact G-2: Construction in areas of potentially unstable slopes or areas subject to differential settlement could result in structural damage.**

Sites of unconsolidated fill were noted in prior geologic investigations. Three large underground storm drains traverse the Campus. The former arroyos of Dry and Stone Canyons have been filled using engineering standards known to be inadequate for support of large structures.

Construction on or near these areas could lead to structural damage from differential settlement in filled areas or slope instability resulting from heavy rains, seismically induced ground failure, or other causes. Implementation of the following mitigation measures will reduce potential significant impacts to a less-than-significant level.

Mitigation Measure G-2.1: Measure G-1.1 above, would initiate geotechnical investigation on a project-specific basis and implement resulting recommendations.

Mitigation Measure G-2.2: Site work for foundations and other structural elements would be completed in accordance with the University Policy on Seismic Safety, as administered by the Campus Seismic Review Board.

***Impact G-3: Construction-related activities could result in increases in erosion.**

Construction-related activities can generate substantial amounts of erosion if graded and disturbed areas are left unprotected during the rainy season. The severity of erosion can vary widely depending upon the localized soil characteristics, slope gradient, and other factors. With implementation of the Draft 1990 LRDP, grading would be required for preparation of building sites and roadbeds throughout Campus, thus subjecting grading sites to potential erosion hazards. This impact can be mitigated to a less-than-significant level with implementation of Mitigation Measure G-3.

Mitigation Measure G-3: Prior to construction of individual projects, an erosion control plan shall be developed. These plans shall include, but not be limited to, stabilization of disturbed areas as soon as possible.

Cumulative Impact

Future development and population growth could expose more people to geologic hazards.

Development must be undertaken in conformance with the provisions of all applicable laws. The related projects considered in this analysis are not projected to result in greater exposure to significant geologic hazards than would typically be found in Southern California and, therefore, cumulative impacts are considered less-than-significant.

References

1. Geology of the Los Angeles Basin, California -- An Introduction, Geological Survey Professional Paper 420-A,R.F. Yerkes, et al, U.S. Department of the Interior, 1983, page A13.

2. Final Environmental Impact Report, Anderson Graduate School of Management and Related Projects, University of California, Los Angeles, April 1989, page 85.

3. For example, during the period of June 18 through 29, 1920, 13 "light" to zone IX (Rossi-Forel scale) tremors on the Newport-Inglewood fault, the (Richter) magnitude 6.3 intensity Long Beach quake of March 10, 1933, had 78 recorded aftershocks of magnitude 3.9 or greater, and the 1855 "Los Angeles" earthquake (Modified Mercalli intensity of VIII), attributed to the Raymond Fault) to name but a few. Source: Evaluating Earthquake Hazards in the Los Angeles Region -- An Earth-Science Perspective, J.I. Ziony, Ed., United States Geological Survey Professional Paper 1360, 1985.

4. Quaternary Faults indicate displacement within the past 2 million years, but not within historical time. Classification and definition: Fault Map of California, With Locations of Volcanoes, Thermal Springs, and Thermal Wells, compiled by Charles W. Jennings, California Department of Mines and Geology, 1987.

5. David C. Allison (Trend R. Dames, William W. Moore), Report of Engineering Investigations, Proposed Compacted Fills, Arroyo Area, University of California at Los Angeles, undated (c. 1945) page 2.

6. Harding Lawson Associates, Preliminary Geotechnical Investigation, Proposed Graduate School of Management Building, University of California, Los Angeles, CA, June 1987.

7. See for example the following site-specific soils studies: 81, 87A, 87B, 88B, 88C, and 88E.

8. The following soils studies were consulted and are referenced by date of completion (e.g., the second report listed from 1987 would be 87B).

   45. David C. Allison, (Trend R. Dames, William W. Moore), Report of Engineering Investigations, Proposed Compacted Fills, Arroyo Area, University of California at Los Angeles, September 17, 1945.

   81. Leroy Crandall Associates, Report of Foundation Investigation, Proposed Tennis Stadium, Circle Drive West and Strathmore Place, UCLA Campus, Los Angeles, CA, November 24, 1980 and April 7, 1981.

84A. Ralph Stone & Company, Soils Engineering Investigation and Report for Proposed UCLA Child Care Center on Stone Canyon Drive, Los Angeles, CA, February 23, 1984.

84B. Harding Lawson Associates, Geotechnical Investigation, Proposed Museum of Cultural History, University of California, Los Angeles, CA, September 24, 1984.

84C. Preliminary Geotechnical Investigation, Engineering IV, University of California, Los Angeles, CA, October 2, 1984.

85A. Kovacs Byer & Associates, Soils Engineering Investigation, Proposed Addition to UCLA School of Law, UCLA Campus, Los Angeles, CA, May 3, 1985.

85B. Harding Lawson Associates, Preliminary Geotechnical Investigation, Proposed Lot 1 Medical Facility, University of California, Los Angeles, CA, May 30, 1985.

85C. Geotechnical Engineering Investigation, Engineering Unit IV and Central Plant, University of California, Los Angeles, CA, September 25, 1985.

87A. Preliminary Geotechnical Investigation, Proposed Graduate School of Management Building, University of California, Los Angeles, CA, June 15, 1987.

87B. Kovacs Byer & Associates, Soil Engineering Investigation, Proposed CHS Annex, Circle Drive South, September 22, 1987.

88A. Leroy Crandall Associates, Recommendations for Foundation Design and Construction, Proposed James E. West Center Expansion, University of California at Los Angeles, Los Angeles, CA, February 9, 1988.

88B. Kovacs Byer & Associates, Soil Engineering Investigation, Proposed UCLA Northwest Campus Housing/Parking -- Phase I, Los Angeles, CA, March 3, 1988.

88C. Harding Lawson Associates, Geotechnical Engineering Investigation, Medical Research Laboratory, University of California, Los Angeles, CA, March 4, 1988.

88D. Report of Limited Foundation Investigation, Proposed James E. West Center Expansion, University of California, Los Angeles, CA, September 8, 1988.

88E. Kovacs Byer & Associates, Soils Engineering Investigation,Proposed Southern Regional Library Access Road, University of California Los Angeles, Los Angeles CA, December 21, 1988.

89. Converse Consultants Pasadena, Supplemental Foundation Investigation, Anderson Graduate School of Management (AGSM), University of California, Los Angeles, CA, November 17, 1989.

9. Geotechnical Engineering Investigation, Medical Research Laboratory, University of California, Los Angeles, CA, Harding Lawson Associates, March 4, 1988.

10. T.R. Toppozoda, et al, Seismicity of California, 1900-1931, California Division of Mines and Geology Special Report 135, 1978.

11. Harding Lawson Associates, Preliminary Geotechnical Investigation, Engineering IV, University of California Los Angeles, CA, October 2, 1984.

12. Harding Lawson Associates, Soils Engineering Investigation, Proposed Northwest Campus Housing/Parking -- Phase I, Los Angeles, CA, March 3, 1988.

13. James F. Davis, et al, Earthquake Planning Scenario for a Magnitude 8.3 Earthquake on the San Andreas Fault in Southern California, California Division of Mines and Geology, 1982, page 87.

H. HYDROLOGY AND WATER QUALITY

Environmental Setting

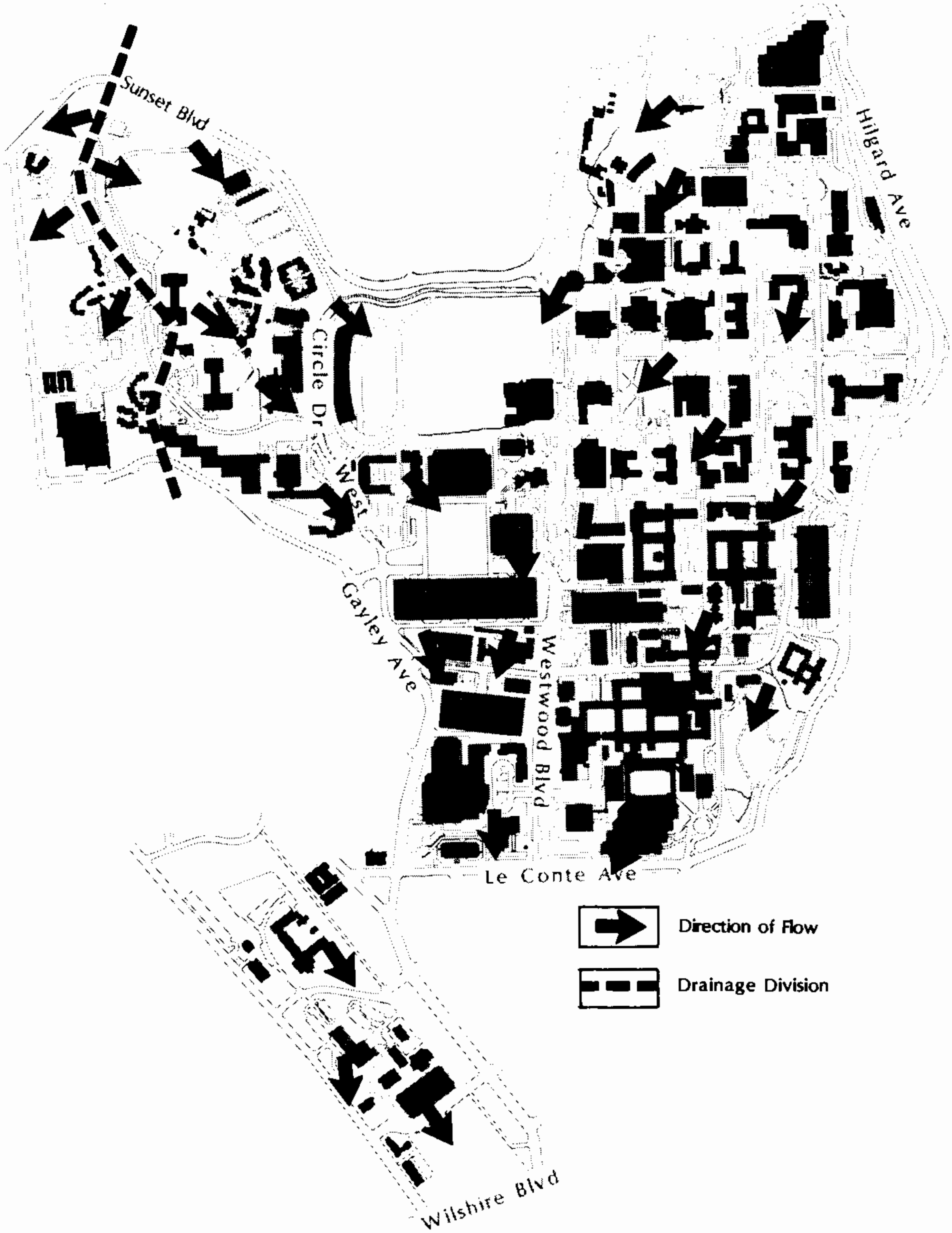
UCLA has an average January temperature of 58° F and an annual average in August of 74° F (Ref. 1). Annual rainfall varies markedly from year to year. The majority of the rain falls in the months from October to May. Annual average rainfall varies from about 9 to 14 inches (Ref. 2). Of the campus' total 419 acres, a substantial portion is largely developed, with 77 percent of the campus area covered with impervious surfaces, such as buildings, paved pathways and parking lots. Because UCLA is a developed urban area, existing stormwater drainage is quite extensive. All natural drainage paths have been altered.

<u>Surface Water Drainage</u>

Drainage occurs from the higher areas in the northeast and northwest of the campus near Sunset Boulevard, and generally flows from north to south towards Le Conte Avenue (Figure H-1). Runoff is collected by an existing campus stormwater drainage system maintained by the University, which connects to the Los Angeles County storm drainage system and carries water to Ballona Creek.

Campus storm water which flows to the south enters the County system at three locations. A six-foot wide by five-foot wide concrete storm drain along Gayley Avenue receives water from the northwest corner of the campus, campus recreation and service areas and Stone Canyon Creek. A second 30-inch reinforced concrete pipe along Westwood Boulevard services the core campus area. A third 36-inch concrete pipe along Hilgard Avenue receives water from the eastern section of the campus. In the northwest portion of the campus, some flow also occurs towards Veteran Avenue and is collected by a drain which flows into the Sepulveda Channel (Ref. 3). The major drainage route from the north, Stone Canyon Creek, flows for a distance as an open channel in the northern section of the campus, west of the University Elementary School and traverses the campus from northeast to southwest in a 66-inch concrete pipe. The Southwest Zone of the campus, centered around Weyburn Drive, utilizes a 78-inch reinforced concrete pipe which also connects into the County system on Veteran Avenue (Ref. 4).

The campus storm drain system operates adequately for the majority of the time. However, at some locations, particularly Westwood Plaza, the system is unable to carry small storms and flows occur on the street (Ref. 8).



SOURCE: EIP Associates

North no scale

UCLA
Long Range
Development Plan EIR

Figure H-1
Direction of Surface Runoff

The quality of this stormwater is typical of urban areas and includes high levels of suspended sediments and contaminants associated with motor vehicle operation such as oil, grease, hydrocarbons and lead, as well as fertilizers and pesticides associated with grounds maintenance.

There are no known local flooding problems on campus (Ref. 5). Problems have occurred in the past in some portions of the Westwood Village area, south of the campus during heavy storms (Ref. 3). The Flood Insurance Rate Map for the City of Los Angeles indicates a potential flood hazard in the area of the athletic field, south of Circle Drive North and west of Westwood Plaza (Figure H-2). The area is designated as a "B" zone, which means its flood potential is "between the limits of the 100 year flood and 500 year flood". Shallow flooding also occurs along Stone Canyon Creek north of the campus and along Sunset Boulevard from the campus boundary to the ponding area of the athletic field.

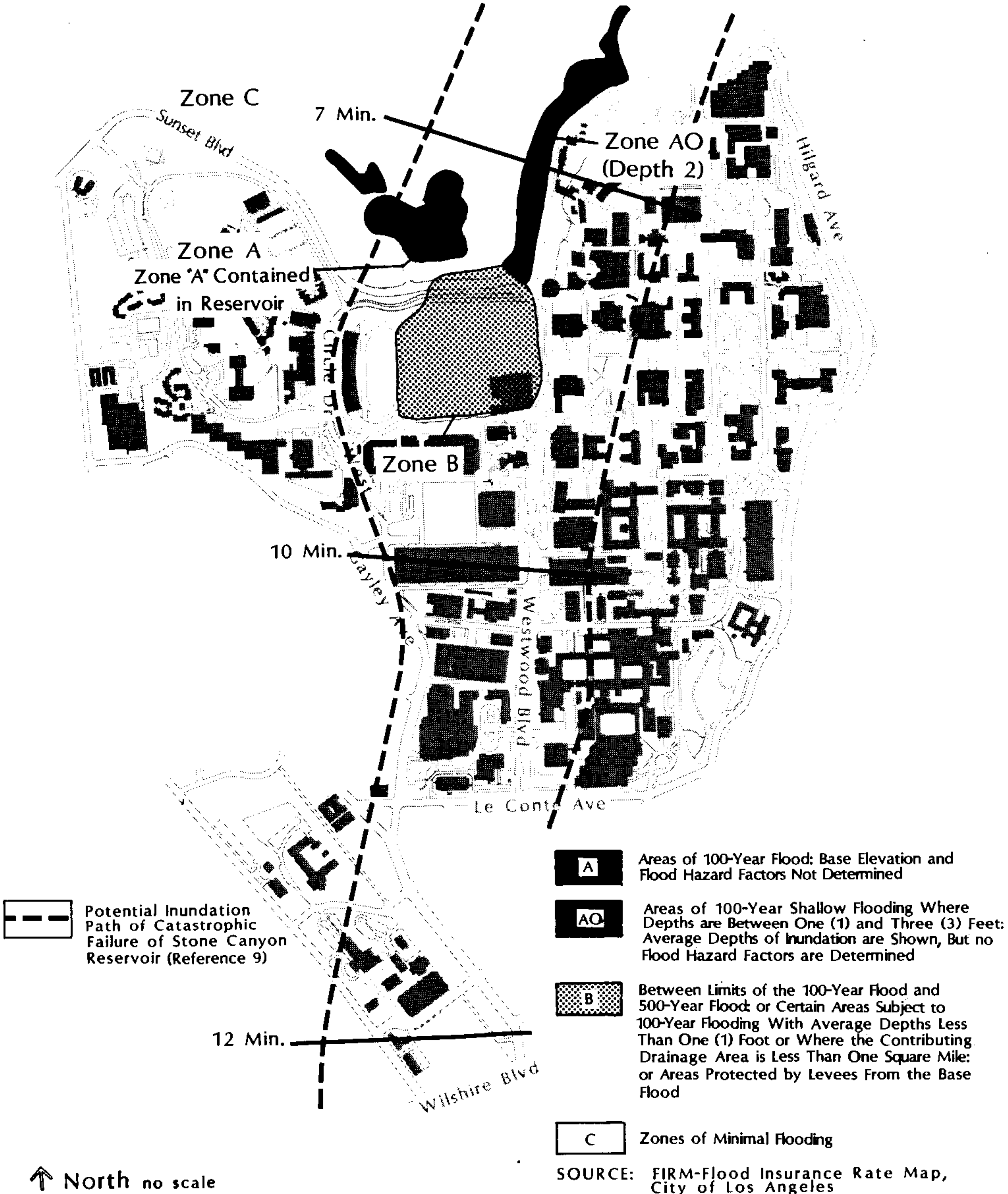
<u>Groundwater</u>

The project area is located within the Santa Monica Plain, an alluvial apron formed at the southern edge of the Santa Monica Mountains within the Santa Monica Basin. Generally the plain is underlaid by water bearing sediments of considerable thickness. Most water wells within the Santa Monica Basin are south of Santa Monica Boulevard. Comparatively few wells have been drilled in the north and northwest. Little data is available in the vicinity of the project area (Refs. 6 and 7).

Replenishment of groundwater in the Santa Monica Basin occurs mostly through percolation of precipitation through the sandy phases and by percolation of surface runoff into the basin from the mountains in the north. Groundwater movement is mainly southward.

Environmental Impact and Mitigation Measures

Under CEQA, significant impacts on hydrology and groundwater quality would result from: a substantial degradation in water quality; the contamination of a public water supply; the substantial degradation or depletion of groundwater resources; the substantial interference with groundwater recharge; or if the project caused substantial flooding, erosion, or siltation. For the purposes of this EIR, generation of increased storm water runoff volumes which exceed the capacity of drainage facilities is also considered significant. Construction of structures within a 100-year floodplain is also considered a significant impact.



SOURCE: FIRM-Flood Insurance Rate Map, City of Los Angeles

UCLA
Long Range
Development Plan EIR

Figure H-2
Areas of Flood Hazard

The Draft 1990 LRDP does not propose specific projects, rather it provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation for each program or project.

Anticipated impacts from implementation of the Draft 1990 LRDP are discussed below along with recommended mitigation measures. Impacts prefaced by an asterisk (*) are considered significant impacts before mitigation.

***Impact H-1: Implementation of the LRDP will have an impact on the stormwater drainage system.**

Since much of the area within the Core Campus, Campus Services, Health Sciences and Southwest zones is currently comprised of a high percentage of impervious surfaces, additional construction in these areas will not significantly increase the amount of stormwater runoff. The stormwater drainage system in the southern portions of the campus are near capacity. <u>However, implementation of mitigation measures H-1.1 and H-1.2 will reduce potential impacts to a less-than-significant level</u>.

The quality of stormwater runoff is likely to remain unaffected by project implementation. Existing stormwater runoff quality is presently adversely affected by runoff from streets and parking areas. The impacts of the project on water quality are considered not significant.

The area within the 100-year to 500-year flood zone is currently used for recreation. No other use is proposed for this area in the Draft 1990 LRDP; therefore, impacts related to flooding are considered less-than-significant.

Mitigation Measure H-1.1: Project design shall include measures to upgrade and expand storm drain capacity where necessary. <u>Design of future projects will include measures to reduce runoff, including the provision of permeable landscaped areas adjacent to structures to absorb runoff and the use of pervious or semi-pervious paving materials</u>.

Mitigation Measure H-1.2: Stormwater runoff will be reduced where feasible for individual projects. Reductions in stormwater runoff will include designs for large open spaces, landscaping and use of semi-permeable pavements.

***Impact H-2: During construction, soil erosion may cause significant impacts on the downstream storm drain system from deposition of sediments and reduction of drain capacity.**

Mitigation Measure H-2: Prior to construction of individual projects, an erosion control plan shall be developed. These plans shall include, but not be limited to, stabilization of disturbed areas as soon as possible. This measure will reduce potential impacts to a less-than-significant level.

***Impact H-3: Groundwater could be affected by excavation for construction of individual projects.**

Mitigation Measure H-3: Prior to construction of individual projects, groundwater levels shall be assessed. If the groundwater level is close enough to the surface to be affected by construction, design and construction mitigation measures will be developed during project specific environmental review, which will be conducted as required by CEQA. This mitigation measure is applicable only if the project will involve excavation of soils. This measure will reduce potential impacts to a less-than-significant level.

Cumulative Impact

Further development could impact hydrology and water quality through an increase in impermeable surfaces. An increase in impermeable surfaces also increases the amount of stormwater runoff entering the storm drain system.

Off-campus development is within the planning jurisdiction of the City of Los Angeles, which requires that all developments provide for adequate stormwater drainage, flood control, and protection against erosion. The related projects considered in this analysis are not projected to result in significant hydrology and water quality impacts.

References

1. National Climatic Center, Annual Summary 1983.

2. National Climatic Center, Annual Summary, 1986. Value averaged over period of record.

3. Final Program Environmental Impact Report, February 1988, UCLA Northwest Campus Development, University of California, Los Angeles.

4. Campus Storm Drain Map, produced by UCLA Physical Plant Office.

5. West Los Angeles Office of the City Engineer, personal communication.

6. California Department of Water Resources, Bulletin No. 104, Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County, Appendix A, Groundwater Geology, June 1961.

7. Department of Water Resources, Data Section and Department of Public Works, Hydrologic Records.

8. Personal communication, John McDougall, Capital Programs Architects and Engineers, UCLA, February 27, 1990.

9. UCLA Disaster Response Plan, April 1990, UCLA Department of Community Safety, Office of Research and Occupational Safety.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the air quality impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/ Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

I. AIR QUALITY

This section consists of two subsections: criteria pollutants relating to the attainment of ambient air quality standards in the South Coast Air Basin (SCAB), and toxic air contaminants (TACs) emissions from academic and patient care activities relating to the potential for health risks. A glossary of terms used in this section is included at the end of the section.

Environmental Setting

Criteria Air Pollutants:

Climate

The University of California at Los Angeles (UCLA) campus, located on the west side of the city of Los Angeles, is in the South Coast Air Basin (SCAB). The regional climate is considered semi-arid and is characterized by warm summers, mild winters, infrequent rainfall, moderate daytime onshore breezes, and moderate humidity.

The annual average SCAB temperature is 65°F. Relatively little precipitation occurs; average annual rainfall varies from about 9 inches in Riverside to about 14 inches in downtown Los Angeles (SCAQMD 1987). The rainy season is between November and April. Approximately 95 percent of the annual rainfall at UCLA occurs between November and April and is associated with frontal systems moving inland from the Pacific Ocean. Some precipitation occurs in the summer in the form of widely scattered thundershowers. The SCAB has light average wind speeds with small seasonal variation. Significant daily variations in wind direction are observed because of the onshore and offshore flows. The predominant wind pattern in the vicinity of the UCLA campus, as measured at the West Los Angeles Veteran's Administration Monitoring Station, indicates a flow from the southwest and west-southwest at 4 to 6 miles per hour. The annual mean morning mixing height in the project area is approximately 1,780 feet. The annual mean afternoon mixing height is approximately 2,670 feet. The mixing height represents the dilution capacity of the atmosphere and has both diurnal and seasonal variation. Seventy-three percent of possible sunshine is recorded in downtown Los Angeles, an important component in the formation of photochemical smog.

Regulatory Background

The California Air Resources Board (CARB) is the State agency responsible for coordinating both State and federal air pollution control programs in California. CARB also has primary statutory authority for establishing and enforcing pollutant emission limits for motor vehicles. The South Coast Air Quality Management District (SCAQMD) has the authority to develop and enforce regional regulations to control stationary sources of air pollution. Applicable federal and State air quality standards for the category of "criteria" pollutants are shown in Table I-1.

The standards represent air pollutant concentrations which are considered safe to protect the public health and welfare. They are designed to protect that segment of the population most susceptible to respiratory distress or infection (called sensitive receptors) such as asthmatics, the very young, the elderly, people weak with illness or disease, or persons engaged in heavy work or exercise. Healthy adults can tolerate periodic exposures to air pollutant levels well above these standards before adverse health effects are observed.

Two types of ambient air quality standards (AAQS) have been established: 1) primary standards designed to safeguard the health of people considered to be sensitive receptors while outdoors, and 2) secondary standards designed to safeguard human welfare (by minimizing damage to plants, and the oxidation of rubber and paint, etc.). California has adopted health advisory levels or episode criteria for oxidants, carbon monoxide, sulfur dioxide, and oxidants in combination with sulfur dioxide or sulfate. Episode criteria represent short-term exposures at concentrations which actually threaten public health.

In 1988, the California Legislature adopted amendments to the Health & Safety Code to further protect the future health and welfare of California residents by developing California's own comprehensive program to attain both the federal and state AAQS (California Clean Air Act of 1988, AB 2595). Outlined below is a summary of the major provisions of the Act, as they relate to the Draft LRDP.

District Air Quality Planning Measures

Prior to the adoption of the California Clean Air Act, local air district planning efforts were designed only to achieve the federal AAQS as expeditiously as practical.

Table I-1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [2,5]	Secondary [2,6]	Method [4,7]
Ozone	1 Hour	0.09 ppm (180 ug/m3)	Ultraviolet Photometry	0.12 ppm (235 ug/m3)	Same as Primary Std.	Ethylene Chemiluminescence
Carbon Monoxide	8 Hour	9.0 ppm (10 mg/m3)	Non-dispersive Infrared Spectroscopy (NDIR)	9.0 ppm (10 mg/m3)	Same as Primary Stds.	Non-dispersive Infrared Spectroscopy (NDIR)
	1 Hour	20 ppm (23 mg/m3)		35 ppm (40 mg/m3)		
Nitrogen Dioxide	Annual Average	-	Gas Phase Chemiluminescence	0.053 ppm (100 ug/m3)	Same as Primary Std.	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 ug/m3)		-		
Sulfur Dioxide	Annual Average	-	Ultraviolet Fluorescence	80 ug/m3 (0.03 ppm)	-	Pararosoaniline
	24 Hour	0.05 ppm[8] (131 ug/m3)		365 ug/m3 (0.14 ppm)	-	
	3 Hour	-		-	1300 ug/m3 (0.5 ppm)	
	1 Hour	0.25 ppm (655 ug/m3)		-	-	
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 ug/m3	Size Selective Inlet High Volume Sampler and Gravimetric Analysis	-	-	-
	24 Hour	50 ug/m3		150 ug/m3	Same as Primary Stds.	Inertial Seperation and Gravimetric Analysis
	Annual Arithmetic Mean	-	-	50 ug/m3		
Sulfates	24 Hour	25 ug/m3	Turbidimetric Barium Sulfate	-	-	-
Lead	30 Day Average	1.5 ug/m3	Atomic Absorption	-	-	Atomic Absorption
	Calendar Quarter	-		1.5 ug/m3	Same as Primary Std.	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 ug/m3)	Cadmium Hydroxide STRactan	-	-	-
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 ug/m3)	Tedlar Bag Collection, Gas Chromatography	-	-	-
Visibility Reducing Particles	1 Observation	In sufficient amount to reduce the prevailing visibility[9] to less than 10 miles when the relative humidity is less than 70%		-	-	-

SOURCE: ENSR Consulting and Engineering

Table I-1
Ambient Air Quality Standards (continued)

NOTES:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1 hour), nitrogen dioxide and particulate matter - PM_{10}, are values that are not to be exceeded. The sulfates, lead, hydrogen sulfide, vinyl chloride, and visibility reducing particles standards are not to be equaled or exceeded.

2. National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based upon a reference temperature of 25° C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.

7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8. At locations where the state standards for ozone and/or suspended particulate matter are violated. National standards apply elsewhere.

9. Prevailing visibility is defined as the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

SOURCE: ENSR Consulting and Engineering

AB 2595 the "California Clean Air Act", expanded the scope of these planning efforts to require that plans be designed to achieve and maintain the California air quality standards by the earliest practicable date. Notably, the state ambient standards are in several cases more stringent than the corresponding federal standards (e.g., the California 1-hour ozone standard is 0.09 ppm; the corresponding federal standard is 0.12 ppm).

Plans must not only be designed to achieve the state and federal ambient standards by the earliest practical date, they must also secure annual district-wide emission reductions of 5 percent or more for each nonattainment pollutant or its precursor, as averaged over a 3-year period. The State Air Resources Board may approve local district plans requiring a reduction of less than 5 percent per year if the plan demonstrates that the alternative strategy included in the plan has the same or greater effectiveness in improving air quality, or that all feasible control methods have been adopted. The Act also requires that many local air districts amend their new source review rules to require all new or modified sources that emit nonattainment pollutants or their precursors to create no net increase in emissions of those pollutants or precursors.

In early 1989, the Governing Board of the SCAQMD adopted the 1989 Air Quality Management Plan (AQMP) for the SCAB. The AQMP set forth a comprehensive emission control program to lead the Basin into compliance with federal and state ambient air quality standards. The Plan calls for attainment of all standards by December 31, 2007. Control measures were categorized into three tiers, based upon their readiness for implementation:

Tier I: Full implementation of known control technologies and management practices.

Tier Il: Significant advancement of today's technological applications and vigorous regulatory intervention.

Tier III: Development of new technology.

Tier I control measures are summarized in Table I-2. The milestone for complete adoption of Tier I measures is 1993. Tier II measures and goals, summarized in Table I-3, are expected to be achieved by 1998. Tier III measures are as yet undefined, but will be implemented by 2007.

Table I-2

Summary of 1989 AQMP Tier I Control Measures

Controls on the use of coatings and solvents

Twenty-two control measures such as using low VOC paints and solvents, higher transfer efficiency methods for applying coatings and controlling fumes from coating operations. Also, reducing emissions from consumer products such as aerosol sprays and underarm deodorants.

Controls on the production, refining, and distributrion of petroleum and gas

Fifteen control measures to control emissions from refinery heaters and boilers, oil field steam generators, valves, pumps and compressors, and improve vapor recovery systems.

Controls on industrial and commercial processes

Ten control measures such as reducing emissions from small sources which are exempt from existing rules, controlling emissions from boilers and internal combustion engines.

Controls on residential equipment and public services

Nine control measures such as reducing nitrogen oxide emissions from water heaters and furnaces, controlling fugitive emissions from publicly-owned wastewater treatment plants, controlling dust from roads and parking lots, and transporting solid wastes out of the Basin for disposal.

Controls on agricultural sources

Three control measures to reduce reactive emissions from pesticide applications, ammonia from livestock wastes, and fugitive dust from farming operations.

Controls on other stationary sources

Ten control measure such as requiring use of Best Available Retrofit Control Technology for all existing sources, tightening requirements for New Source Review, requiring low-emission materials for building construction, and phasing out use of fuel oil and coal by stationary sources.

Controls on motor vehicles

Nineteen control measures such as requiring stricter emission control standards for new vehicles, clean fuels for fleet vehicles, improved inspection and maintenance programs and controls on diesel powered buses and trucks.

Controls on transportation systems and land use

Twenty-two control measures to reduce vehicle use, improve traffic flow, improve public transit, and manage growth.

Control on other mobile sources

Thirteen control measures such as reducing emissions from aircraft, ships, locomotives, construction equipment, pleasure boats and off-road motorcycles.

SOURCE: SCAQMD and SCAG 1988/ ENSR Consulting and Engineering

Table I-3

Summary of 1989 AQMP Tier II Control Measures and Goals

Converting 40 percent of the passenger vehicles and 70 percent of the freight vehicles to operate on clean fuels (e.g., methanol, fuel cells, or electric power). All diesel-powered transit buses switched to clean fuels (e.g., methanol or liquid propane gas).
Reducing the remaining emissions from other mobile sources (aircraft, ships, locomotives, construction equipment) by 50 percent.
Reducing the remaining ROG emissions from solvents and coating by 50 percent.
Reducing the remaining ROG emissions from consumer products by 50 percent
Minimizing potential increases in emissions from existing stationary sources

SOURCE: SCAQMD and SCAG 1988/ ENSR Consulting and Engineering

The 1989 AQMP does not fully address some requirements of the California Clean Air Act. Therefore, the SCAQMD will produce a 1991 revision to the AQMP to meet all California-specific requirements. In addition, the 1991 AQMP is proposed to address global environmental concerns (e.g., global warming and stratospheric ozone depletion) and air toxics issues.

District planning measures associated with the California Clean Air Act, are likely to have two significant effects on potential sources of criteria pollutants. First, as previously mentioned, local air districts must amend their new source review rules to result in no net increase in emissions from permitted new or modified sources of nonattainment pollutants or their precursors.[1] The SCAQMD adopted amendments to Regulation XIII (New Source Review) in July 1990. These revisions require that concurrent emission reductions be provided for all net emission increases associated with new or modified facilities. With regard to UCLA facilities, should the campus install equipment that requires an air permit from the District after September 28, 1990, all net cumulative emission increases associated with such equipment would have to be offset with concurrent emission reductions, generally at a greater than one-to-one ratio. Thus, the amended ~~NRS~~ New Source Review regulation is designed, consistent with the goals of the California Clean Air Act, to result in an overall improvement in air quality even with the ~~adding~~ addition of new sources.

Secondly, the AQMP as described above will require additional emission reductions from equipment categories that include equipment used in various ongoing operations at UCLA. It is difficult to quantify these reductions, as the proposed control measures included in the plan have not been precisely defined. However, it is likely that implementation of the 1989 AQMP would probably cause the emission inventory associated with operations at UCLA to be reduced over the Draft 1990 LRDP planning period.

Existing Air Quality in the Region

The campus is located within the SCAB. The air quality of the SCAB is measured by routinely monitoring changes in the concentrations of criteria pollutants in the ambient

---

[1] In Los Angeles, these pollutants include reactive organic gasses (ROG), nitrogen oxides (NOx), particulate matter, carbon monoxide (CO), and the particulate portions of sulfur oxides (SOx), NOx, and ROG.

environment. Air quality in the area is a function of the quantity of criteria pollutants emitted locally, the existing regional ambient air quality, and the meteorological and topographic factors which influence both the photochemical reactions which create ozone and the intrusion of pollutants into the area from sources outside the immediate vicinity. Oxidants (90 percent of which are ozone) represent the major air quality problem basinwide.

The SCAQMD maintains ambient air quality monitoring stations at numerous locations throughout the basin. The nearest monitoring station to UCLA is located near the Veterans Administration Hospital. This monitoring station (West Los Angeles) has instruments that gather both meteorological and air quality data.

Air quality data from the West Los Angeles air quality monitoring station between 1986 and 1988 are shown in Table I-4. From the ambient air quality data it can be seen that monitored nitrogen dioxide, particulates less than 10 microns, and ozone concentrations sometimes exceed the strictest applicable ambient air quality standard (AAQS).

The current California 1-hour ozone standard (0.09 ppm) was exceeded about 60 days per year during the 3-year period analyzed. First stage ozone episodes (1-hour average > 20 ppm) were declared 1 to 2 days per year. Second stage (1-hour average > 35 ppm) and third stage (1-hour average > 50 ppm) episodes were not declared between 1986 and 1988. The California 1-hour NO_2 standard (0.25 ppm) was exceeded about once per year. There were 15 to 20 exceedances per year of the state 24-hour standard for PM10. The SCAB is designated non-attainment for State and/or federal ambient air quality standards for ozone, nitrogen dioxide and PM10.

Current Criteria Pollutant Emissions from UCLA and in Project Vicinity

Estimated current emissions for UCLA are shown in Table I-5. For comparison, the stationary and mobile source emissions for all of Los Angeles County are also shown. The values for Los Angeles County were taken from Table IV-31 of Appendix III-A to the 1988 Air Quality Management Plan (AQMP) (SCAQMD 1988). The UCLA estimates are based on 1988/89 energy use and current traffic estimates presented in Section IV.C.

Table I-4
Background Ambient Air Quality Data for University of California at West Los Angeles

Pollutant	Averaging Period	Background Concentrations by Year[ab] 1986	1987	1988	Strictest Ambient Air Quality Standard
Carbon Monoxide (CO)	1-hour	11.0	13.0	15.0	20.0[c]
	8-hour	8.6	7.5	8.57	9.0[c]
Nitrogen Dioxide (NO_2)	1-hour	0.24	0.27	0.26	0.25[c]
	Annual	0.076	0.069	0.0343	0.05[d]
Ozone (O_3)	1-hour	0.20	0.28	0.24	0.09[c]
SO_2	1-hour	--	0.03	0.03	0.25
	3-hour	NM	NM	NM	0.05[d]
	24-hour	0.014	0.012	NA	0.05[c]
	Annual	0.003	0.008	0.0022	0.03[d]
Lead (Pb)[e]	30-day	0.23	NM	NM	1.5[c]
	Quarter	0.16	NM	NM	1.5[d]
Sulfates[e]	24-hour	16.9	15.2	17.4	25.0[c]
Suspended Particulate Matter (PM_{10})[e,f]	24-hour	136.0	113.0	149.0	50.0[c]
	Annual	50.5	44.7	58.7	30.0[c]

NM = not measured.
NA = not available.

[a] Measured at the West Los Angeles - Veterans Administration Monitoring Station (Station #700091). All units are in ppm unless identified otherwise.
[b] California Air Resources Board, "California Air Quality Data. Summary of 1986 Air Quality Data," California Air Resources Board, Sacramento, California, 1986. California Air Resources Board, "California Air Quality Data. Summary of 1987 Air Quality Data," Sacramento, California, 1987, California Air Resources Board, "California Air Quality Data. Summary of 1988 Air Quality Data."
[c] California Ambient Air Quality Standard.
[d] National Ambient Air Quality Standard.
[e] Units are in $\mu g/m^3$.
[f] Measured at the North Long Beach monitoring station.

SOURCE: ENSR Consulting and Engineering

TABLE I-5
EMISSIONS FOR UCLA AND LOS ANGELES COUNTY
(Tons/Year)

	ROG	NOx	CO	PM	SOx
UCLA - Current Emissions:					
Central Steam Plant					
Landfill Gas	0 ~~2~~	48 ~~21~~	1 ~~5~~	6 ~~11~~	0 ~~13~~
Natural Gas	3 ~~1~~	87 ~~24~~	2 ~~16~~	7 ~~1~~	0
~~Fuel Oil~~*	~~0~~	~~2~~	~~2~~	~~1~~	~~2~~
Cooling Towers	-	-	-	49	-
Electricity (LADWP)	13	28	18	12	89
Natural Gas - Other Campus Use	1 ~~0~~	11 ~~6~~	2 ~~1~~	0	0
Building Construction	2	12	21	21	1
Vehicle Emissions	301	511	2,739	92	39
TOTAL	~~317~~ 320	~~592~~ 697	~~2,781~~ 2,783	~~166~~ 187	~~143~~ 129
Los Angeles County:					
Stationary Sources	145,580	80,230	46,790	352,900	14,820
Mobile Sources	158,420	181,590	1,269,700	23,250	17,300
TOTAL	300,980	261,820	1,316,490	376,150	32,120

*Use of fuel oil was discontinued in March, 1988.

<u>Los Angeles County's</u> ~~The~~ mobile source contributions far exceed the stationary source contributions to total ~~SCAB~~ emissions of NOx and CO. Mobile and stationary source contributions are about the same for reactive organic gases (ROG) and sulfur oxides (SOx). The County's stationary source emissions of particulate matter far exceed the mobile source emissions, however.

Environmental Impact and Mitigation Measures

The impacts described immediately below relate to criteria pollutants. According to CEQA standards, a project would be significant adverse impact on the environment if project-related criteria pollutants would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. For purposes of this EIR, since the project is located in the South Coast Air Quality Management District, which does not meet standards for ozone, nitrogen dioxide, PM10 and carbon monoxide, any projected criteria pollutant which contributes substantially to exceedances of standards for these pollutants would be considered to have a significant impact. Since CEQA does not specify precise standards of significance for criteria pollutants, for purposes of this EIR, the "measurable impact levels" established by the SCAQMD are used as the standard for determining whether a pollutant is likely to contribute substantially to exceedances of an air quality standard. In addition, projected criteria pollutants likely to cause violations of federal and state air quality standards that are designed to safeguard the health of people would be considered to have a significant effect on the environment.

Air quality impacts associated with criteria pollutants from this project can be categorized as those resulting from construction activities or those resulting from operational activities. Construction emissions would have a short-term effect, while operational emissions would continue throughout the lifetime of the project.

Although not required by CEQA, some less-than-significant air quality impacts are discussed below. While no mitigation measures are required for such impacts, this EIR identifies measures that would further reduce these less-than-significant impacts.

The Draft 1990 LRDP is a general land use plan and~~, with the exception of the proposed chiller cogeneration project,~~ does not describe specific building projects.

Thus, it provides a basis for consideration of the potential impacts on air quality. However, since its projects are to be developed during the fifteen-year LRDP planning horizon, the specific effects of each building project will be considered in the subsequent environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

Impact I-1: Demolition of existing structures and construction of new facilities at UCLA would generate short-term emissions of air pollutants.

Short-term impacts relating to particulate emissions from grading activities (e.g., fugitive dust), generator emissions serving the site while temporary power lines are needed to operate construction equipment and provide lighting, and exhaust emissions from the construction equipment and motor vehicles associated with construction would occur during the construction phase of proposed projects.

Table I-6 presents an estimate of emissions associated with construction of a "prototypical" 124,000 square-foot building on the UCLA campus. Documentation concerning the method of calculation of these emission estimates is presented in Appendix G to this DEIR. Table I-8 presents estimated current and future annual construction emissions, with and without the Draft 1990 LRDP. Current emissions are based on the average construction activity for the last 10 years, even though actual activity for 1990 was much greater. Future emissions with the LRDP are based on the average projected building construction activity for the 15-year LRDP period. ~~For analytical purposes, it has been assumed that two such buildings would be constructed each year during the 15-year LRDP period. Two factors however should be noted. First, there is no way to know at this time how many or what size buildings would be constructed in any given year during the LRDP Planning horizon. In addition, construction activities are currently ongoing on the UCLA campus. Thus, it is speculative to say with any accuracy whether the annual construction emission rate will increase or decrease during the project period~~.

Mitigation Measure I-1.1: In general, air quality impacts during construction will be minimized by good construction practices and conformance with applicable SCAQMD requirements.

Mitigation Measure I-1.2: Construction contracts will contain specifications designed to control construction-related emissions, including: regular

Table I-6

~~Construction Emissions~~

~~Emission Factors for Heavy Duty Diesel-Powered Construction Equipment~~

Emmissions Associated with Construction of a Generic 124,000 Square-Foot Building (Tons/Day)

	ROG	NO_x	CO	PM	SO_x
Site Work/Excavation	0.1	0.4	1.6	2.2	0.1
Foundations/Substructure	0.1	0.6	1.0	4.5	0.1
Structure	0.2	1.2	1.5	0.1	0.1
Finishes	0.3	1.6	2.5	0.2	0.2
Landscaping	0.1	0.3	0.4	0.0	0.0
TOTAL - ALL PHASES	0.8	4.1	7.0	7.0	0.5

SOURCE: ENSR Consulting and Engineering

watering of exposed ground surfaces; covering stockpiles of excavated materials; street sweeping of silt from construction sites is carried over to adjacent public thoroughfares; and keeping the engines on construction equipment in good operating condition.

Impact I-2: Upon completion, the project could result in localized increases in carbon monoxide emissions from campus-related traffic.

As noted in Section IV-C, implementation of the Draft 1990 LRDP, in conjunction with the mitigation measures included in that section, would result in no further increase in traffic beyond the currently planned level of 139,500 average daily trips. Air dispersion modeling analyses were undertaken to assess the proposed project impacts at seven intersections in the UCLA vicinity expected to be most affected by the project. Modeling documentation is presented in Appendix G to this DEIR. Results of these analyses are presented in Tables I-7a and I-7b.

Comparing modeled concentrations for 2005 with and without the Draft LRDP shows that carbon monoxide levels at most intersections will be less with the LRDP. The sole increase, only 0.1 parts per million over a 1-hour period, occurs at Wilshire and Veteran. This increase is below the South Coast AQMD's carbon monoxide "measurable impact level" of 1 part per million over a 1-hour period. Therefore, campus related traffic associated with the LRDP is not expected to result in a significant impact for carbon monoxide.

***Impact I-3. Implementation of the Draft LRDP would result in new development requiring electricity, heating and cooling services which could increase air emissions in the SCAB.**

Estimates of energy use, ~~and~~ traffic and building construction emissions associated with the UCLA campus are presented in Table I-8. Estimates for current emissions and emissions in 2005, with and without the Draft LRDP, are based on information presented in Sections IV-C and IV-L of this EIR, and are documented in Appendix G. Table I-8 shows that campus-related ~~energy use and traffic~~ emissions in 2005 with the LRDP are less than estimated campus-related ~~energy use and traffic~~ emissions in 2005 without the LRDP, and projected emissions are less than current emissions. Emissions associated with generation of electricity from LADWP are expected to decrease following development of the ~~proposed~~ chiller/cogeneration facility. Emissions from campus cooling towers are also expected to decrease as as result of the ~~proposed~~ chiller/cogeneration facility. Traffic emissions are expected to decrease due to increased emission controls and the retirement of older vehicles.

Table I-7a
Existing and Projected Carbon Monoxide Concentrations at Intersections in UCLA Vicinity-Morning Peak Hour
(Parts per Million)

Intersection	Averaging Time	Existing	2005 Without LRDP	2005 With LRDP	Project Impact
Wilshire and Veteran	1 Hour 8 Hours	31.7 20.8	23.1 14.8	23.2 14.8	+0.1 –
Santa Monica and Westwood	1 Hour 8 Hours	25.7 16.6	20.7 13.1	20.6 13.0	-0.1 -0.1
Ohio and Westwood	1 Hour 8 Hours	21.9 13.9	18.4 11.5	18.3 11.4	-0.1 -0.1
Sunset and Veteran	1 Hour 8 Hours	25.2 17.6	21.5 13.7	21.1 13.4	-0.4 -0.3
Wilshire and Westwood	1 Hour 8 Hours	30.8 20.2	22.8 14.6	22.5 14.4	-0.3 -0.2
Ohio and Veteran	1 Hour 8 Hours	22.9 14.6	18.7 11.7	18.7 11.7	– –
Wilshire and Sepulveda	1 Hour 8 Hours	30.9 20.2	23.0 14.7	22.9 14.6	-0.1 -0.1

SOURCE: ENSR Consulting and Engineering

Table I-7b
Existing and Projected Carbon Monoxide Concentrations at Intersections in UCLA Vicinity-Afternoon Peak Hour
(Parts per Million)

Intersection	Averaging Time	Existing	2005 Without LRDP	2005 With LRDP	Project Impact
Wilshire and Veteran	1 Hour 8 Hours	32.7 21.5	24.2 15.5	23.9 15.3	-0.3 -0.2
Santa Monica and Westwood	1 Hour 8 Hours	28.2 18.3	21.6 13.7	21.6 13.7	– –
Ohio and Westwood	1 Hour 8 Hours	24.1 15.5	19.5 12.3	19.4 12.2	-0.1 -0.1
Sunset and Veteran	1 Hour 8 Hours	28.8 18.8	22.0 14.0	21.7 13.8	-0.3 -0.2
Wilshire and Westwood	1 Hour 8 Hours	30.5 20.0	23.2 14.8	22.9 14.6	-0.3 -0.2
Ohio and Veteran	1 Hour 8 Hours	24.0 15.4	19.7 12.4	19.6 12.3	-0.1 -0.1

SOURCE: ENSR Consulting and Engineering

Table I-8

~~Summary of UCLA Energy Use and Traffic Emissions (Ton/Year)~~

Summary of UCLA Energy Use, Traffic, and Construction Emissions (Tons/Year)

	ROG	NO$_x$	CO	PM	SO$_x$
Current Emissions:					
Central Steam Plant					
Landfill Gas	~~2~~ 0	~~21~~ 48	~~5~~ 1	~~11~~ 6	~~13~~ 0
Natural Gas	~~1~~ 3	~~24~~ 87	~~16~~ 2	~~1~~ 7	0
Cooling Towers	-	-	-	49	-
~~Fuel Oil~~	~~0~~ -	~~2~~ -	~~2~~ -	~~1~~ -	~~2~~ -
Electricity (LADWP)	13	28	18	12	89
Natural Gas - Other Campus Use	~~0~~ 1	~~6~~ 11	~~1~~ 2	0	0
Building Construction	2	12	21	21	1
Vehicle Emissions	301	511	2,739	92	39
TOTAL:	~~317~~ 320	~~592~~ 697	~~2,781~~ 2,783	~~166~~ 187	~~143~~ 129
2005 - Without LRDP:					
Central Steam Plant					
Natural Gas	~~0~~ 8	~~48~~ 42	~~96~~ 4	~~3~~ 19	1
Cooling Towers	–	–	–	~~92~~ 73	–
Electricity (LADWP)	~~22~~ 18	~~10~~ 15	~~30~~ 24	~~21~~ 17	~~152~~ 122
Natural Gas - Other Campus Use	1	~~12~~ 11	2	0	0
Building Construction	0	0	0	0	0
Vehicle Emissions	225	465	2,226	92	44
TOTAL:	~~251~~ 252	~~544~~ 533	~~2,204~~ 2,256	~~208~~ 201	~~197~~ 167
2005 - With LRDP:					
Chiller/Cogeneration Plant					
Natural Gas	5	~~60~~ 28	48	~~10~~ 9	0
Cooling Towers	–	–	–	~~2~~ 1	–
Electricity (LADWP)	3	3	4	3	21
Natural Gas - Other Campus Use	1	~~12~~ 11	2	0	0
Building Construction	2	8	14	14	1
Vehicle Emissions	216	445	2,137	88	42
TOTAL:	~~225~~ 227	~~523~~ 495	~~2,191~~ 2,205	~~103~~ 115	~~63~~ 64

SOURCE: ENSR Consulting and Engineering

The Final ~~Draft~~ EIR for the ~~proposed~~ chiller/cogeneration project (UCLA 1990) presents an evaluation of the maximum air quality impacts associated with the chiller/cogeneration facility. The evaluation accounted for maximum emissions from the ~~proposed~~ cogeneration project and cessation of emissions from the existing central steam plant and cooling towers. The evaluation also accounted for additional controls and design measures which were incorporated into the project, which are discussed in the Final EIR for the chiller/cogeneration project. These impacts were then compared to the South Coast AQMD's measurable impact levels to determine whether the impacts were significant. Based on this evaluation, the chiller/cogeneration project was determined to not have a significant air quality impact. ~~Based on this comparison, the proposed chiller/cogeneration project was determined to have a significant impact on 1-hour nitrogen dioxide concentrations and 24-hour particulate matter concentrations~~.

Mitigation Measure I-3: The Final ~~Draft~~ EIR for the ~~proposed~~ chiller/cogeneration project (UCLA 1990) presents various measures which were incorporated into the project ~~mitigations to reduce the above identified impacts~~. The chiller/cogeneration project would provide emission offsets and utilize selective catalytic reduction (SCR) as the Best Available Control Technology (BACT). The project ~~design includes~~ meet~~ing~~s all emission requirements of the South Coast AQMD. The project commits to a NOx stack gas concentration that is 33 percent below current Best Available Control Technology requirements of the SCAQMD and 15 percent below any permitted cogeneration facility in the Los Angeles Basin. ~~use of BACT, and an increase in the plant stack height from 90 to 125 feet~~.

Controls and design measures that have been incorporated into the ~~proposed~~ chiller/cogeneration project include:

- Use of two stacks at a maximum height of 125 feet, reduced stack diameter, and removal of a third stack.
- Use of additional water injection in the gas turbines.
- Use of additional catalyst to reduce NOx stack gas concentrations to 6 parts per million by volume.

- Use of high efficiency mist eliminators to reduce the cooling tower drift rate to 0.0005%.

- Operating conditions to preclude operation of the auxiliary boiler and a combustion turbine simultaneously.

- Operating conditions to allow use of the standby boiler only on an emergency basis when both gas turbines are shut down.

~~The following "additional" measures were identified and considered as ways to reduce emissions from the proposed chiller/cogeneration project: additional catalyst in the SCR system, reducing nitrogen dioxide emissions~~; ~~modifying the process water recycling rate to the cooling water system, reducing particulate matter emissions~~; ~~providing additional offsets for nitrogen dioxide and particulate matter; operating on a modified schedule to scale down facility emissions during evening hours and calm wind periods when the potential for exceeding short-term air quality standards is greatest~~.

~~While incorporation of some or all of the above "additional" mitigation measures could reduce the criteria pollutant impacts for the chiller cogeneration project to below the significance thresholds, these measures were not recommended for inclusion in the proposed chiller cogeneration project because they would result in reduced efficiency and increased costs in the operation of the plant. Hence, the air quality impact reported in the Draft EIR for the Chiller Cogeneration project remained significant~~.

In summary, implementation of the UCLA 1990 LRDP will result in a net decrease in criteria pollutant emissions (direct and secondary) from UCLA. As shown in Table I-8, the sum of UCLA-related emissions ~~due to energy use and traffic generation~~ in 2005 with the LRDP are less than emissions in 2005 without the LRDP and are less than current emissions. Hence, implementation of the LRDP will result in a significant overall air quality benefit by reducing emissions into the South Coast Air Basin.

As previously discussed, ~~the DEIR for~~ the chiller/cogeneration project was determined not to have a significant air quality impact. ~~identifies a significant adverse air quality impact because the project will cause an increase in maximum ground level concentrations of nitrogen oxides and particulates which will exceed Maximum Impact Levels ("MILs") established by the SCAQMD. Incorporation of some or all of the mitigation measures described above could reduce the criteria pollutant impacts for the chiller cogeneration project below the significance thresholds. However, for reasons described in the Chiller Cogeneration Project Draft EIR, those mitigation measures were not found to be feasible, and, therefore have not been incorporated into the proposed chiller cogeneration project.~~

~~Even though LRDP implementation will result in a benefit, implementation of the chiller cogeneration project will result in a localized increase in ambient nitrogen oxides and particulate concentrations. Since this increase will exceed the applicable standard of significance (the MILs), this increase constitutes a significant adverse impact, and thus constitutes a significant impact of LRDP implementation.~~

Cumulative Impact

Regional growth and development will contribute to continuing exceedances of air quality standards.

Projects developed in the region are expected to result in increased vehicle trips and increased emissions of nonattainment pollutants from stationary sources.

UCLA will comply with applicable transportation management and emission control measures imposed by the SCAQMD pursuant to the 1989 Air Quality Management Plan and the California Clean Air Act. SCAQMD is expected to adopt emissions control measures to implement the plan and to attain ambient air quality standards in the South Coast Air Basin. Because these regional measures are not within the jurisidiction of The Regents to implement, the cumulative air quality impacts of regional growth are considered significant and unavoidable for purposes of this EIR.

Environmental Setting

Toxic Air Contaminants:

Toxic air contaminants (TACs) are airborne substances that are capable of causing short-term or long-term adverse human health effects. Toxic air contaminants include both organic and inorganic chemical substances. TACs may be emitted from a variety of common sources, including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. Research and teaching facilities where a variety of chemicals are used for various experiments may also be a source of toxic air contaminants. The six so-called "criteria pollutants" (ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead), for which federal and state ambient air quality standards have been set, are generally not considered TACs. The previous air quality subsection includes a complete discussion of the project's impact resulting from emissions of the six criteria pollutants.

In general, TACs are considered separately from the criteria pollutants in the regulatory process. Few regulatory standards, and no ambient air quality standards, have been set for TACs. For many substances, little or no data concerning potential health effects associated with inhalation of varying doses of TACs are available. Because of the lack of information about TACs, few specific comparison levels exist for determining when TAC emissions may cause significant health effects.

Due to the lack of specific TAC emission standards and the variety of potential TACs, a health risk assessment is generally performed to estimate the potential health risks associated with TAC emissions. A health risk assessment of the TAC emissions that might result from LRDP implementation has been performed in connection with the Draft LRDP and is included as Appendix H, Volume II of this Draft EIR. The results of the health risk assessment are described later in this section.

<u>Regulatory Background</u>

<u>Federal</u>

The Clean Air Act was enacted to "protect and enhance" the quality of the nation's air, and to provide the scientific understanding and the technological ability to establish effective air pollution control programs. Section 112 of the Clean Air Act specifically requires the Environmental Protection Agency (EPA) to set "health based" emissions standards for hazardous air pollutants.

Toxic air contaminants are regulated at the federal level by National Emission Standards for Hazardous Air Pollutants (NESHAPS) established under the Clean Air Act. NESHAPS have been adopted by the U.S. Environmental Protection Agency (EPA) for emissions of: inorganic arsenic, beryllium, mercury, asbestos, radionuclides, vinyl chloride, benzene, and coke oven gas. At the state level, the California Air Resources Board (CARB) implements the Clean Air Act. In much of the Southern California area, the Clean Air Act, including NESHAPS, is implemented and enforced by the South Coast Air Quality Management District (SCAQMD). A permit must be secured from SCAQMD for emission of certain quantities of substances subject to NESHAPS.

State

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) requires specified facilities to submit to the local air pollution control agency a comprehensive plan to inventory air toxics emissions for all substances listed pursuant to the Act. After the inventory preparation plan is approved, the facility must implement the plan and submit the resulting air toxics emission inventory to the agency. UCLA submitted its inventory preparation plan to SCAQMD in the fall of 1989, and plans to comply with any further requirement requested by the SCAQMD in the future.

After SCAQMD receives completed emission inventories subject to the Act, it will be required to identify high priority facilities for which health risk assessments must be performed.

Assembly Bill 1807, 1983 (known as the Tanner Bill) set up a statewide process to determine the need for and methods to set standards for toxic air contaminants. The process includes identification of toxic air contaminants, determination of emissions and ambient levels of the identified compounds, preparation of regulatory needs documents, and establishment of minimum statewide emission control standards by CARB.

As of April 1990, CARB had identified asbestos, benzene, cadmium, carbon tetrachloride, chlorinated dioxins and dibenzofurans (15 species), chromium (VI), ethylene dibromide, ethylene dichloride, ethylene oxide and methylene chloride as toxic air contaminants. In addition, acetaldehyde benzo[a]pyrene, 1,3-butadiene, chloroform, formaldehyde, inorganic arsenic, nickel, perchloroethylene, trichloroethylene, and vinyl chloride are all currently being reviewed for possible inclusion on the toxic air contaminant list. A number of substances have yet to be reviewed, or have limited health information available; these will be considered at a later date (CARB 1989). In addition, and in conjunction with the identification of chemicals as TACs, CARB will develop statewide standards for these chemicals.

California Public Resources Code, Section 21151.4, sets special requirements for environmental review documents (EIRs or negative declarations) for projects involving construction or alteration of a facility within one-quarter mile of a school. If such a project could be expected to emit toxic air contaminants, the lead agency must consult with the school district concerning the potential impacts of the project on the school, and the school district must receive written notification of the project plans at least 30 days prior to the certification of the environmental document.

Title 8 of the California Code of Regulations contains California Occupational Safety and Health Administration (Cal/OSHA) requirements for flow rates of air through fume hoods. The regulations focus on worker health and safety, requiring a minimum flow speed and certain design features to protect laboratory personnel in their work. Other than the requirement that the top of the fume hood stack must be located at least seven feet above the roof, the regulations do not address emissions once exhausted air mixes with outdoor air. In addition, the code establishes specific requirements for the use and storage of carcinogens, including a requirement to scrub or filter air emissions from areas and equipment where carcinogens are used.

Similar worker protection requirements exist for radionuclides, but emissions of these substances are not yet regulated.

Local

SCAQMD rules and regulations must be met by the proposed project. SCAQMD Rules 201 and 203 require that a permit to construct and a permit to operate, respectively, be obtained for proposed projects that will result in emissions of air pollutants. Issuance of such permits is contingent on the project meeting all SCAQMD regulatory requirements.

The SCAQMD ~~has~~ recently adopted Rule 1401 - New Source Review of Carcinogenic Air Contaminants, which specifies limits for individual cancer risk from new permit units, relocations, or modifications to existing permit units which emit carcinogenic air contaminants [Rule 1401 (a)]. The rule requires that a permit be denied if the cumulative risk from the proposed permit unit and from all other permit units within 100 meters, under the same ownership and for which permit applications were submitted after June 1990, ~~if~~ is greater than 1 in 100,000 (i.e., 10 in a million) and best available control technology is applied. In addition, Rule 1401 requires that a potential increase in cancer incidence may not exceed 0.5 in a population exposed to a cancer risk of between 1 in 1,000,000 and 10 in 1,000,000.

SCAQMD Rule 219(c)(5) provides that bench-scale laboratory equipment, or that used exclusively for chemical or physical analyses, is exempt from permit requirements. Because all laboratory research conducted at UCLA would fit the exemption requirements, no SCAQMD permit for research activities is currently required.

Existing Ambient Concentrations and TAC Related Health Risk

Many sources of toxic air contaminants exist in the community. These, along with sources of toxic air contaminant emissions that have not yet been fully quantified (such as automobiles), produce background levels of air toxics that are indicated by measurements taken by SCAQMD.

Currently in the U.S., about 300 of every 1,000,000 people will develop cancer in their lifetimes (American Cancer Society 1987). Cancer can result from a number of causes, including chemical exposures. The portion of this cancer risk that is due to exposure to toxic air contaminants was recently examined by EPA in a study of cancer-related health risk due to air toxics in five cities (Lahre 1989). The study evaluated the relative contribution to cancer incidence of a number of common city sources of air toxics (see Table I-9). Overall, the study found that the average cancer incidence due to airborne toxic substances was 5.8 cases of cancer per year per 1,000,000 city residents. If this is considered over the standard 70-year lifetime considered in health risk assessments such as the one performed for the project, the lifetime cancer risk from toxic air contaminants would be 400 cases of cancer per 1,000,000 city residents.

TABLE I-9
SOURCES OF CITY RESIDENT CANCER CASES
(From EPA Five-City Cancer Study)

Carcinogenic Air Emissions Source	Relative Contribution to Toxic Air Contaminant Cancer Incidence (Percent)
Road Vehicles (includes automobiles and trucks)	55
Chrome Platers	9
Solvent Use	7
Wood Smoke (includes fireplaces)	6
Comfort Cooling Towers	5
External Combustion or Incineration	4
Industrial Cooling Towers	3
Gasoline Marketing	2
Ethylene Oxide Sterilizers	2
Chemical Manufacturing	1.3
Refining	1
Iron and Steel Industry	0.7
Glass Manufacturing	0.7
Refractory manufacturing (includes aluminum and silica industry)	0.5
Publicly-Owned Treatment Works (includes sewage treatment plants)	0.5
Non-Ferrous Metal Industry	0.2
Other	3.1

Source: Lahre 1989.

According to reports from the SCAQMD, monitoring and modeling studies of 13 carcinogens in the SCAB indicate that as many as 200 cancer cases per year may be due to carcinogenic TACs. In addition, monitoring data from some locations in the Basin indicate lifetime cancer risks for the maximally exposed individual may exceed 1 in 1,000.

Based on ambient air monitoring data collected by the South Coast AQMD for the Multiple Air Toxics Exposure Study and monitoring data collected by the California Air Resources Board and the U.S. Environmental Protection Agency, the background lifetime cancer risk in the UCLA vicinity has been estimated to be 1,500 per million people (Appendix G). Uncertainties which may lead to overestimation of risks include use of upper-bound estimates of lifetime carcinogenic potency values. Uncertainties which may lead to underestimation of risks include: risks calculated for only a limited number of compounds in the ambient air; risks associated with carcinogenic compounds in indoor air (which can exceed ambient levels by 2 to 5 times) are not included; and risks calculated for the inhalation pathway only.

Sources of Toxic Air Emissions at UCLA

Existing sources of toxic air emissions at UCLA could include chemicals that are used in fume hoods in physical and life science teaching and research laboratory activities, patient care and medical research activities, three ethylene oxide sterilizers, the incinerator and crematory stack, the morgue, and the heating and cooling systems from the existing central plant and other campus facilities. The ethylene oxide sterilizers, incinerator and the crematory are currently permitted sources in accordance with SCAQMD rules. As mentioned above, there are no permitting requirements for research-related laboratory equipment such as fume hoods. The emissions associated with research and teaching facilities can be characterized as gaseous since they typically involve the evaporation or volatilization of solutions and are not generally activities that would generate particulate emissions (Radian 1989a, Radian 1989b).

Unlike some industries, research and teaching institutions have no legal requirement to conduct "stack sampling" or to monitor the ambient environment on their property. Thus, like most other nonindustrial sources, UCLA has no actual sampling or monitoring data to depict the current emissions or ambient conditions in or around its property. The SCAQMD ambient monitoring studies described above, however, would include any emissions from

UCLA as well as emissions associated with all other activities that might produce TACs in the vicinity of UCLA. In general, air quality experts estimate that the vast majority of all TAC emissions are vehicular rather than stationary sources such as the buildings at the project site.

Environmental Impact and Mitigation Measures

According to CEQA standards, a project would be considered to have significant adverse impacts on the environment if it creates a potential public health hazard or involves the use, production or disposal of materials that pose a hazard to people or animal or plant populations in the area affected; or if it would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations.

Neither ambient air quality standards nor emission control standards have been established for most toxic air emissions. Hence, any potential for the project to cause a significant adverse impact on the environment cannot be determined by a simple comparison of project emissions to existing air quality standards. For that reason, potential environmental impacts resulting from the project's toxic air emissions were analyzed by preparation of a health risk assessment. The health risk assessment is included as Appendix H, Volume II to this document. The health risk assessment process is described briefly below.

Use of the risk assessment technique results in a "risk number" that is typically expressed as a probability (e.g., 1 in 10 people will develop cancer if continually exposed to chemical X for 70 years). When risk assessment is used as a tool to estimate the risk of exposure to carcinogens, it is also necessary to establish a level of risk considered acceptable (i.e., a standard of significance for carcinogenic risk). This determination of an acceptable level of risk is typically viewed as a risk management decision. At this time, varying acceptable levels of risk are used by various regulation agencies, and there is no agreed upon standard of acceptable risk among either Federal, state or local agencies.

A recent review of cancer risk management decisions by the federal government has shown that under nearly all circumstances, no action was taken to reduce cancer risks to less than 1 in 1,000,000, and action was taken in every studied case with risk exceeding 10,000 in 1,000,000 (Travis, et al. 1987). In reviewing Federal carcinogen regulations, Travis et al found that approximately 30% of chemical carcinogens regulated to reduce risks to public health have a post regulatory risk less than or equal to one in a million. They also found that the median public risks from regulated carcinogens was approximately 8.6 per million. To indicate the variations in risk levels or standards of significance for chemical carcinogens, Table I-10 shows a number of key regulatory risk levels. Regulations promulgated by the California Health and Welfare Agency under Proposition 65 define a significant risk as any risk exceeding 10 in 1,000,000. In addition, as mentioned earlier in this subsection, Rule 1401 of the SCAQMD indicates acceptability of cancer risks between one and ten in a million.

Because neither CEQA nor the CEQA guidelines establish acceptable risk levels (i.e., standards of significance) for TACs, and because of the wide variety of levels established by numerous regulatory agencies, for purposes of this EIR, a project expected to have an excess human cancer risk greater than 10 in 1,000,000 (10 cancer cases per 1,000,000 exposed people), the level of acceptable risk used in both Proposition 65 and SCAQMD Rule 1401 would be considered to have a significant effect on the environment. Thus, the carcinogen risks associated with implementation of the LRDP are compared to a standard of 10 in a million.

The potential for acute or chronic non-carcinogenic health effects resulting from project emissions must also be considered. As more fully described in Section 7.1.2 of the risk assessment prepared for this project (Appendix H, Volume II of this EIR), the hazard index compares the reference dose or other health criteria to the lifetime average daily dose expected for the maximally exposed individual. Where the hazard index is less than one, no adverse non-carcinogenic health effects are expected. In this EIR, the standard of significance for chronic non-carcinogenic health effects is a cumulative hazard index greater than one.

The exposure index is used to determine the possibility of acute non-carcinogenic health effects due to the project. The exposure index compares the maximum emission level to one-tenth of the threshold limit value (TLV) established to protect worker health. Where the exposure index is less than one, no acute adverse health effects are expected. The exposure index is described in

Table I-10
Key Regulatory Risk Levels

One in one thousand	10^{-3}	OSHA; Acceptable individual cancer risk for occupational exposures.
One in ten thousand	10^{-4}	EPA; Presumptively unacceptable maximum individual risk level under Clean Air Act Section 112.
	10^{-4} to 10^{-5}	EPA; Actual estimated maximum individual risk levels achieved under Clean Air Act Section 112. FDA; Risk Levels allowed by FDA for inadvertent environmental contaminants in food.
One in hundred thousand	10^{-5}	SCAQMD; Maximum individual cancer risk if permit unit is constructed with T-BACT under Proposed Rule 1401. California Proposition 65 significant risks level.
One in one million	10^{-6}	EPA; Guideline for individual cancer risk from carcinogenic pesticide residues. FDA; Meximum individual risk allowed for carcinogenic animal drug residues in meats. SCAQMD; Maximum individual cancer risk if permit unit is constructed without T-BACT under Proposed Rule 1401.
One in ten million	10^{-7}	
One in hundred million	10^{-8}	
	10^{-8} to 10^{-9}	FDA; Risk levels for carcinogenic impurities in food and color additives which "clearly present no public health concerns," promulgated under constraints of Delaney clause banning carcinogens.
One in one billion	10^{-9}	

detail in Section 7.1.3 of the risk assessment in Appendix H, Volume II of this EIR. For acute non-carcinogenic health effects, the standard of significance in this EIR is an exposure index of less than one.

Although not required by CEQA, some less-than-significant toxic air emissions impacts potentially associated with the project are discussed below. While no mitigation measures are required for such impacts, this EIR identifies measures that would further reduce these less-than-significant impacts.

The Draft 1990 LRDP is a general land use plan and, with only a few exceptions ~~(e.g., chiller/cogeneration plant)~~ does not describe specific building projects. Thus, it provides a basis for consideration of the potential impacts on air quality. However, since its projects are to be developed during the fifteen year LRDP horizon, the specific effects of each building project be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

Impact I-4: Implementation of the Draft LRDP would increase emissions of toxic air contaminants.

Potential sources of emissions of TACs related to the Draft 1990 LRDP include: fume hoods, ethylene oxide sterilizers, the morgue, and the chiller/cogeneration facility. This analysis includes a description of the emission estimation methodology, the health risk assessment methodology and the significance of this potential impact. The full health risk assessment for the proposed project is included as Appendix H, Volume II to this document.

Emission Estimation Methodology

As mentioned above, UCLA has no actual emission or ambient data for TACs from or at its facilities since it is not required by law to sample or monitor. The University of California, however, recently conducted emissions estimations and toxic air pollutant studies at two of its campuses - UC Santa Barbara and UC San Francisco. The results of these studies provide the best available information upon which to conduct the risk assessment for the UCLA 1990 LRDP.

Existing activities at the University of California, Santa Barbara (UCSB) served as a model for estimating Draft LRDP-related emissions from Core-campus teaching and research laboratory fume hoods. Toxic air emissions from UCSB fume hoods, based on 1989 sampling of fume hood stacks at UCSB (ENSR 1989a), were scaled to estimate toxic emissions resulting from Draft 1990 LRDP implementation at UCLA. Expected increases in the number of Core-campus fume hoods were estimated on the basis of projected expansion (in gross square feet) of programs which include the use of teaching and research laboratories. The number of expected new fume hoods was multiplied by the toxic air contaminant emissions factors obtained from the UCSB sampling in order to estimate future campus emissions of toxic air contaminants.

Activities at the University of California, San Francisco (UCSF) Parnassus Heights served as a model for estimating project-related toxic air emissions from clinical activity and the morgue at UCLA. Toxic air emissions at Parnassus Heights, based on a 1988 survey of patient care and research chemical use at UCSF, were scaled to estimate expected toxic air emissions at UCLA due to Draft 1990 LRDP implementation (Radian 1988, also see Appendix H, Volume II). Changes in ethylene oxide emissions were estimated based on a mass-balance approach (comparing quantities used and emission control efficiency) with current ethylene oxide usage data (UCLA 1989). The installation of a scrubber on one of the sterilizers as part of this proposed project was taken into account in making these estimates. Radionuclide emissions were estimated based on emissions data from similar research and clinical activities at UCSF Parnassus Heights and UCSF Mount Zion (ENSR 1989b).

An environmental impact report (EIR), including a screening-level health risk assessment, ~~has been~~ was certified ~~prepared~~ for the ~~proposed~~ chiller/cogeneration facility at UCLA (UCLA 1990). The chiller/cogeneration facility risk assessment results have been incorporated into the results of the risk assessment for the Draft 1990 LRDP.

Non-radioactive Materials

Numerous volatile chemicals are used in research, teaching and clinical activities at UCLA. Some non-radioactive chemicals, such as lead, are not volatile, and thus would not commonly be found in the gaseous state. Most TACs readily volatilize or evaporate and are therefore, materials that can easily occur in the gaseous state. It is these volatile materials that are most important to consider in conducting a risk assessment to estimate public health risks associated with exposure to project-related TACs in the ambient air.

Normal laboratory procedures with volatile chemicals use safety precautions to protect laboratory workers and students. In general, such procedures are conducted in fume hoods, which exhaust the gases or vapors away from the worker and out of the building. Fume hoods are cabinets with front-opening (usually sliding) glass doors. A fume hood is connected to an overhead fan, which draws air from the laboratory through the cabinet. Because air is drawn out through the top of the fume hood away from laboratory workers, chemical fumes do not enter the laboratory.

Emissions from fume hoods are diluted in the fume-hood exhaust system, which draws large quantities of air from the hoods and from the associated laboratory rooms. Once emissions are discharged from the building, they are further dispersed into the ambient air. Thus, due to the diluting effects of both the exhaust ventilation and the outside ambient air, the resulting ground-level concentrations are much lower than concentrations within the fume hood work area. Because of the low concentrations of chemicals, and variety of compounds potentially emitted from laboratories, it is difficult to use air cleaning methods to control laboratory emissions (Bertoni 1987). In general, design elements such as high discharge velocity, elevated stack exits, and grouping of fume hoods or hood exhausts, are used to increase exhaust dilution.

Normal procedures in teaching, clinical and research laboratories do not involve the use of large quantities of volatile materials like solvents; volumes of less than one-fourth liter (about 1 cup) are typically used in experimental procedures. Materials for chemical tests or starting materials for syntheses are typically used in very small amounts; in many instances, a few drops of material can be sufficient for a research experiment. Materials are normally kept in capped containers and laboratory procedures are generally performed in equipment that can be designed to restrict evaporation of material. Intentional evaporation of large quantities of solvents is uncommon in the types of biomedical research and clinical analyses to be conducted at UCLA as part of the proposed project. Nevertheless, some quantities of gaseous toxic material would be emitted from UCLA buildings due to the project.

For the purpose of providing quantifiable estimates of emissions and reporting the presence of TACs as required by AB 2588, the UCLA 1989 Emission Inventory Plan (EIP) was submitted to the SCAQMD on July 31, 1989. The EIP divided the campus into three zones for reporting purposes. Within each zone similar types of activities are conducted that involve similar classes of chemicals. The three zones are described below and can be located on Figure III-3 in the Project Description:

Zone I - Young Hall (Chemistry), Slichter Hall (Geophysics) and Geology Building

Zone II - Molecular Biology Institute, Botany Building, Life Sciences Building

Zone III - Center for Health Sciences

Emissions of TACs from laboratory fume hoods in Zones I and II, and from a number of source types in Zone III (including fume hoods), would increase from implementation of the Draft LRDP. While no specific data on numbers of new laboratories or new fume hoods are available, there are data which may be used to make reasonable estimates of LRDP-related TAC emissions.

Both Zone I and Zone II are located within a larger planning zone of the Draft LRDP called the Core Zone. The Core Zone includes not only physical and life science programs, but also Arts/Cultural, Professional Schools, Letters and Science, Health Sciences, Libraries, and athletic facilities. Zone III is approximately equivalent to the Health Sciences Zone of the Draft LRDP (see Figure III-4 in the Project Description).

Expected toxic air emissions from potential new laboratory fume hoods in Zones I and II were estimated by scaling emissions from sampled fume hoods in the UCSB study to UCLA on the basis of fume hood counts. The Draft LRDP provides estimates of the current gross square footage (GSF) in the planning zones and the expected increases, by specific program, in each zone. Using this information, the number of fume hoods in each zone due to implementation of the Draft LRDP was estimated. Table III-2 in the Project Description provides the projected distribution of building space by campus zone. Within each campus zone, the GSF increase projected for each campus program are shown. For estimating LRDP-related fume hood numbers in Zones I and II, it was assumed that only Letters and Science and Health Sciences programs will include fume hoods (i.e., no laboratories are expected to be added to any other programs in the Core Zone). Appendix C to the health risk assessment provides the calculations and resulting estimated numbers of fume hoods per zone. The UCSB emission rates of representative chemicals were normalized to emissions per fume hood, then multiplied by the number of hoods potentially foreseeable planned in the expansion of each UCLA zone.

Zone III contains the Center for Health Sciences. As described in more detail in Appendix H, Volume II, the project is expected to result in toxic emissions from both patient care activities and expanded medical research. Toxic air emissions expected from patient care activities at UCLA were estimated by scaling estimated patient care toxic air emissions from the study at UCSF Parnassus Heights Medical Center to UCLA on the basis of current inpatient days, assuming that such emissions are directly related to patient care. Expected toxic air emissions for the Health Sciences at UCLA were projected by scaling current inpatient days to reflect expected future UCLA inpatient days resulting from the project. Toxic air contaminants from biomedical research were calculated by scaling estimated research toxic air emissions from Parnassus Heights to UCLA on the basis of floor space assigned to research laboratories at each facility to reflect potential future research laboratory floor space resulting from the project.

As described above, ethylene oxide may be emitted from three hospital sterilizers. Emissions from two sterilizers are currently controlled by high efficiency wet scrubbers, and the third will be similarly equipped as part of the Draft 1990 LRDP. The efficiency of these scrubbers is estimated by manufacturer specifications to be greater than 98.2 percent. Ethylene oxide emissions are expected to decrease as a result of the project, despite an increased number of inpatient days, due to the installation of a scrubber on the third sterilizer.

Formaldehyde may be emitted from the morgue at UCLA. The expected LRDP-related increase in formaldehyde emissions were estimated by scaling emissions on the basis of the increase in inpatient days predicted at UCLA in 2005 as a result of the project. Formaldehyde emissions are expected to increase as a result of the project.

Toxic air contaminants may be emitted from the common stack of the incinerator and crematory at UCLA. The Draft 1990 LRDP anticipates no increased use of the equipment between 1990 and 2005. Because use is not expected to change as a result of the proposed project, no increase in emissions or increase in risk from toxic air contaminants is anticipated as a result of implementation of the Draft.

Radioactive Materials

The maximum permissible radionuclide dose to a member of the public, which is set by Title 17 of the California Code of Regulations, is 500 millirems (mrem) per year. Information concerning any background level of radiation in the Los Angeles area was not readily available during preparation of this report. However, natural background radiation levels in the San Francisco area provide less than one-fifth of the allowable radiation, approximately 75 to 100 mrem per year; similar levels are assumed in the Los Angeles area (National Council on Radiation Protection and Measurements 1988).

Of the variety of radioisotopes used in biomedical research, few are in volatile form, which means that few are likely to be released from a building as airborne emissions. The most heavily used volatile radioisotope is Iodine 125, which is used primarily for a type of chemical reaction termed iodination. UCLA currently employs iodination cabinets to trap Iodine 125 emissions. Some tritium is used; this also can evaporate. On the basis of data from the UC San Francisco Study discussed above, the emission of radioisotopes other than Iodine 125 from research activities is expected to be negligible (Radian 1989c). Because tritium is used occasionally in procedures that may allow evaporation of the radioisotope, it was included in the risk assessment for the proposed project.

Hospital-related functions require occasional use of radioactive xenon gas for patient treatment. Emissions of this radioactive gas are trapped to reduce the amount of radioactive material that is emitted during patient treatment, it was also included in the risk assessment. Xenon 133 is used in association with the proper trapping device to control emissions. Other radioisotopes used for patient treatment are used in procedures that are not likely to result in airborne release, or in sealed sources that are incapable (under normal circumstances) of releasing the radioactive material.

Since implementation of the Draft LRDP is expected to increase research activities and inpatient days at UCLA, emissions of radioisotopes are expected to increase. The risk assessment specifically models potential increases in Iodine 125, tritium, and radioactive xenon gas as indicator substances; other radioisotopes that may be used at UCLA were not included in the risk assessment since current information indicates that they would not likely be emitted as a result of the project.

Health Risk Assessment

The health risk assessment included as part of this document follows SCAQMD guidelines for preparation of a health risk assessment. The SCAQMD follows procedures specified in a manual prepared by the California Air Pollution Control Officers Association (CAPCOA), the Toxic Air Pollutant Source Assessment Manual for California Air Pollution Control District Permits (CAPCOA Manual) (CAPCOA 1987). The health risk assessment evaluates the potential health risk posed by increases in patient care activities (including clinical laboratories, ethylene oxide sterilizers, and morgue), biomedical research activities and teaching laboratory activities expected as a result of the Draft LRDP.

According to the CAPCOA manual, the cancer risk estimate in a health risk assessment refers to a plausible upper limit of an individual's probability of contracting cancer from a lifetime exposure to the cancer-causing agent (or agents) in question. Following SCAQMD and CAPCOA guidelines, the risk assessment calculations estimate the potential health risk posed by the project to a hypothetical person of average body weight, breathing rate, and length of lifetime. Although people in the UCLA vicinity may weigh more or less, breathe slightly more or less, live longer or shorter lives than the hypothetical (average) person, the associated increase or decrease would not be expected to increase the risk estimate beyond that calculated, because a number of assumptions that tend to overstate actual health risks are made in preparation of the health risk assessment.

One of the most important assumptions that overestimates the health risk is the estimate of the length of time the hypothetical person is exposed to the emissions from the project. The hypothetical person is assumed to remain at the point of highest ground-level concentration of project pollutant emissions for his or her entire life, without moving. For this reason the hypothetical person is called the "maximally exposed individual" (MEI).

The toxic air contaminants potentially emitted from physical and life science activities, biomedical research, and patient care activities at UCLA are most likely to be gases/vapors since the emissions are primarily the result of volatilization and/or evaporation of liquid chemicals in fume hoods. Because they would not be bound to particulate matter, these pollutants are assumed to disperse into the atmosphere without settling. Although a heavy rain could purge gaseous pollutants from the atmosphere, such deposition is assumed to be negligible because it would be infrequent. This assumption is consistent with standard modeling of volatile/gaseous emissions in the ambient environment.

The most direct exposure to toxic air contaminants expected to result from the Draft 1990 LRDP is through inhalation of ambient air. Other routes of exposure to toxic air. Other routes of exposure to toxic air emissions were considered insignificant because the UCLA site is an urban area with limited surface water, exposed soils and gardens.

Detailed discussions of the assumptions made in calculating the health risk attributable to the Draft LRDP are in Appendix H, Volume II and are in the health risk assessment sections pertaining to emission estimates, air dispersion calculations, and dose-response relationships.

<u>Components of a Health Risk Assessment</u>

In general, preparation of a health risk assessment requires completion of four major analytical steps:

- Hazard Identification
- Dose-Response Assessment
- Exposure Assessment
- Risk Characterization

In addition, the health risk assessment for this project includes a discussion of the uncertainties associated with the various steps of the risk assessment process. The CAPCOA manual provides guidelines for each step. The process of performing the health risk assessment for the Draft LRDP is discussed briefly below. A detailed description of the process, including assumptions and calculations, is presented in Appendix H, Volume II.

Hazard Identification involves the review of activities and agents that are part of the proposed project in order to identify potential sources of hazardous emissions. Two factors must be included: the hazard potential of the materials to be used, and the potential for people to be exposed to the materials. This means that not only does a hazard need to be present, but a route of exposure of people to the hazard must be possible. Chapter 3 of the UCLA risk assessment presents the hazard identification process for the proposed Draft LRDP (see Appendix H, Volume II).

For UCLA, identified potential hazards from the proposed project include the hazardous materials used in teaching laboratories, biomedical research, hospital and clinical functions. These include chemicals and radioisotopes which may result in the toxic air contaminants discussed previously. The only anticipated way that people in the UCLA vicinity would be significantly exposed to facility emissions would be through air emissions. For this reason, only substances that could be reasonably expected to become gaseous were considered in the health risk assessment.

In conformance with the CAPCOA guidelines and standard methods for conducting risk assessments for sources that may use or have on-site a wide variety of chemicals, an "indicator chemical" approach was employed in the assessment presented in this report. In identifying potential hazards for purposes of the risk assessment, a review of chemicals potentially emitted to the environment was conducted. Then a subset of these chemicals was selected for inclusion in the risk assessment based on their toxicity, persistence and/or prevalance, and potential for release. This subset of indicator chemicals includes 43 common laboratory chemicals such as benzene, acetone, methylene chloride and 1,4-dioxane, and the radioisotope Iodine-125.

Projected estimates of chemical emissions from UCLA due to project implementation are summarized in Table 2-1 of the risk assessment. The list of 43 chemicals identified for the risk assessment is included in Section 3.3 of the risk assessment, and the radionuclides assessed are identified in Section 3.4 of Appendix H, Volume II.

Dose-Response Assessment is the process of determining how and how much of a substance causes health effects. The amount of exposure to a substance determines the extent of toxic injury or disease. Toxicological studies have been evaluated by public agencies such as the EPA and the California Department of Health Services (DHS) to make standard estimates of the relationship between exposure to certain substances and the extent of health effects.

Whenever these standard evaluations were available, they were used in the health risk assessment. For other compounds, the toxicology literature was reviewed to determine effects. Other accepted standard values were used as the basis for selection of health effect comparison levels. For the UCLA analysis, dose-response background information is presented in Appendices A and B of the risk assessment.

For non-carcinogenic effects, the risk assessment assumes that there is a threshold of chemical exposure below which adverse human health effects will not occur. For non-carcinogens, the reference dose (i.e., the threshold) is identified or estimated. No threshold levels are assumed to exist for chemicals which cause cancer. For carcinogens, the cancer potency factor is identified. Dose-response assessment is further described in Section 2.1 of the risk assessment in Appendix H, Volume II of this EIR. Toxicological properties of the various chemicals are described in Appendix A to the risk assessment.

Human Exposure Assessment is the process of estimating the potential for exposure to the hazard, and the population that might be exposed to the potential hazard.

For a project like the Draft LRDP, the exposure of interest is at ground level, at receptors in various locations away from the existing and planned facilities. To estimate the exposure of people in the vicinity, the toxic air emissions from the project must first be estimated. Then, these emissions estimates are put into a dispersion model developed and certified by the U.S. EPA. The model uses a computer to simulate the atmospheric spreading of the emissions in the vicinity of a project or facility. For the purposes of the health risk assessment, the computer seeks to find the location (i.e., receptor) that is likely to have the highest calculated ground-level concentration of the pollutants from the proposed project. A person at this maximum impact point would have the greatest exposure to emissions from the project. The hypothetical Maximally Exposed Individual is located at this point.

The process of determining potential changes in emissions of toxic air contaminants resulting from implementation of the project is described in Section 4 of the risk assessment. Section 5 of the risk assessment describes the process used to model atmospheric dispersion of potential emissions. Risk assessment Appendix C lists equations used to calculate emissions rates and ground level concentrations in the modeling exercise.

Risk Characterization involves integration of the information collected about the potential hazards of the project, the health effects of exposure to those materials, and the maximum amount of exposure that is estimated to be possible from the project. The result is an estimation of the likelihood that any person would experience any health effect as as result of the project. Both short-term (acute) and long-term (chronic) health effects are considered; the long-term effects analysis includes cancer potential. Both short-term and long-term effects are calculated for the MEI.

In general, anaylsis of the potential for acute and chronic (non-carcinogenic) effects relies on a comparison of the predicted maximum exposure in the community to exposure levels thought to be safe. These levels can be either standard values from the EPA or other government agencies or, of no standard values are available, criteria developed from toxicological information or other accepted health standards. Dividing the predicted exposure level by the safe level results in a ratio, which is known as the hazard index for long-term exposure, and the exposure index for short-term exposure. If the hazard and exposure indices are less than one, the exposure levels are less than the safe levels, meaning that no acute or chronic health effects would be anticipated. Chronic non-carcinogenic risk is calculated using the lifetime average exposure to the substance emitted. Acute non-carcinogenic risk is calculated using the expected maximum emission levels of toxic air contaminants.

For carcinogenic substances, where no level of exposure is considered safe, an estimate is made of the probability of a person getting cancer as a result of the project. In accordance with guidelines established by both Federal, state and local regulatory agencies responsible for developing guidelines for risk assessments of toxic air contaminants, when, as in the case of UCLA, more than one potential carcinogen is evaluated, the risks posed by the various substances are summed; this sum is the overall cancer risk estimate. The summation of cancer risks for various chemicals is merely an approximation, because either synergistic or antagonistic effects might be possible as a result of exposure to various chemicals. Federal and California risk assessment guidelines assume that health risks posed by different carcinogens are additive.

In addition to the cancer risk estimated for the MEI, a population cancer burden is calculated using the cancer risk projected for the project toxic air emissions, and the population within the area expected to be exposed to project cancer risks greater than one in ten million. The process of risk characterization fur future emissions expected as a result of the Draft LRDP is described in Section 7 of the risk assessment.

Results of the Health Risk Assessment

The risk assessment for the Draft LRDP estimated health risks for projected activities. Cancer risk for projected programs are presented in Table I-1 of the risk assessment (see Appendix H, Volume II). The maximum theoretical cancer risk occurring from the project TAC emissions was estimated to be 4.1 in 1,000,000. This calculated risk assumes that a hypothetical individual is exposed continuously over a 70-year period at the point of greatest ground-level concentration. The actual risks from the project would likely be much lower. As discussed at the outset of this impacts section, for purposes of evaluating the project-related impacts of the 1990 LRDP, the standard of significance used in this EIR for excess lifetime cancer risk is 10 in 1,000,000. Hence, the total project cancer risk is less than significant. The risk would be due to the project's expected teaching and research laboratory activities, and in patient care levels between 1990 and 2005, as well as the combustion of natural gas in the ~~proposed~~ chiller/cogeneration facility. The theoretical total number of cancer cases due to the project (the "cancer burden") was calculated to be less than 0.04, which is well below the 0.5 value allowed under SCAQMD ~~Proposed~~ Rule~~s~~ ~~223 and~~ 1401.

The calculated total hazard index for the project in 2005 is 0.01. This value is less than one, and therefore the project does not represent a significant chronic, non-carcinogenic health risk.

The exposure index for acute health effects was calculated to be 0.02 as a result of the project. Exposure indices for the project are presented in Chapter 7 of the risk assessment. However, since the summed exposure index for 2005 is less than one, no acute health effects from emissions resulting from the project are anticipated, and thus the project does not create a significant acute non-carcinogenic health risk.

Although no significant impacts are anticipated to result from the emissions of toxic air contaminants due to the project, certain mitigation measures will be employed to further limit the potential health risks from the facility.

Mitigation Measure I-4.1: The design of the ~~proposed~~ chiller/cogeneration facility incorporates T-BACT. Maintenance of optimum combustion conditions in the gas turbine to maximize destruction of organic compounds is considered to be T-BACT.

Mitigation Measure I-4.2: Fume hood operation would be monitored as required by Title 8 of the California Code of Regulations.

Mitigation Measure I-4.3: The effect of stack shape and exhaust velocity would be analyzed as part of the selection of the appropriate design for fume hood vents and projects would therefore be designed to minimize potential emissions of TAC to the greatest extent possible.

Mitigation Measure I-4.4: Any new or modified air exhaust systems installed at UCLA as part of this project, including fume hoods (from laboratories) and general building exhausts (which separately exhaust air from non-laboratory areas, such as offices and corridors), would be designed so that vents are on or above the roof level of buildings.

Mitigation Measure I-4.5: Fume hoods where Iodine 125 would be used in its gaseous state for iodination would be provided with a filter to reduce emissions of the radioisotope to the atmosphere. Xenon-133 would be used only in association with the proper trapping device to control emissions.

Cumulative Impact

The project would contribute to cumulative toxic air emissions in the UCLA vicinity.

No significant proposed sources of air toxic emissions were identified within a 2-mile radius of the proposed project, based on a review of SCAQMD records (Radian 1989d). Thus, there is no one methodology to rely on for quantifying cumulative risks in an air basin. For purposes of CEQA, it could be concluded that this impact is too speculative to evaluate. However, some statements and reasonable assumptions can be made about potential cumulative risks based on current ambient conditions in the South Coast Air Basin. As mentioned in previous sections, the literature from SCAQMD indicates current cancer risks in the SCAB may exceed 1 in 1000; monitoring data in the project vicinity indicate current risks could be as much as 1500 in a million.

While these numbers may be reduced somewhat in the future due to greater controls on potential sources of TACs, even if the risk decreased by 50% over the planning horizon, the risk associated with TAC in the SCAB would be well above the standards of 10 in one million without implementation of the LRDP. While the additional risk of 4.1 in a million associated with the project of UCLA is quite small compared to potential risks associated with all activities in the vicinity of the project and the SCAB as a whole, the project risk taken cumulatively with the SCAB risk number is expected to be greater than 10 in one million. This is considered a significant cumulative impact.

Again, it should be noted that a precise methodology for estimating cumulative TAC risks does not exist, the discussion and conclusion of significance above represents a prudent but imprecise way to consider cumulative impacts of the proposed LRDP for purposes of this EIR. However, some could conclude in accordance with CEQA that the real cumulative impacts associated with TAC over the planning horizon are too speculative to determine at this time. The analysis presented here represents a health conservative approach by determining that the impact is most likely to be significant based on current data about SCAB.

Mitigation measures that would serve to minimize project emissions (Mitigation Measure I.5) would also serve to reduce the project's contribution to cumulative toxic air contaminant levels.

Any regional measures intended to reduce emissions of toxic air contaminants are not within the jurisdiction of The Regents to implement. Therefore, the cumulative air quality impacts of toxic air contaminant emission increases due to regional growth and development remain significant for purposes of this EIR.

Glossary of Terms - Air Quality

AAQS	ambient air quality standards
AQMP	Air Quality Management Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
DHS	California Department of Health Services
EIP	Emission Inventory Plan
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GSF	gross square footage
LRDP	Long-Range Development Plan
mei	maximally exposed individual
MIL	measurable impact levels
mrem	millirem
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NOx	nitrogen oxides
NSR	New Source Review
ROG	reactive organic gases
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SOx	sulfur oxides
TAC	toxic air contaminant
T-BACT	Best Available Control Technology for Toxics
TLV	threshold limit values
UCLA	University of California at Los Angeles
UCSB	University of California at Santa Barbara
VOC	volatile organic compound
VMT	vehicle miles traveled

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the noise impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

J. NOISE

Environmental Setting

The human response to environmental noise is highly subjective and varies considerably among individuals. The effects of exposure to noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and, at the highest intensity levels, to hearing loss. Several examples of the noise levels associated with common situations are listed in Table J-1, given in A-weighted decibels.

Environmental noise fluctuates in intensity over time. In order to take these fluctuations into account and allow comparisons of noise levels, several descriptors of time-averaged noise levels are in use. Three most commonly used are Leq, Ldn, and CNEL. Leq, the energy equivalent noise level, is a measure of the average energy content (intensity) of noise over any given period of time. Ldn, the day-night average noise level, is the 24-hour average of the noise intensity, with a 10 dBA "penalty" added for nighttime noise (10:00 PM to 7:00 AM) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to Ldn, but adds a 5 dBA penalty to evening noise (7:00 PM to 10:00 PM). Where motor vehicles are the dominant source of noise, the Leq for the peak commute hour is usually about 2 dBA higher than Ldn and CNEL.

Changes in community noise levels greater than 3 dBA are discernible to nearly every one, while changes less than 1 dBA will not be discernible to most people. In the range of 1 to 3 dBA, persons who are very sensitive to noise may perceive a slight change. In research studies where noise levels are directly compared, humans are able to detect noise level changes of slightly less than 1 dBA. However, in a community situation, changes in noise levels generally occur over months and years, rather than immediately as in experimental situations.

Regulatory Background

In order to minimize population exposure to physically and/or psychologically damaging noise levels, the State of California, the various county governments, and most municipalities in the State have established standards and guidelines or ordinances to control noise.

TABLE J-1
DESCRIPTION OF NOISE LEVELS

Source of Noise	Noise Level
Jet takeoff at 200 feet	125 dBA
Discotheque	115 dBA
Motorcycle at 20 feet	110 dBA
Freight train at 50 feet	95 dBA
Freeway traffic at 50 feet	80 dBA
Vacuum Cleaner	70 dBA
Average Office	50 dBA
Library	40 dBA
Recording Studio	20 dBA
Leaves rustling	10 dBA

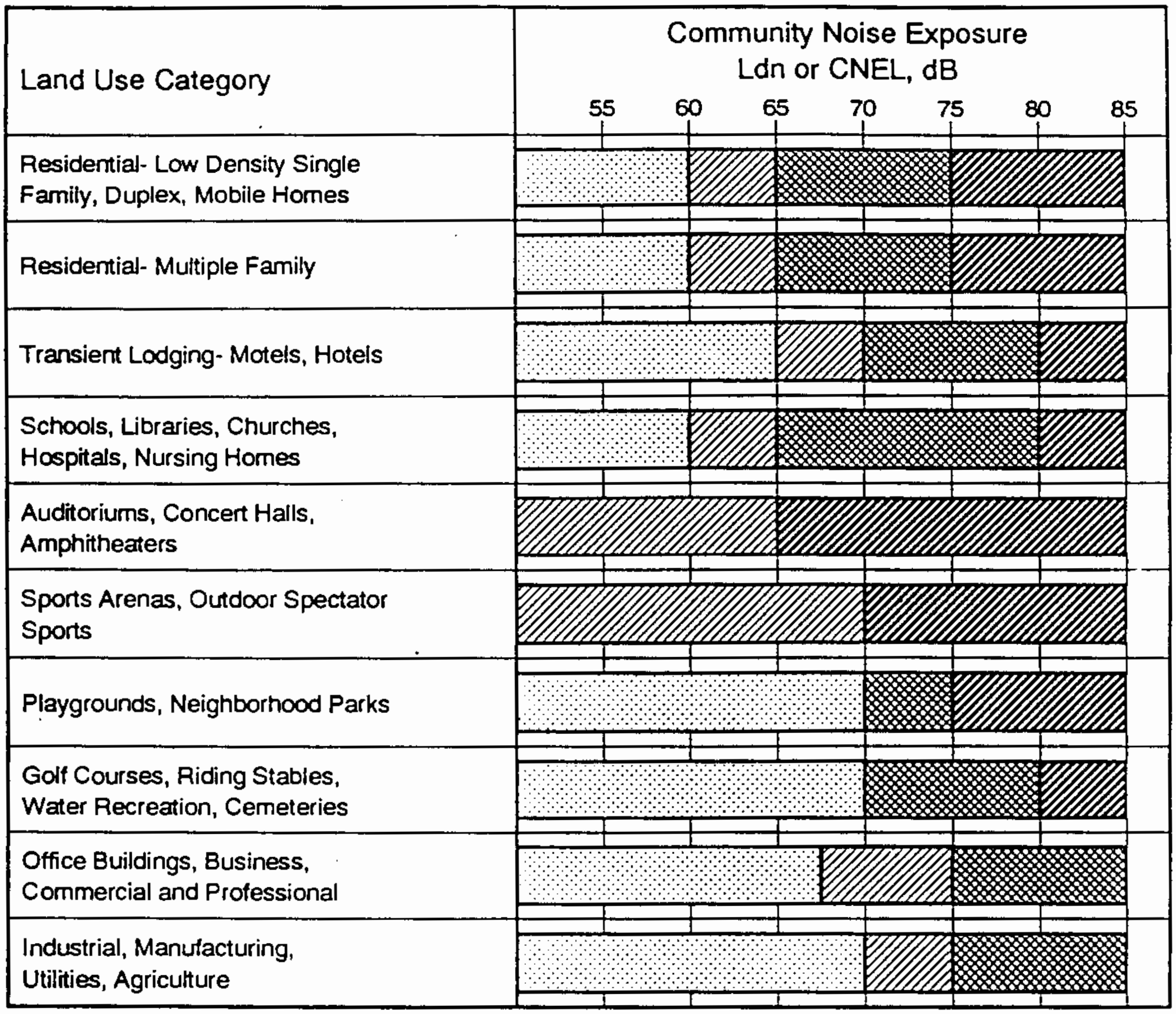
Source: "Handbook of Noise Measurement," Arnold P.G. Peterson and Erwin E. Gross, Jr., 1963.

The California Department of Health Services (DHS) Office of Noise Control has studied the correlation of noise levels and their effects on different land uses. A summary of Land Use Compatibility Standards for Community noise is presented in Table J-2. Table J-2 shows the noise levels below which a specified land use would be compatible with the exterior noise environment with noise insulation used where necessary (e.g., for multiple-family residential uses, the community noise exposure is acceptable up to an Ldn of 70 dBA).

Table J-2 also identifies the community noise levels above which the identified land use would be considered incompatible due to the difficulty of providing the needed noise insulation (e.g., for residential uses, this would be an Ldn of 75 dBA). Table J-2 indicates that there is often a wide range of exterior noise levels in which different land uses could be made compatible with community noise levels if necessary noise reduction features are included in the design of a proposed project (e.g., for residential uses, community noise ranging from 60 dBA to 75 dBA could be accommodated by installing adequate sound insulation in residences).

The City of Los Angeles has adopted noise guidelines as part of the Noise Element of its General Plan. The City also has set specific noise limit standards, as set forth in Municipal Code Chapter XI. In addition to establishing both interior and exterior noise limits, Chapter XI restricts construction and demolition noise and the hours during which it may occur.

Title 24 of the California Administrative Code establishes standards governing interior noise levels that apply to all new multi-family residential units in California. These standards require that acoustical studies be performed prior to construction at building locations where the existing Ldn exceeds 60 dBA. Such acoustical studies are required to establish mitigation measures that will limit maximum noise levels to 45 dBA in any habitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted 45 dBA as an upper limit on interior noise in all residential units. The U.S. Department of Housing and Urban Development (HUD) has set an Ldn of 45 dBA as its goal for interior noise in residential units built with HUD funding.



Normally Acceptable

Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable

New construction or development should be undertaken only after detailed analysis of noise reduction requirements is made and needed noise insulation features are included in design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, is normally sufficient.

Normally Unacceptable

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable

New construction or development should generally not be undertaken.

Source: Cotton/Beland/Associates. Modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

UCLA
Long Range
Development Plan EIR

Table J-2
Land Use Compatibility Standards:
Community Noise

Noise Environment - Draft 1990 LRDP Area

The major source of noise in the UCLA area is motor vehicles. Sunset and Wilshire Boulevards have the greatest concentration of traffic noise, but vehicles using other highways and local streets, (including Interstate 405, and Veteran, Le Conte and Hilgard Avenues), contribute significantly to the total ambient noise level. The remainder of the ambient noise is produced by aircraft overflights, industrial processes, construction operations, and the human and animal population.

As part of this EIR, a series of measurements was made in January 1990 on and around the Campus to define the existing ambient noise in general areas that could be affected by the implementation of the Draft 1990 LRDP. A summary of the peak Leq and Ldn levels at the eight locations monitored is given in Table J-3. The location of these sites is illustrated in Figure J-1.

The noise measurement locations were selected to represent existing noise levels at typical building setback distances at adjacent sensitive receptors, as shown in Figure J-1. The locations of these sensitive receptors are noted on Figure J-1 by the numbers 1 through 8. Existing and projected noise Ldn levels were calculated by correlating traffic counts taken during the on-site noise measurements with data from Section IV-C Traffic, Circulation and Parking. Table J-3 adjusts the measured Leq to a distance of 50 feet referenced from the centerline of the roadways and displays the existing Ldn at this distance based on peak traffic volumes from Section IV-C Traffic, Circulation and Parking. The Ldn ranged from a low of 66 dBA to a high of 70 dBA.

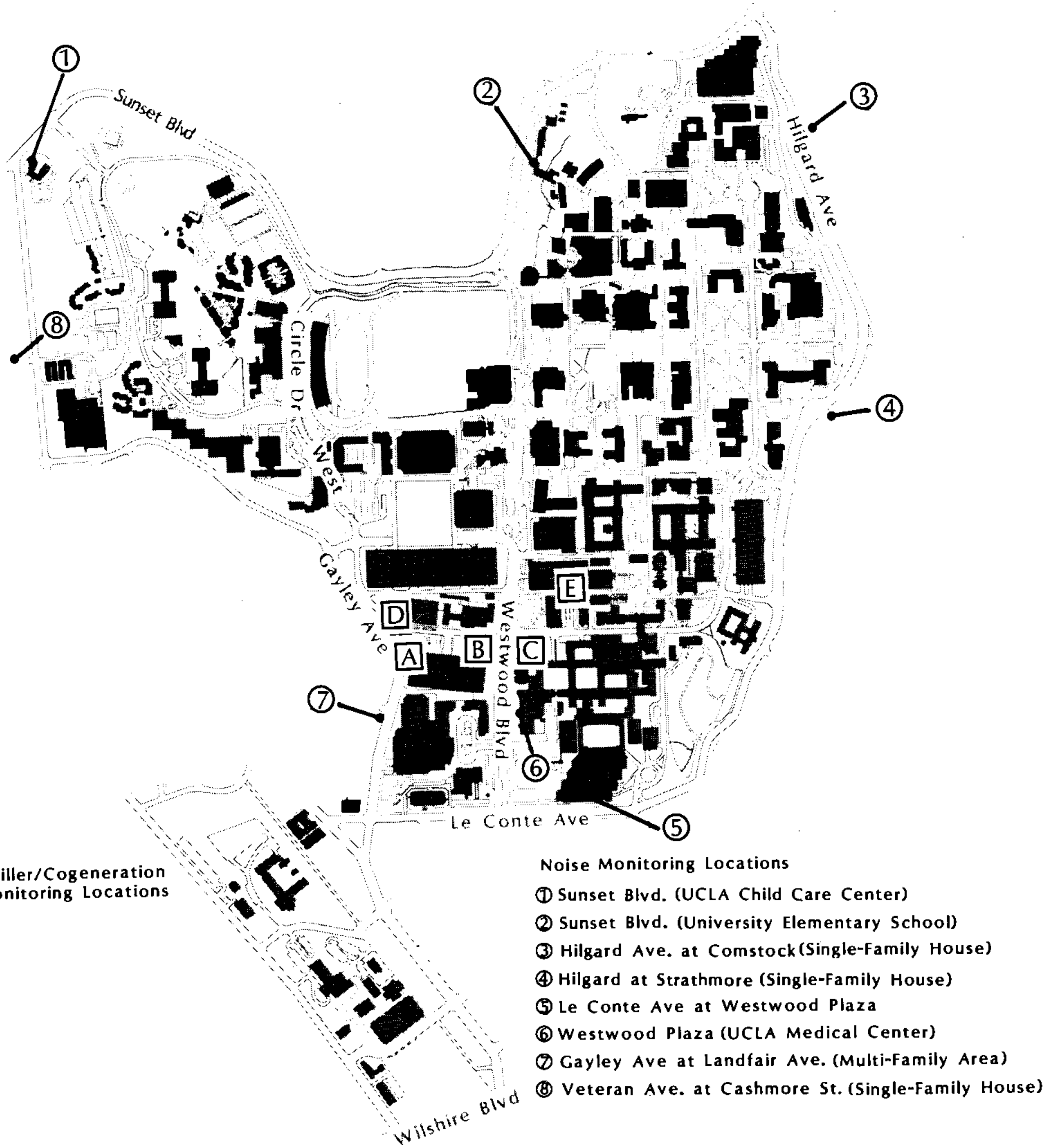
The chiller/cogeneration facility, ~~included in the Draft 1990 LRDP,~~ on the north side of Circle Drive South west of Westwood Plaza has been identified as a likely potential source of noise. The existing ambient noise levels measured in the immediate area of the proposed facility were 57 to 63 dBA Leq during the quietest hours of the night, and 67 to 72 dBA Leq during the day. Noise-sensitive land uses exist adjacent to the project site. Apartment complexes, fraternity houses, and other student housing units exist immediately west across Gayley Avenue. While student housing units are sometimes sources of noise themselves, they also serve as sleeping quarters and must be considered noise-sensitive receptors, along with the apartment complexes.

TABLE J-3
MEASURED EXISTING DAYTIME NOISE LEVELS AND
CALCULATED LDN NOISE LEVELS

Location	Measured Leq	Leq at 50 ft.	Ldn at 50 ft.	2005 Without Project Ldn at 50 ft.	2005 With Project Ldn at 50 ft.
1. Sunset Blvd. (UCLA Child Care Center), 70 ft. to centerline	67	68	68	69	69
2. Sunset Blvd. (University Elementary School), 115 ft. to centerline	65	69	70	71	71
3. Hilgard Ave. at Comstock Ave., 60 ft. to centerline	62	63	66	67	67
4. Hilgard Ave. at Strathmore Dr., 50 ft. to centerline	68	68	69	70	70
5. Le Conte Ave. at Westwood Plaza, 55 ft. to centerline	65	65	67	68	68
6. Westwood Plaza (UCLA Medical Center), 120 ft. to centerline	60	64	68	69	69
7. Gayley Ave. at Landfair Ave. 55 ft. to centerline	67	67	70	71	71
8. Veteran Ave. at Cashmere St., 55 ft. to centerline	63	63	66	67	67

Source: EIP Associates, January, 1990.

Note: The L50 noise level measured was generally 2 dB less than the Leq noise level.



SOURCE: EIP Associates

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure J-1
Noise Monitoring Locations

Baseline field noise measurements were conducted at five sites to determine the impact of projected noise impacts from the proposed cogeneration facility. Noise measurements taken in the subject area (identified in Figure J-1), are shown in Table J-4.

Impact and Mitigation Measures

CEQA Guidelines indicate that a project will normally result in a significant adverse noise impact if it causes a substantial increase in the ambient noise level in areas sensitive to noise adjacent to the project site. The potential for significant impacts also exists where land use compatibility standards for community noise, as defined by the State of California and adopted by the City of Los Angeles, are exceeded. The City of Los Angeles has specified that projects subject to its jurisdiction must not create noise levels that exceed the average background ambient noise by more than 5 decibels (Ordinance No. 146,399).

For the purpose of this EIR, the change in ambient noise levels due to implementation of the Draft 1990 LRDP would constitute a significant impact if land use compatibility standards for noise indicate that a neighboring land use would be "normally unacceptable" after construction of a facility identified in the LRDP or if a facility would result in an increase in noise level at the nearest sensitive receptor greater than 5 dBA.

The Draft 1990 LRDP provides a basis for consideration of the potential zone-specific noise impacts. As projects are proposed during the fifteen-year LRDP implementation, the specific noise impacts will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts, unless otherwise noted. The proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

***Impact J-1: Construction-related noise from development projects would cause a <u>significant</u> short-term increase in ambient noise levels in areas surrounding individual project sites.**

Construction activities would temporarily generate high noise levels on and around individual project sites over the entire period of the Draft 1990 LRDP implementation. Table J-5 shows outdoor noise levels likely to be experienced during the various construction phases. Figure J-2 shows modelling of potential construction

TABLE J-4
EXISTING ACOUSTICAL SETTING

Location	Time	Leq (dBA)	Dominant Noise Source
A	22:30	69	(1)
B	23:00	67	(1), (2)
C	23:30	68	(1), (2)
D	04:00	57	(2)
D	10:00	72	(1), (2)
E	04:30	63	(2), (3)
E	10:30	69	(1), (2), (3)

(1) Road traffic.

(2) Existing steam generation equipment at steam building.

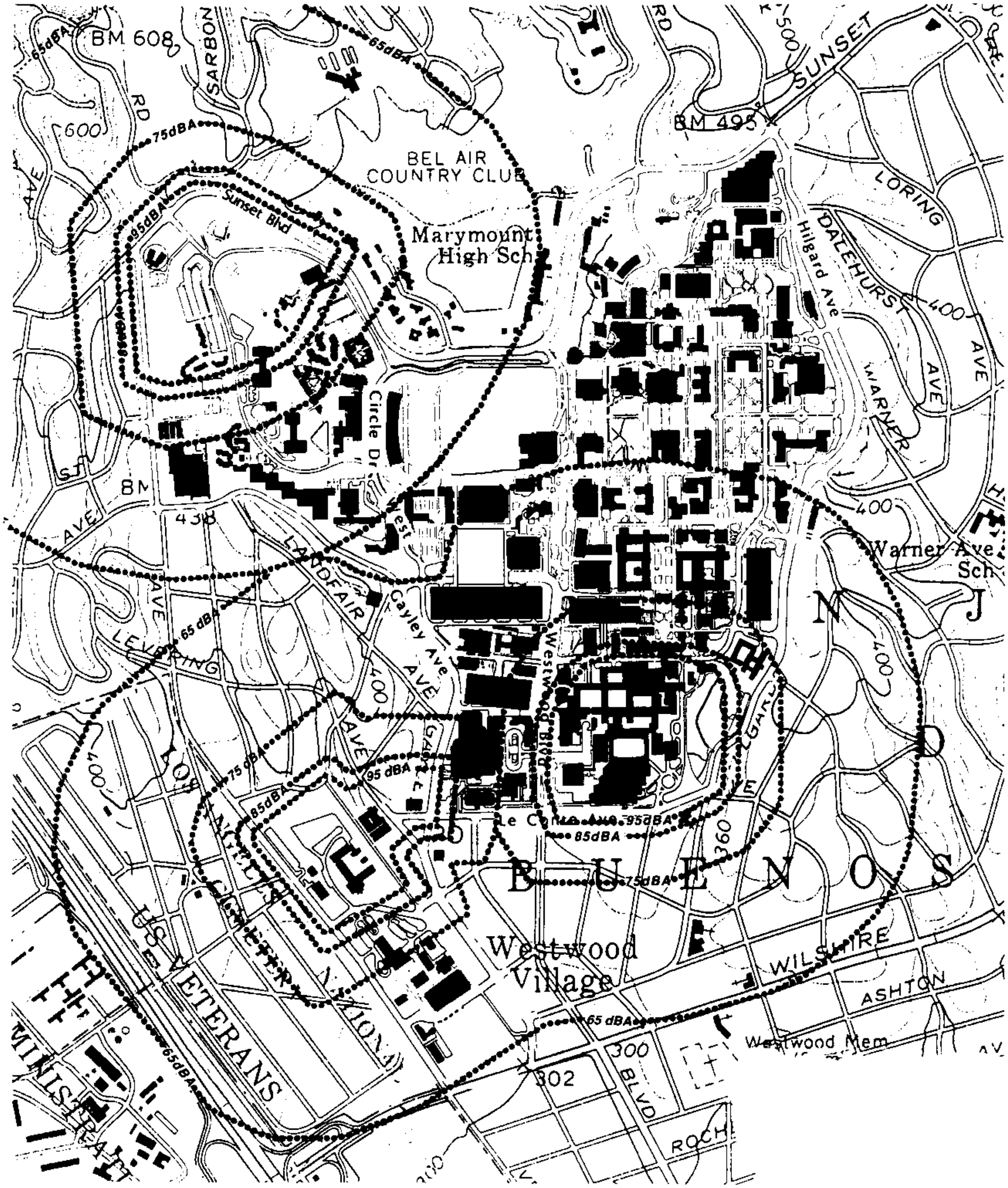
(3) Existing cooling towers at Factor Building.

Source: Engineering Science, July 13 and 15, 1988.

TABLE J-5
TYPICAL CONSTRUCTION NOISE LEVELS AT 50 FEET (dBA)(1)

Commercial/ Industrial Construction Average Noise Construction Phase	Housing Construction Noise Level	Average Noise Level
Groundclearing	84	84
Excavation	89	88
Pile Driving	101	101
Foundations	78	81
Erection	85	82
Finishing	89	88

(1) Taken from Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, prepared by Bolt, Beranek, and Newman for the U.S. Environmental Protection Agency, December 31, 1971, p. 20.



SOURCE: EIP Associates

↑ North 0 1200 scale in feet

UCLA
Long Range
Development Plan EIR

Figure J-2
Potential Construction-Related Impacts

noise impacts in peripheral areas of the campus where construction related to implementation of the LRDP could take place.

Noise contours are based on the loudest mechanical equipment normally found on a major construction site (pneumatic pile driver). The noise contours plotted are based on maximum single event levels. No reduction has been given for shielding due to topography or surrounding development because the exact location and limits of development sites are not known at this time. Noise from localized sources is typically reduced by about 6 dBA with each doubling of distance from the source of noise to the receptor. Outdoor receptors within 1600 feet of a construction site, with an uninterrupted view of the site, would experience noise levels greater than 60 dBA when noise on the construction site exceeds 90 dBA.

Several sound sources may interact resulting in a composite noise level which is higher than either individual source alone. If one source is substantially louder than a second source, the louder of the two sources would tend to mask the second source. A pile driver measured alone would register a noise level of 95 dBA, as shown in Table J-6. However, two pile drivers operating simultaneously would register 98 dBA. The resulting increase in noise level of 3 dBA is just noticeable to the average person. One pile driver operating simultaneously with a pneumatic tool, which registers 80 dBA, would sufficiently mask the quieter pneumatic tool so that the composite noise measurement would still be 95 dBA.

Table J-6 depicts noise levels associated with various types of construction equipment.

<u>The mitigation measures described below will reduce construction noise impacts to a less-than-significant level</u>.

Mitigation Measure J-1: UCLA will implement the following measures to minimize the noise levels caused by construction activities:

1.1 By contract specifications, construction activities would be limited to a schedule that minimizes disruption as much as possible to area residences surrounding the project site and to Campus users.

1.2 By contract specifications, construction equipment would be required to be muffled or otherwise controlled. Contracts would specify that engine-driven equipment be fitted with appropriate noise mufflers.

TABLE J-6
TYPICAL CONSTRUCTION EQUIPMENT NOISE (dBA)1

Equipment Type	Noise Level at 50 Feet: Without Noise Control	Noise Level at 50 Feet: With Feasible Noise Control(2)
Earthmoving:		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Trucks	91	75
Pavers	89	80
Materials Handling:		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
Stationary:		
Pumps	76	75
Generators	78	75
Compressors	81	75
Impact:		
Pile Drivers	101	95
Jack Hammers	88	75
Rock Drills	98	80
Pneumatic Tools	86	80
Other:		
Saws	78	75
Vibrators	76	75

1 Taken from Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, prepared by Bolt, Beranek, and Newman for the U.S. Environmental Protection Agency, December 31, 1971.

2 Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

1.3 In situations where delivery/hauling of construction materials would be disruptive to on-Campus activities, contractors would be required to schedule loading and unloading in the morning or afternoon hours where feasible.

1.4 Stationary equipment would be placed to direct emitted noise away from sensitive noise receptors.

1.5 Stockpiling and vehicle staging areas would be located as far as practical from sensitive receptors.

***Impact J-2: Long term on- and off-campus noise impacts will result from implementation of the LRDP. These impacts are considered significant.**

LRDP implementation is not expected to increase daily traffic volumes (see Subsection IV-C, Traffic/Circulation and Parking). Accordingly, noise levels due to vehicular traffic associated with the project are not expected to increase. Projected noise levels for the year 2005 at the eight noise measurement locations are shown on Table J-3. The "with project" and "without project" projections for the year 2005 are the same, indicating that traffic related to implementation of the LRDP will not increase. Implementation of Mitigation Measure C-2 to improve Wilshire Boulevard and Veteran Avenue will also mitigate potential noise impacts associated with significant increases in project-related traffic at specific affected intersections. Stationary noise sources are not expected to significantly increase existing ambient noise levels. Operation of the chiller/cogeneration facility is expected to result in a maximum noise level (including background) of 62 dBA (equivalent to 68.4 Ldn) at the nearest sensitive receptor (Ref. 1). Discontinued operation of the existing central steam plant, and development of the ~~proposed~~ chiller/cogeneration facility, could slightly decrease ambient noise.

Mitigation Measure J-2: Once specific projects are designed, environmental documentation in accordance with CEQA will be prepared for each project. The environmental documentation will include an assessment of the noise impacts of the project and measures to mitigate impacts to a less-than-significant level.

***Impact J-3: The proposed housing located in the Southwest Zone could expose future occupants to significant ambient noise levels in excess of State standards.**

Noise levels along Wilshire Boulevard and Veteran Avenue would exceed 60 Ldn. Housing projects sited adjacent to these streets could expose the residents to interior noise levels greater than 45 Ldn. The following measures will mitigate impacts to a less-than-significant level.

Mitigation Measure J-3:

3.1 The proposed multi-family buildings would be located or architecturally designed so the interior noise level would not exceed 45 Ldn.

3.2 Potential noise impacts would be evaluated as part of the design review for all projects. If determined to be significant, project-specific mitigation measures would be identified and alternatives suggested. At a minimum, housing would comply with Title 24 of the California Administrative Code.

***Impact J-4: Operation of the Chiller/Cogeneration project will result in long-term increases in ambient noise levels.**

Upon project completion, the central Chiller/Cogeneration plant would be in operation 24 hours per day. As discussed in a project noise impact report prepared for Chas. T. Main, Inc. by Engineering Science, primary sources of noise are the rotating equipment, such as the combustion and steam turbine generator, and the cooling tower. All equipment in the plant is specified to meet the Occupational Safety and Health Administration (OSHA) Noise Regulation (85 to 90 dBA at 3 feet). The project designers initially estimated that operation of the cogeneration equipment will not exceed 62 dBA (including background noise) during the quietest, most noise-sensitive hours of the night at the nearest noise-sensitive receptor (Chas. T. Main, Inc., 1988). The projected noise level of 62 dBA at the nearest noise-sensitive receptor is a "worst-case" prediction.

It should be noted that the removal of existing, in-building chillers from operation and the decommissioning of the existing Central Steam Plant would have an incremental effect of lowering ambient noise levels in the vicinity of the project site. Any potential reduction in ambient noise related to the removal of existing chillers and the decommissioning of the existing Central Steam Plant was not included in this preliminary analysis.

As the lowest ambient noise level recorded in the project vicinity was 57 dBA, any potential increase in ambient noise levels above 60 dBA would be generally discernable to the residents located along Gayley Avenue. The project impact is estimated to be approximately 62 dBA on the nearest noise-sensitive receptor, an increase or approximately 5 dBA. The project-related increase in ambient noise levels is considered a significant impact.

Mitigation Measure J-4: Prior to construction of the Chiller/Cogeneration project, an acoustical analysis report will be submitted to the campus by the project engineers. The report shall describe in detail both the noise environment and planned mitigation measures to reduce the project-related noise level increase at the nearest noise-sensitive receptor to no more than 3 dBA. As described in an initial noise impact report prepared for Chas. T. Main, Inc., such mitigation measures could include housing the combustion and steam turbine generators in acoustic enclosures within a building, equipping the combustion turbine system with an inlet system silencer and heat recovery system, and equipping the cooling tower with low-speed, low-noise fans.

Upon incorporation of the recommended noise mitigation measures, including the provision of shielding and acoustical housing for mechanical equipment, it is expected that the impact of the project on ambient noise levels would be reduced to no more than 3 dBA. Thus the long-term noise impact of the project, as mitigated, is considered not significant.

Cumulative Impact

The continued development of Westwood, the Wilshire corridor, Santa Monica Boulevard, and the West Side in general will result in intermittent, short-term construction noise as individual projects are constructed throughout the area. Construction activities could result in adverse ~~significant~~ short-term noise impacts on adjacent sensitive land uses, such as residences. These localized impacts will end when construction is completed for individual projects.

Long-term, cumulative increases in areawide traffic noise will also result from the continued development of the area. However, LRDP implementation is not expected to increase overall traffic volumes (see Subsection IV-C, Traffic/Circulation and Parking). Some street segments may have slight increases in traffic, while others may have comparable decreases, resulting from LRDP implementation.

Changes of three decibels are usually clearly noticeable. Based on an analysis of the cumulative traffic conditions presented in Section IV.C, cumulative noise impacts from traffic are not projected to increase ambient noise by more than three decibels. Thus, this cumulative impact is considered less-than-significant.

The greatest cumulative increase in traffic noise is expected to be on Sepulveda Boulevard between Wilshire Boulevard and Ohio Avenue; however, this increase of 1.5 decibels is considered neither significant nor adverse because the difference will be unnoticeable to the typical human ear. Therefore, overall cumulative noise impacts from future development are expected to be less-than-significant.

References

1. UCLA 1990 Draft and Final Environmental Impact Reports South Campus Central Chiller/Cogeneration Project, Capital Planning, University of California at Los Angeles ~~(in preparation)~~.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the utilities impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/ Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

K. UTILITIES

Water Use:

Environmental Setting

UCLA is served by the City of Los Angeles Department of Water and Power (DWP), a public water district formed in 1902. The DWP obtains water from the Los Angeles Aqueduct, local wells, water purchases from the Metropolitan Water District (MWD), and reclamation of wastewater for use in certain irrigation applications. Additional sources of water may become available to DWP from seawater and brackish water desalinization, increased conservation of stormwater runoff, exchanges and transfers of water, and the restructuring of water pricing. The feasibility of enhanced supply options and the stability of existing supplies depends upon environmental, economic, legal and political factors. The diversion of water from Mono Lake and the Owens River, and groundwater pumping in the Owens Valley have been the subject of political and legal challenges.

DWP's 1985 Urban Water Management Plan states that normal year water use in Los Angeles is projected to increase from 559,000 AFY (1980) to 667,000 AFY in 2010. While substantial additional development will occur within the DWP service area, indoor per capita water usage is expected to decline. State law in effect since 1979 requires use of low-flow showerheads, toilets, and faucets for both new construction and remodeling. DWP has actively pursued retrofitting, with distribution of over 2 million residential retrofit kits since 1976.

DWP's November, 1985 study indicates that conservation measures saved 22,700 AFY in 1985, a savings which will increase to 42,900 AFY at the LRDP planning horizon.

UCLA's FY 1987-1988 water usage was approximately 1,515 million cubic feet, an average of 3.1 million gallons per day. As shown in Table K-1, UCLA's water usage has fluctuated over the years.

Approximately 88 percent of total campus water consumption is attributed to indoor use with approximately 12 percent used for landscape irrigation. Primary water users include: research laboratories, Medical Center, steam boilers and cooling towers, food facilities, lavatories, laundries, custodial areas, showers and drinking fountains.

TABLE K-1
UCLA TOTAL WATER CONSUMPTION
1977/78 - 1987/88

Year	100,000 Cubic Feet	Percent Change
1977/78	1065.2	n/a
1978/79	1139.1	6.95
1979/80	1059.3	(7.02)
1980/81	1252.9	18.32
1981/82	1161.3	(7.34)
1982/83	1113.1	(4.13)
1983/84	1315.5	18.24
1984/85	1693.2	28.65
1985/86	1210.6	(28.47)
1986/87	1440.0	18.95
1987/88	1515.0	5.21

Source: UCLA Facilities Management, June 1990.

Note: 1 cubic foot equals 7.48 gallons.

In 1989, UCLA completed a retrofitting program to install low-flow equipment on all showers, toilets, and urinals in all campus facilities except for patient care facilities in the Medical Center. This program will reduce campus water consumption by about 4 percent, and represents a significant reduction in water use compared to older flush valves and showerheads.

UCLA has also established maintenance programs to reduce water loss due to leaky faucets and water main breaks, and has installed hot water circulating pumps that provide almost instantaneous hot water in lavatory faucets, therefore preventing the wasteful running of water until it becomes hot.

Approximately 372,000 gallons per day are used for landscape irrigation. UCLA encourages the use of drought-tolerant plants in landscaping in many campus areas, including the Botanical Garden. The 62.8 acres of turf area are estimated to consume about 4.7% of the water used for irrigation, with planter beds and shrub areas accounting for 3.9% and 3.6% respectively. These values are estimates based on the type and spacing of sprinklers in typical landscaped areas and average watering times by landscape type (Ref. 1).

The campus is in the process of replacing older galvanized irrigation pipes with new polyvinylchloride (PVC) pipes and automatic sprinkler controls to activate irrigation systems that can be utilized during evening hours to reduce water losses from evaporation. To date over 20 percent of the campus' irrigated landscape areas have been converted, with the remaining areas to be completed within eight years. This change, coupled with use of automatic timers, is expected to significantly reduce irrigation water loss through leaks and evaporation.

Environmental Impact and Mitigation Measures

Because of the limited available water supply throughout the Los Angeles Basin, any increase in water demand related to implementation of the LRDP is, for the purposes of this EIR, considered a significant impact.

The Draft LRDP provides a basis for consideration of the potential impacts on water consumption. As projects are developed during the fifteen-year LRDP horizon, the specific effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

***Impact K-1: Implementation of the Draft LRDP will result in additional water consumption of approximately 1,479,400 gallons per day.**

Table K-2 estimates total water use resulting from implementation of the Draft LRDP. This projection represents a 47 percent increase over 1987-88 ~~present~~ levels. ~~including the net increase resulting from operation of the proposed chiller/cogeneration project and removal from service of the central steam plant and other equipment replaced by the chiller/cogeneration project.~~

TABLE K-2
PROJECTED DAILY WATER CONSUMPTION
UCLA YEAR 2005 - GALLONS PER DAY
(Before Mitigation)

Use Category	1987-88 ~~Existing~~ Gallons (000s)	Net New Gallons (000s)*	Total After LRDP Implementation
Indoor Use	2,734.8	1,491.8	4,226.6
Outdoor Use	380.0	(12.4)	367.6
Total Use	3,114.8	1,479.4	4,594.2

Source: UCLA Facilities Management/EIP Associates

* Includes estimated water consumption for projects approved and under construction since 1988 (2.3 million square feet excluding parking structures), and proposed LRDP development of 3.71 million square feet.

Mitigation Measure K.1.1: The University shall monitor on an annual basis the amount of new building square footage on campus in order to determine additional demands on the water system.

Mitigation Measure K.1.2: New facilities and renovations (except for patient care facilities in the Medical Center) shall be equipped with low flow showers, toilets, and urinals in conformance with state law.

Mitigation Measure K.1.3: If consistent with proposed uses, new landscaping shall use drought-resistant plants such as oleanders, agapanthus and rapheolepsis, and drought-resistant groundcover such as ice plant and ivy. ~~Reclaimed water shall be investigated as a source to irrigate large landscaped areas~~. Other measures to reduce landscaping irrigation needs shall include establishing automatic timing systems where feasible to apply irrigation water during times of the day when evaporation rates are low, install drip irrigation systems where appropriate, include the use of mulch for landscaping where appropriate, and subscribe to the California Irrigation Management Information System network for current information on weather and evaporation rates.

Mitigation Measure K.1.4: Provide maintenance service to promptly detect and repair leaks in water and irrigation pipes.

Mitigation Measure K.1.5: Retrofit existing cast-iron irrigation pipes with PVC pipes and an automatic timer system allowing for more efficient and off-peak hour irrigation.

Mitigation Measure K.1.6: Avoid using water to clean sidewalks, walkways, driveways and parking areas.

Mitigation Measure K.1.7: Avoid serving water at UCLA food service facilities except upon request.

Mitigation Measure K.1.8: Promptly detect and repair leaks.

Mitigation Measure K-1.9: Provide ongoing water treatment programs for campus cooling equipment, by adding biodegradable chemicals to cooling water, thereby reducing the amount of water used to flush cooling equipment by approximately 20 percent since the systems can be flushed less often.

Mitigation Measure K-1.10: Provide education programs for Facilities Management and general campus employees on the importance of water conservation, and implement an education program for the campus community on the importance of water conservation measures and describing appropriate conservation measures.

Mitigation Measure K-1.11: Reduce water pressure in plumbing and pipe systems where feasible to reduce the flow of water from faucets, showers, and other plumbing fixtures.

Mitigation Measure K.1.12: In the event that individual projects under the 1990 LRDP create additional water demand beyond available water supplies, development shall be deferred pending availability of adequate water supply through conservation, ~~use of reclaimed water~~, development of new water sources, or other means.

Following implementation of these measures, overall projected campus water consumption is anticipated to be reduced by at least 15% below the 4.5 mgd total shown in Table K-2.

DWP estimates that a 15% reduction in current water usage rates will be achieved by the implementation of new, "water-efficient" development that includes low flow fixtures and drought-resistant landscaping; this estimated reduction would be achieved by the implementation of these measures on the Campus.

In addition, the Campus irrigation pipe replacement program is anticipated to result in the 10% decrease in water consumption for turf irrigation included in the City's Water Conservation Ordinance when approximately 50% of the existing system is replaced (20% has been replaced to date); further decreases will result when the system is completely replaced during the LRDP planning horizon.

Finally, the measures noted above are generally consistent with the measures included in the City of Los Angeles' Water Conservation Ordinance and the Xeriscape Landscape Ordinance, and exceed the 10% water consumption reduction goal recommended in the LA 2000 Report. Two components of these Campus water conservation mitigation measures differ from the Water Conservation Ordinance: first, due to special public health concerns which became apparent when the Campus installed some low flow toilets in the Medical Center several years ago, the Medical Center is not included in the toilet retrofit program; second, due to the significant historical and cultural value associated with the six campus decorative fountains, these features are maintained in working order. In addition, special campus uses (eg., recreational fields) will require the use of turf; however, the mitigation measures proposed encourage drought-resistant plantings when not inconsistent with a proposed use. Since overall implementation of these Campus water reduction mitigation measures meets or exceeds adopted local conservation goals, these two exceptions are not considered significant.

Nevertheless, since any increase in overall water consumption is considered significant in the Los Angeles Basin, this impact remains significant and unavoidable even following the implementation of these mitigation measures.

Cumulative Impact

Increased development and population growth in the Los Angeles Basin will result in increased cumulative water consumption.

The DWP 1985 Urban Water Management Plan includes regional water demand and supply projections as well as demand management and supply enhancement elements. Because these regional elements are not within the jurisdiction of The Regents to implement, and because these elements include measures which are unfunded or otherwise uncertain from a technical, economic, legal or political perspective, the cumulative water supply impacts of projected regional growth are considered significant and unavoidable for purposes of this EIR.

By the year 2005, there could be over 9.8 million square feet in additional commercial/office building area, and over 14,000 additional housing units. This additional development will consume a significant amount of water, and is considered a significant unavoidable impact. Development within the City of Los Angeles is required to comply with the City's Water Conservation Ordinance and the Xeriscape Landscape Ordinance. Although this will reduce water consumption, cumulative impacts are considered significant and unavoidable.

Solid Waste:

Environmental Setting

Regulatory Background

In 1989, the Legislature adopted the California Integrated Waste Management Act of 1989. The Act requires that each county prepare a new Integrated Waste Management Plan. The Plan must include a Source Reduction and Recycling Element prepared by each city within the county by July 1, 1991. Each source reduction element must include a schedule providing for source reduction, recycling or composting of 25 percent of solid waste in the jurisdiction by January 1, 1995, and of 50 percent by January 1, 2000.

Campus Solid Waste Handling

Waste disposal for UCLA on-campus facilities is managed through a contractual agreement with a private waste hauler. The waste hauler contract includes all on-campus classroom facilities, residence halls, the medical center, the Student Union buildings, and the Associated Student food service areas.

The UCLA on-campus facilities presently produce an average of 47 tons of refuse per day. Garbage truck pick-up services operate six days a week, Monday through Saturday (Ref. 3). All garbage is loaded into open-top dumpsters without separating, except for plant waste, which will be separated into special dumpsters beginning in 1990. On-campus refuse compaction facilities are made up of two stationary compactors at the Medical Center and one stationary compactor at the Student Union (Ref. 4).

Since early 1989, UCLA and its waste hauling contractor have collaborated to develop a recycling program that includes an off-site waste recycling transfer station. Refuse (excluding plant waste) is transported to this site where it is separated. As of January, 1990, approximately 38 to 45 percent of solid waste generated by the campus (excluding the Medical Center, Residence Halls and Ornamental Horticulture) is recycled. The remainder is transported to landfills along with the campus plant waste.

Disposal Sites

All nonrecyclable refuse is transported from UCLA to the Calabasas, BKK, and Sunshine Canyon landfills. These three landfills are considered to be major Class III landfills, which are landfills receiving more than 50,000 tons of solid waste per year. All recyclable UCLA refuse is transported to the De Garmo Avenue Dump, located at 9147 De Garmo Avenue in Sun Valley (Ref. 5).

The Calabasas landfill, operated by the Los Angeles County Sanitation Districts, has a remaining capacity of 5 million tons (Ref. 6). A future 14 million ton capacity expansion has been proposed for this landfill, with 1993 set as the target date for final approval (see Table K-3 for a breakdown of major landfill capacities in Los Angeles County). The anticipated life expectancy of the Calabasas landfill, as with all landfills in Los Angeles County, is contigent upon whether other proposed landfill expansions are actually approved in the future.

TABLE K-3
MAJOR LANDFILLS IN LOS ANGELES COUNTY

Landfill	Remaining Capacity (in Million Tons)	Remaining Years
Antelope Valley	1.09	5.0
Azusa Western	1.30	2.5
BKK	12.00	6.0
Bradley West	19.60	10.8
Burbank	0.19	3.0
Calabasas	5.00	3.0
Chitquita Canyon	5.30	5.5
Lancaster	0.42	5.0
Lopez Canyon	15.00	10.0
Puente Hills	16.20	4.5
Scholl Canyon	2.50	1.5
Spadra	5.40	5.7
Sunshine Canyon	8.30	4.2
Whittier	1.06	9.7

Sources:

<u>Solid Waste Management Status and Disposal Options in Los Angeles County</u>, City of Los Angeles Public Works and County of Los Angeles Public Works, January 1988.

<u>Los Angeles County Solid Waste Siting Project</u>, Los Angeles County Department of Public Works, May 1987.

<u>Solid Waste Management Plan</u>, Los Angeles County Department of Public Works, August 1985.

Nearly all of the County's 14 major Class III landfills have expansion proposals currently under review. Outside of the Azusa Western landfill, which has already received tentative approval for a one million ton capacity expansion and is anticipated to receive final approval in 1990, all other proposed landfill expansions are not expected to receive final approval until 1992-3 (the approval process for landfill expansions usually takes 3 to 5 years to complete). If none of the landfill expansions are approved, the Calabasas landfill would reach full capacity by the year 1992. If the other landfills receive expansion approval but Calabasas is denied expansion approval, the Calabasas landfill would be closed by approximately 1996. If all landfills including Calabasas receive expansion approval, Calabasas would not reach full capacity until the year 2009 (Ref. 7).

All operations at the BKK landfill are to cease by November 1995 in accordance with a Memorandum of Understanding with the City of West Covina (Ref. 8).

The projected remaining permitted capacity for Sunshine Canyon is approximately 8.3 million tons, with 4.2 years of operation remaining before this landfill reaches full capacity. The landfill operators are presently seeking a 215 million ton capacity expansion approval, by far the largest expansion request for any of the County's landfills (Ref. 8).

The De Garmo Avenue Dump (DGAD) is a transfer station facility that performs on-site waste separation for recycling and forwards nonrecyclable refuse to the Sunshine Canyon and Chiquita Canyon landfills (Ref. 9).

Environmental Impact and Mitigation Measures

For the purposes of this EIR, exceedance of the current or planned capacity of local landfills as a result of a project-related or cumulative demand would constitute a significant impact.

The Draft LRDP provides a basis for consideration of the potential impacts on solid waste disposal capacity. As projects are developed during the fifteen-year LRDP horizon, the specific effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impacts discussion will reduce the impacts to a less-than-significant level.

***Impact K-2: Implementation of the proposed LRDP is anticipated to generate approximately 20,105 additional pounds of solid waste per day (Ref. 11).**

Projected solid waste generation by land use zone and type of use is shown in Table K-4. Since landfills in Los Angeles are near capacity, any additional solid waste generation is considered a significant impact.

Mitigation Measure K-2: The campus will develop and implement, by the end of 1991, a solid waste reduction and recycling program designed to result in a minimum 25%

TABLE K-4
PROJECTED INCREASES (BEFORE MITIGATION) OF UCLA
SOLID WASTE GENERATION - YEAR 2005

Uses	GSF	Generation Ratio	Pounds Per Day
Professional Schools	300,000	5 lbs./1,000 sq. ft.	1,500
Arts	200,000	5 lbs./1,000 sq. ft.	1,000
Letters & Science	500,000	5 lbs./1,000 sq. ft.	2,500
Health Sciences	500,000	5 lbs./1,000 sq. ft.	2,500
Library	200,000	5 lbs./1,000 sq. ft.	1,000
Administration	255,000	6 lbs./1,000 sq. ft.	1,530
Affiliated Units	50,000	5 lbs./1,000 sq. ft.	250
Child Care	40,000	5 lbs./1,000 sq. ft.	200
Medical Center	300,000	7.5 lbs./1,000 sq. ft.	2,250
Recreation	75,000	5 lbs./1,000 sq. ft.	375
Student Affairs	190,000	5 lbs./1,000 sq. ft.	950
Housing	1,100,000	5.5 lbs./1,000 sq. ft.	6,050
TOTAL	**3,710,000**		**20,105**

Source: Average Solid Waste Generation Rates, City of Los Angeles, April 1981.

reduction in the total quantity of campus solid waste which is disposed of in landfills during the LRDP plan period. The recycling component of this program shall include a "white paper" recycling program for classrooms and offices and the use of "green waste" for compacting. The campus solid waste hauling contractor will continue to utilize an off-site waste recycling transfer station. In addition, the campus will comply with any future statewide source reduction measures applicable to the University of California which have been adopted pursuant to the Integrated Solid Waste Management Act, including the Assembly Concurrent Resolution Number 149. The Campus shall also prepare a study on the feasibility of creating an on-site trash separation and recycling program for UCLA.

After the implementation of this mitigation measure, the Draft LRDP is projected to result in a net decrease of approximately one to two tons per day below the current amount of campus solid waste disposed to landfills. This net decrease reduces this impact to a less-than-significant level.

Cumulative Impact

Increased off-campus development and population growth will result in increased generation of solid waste in Los Angeles County.

Development of off-campus related projects will result in a net increase in solid waste generation. By the year 2005, there could be up to 10 million square feet of new commercial/office building area, and approximately 14,000 new housing units, in the off-campus related project area. This additional development could generate up to 1 million pounds of solid waste per day.

Even if currently proposed landfill expansions are approved, cumulative development is likely to lead to an exceedance of local landfill capacity. To implement the Integrated Solid Waste Management Act, the City and County of Los Angeles must plan to achieve, by 1995, a 25% reduction in solid waste disposed of by landfill or incineration and by, 2000, a 50% reduction. Los Angeles City and County have recently prepared solid waste management plans (Refs. 17 and 18).

The campus will participate in the planning efforts of the City and County of Los Angeles to assist in developing regional solid waste reduction strategies in conformance with the Integrated Solid Waste Management Act.

Although implementation of Mitigation Measure K-2 will result in a net decrease in solid waste production on the UCLA campus, ~~Because~~ projected regional landfill demand continues to exceed projected regional landfill supply. ~~and~~ Because the development and implementation of City and County plans to increase landfill capacity and to conform to the Integrated Solid Waste Management Act are not within the jurisdiction of The Regents, the cumulative solid waste impacts of projected regional growth are considered significant and unavoidable for purposes of this EIR.

Wastewater:

Environmental Setting

UCLA's Facilities Management Department is responsible for the maintenance of sanitary sewer lines located on campus. The University sanitary sewer system consists of 6- and 8-inch lines which connect into four City of Los Angeles sewer mains that cross campus, running from north to south. Sewer mains on-campus are located as shown on Figure K-1.

SOURCE: University of California, Los Angeles

↑ North no scale

UCLA
Long Range
Development Plan EIR

Figure K-1
Sewer System Map

According to the Department of Public Works, sufficient line capacity appears to exist in the West Los Angeles-Westwood area to transport the anticipated additional sewage flow. However, downstream, the North Outfall Replacement Sewer is at capacity and has experienced problems with back-ups during periods of heavy use. This difficulty is expected to be resolved by 1991 when the proposed addition to the sewer system is scheduled to come on-line. The proposed segment will be constructed to the east and south of the current collector sewers and will divert sewage loads easterly away from the currently congested portions of the sewage system.

UCLA Architects and Engineers, a division of Capital Programs, are responsible for determining utility needs and for planning improvements to the sanitary sewer system. A recent study estimated the design capacity of existing main lines on campus and their remaining available capacities. The Draft Report for the Campus Sewer Study, October, 1989 is based on flow measurements taken at five observation manholes in June of 1989. The Draft Report indicates that sewer main lines on campus, monitored for flows over a 21-day time period, have ample available capacity (Ref. 11). The study does not evaluate the capacity and condition of feeder and branch lines on campus. The final study, expected in Spring of 1990, evaluates the extent of upgrades that may be necessary for future campus development. A summary of sewer flow measurements for the campus outlined in the study show maximum daily flows of 2.6 million gallons per day (Ref. 11).

The UCLA campus currently holds 42 permits from the Los Angeles Bureau of Sanitation for industrial wastewater discharges. Major sources of industrial wastewater on campus are primarily from research facilities and laboratories, kitchens, laundries, swimming pools and cooling towers. The City of Los Angeles Bureau of Sanitation, Industrial Waste Section, periodically inspects industrial wastewater sources to ensure that proper procedures are being followed. Additionally the UCLA Office of Research and Occupational Safety (ROS) is responsible for insuring compliance with industrial wastewater regulations. The Office's sanitarian processes requests for permits, and a chemical safety officer is responsible for a program that educates and enforces procedures for proper industrial wastewater disposal. Water quality testing by the Bureau of

Sanitation staff is being facilitated with the installation of sampling boxes in newly constructed facilities (Ref. 12).

(1) Wastewater from the site is currently treated at the Hyperion Treatment Plant (HTP) located in Playa Del Rey, directly west of the Los Angeles International Airport. The HTP treats wastewater from almost all of the City of Los Angeles as well as seven contract cities including Santa Monica, Beverly Hills, Burbank, Culver City, El Segundo, Glendale, San Fernando, and portions of Los Angeles County and 29 contract agencies. These neighboring cities and agencies are under contract to Los Angeles to participate in the cost of having their wastewater treated at the City's facilities.

The Hyperion Treatment Plant was fully operational in 1950 with a design volume of approximately 320 MGD of wastewater. Currently, HTP has a nominal capacity of 440 MGD. All flows receive primary treatment, however, only 185 MGD receive secondary treatment through the activated sludge process. Both the primary and secondary treated liquids (effluents) are mixed together and discharged into the ocean through two outfalls into Santa Monica Bay. The solids (sludge) captured by the primary and secondary processes are biologically digested and until December 31, 1987 were discharged though a seven-mile outfall to the rim of a deep submarine canyon. Since December 31, 1987, the sludge has been chemically modified to produce a soil-like material used for landfill cover. The chemical modification produces methane gas used to power the electrical generator and air compressor equipment at the plant.

The Hyperion Service Area also encompasses two inland reclamation plants: the Los Angeles/Glendale Water Reclamation Plant (LAGWRP) and the Tillman Water Reclamation Plant (TWRP). Both plants were constructed to treat wastewater which otherwise would not reach the HTP without the construction of additional outfall relief sewers. LAGWRP was completed in 1976 and is capable of

(1) The above information on wastewater treatment in the city of Los Angeles is from the Draft EIR for the Wilshire and Barrington Project (SCH #89010259).

processing 20 MGD of wastewater. TWRP became operational in 1985 and is designed to process 40 MGD. Expansion plans proposed for TWRP would increase its capacity to 80 MGD by 1992. The available capacity at HTP has been significantly reduced within the last four years, due to increased development in the City of Los Angeles. At this time, the Hyperion Treatment System (including the LAGWRP and the TWRP) has the capacity to treat 480 MGD and is currently treating 440 MGD. Prior to 1987, sewage discharged into the system has increased at a rate of approximately 10 MGD a year over the past four years. It is anticipated that the Hyperion Treatment System will reach capacity in another four years assuming growth continues at the present rate. Recent sewage spills in the Ballona Creek area near the HTP can be attributed to a lack of backup power at pumping stations. These sewage spills have contributed to pollution problems in Santa Monica Bay.

The City of Los Angeles has responded to the sewage capacity problem by proposing to limit growth in the system from projects in the City to 5 MGD per year. The City Council recently adopted a new Sewer Permit Allocation Ordinance (No. 166,060) on August 23, 1990, that limits the future issuance of sewer connection permits, and hence building permits, in the City of Los Angeles until such time as the Council finds that the Hyperion Treatment System is capable of managing sewage flow above the limits established by the ordinance and until a Balanced Growth Element of the General Plan adopted by the Council becomes effective. The 5 MGD annual allocation is divided into monthly increments and once the monthly ration of sewage capacity is claimed, no more building permits can be issued until the following month. Thirty four and a half percent (34.5%) of the total monthly allotment can be utilized for Priority Projects as determined by the Department of Planning and Department of Public Works. Priority Projects include affordable housing projects, mixed-use projects, cetain projects in areas with an imbalance of the Jobs/Housing ratio, non-profit hospitals and other special residential projects. Eight percent (8%) of the total monthly allotment is reserved for Public Benefit Projects as determined by the City Council. Of the remaining fifty seven and a half percent (57.5%) reserved for non-Priority Projects, sixty-five percent (65%) is allocated for residential projects and thirty-five percent (35%) is allocated for non-residential projects. Priority Project and Public Benefit Project capacity not allocated to a project within twelve months is made available for allocation to non-Priority Projects. Portions of non-Priority Projects not allocated by the end of the month are added to the next months respective allotment. Under the ordinance, sewerage availability for individual projects is determined on a first come - first serve basis, unless the project is otherwise exempted or has priority or public benefit status under the ordinance.

Many projects are underway at HTP to provide a significant improvement in the quality of discharges into Santa Monica Bay. Recently completed and in the start-up/ operational stages as of late 1987 is the Hyperion Energy Recovery System (HERS) which was designed to stop discharging the sludge into the Bay. By the HERS process, the sludge is dehydrated and combusted into ash which is then trucked off-site for reuse as a copperflux replacement. One important usable by-product of the HERS process is steam which is harnessed to generate additional electricity for the plant.

The next major series of projects at HTP will provide full secondary treatment by December 31, 1998. The HERS project by itself cannot handle total HTP and sludge loads with the commencement of full secondary treatment. Accomplishing this requires new facilities, refurbishing or modernizing others, as well as removing and replacing a number of facilities that have exceeded their useful life. When these projects become operational, only secondary effluent will continue to be discharged into the ocean. Although other uses might be available for the effluent, it is likely that the ocean discharge would continue via the two outfalls.

Other improvement projects now in the planning, design or construction stage are being implemented within the Hyperion Treatment System. These improvements include additions, repairs and replacements of sewer lines and pumping stations that make up a large part of the collection system. The improvement projects are being implemented to mitigate the impacts from new development and the additional wastewater generation in order to prevent overflows and reliably transport wastewater to the treatment plants.

Environmental Impact and Mitigation Measures

For the purpose of this EIR, an increase in sewer flow that exceeds the capacity of the sewer delivery and/or treatment system is considered significant. Because the Hyperion Treatment System is operating at or near capacity, any increase in sewer flow in this service area is considered significant.

The Draft LRDP provides a basis for consideration of the potential impacts. As projects are developed during the fifteen-year LRDP horizon, the specific effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

***Impact K-3: Implementation of the Draft LRDP will increase wastewater flows by approximately 900,750 ~~997,530~~ gallons per day, resulting in increased flows through sewer conveyance pipes and to the Hyperion Treatment System.**

New development within the Hyperion Treatment System is constrained by existing sewer capacity limits. The capacity for future growth within this service area will eventually be accommodated by the expansions at the Tilman and Glendale/Los Angeles Reclamation Plants. However, the impact of any sewage increase within the Hyperion System is considered to be an adverse impact due to present capacity constraints.

This estimated increase in wastewater projected under the LRDP could have a significant impact on existing sewer conveyance pipes and on the Hyperion Treatment System. Due to existing sewage treatment and conveyance system capacity constraints, LRDP growth, if not carefully phased with planned improvements to the City of Los Angeles Hyperion System, may result in sewer overflows and sewage spills into Santa Monica Bay. Although UCLA will monitor the LRDP implementation process to guard against exceeding the available sewage treatment capacity, a remote possibility exists that LRDP implementation could proceed with inadequate sewer capacity if improvements to the Hyperion Treatment System are not implemented as scheduled. As has occurred with the North Outfall Sewer line, sewage spills may result in the contamination and closure of local beaches due to the threat to public health. Sewer system overflows could also result in contamination to soils and groundwater due to wastewater infiltration. In the event that sewage treatment capacity is not available to accommodate LRDP development or other alternative sewer treatment capacity were not available, UCLA would have the option of deferring implementation of development or putting in place a phasing and monitoring program to ensure that available treatment capacity is not exceeded. Under such a program undertaken in cooperation with the City of Los Angeles, sewage spills and potential threats to public health would be avoided.

The amount of wastewater projected to be generated by the Draft LRDP is shown in Table K-5. This represents an increase in the amount of effluent generated on campus of approximately 34.6 ~~32~~ percent over the fifteen year time frame covered by the Draft LRDP.

Campus sewer main lines analyzed in the Draft Report for the Campus Sewer Study have been determined to have available capacity to meet projected demand from development under the Draft LRDP.

Off-campus, sewer line capacity is constrained by the need to complete the North Outfall Replacement Sewer. In addition, other sewer lines in the Westwood area are operating near capacity. As noted above, the present components of the Hyperion Treatment System are also operating at near capacity.

Mitigation Measure K.3.1: By reducing indoor water consumption, implementation of the water conservation measures identified in Mitigation Measures K.1.1, K.1.3, K.1.5 and K.1.7, will also mitigate impacts to sewer delivery systems and sewer treatment plant capacity. Wastewater generation will be reduced by 15% below the level identified in Table K-5 with implementation of these mitigation measures.

Mitigation Measure K.3.2: An evaluation of sewer line and treatment plant capacity will be undertaken in conjunction with the preparation of environmental documentation for each new or expanded facility proposed to be developed during the implementation of the Draft LRDP.

Mitigation Measure K.3.3: In conformance with recently-enacted state law authorizing state agencies to pay the capital costs of local infrastructure improvements needed to meet the service needs of state agencies, the

TABLE K-5
WASTEWATER IMPACTS
UCLA LONG-RANGE DEVELOPMENT PLAN
(Before Mitigation)

Land Use	Size	Generation Factor	LRDP Wastewater Generation
Campus Buildings	1,910,000 sq.ft.	200 gpd/1000 sq.ft.	382,000 gpd
Medical Buildings	700,000 sq.ft.	500 gpd/1000 sq.ft.	350,000 gpd
Housing	1,125 units*	150 gpd/unit	168,750 gpd
~~Chiller/Cogeneration Plant~~	~~105,000 sq.ft~~.	~~**~~	***~~96,780 gpd~~
Total	3,710,000 sq. ft.		900,750 ~~997,530 gpd~~
~~Total Annual Wastewater Generation~~			~~328,773,750~~ ~~363,905,000 gpy~~
Current Wastewater Generation			2,600,000 gpd
Total Daily Wastewater Generation - Year 2005			3,500,750 gpd

*An estimate of the total number of dwelling units to be provided for 2,700 students, faculty and staff.

**Source: Jai Agaram, Facilities Management, ~~2/21/90~~. August, 1990.

*** The Chiller/Cogeneration Plant is already included in the "Campus Buildings" category. Therefore, the "Chiller/Cogeneration Plant" category has been eliminated from the total. Refer to the discussion of wastewater impacts in the Chiller/Cogeneration Facility Final EIR of September, 1990.

gpd = gallons per day
gpy = gallons per year

Campus will negotiate with the City to determine the University's reasonable pro rata share of the cost for sewer system improvements and will reimburse the agreed-upon amount to the City through such mechanisms as may be negotiated between the University and the City.

Mitigation Measure K-3.4: Development of a wastewater reclamation facility to treat wastewater on-campus and recycle treated water for landscaping irrigation and some in-building uses.

An analysis of the potential for on-campus wastewater reclamation prepared by Psomas & Associates is included in Appendix I. Volume II of this Draft EIR. The study considered the logistic and fiscal implications of the development of an on-site wastewater treatment facility, including facilities for the collection, storage, treatment, and distribution of treated water. Potential uses of treated reclaimed water include landscape irrigation, the reuse in plumbing systems (e.g., in toilets and urinals) or use in cooling systems. The study noted, among other things, that on-campus wastewater reclamation would require a significant amount of land area for storage facilities and treatment equipment, and would require considerable costs for construction of the facility as well as for installation of a secondary pipe network and retrofit of existing buildings.

Based on the results of this study, and on operational and other reasons, the campus has concluded that wastewater reclamation is not feasible, for the following reasons: 1) the lack of vacant land near the southern edge of the main campus to provide space for collection and storage of wastewater, which would require that the wastewater be pumped to a more central campus location for storage and treatment; 2) the amount of land area needed for: a) storage facilities for the wastewater, b) the treament equipment, and c) storage facilities for the treated water; 3) the limited amount of vacant or underutilized land on campus that could be dedicated to this function; 4) the requirement for a secondary piping network to collect the wastewater and distribute the treated water; and 5) the cost to retrofit existing buildings to install pipe systems to distribute "grey" water for use in restrooms, in cooling systems, or for other uses such as landscape irrigation. While considered in this EIR, this mitigation measure has not been incorporated into the project at this time by the campus.

In addition, on-site wastewater treatment is not seen as a feasible alternative for the campus for the following reasons. State and County health officials have in the past opposed the introduction of small scale sewage treatment plants citing that when compared to larger scale plants they are inherently less efficient, substantially more expensive, and subject to upset on a more frequent basis. Past proposals for small scale wastewater treatment systems within the Los Angeles region have been met with skepticism and have not been successful in demonstrating full compliance with Title 22 of the California Code of Regulations for reliably producing a pathogen free effluent to the satisfaction of State Department of Health Services and the Los Angeles County Department of Health Services. Larger scale wastewater technologies, developed and proven effective to the satisfaction of State Department of Health Services and the Los Angeles County Department of Health Services, were tested over a period of ten years by monitoring on-line, full-scale wastewater treatment facilities. These numerous constraints attest to the lack of successful small scale sewage treatment plants, and the difficulties in establishing a facility that would provide high quality, tertiary treated, pathogen free wastewater.

Mitigation measures K.3.1, K.3.2 and K.3.3 will reduce overall flow rates from new campus development into the sewer system, will ensure that there is sufficient capacity to provide wastewater services for each new development project proposed under the Draft LRDP, and will ensure that the Campus negotiates with the City to pay its pro rata share of the capital costs of improving sewer delivery and sewer treatment capacity. Nevertheless, since any increase in overall wastewater flows is considered significant in the Hyperion Treatment System service area, this impact remains significant and unavoidable even following the implementation of these mitigation measures.

Cumulative Impact

Increased development and population growth in the Hyperion Treatment System service area will result in increased sewer demand.

The City of Los Angeles plans to increase the capacity of Hyperion Treatment System, but anticipates that limitations will continue to be placed on net new increases of sewer flow to ensure that the improved System can provide adequate service to existing and new users. Thus, potential demand is projected to continue to exceed potential future capacity. Because neither the proposed capacity expansion nor the proposed user limitations are within the jurisdiction of The Regents to implement, and because some elements of planned capacity expansions and demand management strategies are unfunded or are otherwise uncertain from a technical, economic, legal or political perspective, the cumulative wastewater demand impacts of projected regional growth is considered significant and unavoidable for purpose of this EIR.

References

1. UCLA Water Conservation Report, 1988.

2. Urban Water Management Plan, page 3-34.

3. Telephone communication with Ruie Arnett, Executive Officer, UCLA Facilities Management, December 6, 1989.

4. Telephone communication with Sam Perdomo, Perdomo and Sons, November 20, 1989.

5. Telephone communication with Sam Perdomo, Perdomo and Sons, November 20, 1989.

6. Los Angeles County Solid Waste Siting Project, Los Angeles County Department of Public Works, Waste Management Division, May 18, 1987, Table I.

7. Telephone communication with Cliff Lum, Los Angeles County Sanitation Districts, Solid Waste Management Department, November 22, 1989.

8. Los Angeles County Solid Waste Siting Project, Table I.

9. Telephone communication with John Richardson, De Garmo Avenue Dump, December 4, 1989.

10. Average Solid Waste Generation Rates. City of Los Angeles, April 1981.

11. Rogoway/Borkovetz Associates, Draft Report for the Campus Sewer Study, November 20, 1989.

12. Personal communication, Brad Manning, Office of Research and Occupational Safety, University of California, Los Angeles, January 5, 1990.

13. Sewer Permit Allocations, Final Environmental Impact Report and Economic Impact Assessment, prepared by Environmental Science Associates, Inc., for the City of Los Angeles, November, 1989.

14. Personal communication, Wally Stokes, Environmental Coordinator, Environmental Management Group, City of Los Angeles Wastewater Division, November 20, 1989.

15. Sewer Permit Allocation, Final Environmental Impact Report and Economic Impact Assessment, Prepared by Environmental Science Associates, Inc., for the City of Los Angeles, November 1989.

16. Draft and Final Environmental Impact Reports South Campus Central Chiller/Cogeneration Project, SCH# 87090208, UCLA Capital Programs, August, 1990.

17. Draft Environmental Impact Report City of Los Angeles Solid Waste Management Plan, SCH#89022213, City of Los Angeles, July 1990.

18. Draft Program Environmental Impact Report, Integrated Solid Waste Management System for Los Angeles County, SCH#89010419, Sanitation Districts of Los Angeles County - Solid Waste Management Department, County of Los Angeles Department of Public Works, August, 1990.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

L. ENERGY

Environmental Setting

Electricity:

UCLA receives electrical service from LADWP at two substations, one located west of the central steam plant off of Circle Drive South, and the other west of Royce Hall in the Core Campus zone. The 34,500 volt primary power from the LADWP grid is supplied to these two substations on the main campus and one additional substation on the southwest campus. Electrical power is distributed to the main campus buildings at 4,800 volts and to the southwest campus at 4,160 volts.

Electricity presently makes up about ~~58~~ 48.1 percent of all on-campus energy use expressed in terms of source BTUs. The remainder of on-campus energy use is from natural and landfill gas. For the 1988-89 fiscal year, the on-campus buildings consumed a total of approximately ~~639,442,475~~ 220 million kilowatt hours of electricity.

Monthly electricity usage on campus is relatively constant during the course of a year. Lighting represents between 37-48% of total campus electric demand.

On-campus electricity conservation primarily involves increasing lighting system efficiency. Lighting conservation efforts involve installation of lighting reflectors, electronic ballasts, octron lamps, and occupancy sensors to automatically turn off lights when not in use.

The campus is currently in the process of converting all exterior lighting to high pressure sodium fixtures. In addition, many in-building lighting systems are being replaced over time with state-of-the-art energy-saving equipment such as automatic photo-sensitive switching equipment.

Conservation efforts are also expected to involve improving heating, ventilating and air conditioning (HVAC) system efficiency. This is likely to involve control of building HVAC systems through micro-processor controlled energy management systems.

Natural Gas:

Southern California Gas Company (SoCal Gas) delivered 979 billion cubic feet of natural gas to its customers 1988. Approximately 67 percent of this natural gas supply was sold directly to users and 33 percent was transported for high-volume customers that purchased their gas directly from producers and brokers (Ref. 5). Annual natural gas consumption in Los Angeles is generally in the range of 120 billion cubic feet (Ref. 6).

UCLA is classified by SoCalGas as a "P-4" customer, which is a low-priority classification allowing the gas company to cut off gas supplies during shortage periods. SoCalGas does not expect gas shortages for P-4 customers in the foreseeable future (Ref. 7).

The Campus' primary use of natural gas is to operate large boilers in the central steam plant for production of steam for heating and cooling. Natural gas is also used in the West Medical Steam Plant located in the Southwest Zone as well as in campus cafeterias, laboratories and residence halls. Heating is provided to main campus buildings through steam-operated systems, and cooling is supplied mostly by steam equipment. The Central Steam Plant produces steam for distribution to the main campus (Ref. 8). ~~Campus buildings in the southwest zone are served by a separate heating and cooling plant located south of Weyburn Drive (Ref. 8).~~

For the 1988-89 fiscal year, UCLA's on-campus buildings consumed 1,000,000 therms (0.1 x 10^6 MMBTU) of firm natural gas and ~~18,400,000~~ 9,800,000 therms (~~1.84~~ 0.98 x 10^6 MMBTU) of interruptable natural gas. Firm gas consumption refers to uses which have no readily available substitute (i.e. fuel switching capability), while interruptable gas consumption involves uses that can utilize alternative fuels such as fuel oil (i.e. UCLA central steam plant). Although the campus may consume fuel oil as an alternative energy source in emergencies, regular use of fuel oil was discontinued in February ~~1985~~ 1988 in an effort to reduce air pollution (Ref. 9).

Landfill gas is sold to UCLA by G.S.F. Energy, Inc. Between 4.0 and 5.0 million cubic feet per day are delivered to UCLA via a dedicated piping system originating at the Mountaingate Landfill, located northwest of the Campus near Sepulveda Pass. Landfill gas is used only in the central steam plant, not directly for space heating or cooking. UCLA is currently the sole purchaser of landfill gas from this source.

Overall Campus Energy Consumption

As shown in Table L-1, 1988-89 total fuel consumption by UCLA, including fuel used by LADWP to generate electricity

TABLE L-1
UCLA ANNUAL ENERGY CONSUMPTION SUPPLIED BY OFF-CAMPUS SOURCES

Fuel Type	Energy Consumption 1988-89	Energy Consumption 2005 Estimated With LRDP (7)
Electricity	1.8 x 10^6 MMBTU(1)	0.42 x 10^6 MMBTU(2)
Natural Gas	1.08 x 10^6 MMBTU(3)	4.08 x 10^6 MMBTU(4)~~(5)~~
Landfill Gas	~~0.23~~ 0.83 x 10^6 MMBTU(5)	
Fuel Oil	0(6)	0(6)
TOTAL	3.71 x 10^6 MMBTU	4.5 x 10^6 MMBTU

(1) ~~374,910,480~~ 220,000,000 kwh purchased from LADWP, assuming an estimated average LADWP power plant rate of 8,179 BTU/kwh for its coal, oil, and gas generating facilities. This excludes power generated by nuclear and hydroelectic facilities.

(2) Fuel used for DWP supply of an estimated 51.9 million kwh of backup electricity, at an average LADWP power plant heat rate of 8,179 BTU/kwh. ~~Other campus energy consumption for electricity generation included in the totals for natural gas and landfill gas under the LRDP~~.

(3) ~~19,400,000~~ 10.8 million therms of natural gas purchased. ~~purchased from SoCalGas~~.

(4) This corresponds to ~~estimated cogeneration fuel use in 2005~~. 3.85 x 10^6 MMBTU of interruptible gas for the chiller/cogeneration plant and 0.23 x 10^6 MMBTU of gas for other campus uses.

(5) ~~This value included the sum of 0.13 x 106 MMBTU (project non-cogeneration consumption of 10,807,750 cubic foot per month), and 0.1 x 106 MMBTU *current "firm" demand for natural gas, which includes current campus uses other than the central steam plant).~~ 8.3 million therms of landfill gas purchased in FY 88-89. Landfill gas is assumed unavailable by year 2005.

(6) Will only be used during curtailment of natural gas.

(7) Year 2005 estimates are based on LRDP building proposals, including the South Campus Chiller/Cogeneration Project.

Source: UCLA, Facilities Management, July, 1990.

used by UCLA, was ~~5.23~~ 3.71 x 10^6 MMBTU. With the implementation of the LRDP and the South Campus Chiller/Cogeneration Project, this overall use is projected to increase to 4.5 x 10^6 MMBTU in year 2005.

Environmental Impact and Mitigation Measures

According to CEQA, impacts related to energy consumption are considered significant if the project would encourage activities which result in the use of large amounts of fuel or energy, or would use fuel or energy in a wasteful manner.

The Draft 1990 LRDP does not propose specific projects; rather, it provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

Impact L-1: Upon implementation of the Draft 1990 LRDP, UCLA will consume more electricity annually than what is currently consumed; however, following implementation of ~~proposed~~ chiller/cogeneration project, the campus will purchase less electricity from LADWP. This impact is considered less-than-significant.

The campus is currently planning ~~proposing~~ the development of a central chiller and cogeneration facility, a major energy savings and infrastructure renewal project, which would consist of a central chiller plant and chilled water distribution system, and a cogeneration plant. The objectives of the ~~proposed~~ project are to: obtain a central energy-efficient chiller plant which will reliably and cost-efficiently produce chilled water to satisfy cooling demand and therefore reduce or eliminate large expenditures for the replacement of existing old and failing in-building chillers which are difficult to replace without extensive demolition and service interruption; obtain a cogeneration plant with the ability to supply the steam demand of the entire campus in order to replace the aging Central Steam Plant which needs seismic upgrading and whose boilers will require replacement or expensive retrofitting due to the new South Coast Air Quality Management District guidelines; and reduce the campus' long term utility expenditures and total dependency for electrical power on the Los Angeles Department of Water and Power (LADWP), with the potential for brown-outs and black-outs, while maintaining utility connections with LADWP for emergencies and peak load energy demands. (Ref. 10) Electricity demand related to LRDP implementation is within the service capacity of the LADWP but is expected to be served by the chiller/cogeneration facility. (Ref. 11) Therefore, there is no significant project-related impact on LADWP electricity service.

Mitigation Measure L-1: No mitigation measures are required. UCLA will continue to employ energy conservation measures described in the Environmental Setting portion of this subsection, and new construction on-campus shall be developed in accordance with all applicable State energy conservation requirements.

Impact L-2: Upon full implementation of the Draft 1990 LRDP, total annual natural gas consumption is estimated to be approximately 4.08X10^6 MMBTU per year. This is considered a less-than-significant impact.

The ~~proposed~~ Central Chiller/Cogeneration facility will replace 37 existing chillers in the South Campus that are located within individual buildings, and will generate and distribute electricity for the total campus. The chiller/cogeneration facility will ~~is expected to~~ burn natural gas. In the case of a natural gas curtailment, fuel oil can be fired directly in the auxiliary boiler.

The University expects to continue purchasing natural gas from SoCal Gas, although the service level will be upgraded from level 4 to level 3A, reducing the number of days of service curtailment (in the case of shortages or device problems). Natural gas will continue to be delivered through the normal pipeline supply.

The chiller/cogeneration facility is expected to use 3.85x10^6 MMBTU of natural gas per year (Ref. 10), for a net increase in natural gas consumption of approximately ~~1.91~~ 2.77 x 10^6 MMBTU per year after shutdown of the existing central steam plant. UCLA will continue to implement construction standards that comply with all applicable State energy conservation standards.

Natural gas could be supplied to the proposed project without major impacts to SoCal Gas supplies. The anticipated additional natural gas consumption is consistent with SoCal Gas projections for its service area, and therefore any additional gas supply demands resulting from the proposed project would be accounted for in future projections (Ref. 12). Therefore, impacts are considered less-than-significant.

Mitigation Measure L-2: No mitigation measures are required or recommended.

Impact L-3: Implementation of the Draft LRDP will result in increased efficiency in the use of energy by UCLA.

While direct campus use of electricity and natural gas is expected to increase as a result of LRDP implementation (see discussions above), the efficiency with which energy is used by the campus is expected to increase by approximately 14 percent ~~(see Table I-1)~~ (Ref. 10). The increase in efficiency is achieved by campus energy conservation measures and the greater energy efficiency of cogenerating steam and electricity for campus use as compared to continued reliance on the existing steam plant, chiller system, and LADWP electrical generation. This is a significant beneficial impact.

Mitigation Measure L-3: None required.

Cumulative Impact

Increased development and population growth will increase demand for electricity and natural gas.

An estimated total of 10 million square feet of nonresidential development and Approximately 14,000 housing units could be built in the related projects area off-campus by the year 2005. This development will permanently and continually consume electricity and natural gas. This cumulative impact is considered less-than-significant. ~~This development will have a cumulative impact on nonrenewable resources~~.

Impacts will be lessened through continued implementation of energy conservation and State building codes which call for energy efficient building design and materials. The City of Los Angeles Department of Water and Power and SoCal Gas routinely project electricity and natural gas demand and consumption, taking into account regional development trends and upgrading capacity to meet future demand.

References

1. Telephone communication with Arnold Kaida, UCLA Facilities Management, December 6, 1989.

2. Telephone communication with Arnold Kaida.

3. Project Planning Guide for Efficiency Enhancement of Lighting Systems, Phase I, Project Number 946215, UCLA Facilities management, January 1989, p. 2.

4. California Energy Demand: 1989-2009, Volume VI: The LADWP Planning Area Forms, California Energy Commission, June 1989.

5. 1988 Annual Report, Los Angeles Department of Water and Power.

6. The Energy/LA Action Plan, City of Los Angeles, 1981.

7. Final Environmental Impact Report for the UCLA Northwest Campus Development, February 1988.

8. Telephone communication with Ruie Arnett, Executive Officer, Administration, UCLA Facilities Management, November 22, 1989.

9. Telephone communication with Arnold Kaida.

10. Draft and Final Environmental Impact Reports South Campus Central Chiller/ Cogeneration Project, SCH# 87090208, UCLA Capital Programs, ~~August,~~ September, 1990.

11. Telephone communication, Jai Agaram, UCLA Facilities Management, February 1990.

12. 1987 California Gas Report, California Gas and Electric Utilities, 1987.

13. Application for Authority to Construct and Operate Central Chiller/ Cogeneration Facility Project, UCLA, Revised January 23, 1990.

The EIRs for both the Chiller/Cogeneration Project and the 1990 LRDP address the hazardous materials impacts of both projects in order to fully consider the environmental effects of both projects. The analysis in the Final 1990 LRDP EIR reflects a conservative approach in assessing impacts, by considering the impacts of the Chiller/Cogeneration facility along with the direct impacts of the 1990 LRDP. In effect, the environmental effects of the Chiller/Cogeneration facility as identified in the Final EIR for that project are restated in the 1990 LRDP Final EIR. This approach is not intended to suggest that: (1) the Chiller/Cogeneration facility is part of the 1990 LRDP; (2) the Chiller/Cogeneration facility was a prerequisite for implementation of the 1990 LRDP; and (3) that either project is a necessary condition for, a sufficient condition for, or even the first step in the implementation of, the other project.

M. HAZARDOUS MATERIALS

Environmental Setting

A number of properties may cause a substance to be considered hazardous, including toxicity, ignitability, corrosivity or reactivity. A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal or state regulatory agency, or if it has characteristics defined as hazardous by such an agency.

The California Department of Health Services (DHS) defines the term "hazardous material" as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or 2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed. Table M-1 illustrates the types of hazardous materials used at UCLA for a variety of activities, including research, patient care, instructional, and operational uses.

A "hazardous waste" is any hazardous material that is abandoned, discarded, or recycled (California Health & Safety Code Section 25124). The same types of criteria that render a material hazardous make a waste hazardous: toxicity, ignitability, corrosivity or reactivity.

Two types of materials that are often regulated separately from "conventional" hazardous materials are radioactive materials and infectious (biohazardous) material. Radioactive material is any material or combination of materials that spontaneously emits ionizing radiation. Biohazardous material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biological material.

Regulatory Setting

Users of hazardous materials are subject to numerous Federal and State laws and regulations, which are fully applicable to the University of California. Compliance with all applicable laws is, thus, an integral part of UCLA's policies and procedures governing transport, use, storage and disposal of hazardous materials.

TABLE M-1
HAZARDOUS MATERIALS

Substance	Use	Hazard
FLAMMABLES:		
Solvents	Lab chemicals, paint removers, degreasers, pesticides	Flammable, some explosive; some toxic damage to skin & respiratory tract; systemic damage to liver, kidneys, nervous system, etc.
Oxidizers	Lab chemicals	Stimulates combustion of organic materials.
Compressed Gases	Labs, welding, other campus shops	Flammable, some explosive (with potential for propellant effect), some toxic.
CORROSIVES	Lab chemicals, agents	Damage to skin and respiratory tract, some react to produce fire, explosion, or toxic fumes.
REACTIVES	Lab chemicals	Explosive (with or without detonation), some generate toxic fumes or explode when exposed to water.
TOXICS	Laboratory chemicals, pesticides, photographic chemicals	Capable of causing acute or chronic systemic damage or death, cancer, infertility, structural malformation of offspring.
BIOHAZARD	Vivaria & health clinic laboratories	Capable of producing diseased waste.
RADIOACTIVES	Laboratory chemicals	Capable of causing acute or chronic systemic damage, cancer, infertility, structural malformation of offspring.

Source: UCLA Department of Community Safety, Research and Occupational Safety and Radiation Safety Divisions, 1988-89; American Chemical Society, "RCRA and Laboratories," 1986; National Council on Radiation Protection and Measurements, Report No. 91, 1987.

Many agencies regulate the use of hazardous materials. These include federal agencies such as the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC), the Department of Transportation (DOT), the National Institutes of Health (NIH), and the Food and Drug Administration (FDA). State agencies, such as the Health and Welfare Agency (HWA) (which includes the Department of Health Services (DHS)), the Occupational Safety and Health Administration (Cal/OSHA) and the Office of Emergency Services (OES) have parallel, and in some cases more stringent, rules governing the use of hazardous materials. Local jurisdictions may also have ordinances concerning the transportation, use and release of hazardous materials.

In addition to the laws governing the use of hazardous substances, Federal and State laws also exist to control the generation, transportation and disposal of hazardous wastes. At the Federal level, the principal regulatory agency is the EPA. Within the State, DHS has primary regulatory responsibility, but local health departments may also enforce State laws relating to hazardous wastes.

The following are Federal and State laws and guidelines governing hazardous substances that are most relevant to UCLA's handling of hazardous materials and hazardous wastes.

Major federal laws:

- Resource Conservation and Recovery Act
- Occupational Safety and Health Act
- Energy Reorganization Act
- Federal Insecticide, Fungicide and Rodenticide Act
- Comprehensive Environmental Response Compensation and Liability Act
- Superfund Amendments and Reauthorization Act
- Toxic Substances Control Act
- NIH and National Cancer Institute Guidelines for Carcinogens and Biohazards
- Department of Health and Human Services Guidelines for the Care and Use of Laboratory Animals

Major State laws:

- Hazardous Materials Release Response Plans and Inventory Law ("Business Plan Law")

- Hazardous Waste Control Law

- California Occupational Safety and Health Act

<u>**UCLA Hazardous Materials Policies and Procedures**</u>

The Campus Department of Community Safety, Divisions of Research and Occupational Safety (ROS) and Radiation Safety (RS) have the primary responsibility for coordinating the management of hazardous materials on campus. These Divisions have broad administrative and surveillance responsibilities over operations on campus, to assist in assuring that appropriate standards of safety including biological and radiation safety, sanitation and hygiene are met for the protection of University personnel. ROS and RS develop and assist in the implementation of compliance strategies for all Federal and State regulations governing hazardous materials and wastes on the campus.

ROS and RS issue policies, evaluate departmental activities, and disseminate general information regarding the handling, storage and disposal of hazardous materials and wastes, in part through discussions with department heads, training of employees and teaching assistants, and also through distribution of various safety manuals, newsletters and other publications.

The Division of Radiation Safety manages the radiation safety program for those researchers using radioisotopes and monitors the use of these radioactive substances to assist in ensuring compliance with DHS and NRC regulations.

RS also collects spent radioactive materials and manages disposal of radioactive wastes. In accordance with California regulations and the University Broad Scope Radioactive Material License, individuals planning to use radioactive materials must apply for an Authorization from the Radiation Safety Division and the Radiation Safety Committee (described below). All radiation-producing machines must be registered with the California Department of Health Services.

The campus has two levels of faculty advisory committees that assist in developing policies and procedures for the safe management of hazardous materials and wastes. The highest level is the Chancellor's level which includes:

1. Chemical Safety Committee
2. Radiation Safety Committee
3. Institutional Biosafety Committee
4. Animal Research Committee
5. Medical Radiation Safety Committee

The Divisions of Research and Occupational Safety and Radiation Safety have members on each of these committees. The second level of committees is the Departmental Committees which assist in the implementation of policies developed at the Office of the Chancellor. The Departmental Committees include:

1. School of Medicine Safety Committee
2. Facilities Management Safety Committee
3. Department of Chemistry and Biochemistry Safety Committee
4. Hospital Health and Safety Committee
5. Neuro-Psychiatric Health and Safety Committee
6. Clinical Laboratory Safety Committee

Campus Hazardous Materials Use

Virtually all of the buildings on the UCLA campus contain commercial products (e.g., cleansers, and copier toners) which could be considered "hazardous materials" under regulatory definitions. Significant quantities of nonhousehold-type hazardous materials are used in approximately 25 buildings on the UCLA campus, as shown in Figure M-1. Hazardous material profiles for Campus users have been identified in the UCLA Business Plan (Ref. 1) prepared in conformance with the State Hazardous Materials Release Response Plans and Inventory Law of 1985. The primary users of hazardous materials on campus are:

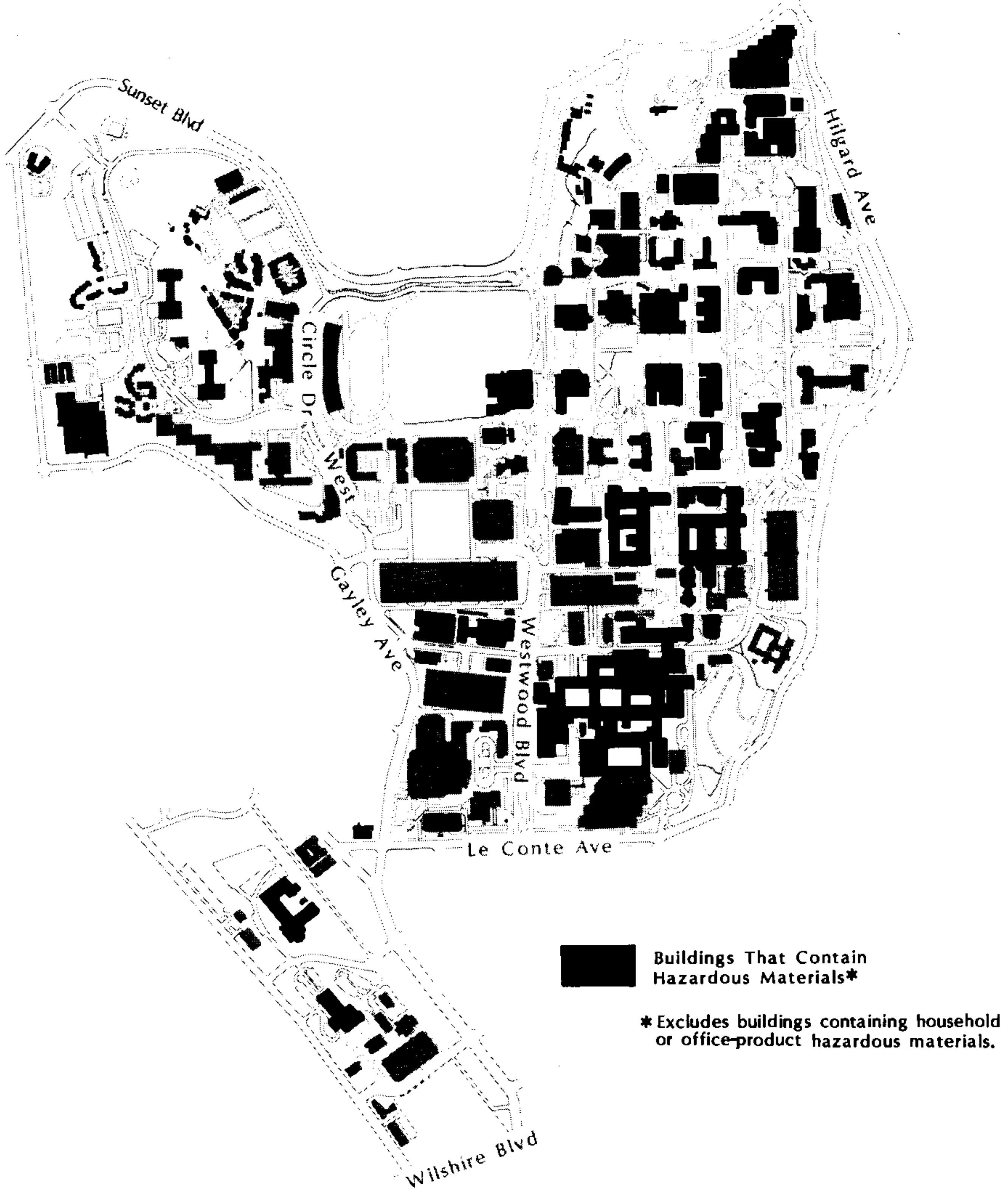
1. Department of Chemistry and Biochemistry

2. Facilities Management

3. Biology Department

4. Clinical Labs

5. School of Medicine



SOURCE: UCLA Business Plan, July 1989

↑ North no scale

UCLA Long Range Development Plan EIR	Figure M-1 Hazardous Materials in Labs, Studios, and Shops

6. Toxicology - Clinical Labs

7. Molecular Biology Institute (building)

8. Nuclear Medicine

9. SEAS - Chemical Engineering

10. Physiology - School of Medicine

Of these, only the Department of Facilities Management (DFM) is a non-laboratory user. DFM units such as Grounds, Custodial Services, Pest Management, and craft shops use a wide variety of commercial products formulated with hazardous materials. These include cleaners, solvents, paints, lubricants, pesticides, adhesives, sealers, and others. Ongoing DFM activities also include the operation and maintenance of boilers and other central plant activities, underground storage tanks, and asbestos abatement projects, as well as the replacement of electrical equipment (e.g., transformers and capacitors) containing polychlorinated biphenyls (PCBs).

Most of the hazardous materials used on the campus are associated with research and instruction. Under the Hazardous Materials Release Response Plans and Inventory Law, which became effective for the University of California and other public agencies on January 1, 1990, UCLA was required to prepare a "Business Plan" containing information about the location of and emergency procedures for Campus buildings in which hazardous materials are handled. The 1990 UCLA Business Plan provides the most accurate and current data available about hazardous materials use on the campus. Because of the variable nature of research, accurate predictions about the types and quantities of chemicals to be used by the Campus in the future are not feasible at this time. However, the Business Plan Law requires periodic reporting of inventory changes to the local administering agency, the Los Angeles City Fire Department.

The Los Angeles City Fire Department administers the Business Plan requirements for UCLA and other private and public entities subject to the Business Plan Act. UCLA and the Los Angeles City Fire Department agreed upon the format and contents of the UCLA Business Plan in June 1989. The primary elements of the UCLA Business Plan program are:

1. To generate a master list of laboratories and machine shops which store hazardous materials and waste in each building on campus.

2. Inspect each laboratory/shop and assign a particular chemical classification to the room.

3. Label each laboratory/shop with the appropriate legend.

4. Re-inspect the laboratory/shop annually to determine if the volume or type of chemicals present have changed.

5. Provide the LAFD with a master list of laboratories/shops along with their classification category.

6. Inventory the chemical store rooms and high hazard laboratories on the classification list.

Table M-2 lists the nine classifications under which all laboratories/shops on the UCLA campus were classified. Copies of the lab classifications are maintained in the University of California Police Department Communications Center, Hazmat Response Unit and the Office of Research and Occupational Safety. Detailed chemical inventories only exist for Young Hall (Chemistry Building).

The Business Plan, in addition to providing an inventory of laboratory/shops containing hazardous materials, also includes a detailed asbestos survey and a hazardous waste response plan for the campus hazardous waste handling facility at 736 Circle Drive South.

<u>Campus Hazardous Waste Management</u>

Hazardous material users also generate hazardous wastes. These include chemicals, and radioactive and infectious waste. The Campus Department of Community Safety provides various guidelines to campus users concerning proper disposal of hazardous waste at UCLA. These include, for example, the UCLA Guidelines for Chemical Disposal prepared by the campus Office of Research and Occupational Safety.

Table M-2
"LAB" CLASSIFICATION FOR HAZARDOUS SUBSTANCE DISCLOSURE PROGRAM

Class	Hazard	Quantity	Descriptor
Class I	Flammable	Under 10 gallons	Low Volume
Class II	Flammable	Up to 60 gallons in approved flammable solvent storage cabinet	Mid Volume
Class III	Flammable	Over 60 gallons	Large volume
Class IV	Flammable & Toxic	Inventory required	NA
Class V	Flammable & Water Reactives	Inventory required	NA
Class VI	Storeroom Flammable Possible Reactives Possible Toxics	Inventory required	Large Volume
Class VII	PCB Capacitors/ Electrical	Inventory required	located in Physics/ Engineering
Class VIII	Etiologic/Pathogenic (Class III agents)	Inventory required	located in CHS
Class IX	---		Military Research and Development

Source: UCLA Business Plan, LAFD Classifications, Vol III, UCLA Office of Research & Occupational Safety, July 1989.

NA = Not Applicable

The Campus is a licensed generator of hazardous waste. It does not treat, store (for longer than 90 days) or dispose of hazardous waste on-site. All waste is shipped off-site to licensed disposal facilities using a contracted licensed hazardous waste transporter. The Campus tracks waste disposal using various tools including the hazardous waste manifests required by Federal and State law.

The yearly volume of hazardous chemical waste shipped to licensed disposal sites by UCLA since 1986 is shown in Table M-3. The same data are depicted graphically in Figure M-2. It should be noted that the information in both Table M-3 and Figure M-2 include both routine disposal of chemicals from campus operations such as research and teaching as well as nonroutine or one-time disposal of materials such as polychlorinated biphenyl containing items or asbestos. See, for example, the data for the fourth quarter of 1989 on Table M-3. The Campus Waste Management Report for 1988 shown as Table M-4 provides an example of the types of hazardous chemical wastes routinely shipped by UCLA for off-site disposal. In conformance with law, the campus supports waste minimization and recycles hazardous waste where feasible.

In comparison to the total manifested hazardous waste generated in Los Angeles County, UCLA generated less than one-thousandth of one percent of the county total. A profile of the hazardous waste generated in Los Angeles County is presented in Table M-5.

The campus also generates radioactive wastes from research, teaching and clinical activities. As is the case with hazardous chemical waste, the amount of radioactive waste generated by the campus varies depending upon changes in research projects, techniques and methodologies. Campus radioactive waste disposal records from 1985 - 1989 are shown in Table M-6.

There are no licensing requirements for the generation of infectious waste. Regulations specify that infectious wastes be stored in refrigerated facilities for not more than 90 days and that such wastes be properly packaged, labeled and disposed. Infectious waste may also be rendered noninfectious through steam sterilization. UCLA ships all infectious wastes off-site for incineration using an infectious waste transporter. Currently the campus estimates that it ships approximately 130,000 pounds of infectious waste per month for off-site incineration (Ref. 2).

TABLE M-3
UCLA CHEMICAL WASTE DISPOSAL BY YEAR

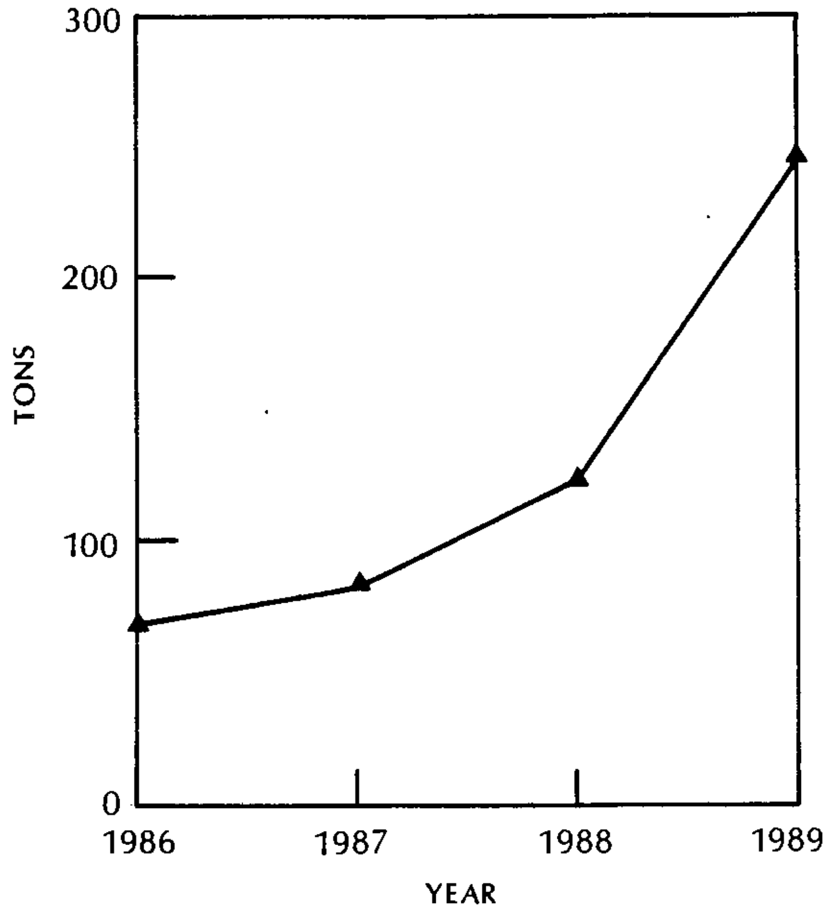
Year		Hazardous Waste[1] (Tons)	Quarter
1986		28	1st
		16	2nd
		14	3rd
		10	4th
	TOTAL	68	
1987		16	1st
		29	2nd
		21	3rd
		16	4th
	TOTAL	82	
1988		26	1st
		18	2nd
		39	3rd
		41	4th
	TOTAL	124	
1989		14	1st
		55	2nd
		48	3rd
		131[2]	4th
	TOTAL	248 tons	

Date: March 1990

(1) The weights of chemical waste within this table are rounded to the nearest ton, and represent the shipped weight of manifested wastes transported to disposal facilities off-site.

(2) This figure includes a large non-routine shipment of asbestos waste from an asbestos abatement project on campus.

Source: State of California Board of Equalization Tax records maintained at the Office of Research and Occupational Safety, UCLA.



SOURCE: State Board of Equalization Records From 1986-1989

UCLA Long Range Development Plan EIR	Figure M-2 UCLA Chemical Waste Disposal by Year

TABLE M-4
CAMPUS WASTE MANAGEMENT REPORT - 1988
Category of Waste by Shipped Weight

Category of Hazardous Waste(1)	Tons
1. Flammable Liquids	60.2
2. Combustible Liquids	7.2
3. Flammable Solids	3.2
4. Corrosive Materials	15.1
5. ORM A Material	2.1
6. ORM E Material	10.7
7. Poison B	21.1
8. Oxidizers	4.2
9. Organic Peroxide	.2
TOTAL	124.0

Date: March 1990

(1) The categories of hazardous waste listed here are from federal regulation. "ORM" means "other regulated material," and Poison B is a group of toxic chemicals which are known to be toxic to humans.

Source: California State Board of Equalization Tax Records and the Office of Research & Occupational Safety, University of California, Los Angeles.

TABLE M-5
TOTAL HAZARDOUS WASTE CHEMICAL GENERATION BY TYPE - 1986
LOS ANGELES COUNTY
(TONS)

Manifested Waste Category	On-Site Waste	Off-Site Wastes	Percent of Total	Total
1. Waste Oil	2,045,821	143,355	23.3	2,189,176
2. Halogenated Solvents	122,888	8,611	1.4	131,499
3. Non-Halogenated Solvents	584,898	40,985	6.7	625,883
4. Organic Liquids	122,374	8,575	1.4	130,949
5. Pesticides	8,035	563	<0.1	8,598
6. Dioxin + PCBs	79,647	5,581	0.9	85,228
7. Oily Sludges	638,071	44,711	7.3	682,782
8. Halogenated Organic Sludges & Solids	29,313	2,054	0.3	31,367
9. Non-Halogenated Organic Sludges & Solids	365,681	25,624	4.2	391,305
10. Dye & Paint Sludges and Resins	165,387	11,589	1.9	176,976
11. Metal-Containing Liquids	395,564	27,718	4.5	423,282
12. Metal-Containing Sludges	3,354	235	<0.1	3,589
13. Cyanide & Metal Liquids	653,127	45,766	7.4	698,893
14. Non-Metallic Inorganic Liquids	114,168	8,000	1.3	122,168
15. Non-Metallic Inorganic Sludges	55,686	3,902	0.6	59,588
16. Soil	1,207,056	84,581	13.7	1,291,637
17. Miscellaneous Wastes	2,202,660	154,345	25.0	2,357,005
TOTALS	8,793,730	616,195	100.0	9,409,925

Source: Los Angeles County Hazardous Waste Management Plan, Volume II Technical Supplement, Los Angeles Department of Public Works, Draft December 1987.

TABLE M-6
UCLA RADIOACTIVE WASTE DISPOSAL
1985 - 1989

Year	Amount of Waste Disposed[1] (Cubic Feet)
1985	2,219
1986	1,335
1987	2,658
1988	1,410
1989	2,130

Date: March 1990

(1) The standard method of reporting disposal of radioactive waste is by cubic feet of shipped waste.

Source: Radioactive Waste Shipment and Disposal Manifests, 1985 - 1989, copies maintained by Office of Radiation Safety, UCLA as well as the State DHS.

Transportation of Hazardous Wastes

The campus contracts with licensed hazardous waste transporters to ensure that all hazardous wastes generated by the Campus are transported off-site for treatment or disposal at licensed hazardous waste facilities. The licensed transporters must follow all local routing restrictions concerning the transport of wastes and are also required to comply with EPA and DOT regulations. The CHP conducts regular inspections of licensed transporters to ensure compliance with requirements that range from the design of vehicles used to transport wastes to the procedures to be followed in case of spills or leaks during transit.

Disposal of Hazardous Wastes

Hazardous waste is disposed of at licensed disposal facilities in California and other states. While landfills were once the most common method of hazardous waste disposal, their use is now banned under federal (1984 Amendments to the Resource Conservation and Recovery Act) and state (Hazardous Waste Control) law for many of the most commonly generated hazardous waste streams. Alternative treatment and disposal technologies, including incineration as well as recycling, are now more common methods of disposing of hazardous wastes. This shift from the use of landfills has resulted from both regulatory restrictions and technological developments; it has also resulted in the more selective use of the remaining hazardous waste landfill capacity for those wastes that cannot be treated or disposed of by non-landfill methods. Hazardous waste minimization and recycling programs are also underway at UCLA. In addition, the University of California Office of the President has initiated a Hazardous Materials Management Program to identify systemwide strategies for reducing hazardous wastes and managing hazardous materials in a research setting.

Environmental Impact and Mitigation Measures

According to CEQA standards, hazardous materials impacts related to implementation of the proposed project are considered significant if the impacts would create a potential public health hazard or involve the use, production or disposal of materials that pose a hazard to people or animal or plant populations in the area affected; or if they would interfere with emergency response plans or emergency evacuation plans.

Conformance with all applicable laws and regulations, as well as implementation of all applicable UCLA safety policies and procedures, is considered part of the proposed project. Legal requirements relating to hazardous materials and hazardous wastes are, thus, not included as mitigation measures.

The Draft 1990 LRDP provides a basis for consideration of the potential zone-specific impacts related to the use, transport and disposal of hazardous materials and wastes. As projects are proposed during the fifteen-year Draft 1990 LRDP horizon, the specific effects will be considered in the environmental documentation for each program or project.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

***Impact M-1: Implementation of the Draft 1990 LRDP will result in an increase in the use of hazardous materials at UCLA.**

The future use of hazardous materials on-campus cannot be accurately estimated, except for those associated with the ~~proposed~~ chiller/cogeneration facility.

Operation of the ~~proposed~~ cogeneration plant would involve several activities that could pose a hazard to workers onsite or to people offsite unless adequately addressed. These include the use and storage of ammonia which is injected into the exhaust gas stream, the use and storage of sulfuric acid to treat water prior to discharge, and disposal of spent catalysts. Both ammonia and catalysts are part of the selective catalytic reduction (SCR) system incorporated into the facility to meet SCAQMD nitrogen oxides emission control requirements.

Sulfuric acid would also be stored on site. It is an extremely irritating, corrosive and toxic substance which can result in severe eye irritation or rapid tissue destruction on exposure. Accidental spills are the most likely source of worker exposure.

The project would also result in the generation of small amounts of waste oil which must be taken to a landfill authorized to receive hazardous wastes (Class I) or recycled. Although waste oil is considered toxic and requires special handling, its storage and transport is not considered dangerous and the impact is considered not significant.

Ammonia, used as a reducing agent in SCR, is a hazardous material, and is further classified by EPA as an acutely hazardous material. Unsafe use, storage, or transport of ammonia could lead to worker exposures to highly-concentrated ammonia vapor or liquid ammonia. Serious accidental releases of ammonia that result in injuries or fatalities are normally associated with very large storage tanks, such as the tanks used to contain anhydrous ammonia fertilizer or loaded railcars.

The quantity of ammonia that would be stored at the proposed project would be relatively small. Annual facility ammonia use is expected to be approximately 38,100 gallons. However, the storage of any quantity of an acutely hazardous substance poses a health threat if the substance is accidentally released. Ammonia can form a vapor cloud that could have serious off-site health effects. In general, the most likely way that a significant quantity of pure ammonia could be released involves the ammonia unloading, storage and feed systems.

An analysis of the proposed anhydrous ammonia storage and feed system was conducted in terms of typical worst-case accidents which would result in a release of anhydrous ammonia. The worst case accident scenarios were reviewed, and the results of a dispersion analysis performed for each of the accidental release scenarios. Some of the details of the design of the storage and feed system have yet to be finalized, therefore, release conditions used as input to the analysis were based on details represented by similar industrial anhydrous ammonia systems.

Anhydrous Ammonia Toxicological and Health Effects

Depending on the concentration, the effects of exposure to ammonia gas range from mild irritation to severe corrosion of sensitive membranes of the eyes, nose, throat, and lungs (Ref. 3). Because of the high solubility of ammonia in water, it is particularly irritating to most skin surfaces. A concentration of 500 ppm has been designated as the IDLH (Immediately Dangerous to Life and health), which is based on a 30 minute exposure (Ref. 4).

Because the pungent odor of ammonia is immediately recognizable at low concentrations, it is highly unlikely that any individual would become overexposed unknowingly. Ammonia is not a cumulative metabolic poison; ammonium ions are actually important constituents of living systems. However, inhalation of high levels of ammonia gas may have fatal consequences as a result of the spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema (Ref. 5).

Contact of the skin with liquid ammonia may result in severe injury by freezing the tissue, since liquid ammonia vaporizes rapidly when released to the atmosphere, and will absorb heat from any substance it contacts. If the skin is moist, it may also cause severe burns from the caustic action of the ammonium hydroxide produced. For the purposes of assessing health impacts from an accidental short term releases of ammonia, the dispersion analysis described below was conducted by predicting the extent of exposure to the level of Concern (LOC) concentration value of ammonia in air as defined in the State of California "RMPP, Risk Management and Prevention Program Guidance" document dated June, 1989. This document defines the LOC value as the concentration in air, above which there may be serious irreversible health effects or death as a result of a single exposure for a relatively short period of time. For anhydrous ammonia, this value is given as 0.035 grams per cubic centimeter (50.32 ppm) (Ref. 6).

<u>Accident Scenarios Reviewed</u>

Based on the proposed location and configuration of the ammonia storage and feed system, as well as conditions regarding pressures, line sizes, unloading arrangement, and feed conditions of typical anhydrous ammonia systems for this service, maximum credible accidental release scenarios were selected for review via dispersion analysis.

Credible scenarios were selected as system feed line ruptures due to mechanical damage, joint or flange leakage, an accident involving a rupture of flexible line while unloading of liquid ammonia from a tank truck, and a fire in the storage tank area causing an atmospheric release of anhydrous ammonia through a pressure relief valve. Release conditions assumed full diameter ruptures of lines under normal temperature and pressure conditions with the exception of the fire scenario. When considering the location and arrangment of the ammonia storage vessel at this facility, a catastrophic failure of the vessel is not considered credible.

The accident involving tank truck unloading of liquid was evaluated assuming the provision of an operable excess flow valve on the tank truck itself. This device would stop the flow of liquid ammonia upon rupture of the fill line, resulting in a minimal release of ammonia from the tank.

Dispersion Analysis

Eash of the selected credible accidental release scenarios was modeled to predict the extent of exposure to ammonia resulting from the release using Radian's Complex Hazardous Air Release Model (CHARM). The model was used to define a ground level isopleth (line of constant concentration) representing the LOC for ammonia 50.32 ppm. The maximum reach of the isopleth at ground level defines the extent of exposure to the release in any direction depending on wind conditions. Areas within this distance would be exposed to concentrations at or above the LOC value, and areas beyond this distance would experience concentrations below the LOC value.

Meteorological data specified as part of the molding efforts was selected based on worst-case expected conditions (resulting in greatest impact of the release). A wind speed of 1.5 m/s and atmospheric stability class F were specified as given in EPA's "Technical Guidance for Hazards Analysis" as worst-case conditions (Ref. 7). Ambient temperature and humidity were selected at 76.5 degree F and 69% respectively, which represent highest normal average daily conditions in the month of August at the Los Angeles international Airport (Ref. 8).

The maximum downwind distance which defines the extent of the LOC isopheth at ground level was predicted to result from a rupture of a flexible line during tank truck unloading of liquid ammonia. The model predicts this distance at 115 feet from the source. The release of ammonia from the storage tank relief valve due to fire in the area is predicted to result in a ground level LOC isopleth distance of 104 feet.

Ground level impacts from the release of ammonia at the tank location and from piping in the area are relatively low due to the elevation at which the tank is to be located (assumed 26 feet above ground). Since ammonia is a buoyant gas (lighter than air), vapors released generally travel upward and readily disperse in the atmosphere to concentrations below those of concern. For this reason, the model predicts that low pressure and temperature releases would result in no exposure to the LOC concentration at ground level at any distance from the source.

The transport, storage and use of ammonia is a significant impact.

For uses other than the chiller/cogeneration facility, the amount of the increase by type of material will vary over time as the type of research conducted changes, as the amount and type of hazardous materials needed changes, and as new matérials are added to hazardous materials lists.

Hazardous substances typically are used in small quantities for research work. A number of substances that could be used in conjunction with Draft 1990 LRDP-related activities have been identified by various Federal and State regulations as potentially harmful materials that must be handled and disposed in a safe manner so that human health is not endangered. Each of these various chemicals or chemical classes pose different levels of hazard in their use. Some substances such as gasoline or hexane, are flammable. Others, like cyanides or mercuric chloride are toxic.

Worker exposure to hazardous materials may cause health impacts. Because most activity related to hazardous materials use would occur inside buildings, air emissions from the fume hoods and other building vents, and accidental releases would be the primary potential release sources for hazardous materials to the outside environment. Air toxics impacts are discussed in Section I (Air Quality) of this Draft EIR. The potential for worker or public exposure to hazardous materials from improper or unsafe activities or from accidents is reduced by legally and UCLA-required procedures and safety equipment (e.g., safety glasses and appropriate attire). In addition, should an accident occur that could cause an individual to be exposed to a hazardous material, the hazard would be minimized by the use of required emergency equipment including fire extinguishers, eye washes, and safety showers.

Fume hoods would serve to keep workplace chemical exposure levels below applicable standards, therefore, laboratory exposures would be less-than-significant. The application of appropriate restrictions as required by law and UCLA policy to biohazardous material use indicates less-than-significant impacts as a result of the use of biohazards and carcinogens. Since campus license requirements impose standards to protect users of radioactive materials, estimated worker radiation exposure levels are comparable to background levels and below applicable legal standards, less-than-significant impacts related to radioactive material use also are anticipated.

As part of the project, UCLA will continue to comply with applicable laws and will continue to implement UCLA environmental health and safety policies and practices.

Mitigation Measure M-1.1: The project applicant has incorporated double wall isolation of the ammonia storage facility, and ammonia pressure containers in the chiller/cogeneration project, as well as a concrete dike for spill containment, redundant safety relief valves, high pressure alarms in the control room, and reverse flow and excess flow valves, as required per California Code of Regulations, Title 8. For additional protection for workers against accidents involving either ammonia or sulfuric acid, the facility would be equipped with first aid kits, self-contained breathing apparatus, acid/ ammonia resistent clothing, and boots and safety shower/ eye washes located close to the tank.

Occupational Safety and Health Administration (OSHA) regulations specify standard safe methods for the use, storage, and transport of ammonia. These regulations were developed to minimize the hazards that could occur when handling ammonia. American National Standards Institute (ANSI) 1981 Safety Requirements for the Storage and Handling of Anhydrous Ammonia provide guidelines for avoiding the possibility of ruptures or explosions. These guidelines call for storing liquid ammonia in pressure containers which are filled to a capacity of no more than 85 percent.

The campus has a Business Plan on file with the City of Los Angeles, and a Disaster Response Plan, both incorporated herein by reference. The Disaster Reponse Plan responds to a variety of emergency conditions, such as fire, seismic events, failure of the Stone Canyon Dam as well as the release of chemical or hazardous materials. When the Chiller/Cogeneration Plant is operational, the Disaster Response Plan and Business Plan documents will be updated as necessary, to address any additional toxic contamination issues. In the event of any emergency, the campus is required to notify the City of Los Angeles Fire Department. The Fire Department provides assistance in the control of fire or hazardous material spills, and would determine whether evacuation of off-campus areas was necessary or appropriate. Any decision to evacuate off-campus areas is at the full discretion of the Fire Department, and would conform to established L.A. City procedures for such an action.

The University will also prepare a Risk Management and Prevention Program (RMPP) for the project which will meet the following objectives: 1) systems safety review of design for new and existing equipment; 2) safety evaluation of standard operating procedures; 3) systems review for reliability; 4) preventive maintenance procedures; 5) risk assessment for failure of specific pieces of equipment or operating alternatives; 6) emergency response planning; and 7) internal or external auditing procedures to ensure that safety programs and safety engineering controls are being executed as planned.

The proximity of the Chiller/Cogeneration facility to large immobile populations will be fully considered during design of the ammonia system and development of the RMPP.

Research and Occupational Safety will train Facilities Management and Parsons employees in the safety practices associated with anhydrous ammonia utilizing the NIOSH Training Program that was developed by the U.S. Department of Health, Education and Welfare in Washington, D.C. Additionally, Research and Occupational Safety will oversee the transportation of the ammonia to the site and the transfer of the ammonia from the trucks to the plant.

Spent catalysts from the SCR unit may constitute hazardous waste. Manufacturers of SCR systems are developing methods of reclaiming the catalyst. SCR vendors will accept the catalyst for disposal or reclamation. If for any reason UCLA is required to dispose of catalyst materials, they will be ~~If so, spent catalysts will be properly~~ disposed of in a Class I landfill.

The State of California, among others, is now reviewing the impact of spent catalysts and will, in the future, likely develop detailed requirements for disposal. The requirements have not been developed and specified at this time. UCLA, however, is advising that it will comply with law and regulation yet to be developed and in the interim will dispose of the catalyst in the most cautious manner available.

The project will submit an acutely hazardous materials registration form as required for storage of ammonia and any acutely hazardous materials stored in quantities exceeding applicable thresholds. ~~If required by the administering agency,~~ The project will prepare and implement an RMPP.

Ammonia will be delivered ~~at night or on weekends to minimize the risk of traffic incidents involving ammonia trucks.~~ to the campus in Department of Transportation approved transport trucks, delivery will be restricted to off-peak hours, the unloading port will be isolated from public and street traffic access, and unloading will be supervised by trained UCLA personnel working in accordance with approved safety procedures. Implementation of these mitigation measures will result in less than significant impacts from transport, storage, use and disposal of hazardous substances.

Mitigation Measure M-1.2: Inform employees and students of hazardous materials minimization strategies applicable to research, patient-care, and instructional activities, and require the implementation of these strategies.

Mitigation Measure M-1.3: Before the Chiller/ Cogeneration Plant is operational, the Disaster Response Plan and Business Plan documents will be updated as necessary, to address any toxic contamination issues that may result from operation of the plant.

Impact M-2: The chiller/cogeneration project will involve installation of new underground storage tanks.

Underground storage tanks for ~~ammonia (used in emission controls) and~~ fuel oil (backup fuel) will be installed on the project site as part of the project. ~~Occupational~~

~~Safety and Health Administration (OSHA) regulations specify standard safe methods for the storage of ammonia. These regulations were developed to minimize the hazards that could occur when handling ammonia. American National Standards Institute (ANSI) 1981 Safety Requirements for the Storage and Handling of Anhydrous Ammonia provide guidelines for avoiding the possibility of ruptures or explosions. These guidelines call for storing liquid ammonia in pressure containers which are filled to a capacity of no more than 85 percent. Use of these tanks is not expected to create a hazard to people, soil or groundwater.~~

Recent testing shows that existing campus underground storage tanks (USTs) do not have leaks. In order to minimize the potential for future leaks, State and Federal laws require installation of leak detection and tank monitoring systems, and frequent tank testing. USTs that are not upgraded would have to be abandoned in place (i.e., cleaned out and filled with cement) or removed. USTs that are upgraded will receive final UST permits from the State.

Mitigation Measure M-2: None warranted. UCLA will comply with all applicable federal and state requirements governing design, permitting, operation and testing of underground tanks.

Impact M-3: An increase in the quantity of hazardous materials transported to UCLA will occur with implementation of the Draft 1990 LRDP.

Hazardous materials are generally brought to the campus by vendors. Some small quantities of materials may be transported by the UCLA Storehouse on-campus. Although transportation of hazardous materials has associated risks of spills or leaks, appropriate management of transported materials in compliance with applicable laws and regulations can be used to minimize risk. In conformance with legal requirements, incoming radioactive material is normally routed through the Radiation Safety Division for monitoring and recording of each acquisition, except for large sources and clinical isotopes, which are delivered directly to authorized users.

The increase in the amount of hazardous materials transported to the campus as a result of implementing the Draft 1990 LRDP cannot be accurately predicted, with the exception of the ~~proposed~~ chiller/cogeneration facility, due to varying research needs over time and changes in classification of hazardous materials. However, an increase in transportation of hazardous materials to UCLA could increase the possibility of accidents that could lead to exposures of those outside the facility to hazardous materials. To prevent accidental spills of hazardous materials during transit, U.S. Department of Transportation (DOT) regulations for packaging and handling will be followed. UCLA policies and procedures will govern receipt of hazardous materials at UCLA.

The ~~proposed~~ chiller/cogeneration facility will involve the transportation of ammonia and sulfuric acid. Ammonia can form a vapor cloud that could have serious off-site health effects. Sulfuric acid is an extremely irritating, corrosive and toxic substance which can result in severe eye irritation or rapid tissue destruction on exposure.

As the Draft 1990 LRDP is implemented, UCLA will continue to comply with applicable laws and will implement UCLA environmental health and safety policies and practices. To reduce the risks of accidents during transit, both in terms of its occurrence and severity, UCLA will require vendors and other hazardous materials and waste transporters serving the campus to comply with applicable laws and UCLA policies.

No mitigation measures are required or recommended.

Impact M-4: Implementation of the Draft 1990 LRDP will result in an increase in the generation of hazardous waste on the campus.

UCLA has guidelines for proper disposal of hazardous wastes, based on regulations established in CFR Titles 17 and 22. Small amounts of spent hazardous materials generated on a daily basis in laboratories and maintenance facilities are placed in special containers and are kept in ventilated accumulation areas out of normal use patterns of various campus buildings. The Office of Research and Occupational Safety collects these used materials, identifies whether they can be re-used by other users, categorizes the remaining materials as wastes; packages these wastes, and arranges for transportaion and delivery to an off-site treatment, recycling, or disposal facility. As part of the proposed project, these guidelines would be extended to the new facilities, as would all UCLA procedures for handling hazardous wastes.

After Research and Occupational Safety collection and prior to disposal, materials are handled in a designated, secured area designed to prevent accidental release to the environment. The handling area for various types of non-radioactive chemical waste is located at 736 Circle Drive South. The area is monitored by Research and Occupational Safety staff, and Emergency Response Procedures for the facility are included in the Business Plan, Volume III.

Wastes are transported off-campus by a licensed hazardous waste transporter. Guidelines for the transportation of the wastes are contained in 49 CFR, Titles 13 and 14 of the California Code of Regulations, and in local codes as required by law. Documentation is completed for each waste taken from campus. Manifests are maintained by the Office of Research and Occupational Safety. Copies of UCLA's waste manifests are also maintained by the California Department of Health Services.

The ~~proposed~~ chiller/cogeneration project will generate the following hazardous wastes: spent catalysts; ~~polychlorinated biphenyls (PCBs)~~; and waste oil. As with other hazardous wastes, these wastes will be properly transported off campus for appropriate disposal.

Because safety procedures mandated by Federal, state and local laws and regulations, and UCLA policies and procedures would be implemented at UCLA as part of the project, hazardous waste impacts are considered less-than-significant.

As part of the project, UCLA will continue to comply with applicable laws and will implement UCLA environmental health and safety policies and practices.

<u>**Mitigation Measure M-4:** Once the specific design for the Chiller/Cogeneration project has been finalized, UCLA will apply for appropriate industrial wastewater discharge or other permits associated with wastewater discharge and treatment to the Los Angeles Department of Sanitation</u>.

~~No mitigation measures are required or recommended~~.

Cumulative Impact

As other projects are developed off-campus, additional hazardous materials will be used.

The City of Los Angeles is required to follow State and federal law (described in Environmental Setting of this Section) regarding hazardous waste, and in addition, has its own requirements for the use, handling and disposal of hazardous substances; therefore,cumulative impacts are considered less-than-significant.

References

1. UCLA Business Plan. Office of Research and Occupational Safety, July 1989.

2. UCLA Infectious Waste Inventory Sheets, Thermal Combustion Innovators, Inc. (the infectious waste transporter for UCLA), December 1988.

3. Mark, H.H.; Otimer, D.F.; Ovarbergar, C.G.; and Seaoorg, G.T., Kirk Othmer Encyclopedia of Chemical Technology, 3rd ed. Volume 2, John Wiley & Sons, 1983.

4. Tatkan, R.L. and R.J. Lewis, (ads.). Registry of Toxic Effects of Chemical Substances (RTECS). 1981-82 edition, 3 Volume 3, NIOSH Contract No. 218-81-8101, DHHS (NIOSH) Publication No.m83-107, June 1983.

5. Air Products and Chemicals, Inc. Specialty Gas Material Safety Data Sheet. Allentown, PA. Revised February 1984.

6. Larcari, F.A. et.al., State of California Risk Management and Prevention Program Guidance. California Office of Emergency Services, Hazardous Materials Division, June 1989.

7. U.S. Environmental Protection Agency, Federal Emergency Management Agency, and U.S. Department of Transportation, Technical Guidance for Hazards Analysis, Emergency Planning for Extremely Hazardous Substances, December 1987.

8. Climates of the States, Third Edition, Volume 1, Gale Research Company, Detroit, MI, 1985.

N. PUBLIC SERVICES

Police:

Environmental Setting

Police services for the UCLA campus are provided by the UCLA Campus Police and the Los Angeles Police Department The Campus Police have jurisdiction that extends to one mile off-campus. This off-campus jurisdiction is shared with the Los Angeles Police Department (LAPD), which has responsibility for the neighborhoods bordering the campus. Locations of LAPD substations in the vicinity of the site are shown on Figure N-1. The Campus Police set a priority for off-campus calls involving student housing or other University facilities. Officers from the Los Angeles Police Department do not patrol the UCLA campus, and provide assistance only on request. Such assistance primarily consists of homicide investigations, bomb disposal and crowd control.

The UCLA Campus Police

The UCLA Campus Police are a division of the California State Police Force. The UCLA Department of Community Safety, which includes the Campus Police, is located on the northwest corner of Circle Drive South and Westwood Plaza, in the Physical Plant Building. In addition to their main headquarters, the Campus Police operate two small sub-stations. One substation is located off-campus at the family student housing complex on Sepulveda Boulevard near National Boulevard, and the other substation is within the UCLA Medical Center.

The Campus Police force is staffed with 60 sworn police officers: one police chief, 6 lieutenants, 11 sergeants, and 42 field officers. Depending on the day of the week and the time of day, there are from 5 to 16 officers on duty, who patrol by foot, bicycle, motorcycle or in marked patrol units. Additional staffing includes parking patrol officers and 200 part-time Community Service Officers, who provide escort, ambulance, hospital and security services as well as patrol assistance. According to the Campus Police, current equipment and staffing levels are considered adequate to meet the needs of the existing campus population (Ref. 1).

Crime statistics for 1989 show that there were no rapes, 13 robberies, 29 aggravated assaults, and no homicides. Total crimes committed on campus decreased by 22 percent from 1988 levels. For a complete listing of crime

■	High School
●	Junior High School
▲	Elementary School
[P]	Police Station
[F]	Fire Station
(P)	Park Site

SOURCE: EIP Associates

↑ North 0 2400 scale in feet

UCLA
Long Range
Development Plan EIR

Figure N-1
Locations of Local Public Services

statistics for UCLA from 1987 through 1989, refer to Table N-1. Crime by category for the same year shows that 99 percent of the crimes were property-related crimes and that violent crimes comprised only one percent of the total (Ref. 2).

TABLE N-1
FBI CRIME INDEX OFFENSES FOR UCLA 1987 THROUGH 1989

Type of Crime	Year and Number Committed		
	1987	1988	1989
Homicide/Manslaughter	0	0	0
Rape	4	2	0
Attempted Rape	1	1	0
Robbery	20	10	13
Assorted Assults	20	9	29
Burglary	355	360	291
Petty Theft	1,085	903	719
Motor Vehicle Theft	201	224	186
Arson	5	0	0

The City of Los Angeles Police Department

The West Los Angeles Police Station, located at 1663 Butler Avenue, is the primary facility of the Los Angeles Police Department that serves the UCLA campus area. According to the department, there are typically three to four cars in close proximity to the campus which could respond to UCLA Campus Police requests for assistance. The approximate range for response times to campus for Los Angeles Police Patrols in the area is from less than one minute to ten minutes. In addition, helicopter patrols are available to the area and can provide assistance with relatively short response times. The most prevalent crimes recorded in the Westwood area are car burglaries, auto thefts, and residential burglaries (Ref. 3).

Environmental Impact and Mitigation Measures

For the purposes of this EIR, impacts on police protection services are considered significant if an increase in population and building area will result in an increased need for police services.

The Draft 1990 LRDP provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation for each program or project.

Anticipated impacts from implementation of the LRDP are discussed below, along with recommended mitigation measures. Impacts prefaced by an asterisk (*) are considered significant impacts before mitigation.

***Impact N-1: The increase in population and building area on-campus will require additional police personnel to maintain existing service levels.**

Implementation of the LRDP will increase the daytime population on campus by approximately 4,695 people. The resident population on-campus will increase by 2,700 students, faculty, and staff. To maintain adequate levels of police protection, the UCLA Campus Police will need to purchase additional equipment and hire additional personnel.

Mitigation Measure N-1.1: Assess police staffing and equipment needs during implementation of the proposed Draft 1990 LRDP, encourage increase in staffing levels and equipment of the UCLA Campus Police to meet needs generated by project related on-campus population increases.

Mitigation Measure N-1.2: The UCLA Campus Police will continue its current practice of cooperating with the Los Angeles Police Department in policing areas adjacent to the campus.

Mitigation Measure N-1.3: Upon completion of the construction of any individual project, the University shall provide both the UCLA Campus Police and the West Los Angeles Area Police Station with a diagram of the structure(s). The diagram shall include access routes, unit numbers, and any other information that could facilitate police response.

Implementation of the above mitigation measures will reduce impacts on police services to a less-than-significant level.

Cumulative Impact

As additional development occurs in the related projects area, there will be an increase in demand for law enforcement services.

As other projects are developed off-campus in the related projects area (see Figure III-4), the resident population of the area could increase by 28,500 by the year 2005. This population increase will cause an incremental increase in demand on local law enforcement agencies. This increased demand will call for increases in personnel and equipment for local law enforcement agencies. Such increases in demand are routinely assessed by law enforcement agencies. Therefore, this impact is considered less-than-significant.

Fire:

Environmental Setting

Fire suppression and rescue operations for the UCLA campus are provided by the City of Los Angeles Fire Department. Fire alarm calls on campus are received by the UCLA Campus Police, who screen calls, determine their location, and then alert the City Fire Department. Fire stations 37, 71, 59, and 92 have primary responsibility for a first alarm call to the University. A typical response to the University would involve stations 37 and 71 responding with 2 engine companies, 2 ladder trucks, and a Battalion Chief. Fire stations located in the UCLA area are shown on Figure N-1. In cases where there is a need for backup support, additional city fire stations would provide the necessary assistance. When responding to an alarm, City fire personnel are usually met on campus by representatives from the following areas: alarm technicians, engineers, and the Campus Police.

Fire Station 37 is located less than one mile from the center of campus at 1090 Veteran Avenue in the Southwest Zone. The station, which responds to the majority of emergency calls to the campus,includes a truck company, a two-piece engine company, a rescue ambulance, and a fire chief command car. It is staffed with 12 sworn fire personnel and 2 paramedics. In addition to Los Angeles Fire Department Paramedics, campus emergency medical technicians from the Medical Center also respond to a number of emergency calls both on- and off-campus (Ref. 6).

Initial response times to the University range from three to five minutes, depending on the location of the call. In 1988 the City of Los Angeles Fire Department responded to approximately twenty fire calls per month at UCLA. Representatives of the City of Los Angeles Fire Department have indicated that existing access and water flow rates are adequate to provide a safe level of water flow (Ref. 6).

Fire prevention programs and policies for the campus are managed by Research and Occupational Safety (ROS), Fire Protection Section. Their primary responsibility is to assist in enforcing State building codes and regulations, which involves reviewing all plans for new construction as well as conducting inspections of existing campus buildings. The State Fire Marshal's office also has final enforcement authority for the review and approval of all construction plans for State buildings. ROS is also responsible for training UCLA staff and building coordinators on emergency procedures and safety techniques (Ref. 7).

Environmental Impact and Mitigation Measures

For the purposes of this EIR, generation of additional population and building area which will result in increased demand on fire protection services is considered a significant impact.

Impacts prefaced by an asterisk (*) are considered significant. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

The Draft 1990 LRDP provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation of each program or project.

***Impact N-2: The Draft 1990 LRDP development would increase the need for fire protection systems and prevention services on Campus properties.**

The Draft 1990 LRDP proposes new structures whose plans would require review by the Campus Fire Marshal. New structures would contribute to the inspection tasks for the Fire Marshal. The fire flow distribution system would require evaluation during implementation of the LRDP to ensure that flow remains adequate.

Mitigation Measure N-2.1: New structures would be designed with adequate fire protection features in compliance with State law and the requirements of the State Fire Marshal. Building designs would be reviewed by appropriate campus staff and government agencies.

Mitigation Measure N-2.2: Prior to implementation of individual projects, the adequacy of water supply and water pressure will be determined in order to ensure sufficient fire protection services.

Mitigation Measure N-2.3: Adequate access will be provided to within 50 feet of the main entrance of occupied buildings to accommodate emergency ambulance service.

Mitigation Measure N-2.4: Adequate access for fire apparatus will be provided within 50 feet of stand pipes and sprinkler inlets. All new structures shall include a sprinkler system that complies with the Los Angeles City Fire Code Section 57.118.11.

Mitigation Measure N-2.5: Service roads, plazas and pedestrian walks that may be used for fire or emergency vehicles, will be constructed to withstand loads of up to 45,000 pounds.

Mitigation Measure N-2.6: As implementation of the 1990 LRDP occurs, assess campus fire prevention staffing needs; encourage increases in staffing as determined through such needs assessments.

Implementation of these mitigation measures will reduce impacts to a less-than-significant level.

***Impact N-3: The Draft 1990 LRDP development would increase the need for local fire suppression and emergency response services.**

Proper facility design and operations procedures can reduce the probability of an accident requiring emergency response. However, Draft 1990 LRDP projects would place additional responsibility on the City of Los Angeles Fire

Department. In order to maintain current service levels, as defined in the City's Fire Protection Plan, the City of Los Angeles Fire Department will need to expand its services due to population increases resulting from implementation of the Draft 1990 LRDP. Additional staff may be required, stations may need expansion and/or relocation, and new equipment may be required. Specific personnel, station and equipment requirements will be determined as specific projects under the 1990 Draft LRDP are implemented.

Mitigation Measure N-3.1: Accident prevention features would be reviewed and incorporated into new structures to minimize the need for emergency response from the City of Los Angeles to the maximum extent feasible.

Mitigation Measure N-3.2: Provide specialized training as needed to local emergency response personnel and encourage increased staffing levels for local fire agencies to meet needs generated by LRDP project-related on-campus population increases.

Implementation of these mitigation measures will reduce impacts to a less-than-significant level.

Cumulative Impact

Increases in population and development at UCLA and off-campus would place increasing demands on Los Angeles City Fire Department personnel and equipment. Traffic would also be intensified with the construction of new projects in the area which could result in diminished response times.

Additional development off-campus will create increased cumulative demands on the City Fire Department - demands which will eventually create the need for additional equipment and personnel. Cumulative development in the related projects area is anticipated to add approximately 20,400 residents and the employee population could increase by approximately 16,500 persons by the year 2005. Such increases in demand are routinely assessed by the City Fire Department. Therefore, this impact is considered less-than-significant and no mitigation measures are required.

Schools:

Environmental Setting

The UCLA campus is located within Administrative Region D of the Los Angeles Unified School District. Region D includes a total of 81 elementary, junior high and high schools. The region is bounded by Sunset Boulevard on the north, 54th Street on the south, Western Avenue on the east and the Pacific Ocean on the west. The region does not include Culver City, Beverly Hills, and Santa Monica school district attendance areas. The District has indicated that nearly all of the schools within Region D are at or near student capacity. Table N-2 lists schools in the vicinity, likely to serve UCLA, their enrollments and their existing capacity. Figure N-1 shows the location of these schools. The schools shown are located in the University, Palisades, Hamilton and Van Nuys High School attendance areas. These attendance areas were selected based on the current residential patterns of campus faculty, students and staff.

Even though many of the schools in Region D are at or near capacity, those closest to UCLA in the University High School attendance area are not presently considered overcrowded, and as a result there are no immediate plans for school expansions or new school construction (Ref. 8). Palisades, Hamilton and Van Nuys High School Attendance areas are likely to serve children of UCLA students, faculty, and staff. Palisades and Hamilton attendance areas do not currently qualify for State funds and there are no plans for new construction (Ref. 8). Van Nuys High School attendance area schools are near capacity with a projected increase of 700 students over the next five to six years. Schools within the attendance area are eligible for State funds and plans have been proposed for the construction of one new elementary school, and for additions to one elementary school and one junior high and high school (Ref. 15).

UCLA operates the University Elementary School, located at 1036 Sunset Boulevard. The school is located in the Core Campus zone, and serves the community at large as well as elementary school age children of campus faculty and staff. Current enrollment for the school is 470 students, which puts the school at or near capacity. Unlike the public schools, which must respond to population changes, UES can determine and control its enrollment. The campus is currently discussing the possibility of moving UES off-campus, to a site in Santa Monica. Due to the proximity of Santa Monica to the campus, UES would continue to be accessible to its current constituent families (Ref. 9).

TABLE N-2

LOS ANGELES UNIFIED SCHOOL DISTRICT SCHOOLS IN THE UCLA VICINITY(1)
CURRENT ENROLLMENT AND CLASSROOM CAPACITY

School	Current Student Enrollment	Classroom Capacity	Remaining Capacity
Elementary Schools:			
Brockton Avenue	274	349	75
Canfield	386	454	68
Canyon	252	349	97
Castle Heights	602	635	33
Chandler	670	758	88
Charnock Road	483	571	88
Clover	512	573	61
Crescent Heights	272	307	35
Fairburn Avenue	328	382	54
Hazeltine	1079	1083	4
Kenter Canyon	488	542	54
Kester	603	689	86
Marquez	623	777	154
Marvin	1011	1087	76
Overland	439	S11	72
Pacific Palisades	406	664	258
Palms	419	460	41
Shenandoah	903	875	(28)
Sherman Oaks	810	876	66
Sterry	706	763	57
Sylvan Park	750	874	124
Valerio	1035	1044	9
Van Nuys	761	683	(78)
Warner Avenue	654	672	18
Westwood	516	545	29
Total Elmentary Schools	14982	16523	1536
Junior High Schools:			
Emerson	1570	1692	122
Fulton	1381	1378	(3)
Palms	882	1357	47S
Revere	1250	2150	900
Van Nuys	871	1140	269
Webster	1003	1565	562
Total Junior High Schools	6957	9282	2325
High Schools:			
Hamilton	3006	3269	263
Pacific Palisades	1500	2400	900
University	22S0	2979	429
Venice	1900	2700	800
Total High Schools	8656	11348	2392

Source: Los Angeles Unified School District 2/15/90

(1)Schools listed are those most likely to serve UCLA attendees based on current residential patterns of campus students, faculty and staff.

The Culver City Unified School District serves the City of Culver City with four elementary schools, one junior high school, and one high school. District enrollment figures for the current school year show 4,509 students, an increase of 17 students from the previous year. All of the District's schools are considered at or near capacity. After a period of declining enrollment, the District now foresees a trend toward increasing enrollments for the near future. During the period of declining enrollments, four elementary schools were closed. To accommodate recent increases in enrollment, the District plans to reopen one of the schools for the following school year. The remaining three schools are currently being leased on a long-term basis (Ref. 11).

Currently, funding for local school district operations is obtained primarily from the State, with operating costs derived from local property taxes. These funds are collected by local jurisdictions, passed on to the State and then reallocated by the State to local school districts on an equal dollar-per-student basis. Proposition 98 (recently passed by the State Legislature) guarantees that State funds allocated to K-12 public schools will increase in proportion to increases in State population and the consumer price index.

Environmental Impact and Mitigation Measures

Project-related increases in local school enrollment contributing to cumulative increases beyond the capacity of affected schools constitute a significant impact.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

The Draft 1990 LRDP provides a conceptual building program as a basis for consideration of potential impacts. As the Draft 1990 LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation of each program or project.

Impact N-4: Implementation of the Draft 1990 LRDP will cause increased enrollment demand on local public schools in the vicinity of the project.

Implementation of the LRDP could increase the daytime campus population by approximately 3,233 people over the next fifteen years. This figure, when adjusted for single students living on campus, volunteers, and other temporary visitors, leaves the potential for a maximum of 2,430 dwelling units off-campus which could be occupied by UCLA faculty, students, and staff.

Assuming that all students will attend public schools, 250 elementary school students, 150 high school students, and 150 junior high school students could potentially be added to school districts located in the UCLA vicinity (Ref. 12). School districts most likely effected would be the Los Angeles Unified School District, the Santa Monica/Malibu and Culver City Unified School Districts.

If the Draft 1990 LRDP is implemented gradually over the next fifteen years, the annual increase in enrollment for schools in the vicinity can be estimated at 17 elementary students per year, 10 junior high school students, and 10 high school students.

Because of the relatively small impact of the project on annual growth in school enrollments, and the wide dispersal of these potential students to various schools in the area, this impact is not considered significant.

In addition, as enrollment at individual schools increased, the districts affected would become eligible for State funds which would provide for new school construction and for improvements to existing schools. Therefore, impacts on schools are considered neither adverse nor significant.

Mitigation Measures: No mitigation measures are required or recommended.

Cumulative Impact

Increased residential and nonresidential development off-campus will generate additional students, and some proportion of these students will attend public schools in the area.

The financial impact of additional students on the area public school systems will be offset by State funds which are distributed on a per capita basis. Therefore, cumulative impacts on schools are considered neither adverse nor significant.

Parks and Recreation:

Environmental Setting

The UCLA campus offers a variety of recreation facilities and programs that are available for use by students, faculty and staff. Coordination of campus recreational programs and the management of athletic and recreational facilities is overseen by the Department of Cultural and Recreational Affairs. The department's programming includes competitive, instructional and leisure activities such as Intramural Sports, the Recreation Instructional Program, Informal Recreation, a Cultural Program, and Bruin Kids. Recreational and athletic facilities on-campus include: Pauley Pavilion, John R. Wooden Recreation and Sports Center, Los Angeles Tennis Center, Drake Track and Field Stadium, Sunset Canyon Recreation Center, the Men's Gymnasium, the Dance Building, Sunset Tennis Courts, the Intramural Field, and Cross-Country Trails. Both on and off-campus facilities are shared by intercollegiate athletic teams, academic departments, special events and the department's various recreation programs (Ref. 13). Recreation facilities and programs on the UCLA campus are available to students with a valid registration card and faculty and staff with a recreation privilege card that can be purchased on a yearly basis. As stated in the 1987 UCLA Recreational Space Master Plan, "..... Approximately two-thirds of UCLA's students and twenty percent of faculty and staff participate regularly in recreational activities". Participation rates have increased dramatically in recent years (Ref. 13).

<u>The City of Los Angeles, Department of Recreation and Parks</u>

The City of Los Angeles Department of Recreation and Parks provides for the majority of public park and recreational opportunities in the UCLA vicinity. The City has a designated goal of providing four acres of parkland per 1000 population. Based on this ratio and the City's current figure of approximately 1-acre of parkland per 1000, there is a substantial deficiency of public parkland in the City of Los Angeles. While there are no recent figures on parkland to population ratios for the Westwood vicinity, the area has been identified by the Department of Recreation and Parks as deficient in parkland, with high land values and few available sites limiting opportunities for future park developments. The Department has no plans for new parks in the area at this time (Ref. 14).

While it is likely that most of the students, who live on-campus use campus facilities for most of their recreation activities, those living off-campus, their families and others also use park facilities provided off-campus. The Los Angeles Recreation and Parks Department has indicated that the following parks serve the UCLA campus area:

Barrington Recreation Center - (17 acres) Located on Barrington Avenue, south of Sunset Boulevard.

Holmby Park - (8.5 acres) Located on Beverly Glen Boulevard, south of Sunset Boulevard.

Westwood Park - (26.7 acres) Located on Sepulveda Boulevard, south of Wilshire.

Environmental Impact and Mitigation Measures

For purposes of this Draft EIR, the project would have significant impacts if the demand for recreation and park amenities resulting from implementation of the Draft 1990 LRDP exceeds the projected capacity of these facilities over the project horizon.

The Draft LRDP does not propose specific projects, rather it provides a conceptual building program as a basis for consideraion of potential impacts. As the LRDP is implemented, and specific projects are developed, the effects will be considered in the environmental documentation.

Impacts prefaced by an asterisk (*) are considered significant impacts. Unless otherwise noted, the proposed mitigation measures following each impact discussion will reduce the impacts to a less-than-significant level.

Impact N-5: Draft 1990 LRDP projections for development over the next fifteen years would create new demands for recreational facilities and programs on campus.

The projected increase in the daytime campus population of 3,233 people will add to the current perceived deficiency in both indoor and outdoor recreational facilities. With increased demand by the year 2000 estimated at 30 percent over current levels (Ref. 15), future development on campus would have to provide additional acreage and new facilities to meet this additional demand.

The development of 75,000 GSF of indoor recreation facilities and outdoor play areas in the Southwest Zone are proposed as part of the Draft 1990 LRDP. These facilities are expected to provide for the additional population projected by the year 2005. These facilities may also reduce demand for off-campus recreational facilities.

The demand created by off-campus related growth is difficult to determine without specific locational information. If growth generated by future campus development is viewed in a regional context, it would add to the current deficiency of parkland for the City of Los Angeles. Off-campus related growth would, by Los Angeles Recreational Standards, generate a need for parkland at a ratio of four acres per thousand resident population. Demand created in the City of Los Angeles and other communities would be significantly offset by the high percentage of students, staff and faculty who would be likely to take advantage of recreational facilities and programs at UCLA.

In addition, since the off-campus UCLA population is expected to continue the present pattern of residential dispersion, the impact of any Draft 1990 LRDP-related population increases will be less than significant.

Mitigation Measure: No mitigation measures are required or recommended.

Cumulative Impact

As additional development continues off-campus, particularly residential development, the City's parkland deficit will increase in relation to the population.

The population in the off-campus related projects area is anticipated to increase by approximately 20,400 people by the year 2005. Using the City of Los Angeles goal of providing four acres of parkland per 1,000 residents, an additional 82 acres of parkland should be provided for these additional residents.

The City requires developments to either pay an in-lieu fee for parks or donate parkland. Although this requirement only partially offsets impacts to parks and recreation facilities, cumulative impacts are considered less-than-significant.

References

1. Personal communication, Officer Helen Citrono, Campus Police Department, November 27, 1989.

2. University of California Police Services, The Annual Report of the University of California Police Department, Crime on the Campuses - 1988.

3. Personal communication, Officer Ralph Strand, Community Relations Department, West Los Angeles Police Station, November 27, 1989.

4. City of Los Angeles, EIR Manual for Private Projects, August 1975, Revised.

5. Personal communication, Donald Reichenbach, Campus Fire Marshall, Campus Fire Marshall's Office, November 27, 1989.

6. Personal communication, Chief Chuck Merriman, City of Los Angeles Fire Department, December 1, 1989.

7. Personal communication, John Loomis, Deputy Fire Marshall, Campus Fire Marshall's Office, December 13, 1989.

8. Personal communication, Max Barney, Director of Building and Planning, Los Angeles Unified School District, November 28, 1989.

9. Personal communication, Harold Hyman, Principal, University Elementary School, November 29, 1989.

10. Personal communication, Doctor Art Cohen, Assistant Superintendent for Business, Santa Monica/Malibu Unified School District, December 5, 1989.

11. Personal communication, Jim Lively, Chief Administrative Officer Business Division, Culver City Unified School District, December 6, 1989.

12. City of Los Angeles, EIR Manual for Private Projects, August 1975, Revised.

13. Recreational Space Master Plan Task Force, UCLA Recreational Space Master Plan, Phase 1, Executive Summary, September, 1987.

14. Personal communication, Alan Charmichael, Planning Officer, Advanced Planning Division, City of Los Angeles Department of Recreation and Parks, November 30, 1989.

15. Personal communication, Lynn Roberts, Facility Planning Director, Los Angeles Unified School District, February 14, 1990.

V. ANALYSIS OF SHORT-TERM VS. LONG-TERM EFFECTS

A. Growth-Inducing Impacts

Relationship to Zoning and Local Plans

UCLA, as part of the University of California, a State agency, is not subject to local zoning ordinances and plans. The Westwood Community Plan, which is part of the City of Los Angeles General Plan, designates the entire University campus as open space. The intent of this designation is to allow the City some control over the use of the property in the unlikely event that UCLA would discontinue its use of the property. That is, under the open space designation, if the existing use is discontinued, the proposed use must be approved by City decision makers through a process similar to a conditional use permit. The City Zoning Code also designates the campus as open space. All present and future University uses are, by definition, consistent with the open space designation as defined for the campus.

The Westwood Community Plan also acknowledges and provides for UCLA and identifies, as an objective:

> "Promoting coordination of the University of California at Los Angeles and related facilities with adjoining residential and commercial uses through the provision of buffers and transitional uses where necessary: recognition of the needs for University-related housing, parking, shopping and recreation and encouragement of University compliance with City Planning standards..."

To the extent that the Draft LRDP encourages new development in the surrounding area, such as Westwood Village, implementation of the LRDP could result in growth-inducing impacts.

The SCAG Regional Mobility Plan is a regional plan to improve traffic conditions. The Draft 1990 LRDP includes TDM measures consistent with the Regional Mobility plan, and provides for an average daily vehicle trip cap of 139,500 trips to and from campus.

UCLA will comply with applicable transportation management and emission control measures imposed by the SCAQMD pursuant to the 1989 Air Quality Management Plan and the California Clean Air Act. SCAQMD is expected to continue to adopt emissions control measures to implement the plan and to attain ambient air quality standards in the South Coast Air Basin. Because these regional measures are not within the jurisdiction of The Regents to implement, the cumulative air quality impacts of regional growth are considered significant and unavoidable.

Population, Housing, and Employment Growth

Overall campus population is expected to increase by approximately 3,233 persons over the 15-year time frame of the LRDP. Approximately 72 percent of this growth (i.e., 3,128 persons) will be in academic and other staff positions. Some of these new employees may choose to reside in the Westwood and West Los Angeles area, if they do not already do so. This is not considered an adverse environmental impact. It is considered a growth-inducing impact because the demand for housing typically increases due to employment growth, and the Westwood and West Los Angeles area currently experiences vacancy rates under five percent. Therefore, new private sector housing development may be initiated due in part to new UCLA employees relocating to the area.

The University has set the goal of housing 50 percent of the student body in either University-owned housing or in private sector housing within one mile of campus. This would increase the local resident student population by approximately 5,000. The University's development of on-campus and off-campus units is considered a growth-inducing impact because it may result in new commercial retail development and employment opportunities intended, in part, to serve the new population.

Other Growth-Inducing Impacts

Short-term construction-related employment will be created over the time frame of the Draft LRDP as specific building proposals are implemented. It is expected that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in an increase in the area's permanent population.

B. Significant Irreversible Effects

This section discusses significant irreversible environmental changes that would result from implementation of the proposed Draft LRDP. These would be permanent changes which, for physical or economic reasons, cannot be reversed or completely mitigated. Included in this category is the irretrievable commitment of nonrenewable resources.

Development of the project will result in the continued commitment of the UCLA campus to University-related uses, thereby precluding any other uses for the lifespan of the campus structures. Development will also permanently alter some existing landscape and vegetation patterns on campus.

The proposed Draft LRDP will result in ~~air quality~~, visual quality, land use, water consumption and wastewater impacts that cannot be completely mitigated with current or foreseeable technologies and mitigation measures. The proposed Draft LRDP, in conjunction with other reasonably forseeable future development and projected population growth, will result in significant cumulative air quality, traffic, and utilities impacts (i.e. water, wastewater and solid waste) which cannot be mitigated below a level of significance with current or forseeable technologies and feasible mitigation measures.

Resources that will be permanently and continually consumed by project implementation include water, electricity, natural gas, and motor fuel (as discussed in Sections IV.L and IV.M). Due to development of the ~~proposed~~ chiller/cogeneration facility, consumption of electricity generated by LADWP will decrease and consumption of natural gas will increase relative to existing consumption levels. Although the project's consumption of these resources is not in itself considered a significant impact, such consumption of nonrenewable resources is hereby identified.

Presently, these commitments of resources are considered justified due to the need and demand for the University to expand existing facilities, as well as create new facilities, which will help provide educational, research, and health care opportunities commensurate with University of California goals and policies.

C. Relationship Between Short-Term Uses of the Environment and Maintenance and Enhancement of Long-Term Productivity

Development proposed under the Draft LRDP will expand existing, and create new, educational, research, and housing facilities for UCLA students, faculty, and staff, and new health care facilities in the region. Though the structures proposed for the campus will represent a short-term commitment of resources with an expected lifespan of under 100 years, UCLA's ownership of the campus will represent a long-term commitment of the campus to University use.

The ongoing commercial, office, and residential growth in the Westwood area results in substantial overall impacts on public services and utilities. Also, physical infrastructure (e.g., roads, drainage systems) can become inadequate over time due to increased vehicular traffic and the conversion of natural drainage areas to paved surfaces. Many impacts resulting from the project analyzed in this EIR can be wholly or partially mitigated in the short-term (see Section IV - Environmental Impact Analysis). Long-term residual impacts can be further reduced as the existing urban systems and services are expanded and future ones planned in response to cumulative and projected growth.

VI. ALTERNATIVES

Introduction

The following discussion considers alternatives to development scenarios for the proposed project, including summaries of the various impacts associated with each alternative. By comparing these alternatives with the proposed project, the advantages and disadvantages of each can be weighed in relation to the proposed LRDP.

A careful consideration of alternatives is required by CEQA. The CEQA Guidelines indicate that a range of reasonable alternatives should be presented in the EIR - alternatives that provide for informed decision making and public participation. The "no project" alternative must always be evaluated along with the other selected alternatives, as summarized below.

1. <u>No Project</u> - The proposed LRDP would not be implemented, and the University would not approve any additional buildings or facilities on campus.

2. <u>No New Projects</u> - No additional projects would be proposed on campus beyond those that have been previously approved in conformance with CEQA.

3. <u>Reduced Development</u> - Total new development would be reduced by an amount that would eliminate or substantially reduce the potentially significant or adverse environmental impacts resulting from the LRDP.

4. <u>High Density on Main Campus</u> - Future development would be focused primarily on the main campus, particularly the Core Campus area, and would preserve the Southwest area for potential future needs beyond the timespan of the proposed LRDP.

5. <u>No Southwest Housing</u> - Implementation of the proposed LRDP would occur, but without the housing complex proposed for the Southwest Zone.

6. <u>Vacate Leased Space in Westwood</u> - Space currently leased by the University in Westwood and West Los Angeles would be vacated, and those uses would be relocated to permanent facilities in the Southwest Campus area in addition to implementation of the proposed LRDP.

7. <u>Off-Site Development</u> - All future University development would be accommodated on an off-campus site (or sites).

Except for the "no project" alternative, each alternative is discussed below in detail and compared with the proposed LRDP for each impact area analyzed in Section IV of this EIR.

1. No Project

The "no project" alternative would result in the campus remaining as it is now, with only those projects currently under construction to be completed. No new development would take place. The existing buildings would remain, but no additions would be made to them. Existing population levels would also be maintained.

This alternative is discussed in order to establish a baseline upon which all other alternatives, including the proposed LRDP, can be comparably evaluated. The environmental impact analysis of this EIR evaluates the proposed LRDP in relation to physical development and environmental impacts as they currently exist on the UCLA campus.

Environmental Impacts

The "no project" alternative would result in none of the additional impacts on the physical environment which are described in the "Environmental Impact" subsections of the environmental analyses of this EIR (Section IV). Such impacts are often associated with grading activities, alteration of existing drainage patterns, water and air quality, and visual quality.

Impacts on urban systems also would be less under this alternative. These impacts are usually associated with traffic, noise, utilities, sewage treatment, public services, population, housing, and recreation. No additional consumption of natural resources such as natural gas or water would result from the "no project" alternative.

This alternative is considered environmentally superior to the other scenarios and to the proposed project because it imposes no additional demands on local facilities and services, and because it would not additionally impact existing physical features.

Relationship to Project Objectives

The "no project" alternative would not allow the campus to correct deficiencies in the amount and type of existing space, to expand or replace buildings which have been technologically or functionally obsolete, or to develop new space in order to accommodate planned and unanticipated program changes. All academic goals presented in the Draft LRDP which would require the expansion or development of new space would not be met. In addition, the "no project" alternative would not allow the development of ancillary facilities (housing, child care, medical, recreation and athletics, and student service programming) which are necessary to maintain and enhance the intellectual quality of the campus environment and the public service commitment of the University.

2. No New Projects

Under this alternative, no additional projects would be proposed on campus beyond those that have been previously approved in conformance with CEQA. These previously approved projects include Phases 2 and 3 of the Southern Regional Library, and Phase 2 of the Northwest Campus Housing Development, which together total approximately 876,000 gross square feet.

The campus currently accommodates about 18.9 million square feet of building area, including parking structures. Therefore, this alternative would increase building space on campus by approximately 4.6 percent over existing conditions (i.e., the "no project" alternative). The potential new development outlined in the proposed LRDP (3.7 million square feet) would not be constructed.

In general, quantifiable environmental impacts associated with implementing the proposed LRDP would be reduced proportionately. These include net additional vehicle trips to campus (due primarily to less employment growth), air pollution emissions, utility and energy usage, population and employment growth, and increased need for public services. Those impacts specific to any one particular project (e.g., soils removal, hydrology, biological and historical resources, visual quality, noise, hazardous substances) would have to be evaluated on a case-by-case basis. Under this alternative, the University would not develop housing in the Southwest Zone; therefore, the increased demand for off-campus housing would reduce the non-University population's ability to find housing in the area.

Because it would result in fewer quantifiable environmental impacts, this alternative is considered environmentally superior to the proposed project and environmentally superior to all the other alternatives except the "no project" alternative.

Environmental Impacts

Land Use. Campus-wide building intensity would be less under this alternative compared to the proposed LRDP. Potential incompatibilities between the Campus and adjacent community uses would also be less under this alternative.

Population, Employment and Housing. Compared to the proposed LRDP, population impacts would be less due to the limited growth in faculty, research, and staff personnel attainable under this alternative. There would continue to be an unmet demand for proximate and affordable student, faculty, and staff housing, in part because the Southwest Zone housing would not be built. Thus, housing impacts would be greater under this alternative.

Traffic, Circulation and Parking. Because less new development would occur under this alternative, trip generation and parking demand would also be less. However, this alternative will increase traffic over existing levels.

Biological Resources. Although overall campus building area would be less under this alternative compared to the proposed LRDP, landscaping improvements proposed under the LRDP would not be implemented.

Historical and Archaeological Resources. No historic resources would be disturbed under neither the proposed LRDP nor this alternative. However, the extent of potential archaeological impacts cannot be assessed until archaeological resources are discovered.

Visual Quality. Development would be less under this alternative, the significant impact due to development of the proposed chiller/cogeneration facility would be avoided.

Geology, Soils and Seismicity. The impacts associated with strong ground shaking and the seismic safety of older buildings on campus would be the same for this alternative as for the proposed LRDP. For individual projects, site-specific soil and geological characteristics would have to be evaluated on a project-by-project basis. Therefore, overall comparative impacts are considered similar.

<u>Hydrology and Water Quality</u>. Development under this alternative would be less than under the proposed LRDP, thus hydrology and water quality impacts would be less.

<u>Air Quality</u>. Under this alternative, air pollution emissions from vehicular sources and potential toxic air emisions would be less compared to the proposed LRDP. Both utility consumption and vehicle trips would be reduced under this alternative, compared to the proposed LRDP. However, air quality impacts would increase over existing levels.

<u>Noise</u>. New construction and construction-related noise under this alternative would be less than under the proposed LRDP.

<u>Utilities</u>. Impacts on utilities (water supply, solid waste, and wastewater) would be less under this alternative, due to less development building potential and growth in personnel, resulting in lower consumption.

<u>Energy</u>. The higher energy efficiency rates resulting from development of the proposed chiller/cogeneration facility would not be realized.

<u>Hazardous Materials</u>. Fewer hazardous materials would be used under this alternative, resulting in less hazardous materials handling and hazardous waste generation.

<u>Public Services</u>. Impacts on public services would be less under this alternative compared to the proposed LRDP. Demand for police and fire services would be reduced due to the decrease in building area and number of personnel. Also, this alternative would retain more campus open space.

Growth Inducement

Under this alternative, potential new development under the proposed LRDP (approximately 3.7 million square feet) would not be developed. However, about 876,000 square feet of development that has already been approved would be developed under this alternative, and overall University population would increase accordingly. Under this alternative, the University would not develop housing in the Southwest Zone; therefore, an unmet demand for proximate and affordable student, faculty and staff housing would result. Much of this unmet demand would impact the Westwood and West Los Angeles area. This unmet demand for housing is considered a growth-inducing impact because the Westwood and West Los Angeles area currently experiences a residential vacancy rate under five percent. Therefore, new private sector housing development might be initiated, in part, to accommodate UCLA students and employees seeking to locate in this area.

The development of new on- or off-campus dwelling units is considered a growth-inducing impact because it may result in new commercial retail development and consequent employment opportunities intended, in part, to serve the new population.

Short-term construction-related employment would be created under this alternative. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in an increase in the area's permanent population.

Summary of Significant Impacts

Implementation of the "No New Projects" alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

Air Quality
Traffic
Utilities (water consumption and wastewater)

Relationship to Project Objectives

The "No New Projects" alternative would not allow future campus facility expansion beyond that which has been approved but not yet constructed. Like the "no project" alternative, the "No New Projects" alternative would not allow the campus to correct deficiencies in the amount and type of existing space, to expand or replace buildings which have become technologically or functionally obsolete, or to develop new space in order to accommodate planned and unanticipated program changes. All academic goals presented in the Draft LRDP which would require the expansion or development of new space would not be met. In addition, the "No New Projects" alternative would not allow the development of ancillary facilities (housing, child care, medical, recreation and athletics, and student service programming) which are necessary to maintain and enhance the intellectural quality of the campus environment and the public service commitment of the University.

3. Reduced Development

This alternative would involve a reduction in new development from the level proposed in the project in order to evaluate whether project objectives can be met while eliminating or substantially reducing potentially significant or adverse environmental impacts. For the analytical purposes of this scenario, development potential would be reduced by 50 percent. Campus population reductions cannot be deduced precisely because the specific campus functions and facilities reduced are not inferred under this alternative.

Fifty percent of the potential development identified as part of the proposed LRDP would occur under this alternative. This potential new development would account for approximately 1.85 million square feet of additional building area over the "no project" alternative and Alternative 2 (No New Projects). Included in this alternative is the proposed chiller/cogeneration facility, which would replace the inefficient existing central plant and serve existing as well as new development.

Quantifiable environmental impacts would be approximately one-half of those expected to result from the proposed LRDP. These impacts involve additional vehicle trips, air pollution emissions, utility and energy usage, population and employment growth, and increased need for public services. Those impacts specific to any one particular project (e.g., soils removal, hydrology, biological and historical resources, visual quality, noise, hazardous substances) would have to be evaluated on a case-by-case basis. Under this alternative, the University would develop 50 percent of the housing proposed for the Southwest Zone (for approximately 1,350 persons instead of 2,700). Therefore, the increased demand for off-campus housing would reduce the non-University population's ability to find housing in the area.

This alternative is considered environmentally superior to the proposed project because it would decrease quantifiable environmental impacts by approximately 50 percent.

Environmental Impacts

Land Use. Although campus-wide building intensity would be less under this alternative compared to the proposed LRDP, land use compatibility might not be accomplished because not all of the related functions and facilities planned under the proposed LRDP would be developed in proximity to each other. A case-by-case evaluation would be required to evaluate how, or if, some program and departmental requirements could be accommodated in existing buildings. The locations of related functions would also have to be analyzed with respect to their proximity.

Population, Employment and Housing. Compared to the proposed LRDP, these impacts would be less due to the limited growth in faculty, research, and staff personnel attainable under this alternative. The campus would supply less of the demand for proximate and affordable student, faculty and staff housing because only half (i.e., 1,350 beds) of the Southwest Zone housing would be built; however, it is assumed that student population growth would also be less under this alternative.

Traffic, Circulation and Parking. Because less new development would occur under this alternative, trip generation and parking demand would also be less.

Biological Resources. The impacts on these resources would have to be evaluated on a project-by-project basis. Therefore, the comparative impacts are uncertain.

Historical and Archaeological Resources. Historic resources would not be disturbed under the proposed LRDP or this alternative. However, the extent of potential archaeological impacts cannot be assessed until archaeological resources are discovered.

Visual Quality. Impacts on visual quality would have to evaluated on a project-by-project basis. Although overall development would be less under this alternative, the proposed chiller/cogeneration facility would continue to be part of the alternative, resulting in significant visual impacts. For remaining potential development, the overall comparative impacts on visual quality are uncertain.

Geology, Soils and Seismicity. The impacts associated with strong ground shaking and the seismic safety of older buildings on campus would be the same for this alternative as for the proposed LRDP, although the lower campus population would result in fewer people being exposed to seismic hazards. Site-specific soil and geological characteristics would have to be evaluated on a project-by-project basis. Therefore, overall comparative impacts are uncertain.

Hydrology and Water Quality. Development under this alternative would be less than under the proposed LRDP, resulting in fewer impermeable surfaces and fewer impacts on hydrology.

Air Quality. Under this alternative, air pollution emissions from vehicular sources and potential toxic air emissions would be less compared to the proposed LRDP, and both utility consumption and vehicle trips would be reduced under this alternative. However, air quality impacts related to the chiller/cogeneration facility would still be considered significant.

Noise. New construction and construction-related noise under this alternative would be less than under the proposed LRDP.

Utilities. Impacts on utilities (water supply, solid waste and wastewater) would be less under this alternative due to decreased development and campus population growth.

Energy. Impacts on energy consumption would be less under this alternative due to decreased development and campus population growth.

Hazardous Materials. Fewer hazardous materials would be used under this alternative, resulting in less hazardous materials handling and hazardous waste generation.

Public Services. Impacts on public services would be less under this alternative compared to the proposed LRDP. Demand for police and fire services would be reduced due to the decrease in building area and number of personnel. Also, this alternative would retain more campus open space for recreation than would the proposed LRDP.

Growth Inducement

Under this alternative, potential new development under the proposed LRDP (approximately 3.7 million square feet) would be reduced by 50 percent. The 50-percent reduction is used here for analytical and comparative purposes. The University population increase resulting from this alternative would be approximately half that than under the proposed Draft LRDP.

Under this alternative, the University would develop 50 percent (i.e., housing for 1,350 persons) of the housing proposed for the Southwest campus area; therefore, an increased demand for off-campus housing could result. Some of the new students and employees may choose to reside in the Westwood and West Los Angeles area, if they do not already do so. This increased demand for housing is considered a growth-inducing impact because the Westwood and West Los Angeles area currently experiences a residential vacancy rate under five percent. Therefore, new private sector housing development might be initiated, in part, to accommodate new UCLA employees and students locating to the area.

The development of new on- or off-campus dwelling units is considered a growth-inducing impact because it may result in new commercial retail development and consequent employment opportunities intended, in part, to serve the new population. However, the reduction in housing in the Southwest Zone would reduce growth impacts in Westwood Village.

Short-term construction-related employment would be created under this alternative. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in an increase in the area's permanent population.

Summary of Significant Impacts

Implementation of the "Reduced Development" alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

Visual Quality
Utilities (water consumption and wastewater)

Relationship to Project Objectives

The "Reduced Development" alternative would require that the campus academic program be re-evaluated in order to select which departments would be able to achieve their academic objectives during the LRDP planning period and which departments would not meet their objectives. Because some departments would not be able to attain their academic objectives, the overall quality of the University would be reduced, and several overall academic goals - recruiting and retaining a diverse faculty of the highest quality, being competitive with the very best research universities in the nation in recruiting and retaining excellent students, continuing to diversify all aspects of campus life, providing an organizational structure and related management policies that support the goals of the academic program and provide appropriate rewards for University service, and facilitating the development and management of interdepartmental and interdisciplinary instruction and research - would also fail to be met. In addition, proposals for several categories of proposed new ancillary facilities (e.g., recreation, child care, housing, medical, student service) would be reduced under this alternative. Since many of these types of facilities respond to existing needs, or result in an overall improvement in the quality of campus life, this alternative would also fail to meet the policy objectives relating to the maintenance and enhancement of a high quality of campus life and the public service commitment of the University.

4. High Density on Main Campus

This alternative would focus future campus development primarily on the main campus, and particularly in the Core Campus area, in order to preserve the Southwest area for potential future needs beyond the timespan of the proposed LRDP. According to a preliminary analysis of the development potential of the main campus area, it appears that development of the entire Southwest Zone housing proposal would not be feasible within the Core Campus area; therefore, the housing proposal would remain in the Southwest Zone under this scenario. However, the remaining non-housing development of approximately 800,000 gross square feet proposed for the Southwest Zone would be constructed instead on the Core Campus. Preliminary analysis also indicates that this alternative may require the demolition of some nonhistoric Core Campus buildings in order to accommodate higher density development.

The long-term potential use of Southwest Zone land left undeveloped under this scenario cannot be considered in evaluating potential impacts of this alternative. This analysis of alternative scenarios considers all reasonably foreseeable potential development, and projects that this development will be achieved within the 15-year time frame of the LRDP. Incorporating potential future development beyond the timespan of the proposed LRDP would invite speculation and make "informed decision making" impossible.

This alternative would not necessarily reduce overall environmental impacts. Instead, environmental impacts would be "redistributed" to the Core Campus. The impacts that Southwest Zone development would have on the surrounding community would be reduced, but these same impacts would be intensified on campus.

Environmental Impacts

Land Use. As with the proposed LRDP, implementation of Alternative 4 could result in land use impacts related to building intensity and compatibility with adjacent uses both on- and off-campus, since both would involve the construction of approximately 2.6 million square feet and housing for 2,700 University-related persons, and potentially families of University staff and faculty.

Population, Employment and Housing. Impacts in this area would be equal to the proposed LRDP. That is, the student, faculty and staff population could increase by approximately 3,128; and the housing supply (both on and off campus) could increase to accommodate this additional population.

Traffic, Circulation and Parking. Traffic-related impacts could be reduced under this scenario compared to the proposed LRDP because new facilities would be consolidated on the Core Campus, thereby reducing vehicle trips. There would be less vehicular travel between the Core Campus and the Southwest Zone.

Biological Resources. Landscaping on the Core Campus could be significantly adversely affected by more intense development on the Core Campus under this alternative in comparison to the LRDP. As more structures are built, specimen trees and/or heavily landscaped areas may be removed in order to make way for new structures, provide for roadway realignments, or allow for construction equipment access to the building sites.

Historical and Archaeological Resources. The potential for significant impacts on historical resources would be greater than the proposed LRDP because the University would have to locate new development on the Core Campus, where architectural resources are more prevalent.

Visual Quality. The potential for significant impacts on visual quality would be greater than the proposed LRDP because the University would have to locate all new development on the Core Campus, where important view corridors are located.

Geology, Soils and Seismicity. The impacts associated with strong ground shaking and the seismic safety of older buildings on campus would be the same for this alternative as it is for the proposed project. Site-specific soil and geological characteristics would require evaluation on a project-by-project basis. Overall comparative impacts are uncertain.

Hydrology and Water Quality. This alternative could have significant impacts on local hydrology and water quality, in terms of creating an increased burden on the Core Campus drainage system. Like the proposed LRDP, an alternative which concentrates development on the Core Campus could have potentially significant impacts from soil erosion during construction. Impacts related to soil erosion can be mitigated to a nonsignificant level, but impacts on the drainage system would be greater than those under the proposed LRDP.

Air Quality. Under this alternative, air pollution emissions from vehicular traffic may be reduced compared to the proposed project, since vehicle trips may be reduced due to consolidation of facilities on the Core Campus. Potential toxic air emissions would be the same for this alternative as compared to the proposed LRDP since the projected building area would be the same.

Noise. As with the proposed project, demolition of existing structures and construction of new facilities would generate short-term noise impacts at sensitive receptors on and adjacent to the campus. Greater intensity of development on the Core Campus will result in higher ambient noise levels in this part of campus than with the proposed LRDP, which provides for development that is more dispersed throughout the campus.

Utilities. Impacts on utilities (water supply, solid waste and wastewater) use would be comparable to the proposed LRDP, given that the projected building area and campus population would be the same.

Energy. Impacts on energy use would be comparable to the proposed LRDP, given that the projected building area and campus population would be the same.

Hazardous Materials. An amount of hazardous materials comparable to the proposed LRDP would be used under this alternative, resulting in the same amount of hazardous materials handling and hazardous waste generation.

Public Services. Since the projected building area and potential campus population would be the same with this scenario as with the proposed LRDP, impacts on public services would be comparable. The only exception to this is that in order to accommodate more intense development on the Core Campus, open space may be used for buildings, decreasing the amount of open space and recreation area available for the campus.

Growth Inducement

As with the proposed LRDP, overall campus population could increase by approximately 3,128 persons with this alternative. Approximately 97 percent of this growth would be in academic and other staff positions. Some of these new employees may choose to reside in the Westwood and West Los Angeles area, if they do not already do so. This is considered a growth-inducing impact because the demand for housing typically increases due to employment growth, and the Westwood and West Los Angeles area currently experiences vacancy rates under five percent. Therefore, new private sector housing development may be initiated, in part, to accommodate new UCLA employees relocating to the area.

The University's development of on-campus and off-campus units is considered a growth-inducing impact because it may result in new commercial retail development and employment opportunities intended, in part, to serve the new population.

Short-term construction-related employment would be created as Alternative 4 was implemented. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in an increase in the area's permanent population.

Summary of Significant Impacts

Implementation of this alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

- Land Use
- Biological Resources
- Historical and Archaeological Resources
- Visual Quality
- Hydrology and Water Quality
- Utilities (water consumption and wastewater)
- Parks and Recreation

Relationship to Project Objectives

This alternative would enable the campus to meet its needs for new facility space but would adversely affect the integral elements comprising the Core Campus character - historical structures, significant open spaces, and the human scale and rich landscape features.

Also, the student recreational amenities that are already in short supply could potentially be further reduced by the use of recreational space for the development of new academic and ancillary facilities. Larger developments would be required because the University would not be able to take advantage of existing facilities and optimal adjacencies in siting new development.

5. No Southwest Housing

Under this alternative, the same amount of academic and administrative space proposed in the LRDP would be developed, but the Southwest housing proposal would not. This scenario would provide for interim uses of portions of the Southwest Zone while acknowledging the potential use of this area beyond the 15-year timespan of the proposed LRDP.

This alternative would provide for a total of 2,600,000 square feet of building area under the LRDP. Some environmental impacts would be reduced by not providing additional housing on the campus. However, traffic-related impacts would be greater than with the proposed LRDP, because the 2,700 students, faculty and staff who would have been housed on campus would not have driven their cars to school or work. Without on-campus housing, most of these individuals would live a greater distance from campus and use their cars for commuting, increasing vehicle trips and associated air pollution emissions. In addition, there would be a greater demand for housing in the vicinity of the campus, compared to the proposed LRDP.

Impacts on public services, noise, utilities and energy related to on-campus development would be reduced by not providing housing in the Southwest zone. These housing units, however, contribute a relatively small proportion to impacts on public services, utilities and energy. On-campus land use impacts will be reduced, due to reduced development in the Southwest Zone.

Overall, this alternative is considered environmentally inferior to the proposed LRDP due to increased traffic, air quality, and housing demand impacts.

Environmental Impacts

Land Use. As with the proposed LRDP, implementation of this alternative could result in land use impacts related to building intensity and compatibility with adjacent uses. The only difference would be in the Southwest Zone, where the site chosen for housing in the LRDP would accommodate only interim, temporary uses throughout the 15-year timespan of the LRDP. Therefore, land use intensity in the Southwest Zone would be less under this alternative. In the remaining portions of campus, land use would be expected to remain the same as proposed in the LRDP.

Population, Employment and Housing. The overall number of campus users would remain approximately the same under this alternative as under the proposed LRDP; new employment on campus might be slightly lower because employees would not be required for the housing complex. However, without the Southwest housing complex, there would be a demand for 2,700 more bed spaces in the private market, compared to the proposed LRDP. This increased demand is considered a greater impact compared to the LRDP.

Traffic, Circulation and Parking. Under this alternative, traffic-related and parking impacts would be greater than under the proposed LRDP. The 2,700 students, faculty, and staff who would have been housed on campus would not have driven cars to school or work. Without on-campus housing, most of these individuals would live a greater distance from campus and use their cars for commuting, increasing vehicle trips and associated air pollution emissions.

Biological Resources. Development of the Southwest housing complex would not destroy significant biological resources. Therefore, the biological impact of not building the housing under this alternative is considered comparable to the LRDP.

Historical and Archaeological Resources. Historic resources would not be disturbed under the proposed LRDP or this alternative. However, the extent of archaeological impacts cannot be assessed until archaeological resources are discovered.

Visual Quality. Impacts on visual quality would have to be analyzed for the Southwest housing complex when its design were developed. Although development in the Southwest Zone would be less under this alternative, the proposed housing complex could result in a more cohesive site plan and improved landscaping for the area. Overall comparative impacts are uncertain.

Geology, Soils and Seismicity. The impacts associated with strong ground shaking and the seismic safety of older buildings on campus would be the same for this alternative as for the proposed LRDP. The specific soil and geological characteristics of the Southwest housing site would have to be evaluated. Therefore, overall comparative impacts are uncertain.

Hydrology and Water Quality. Development on the Southwest Zone would be less under this alternative than under the proposed LRDP. However, since much of the Southwest Zone is already paved or developed, there would not be a significant decrease in the amount of impermeable surfaces under this alternative and thus hydrology impacts are considered comparable.

Air Quality. Because more students, faculty, and staff would be residing off campus under this alternative, vehicle trips and vehicular emissions would be expected to increase, compared to the proposed LRDP. Potential toxic air emissions under this alternative would be the same compared to the proposed LRDP.

Noise. Short-term construction noise from the housing complex would not occur under this alternative.

Utilities. Reduced development would result in less demand for utilities (water supply, solid waste and wastewater). However this demand would continue to exist in off-campus housing that would be needed for those not housed in the Southwest Zone. Thus, overall impacts are considered similar.

Energy. Reduced development would result in less demand for energy. However, this demand should continue to exist in off-campus housing that would be needed for those not housed in the Southwest Zone. Thus, overall impacts are considered similar.

Hazardous Materials. Similar amounts of hazardous materials would be used under this alternative, resulting in comparable amounts of hazardous materials handling and hazardous waste generation.

Public Services. Impacts on public services would be less under this alternative compared to the proposed LRDP. Demand for police and fire services would be reduced due to the decrease in building area and on-campus residential population.

Growth Inducement

Under this alternative, all proposed development under the LRDP would be accomplished except the Southwest housing complex for 2,700 students, faculty, and staff. The overall University population would increase, but the number residing on campus would be reduced by 2,700 under this alternative. An increased demand for off-campus housing would result. Some of the new students and employees may choose to reside in the Westwood and West Los Angeles area, if they do not already do so. This increased demand for housing is considered a growth-inducing impact because the Westwood and West Los Angeles area currently experiences a residential vacancy rate under five percent. Therefore, new private sector housing development might be initiated, in part, to accommodate new UCLA employees and students locating to the area.

The development of new off-campus dwelling units is considered a growth-inducing impact because it may result in new commercial retail development and consequent employment opportunities intended, in part, to serve the new population.

Short-term construction-related employment would be created under this alternative. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in increases in the area's permanent population.

Summary of Significant Impacts

Implementation of the "No Southwest Housing" alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

Land Use
Visual Quality
Air Quality
Utilities (water consumption and wastewater)
Traffic

Relationship to Project Objectives

The Southwest Housing proposal in the Draft LRDP would assist with regional environmental and planning goals (jobs/housing balance, air quality and traffic improvements) and the academic objectives of providing affordable and proximate housing to recruit and retain the highest quality faculty, students, support, and professional staff. Because of limited resources and the fact that housing costs, like other ancillary services, are not subsidized by State funding sources and, thus, must be paid by housing residents, use of campus land resources for housing makes the development of this housing more economically feasible. The campus housing objectives, with the resulting environmental benefits, would not be met under this alternative, and the University's academic goals would be severely impaired.

6. Vacate Leased Space in Westwood

This alternative would result in the University vacating approximately 300,000 square feet of space which it currently leases in Westwood and West Los Angeles. These uses would relocate to new facilities in the Southwest Zone, and it is assumed that other non-University related uses would occupy the UCLA-leased space in Westwood. All other LRDP components would remain as proposed.

The vacated space in Westwood would presumably be occupied by other uses, with impacts equal to or greater than those of the University. In terms of campus-related impacts, adding 300,000 square feet of building area to the Southwest Zone would increase impacts of traffic, air quality, noise, land use, population, public services, utilities and energy, compared to the proposed LRDP.

In terms of on-campus development, this alternative is environmentally inferior to the proposed project, in that it involves 300,000 additional square feet of construction, causing an incremental increase in environmental impacts.

Environmental Impacts

Land Use. This alternative would intensify land use by approximately 300,000 square feet in the Southwest Zone over that proposed in the LRDP, while other new campus development would remain as proposed in the LRDP. Therefore, land use impacts under this alternative are considered greater than the proposed LRDP.

Population, Employment and Housing. The overall number of campus users would increase under this alternative compared to the proposed LRDP. University employment in Westwood Village would be relocated to the Southwest Zone, and the Westwood Village facilities would be occupied by other, non-University uses. This increased campus population is considered a greater impact compared to the LRDP.

Traffic, Circulation and Parking. Under this alternative, traffic-related and parking impacts would be greater than under the proposed LRDP. The UCLA employees currently working in Westwood Village would relocate to the Southwest Zone, and other employees and activities would be accommodated in the Westwood Village space. The overall increase in employees (on campus and in Westwood Village) would result in more vehicle trips and air pollution emissions.

Biological Resources. Development of the Southwest Zone would not destroy significant biological resources. Therefore, the biological impact of this alternative is considered comparable to the proposed LRDP.

Historical and Archaeological Resources. Historic resources would not be disturbed under the proposed LRDP or this alternative. However, the extent of archaeological impacts cannot be assessed until archaeological resources are discovered.

Visual Quality. Impacts on visual quality would have to be analyzed for the Southwest Zone when individual designs were developed. Although development in the Southwest Zone would be greater under this alternative, new development could result in a more cohesive site plan and improved landscaping for the area. Overall visual impacts are comparable to the proposed LRDP.

Geology, Soils and Seismicity. The impacts associated with strong ground shaking and the seismic safety of older buildings on campus would be the same for this alternative as for the proposed LRDP. The specific soil and geological characteristics of the Southwest Zone building sites would have to be evaluated. Therefore, these imapcts under this alternative are comparable to the proposed LRDP.

Hydrology and Water Quality. Although development on the Southwest Zone would be greater under this alternative than under the proposed LRDP, drainage and landscape improvements included as part of the individual projects under the alternative could be implemented. Hydrology and water quality impacts under this alternative would be comparable to the proposed LRDP.

Air Quality. Because the overall campus population would increase under this alternative, vehicle trips and vehicular emissions would be expected to increase, compared to the proposed LRDP. Cumulative impacts from non-University employees moving into space currently leased by UCLA would also contribute to an increase in vehicle-related air emissions. Potential toxic air emissions would be similar under this alternative in comparison with the proposed LRDP.

Noise. Short-term construction noise from Southwest Zone development would be greater than under the proposed LRDP due to the additional 300,000 square feet of construction.

Utilities. Increased development would result in an increased demand for utilities, (water supply, solid waste and wastewater) compared to the proposed LRDP.

Energy. Increased development would result in an increased demand for energy compared to the proposed LRDP.

Hazardous Materials. Similar amounts of hazardous materials would be used under this alternative, resulting in comparable hazardous materials handling and hazardous waste generation.

Public Services. Impacts on public services would be greater under this alternative compared to the proposed LRDP. Demand for police and fire services would be increased due to the increase in building area and number of employees. Space available for recreation would also be reduced.

Growth Inducement

Under this alternative, all proposed development under the LRDP would be accomplished. In addition, approximately 300,000 square feet of University facilities currently located throughout Westwood Village would be relocated to the Southwest Zone. It is assumed that the vacated space in Westwood Village would accommodate non-University businesses and employees.

The overall on-campus population would increase, and the new non-University employees in Westwood Village could result in an increased demand for housing in the Westwood and West Los Angeles area. This increased demand for housing is considered a growth-inducing impact because the Westwood and West Los Angeles area currently experiences a residential vacancy rate under five percent. Therefore, new private sector housing development might be initiated, in part, to accommodate the new residents.

As well, the development of new on- and off-campus dwelling units is considered a growth-inducing impact because it may result in new commercial retail development and consequent employment opportunities intended, in part, to serve the new population.

Short-term construction-related employment would be created under this alternative. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in increases in the area's permanent population.

Summary of Significant Impacts

Implementation of the "Vacate Leased Space" alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

Air Quality
Visual Quality
Utilities
Traffic
Land Use

Relationship to Project Objectives

This alternative would enable the University to meet its space needs but would result in higher development and population densities in the Southwest Zone. This intensification of the proposed Southwest Zone uses could interfere with the planning objective of establishing a unified open space element to support the campus-like character of this zone.

7. Off-Site Development

This alternative discusses the environmental impacts associated with development and operation of the Draft 1990 LRDP at an off-campus site. Consequently, the primary consideration in evaluating an alternate site for UCLA's projected physical development was how such an alternative would affect the University's instructional and research project objectives. Operational concerns constituted a secondary set of considerations. ~~For example, construction of the proposed chiller/cogeneration facility would not be appropriate at an alternate location since it is designed to meet the energy needs of existing as well as future, LRDP-related development.~~ For the purposes of assessing the feasibility of an alternate site, it was assumed that the site must be of a sufficient size to accommodate all future development proposed under the Draft LRDP.

The following criteria were used to establish the planning requirements for off-campus development:

1. The site must be at least 35 acres in size to allow for proper placement of new facilities. The acreage would need to provide for open space and to accommodate parking needs, at an approximate floor-area ratio of 3 to 1.

2. The site must be within 30 minutes (peak hour) driving time of the Westwood campus in order to create the minimally acceptable academic and operational relationship between the two campuses.

3. The site must have adequate access to existing highways and public transportation systems.

4. Infrastructure and services must be in place or have expansion potential to serve proposed development, including: water, sewers, electricity, natural gas, police, fire, and recreational amenities.

5. A parcel must be easily assembled, preferably in single ownership.

6. The site must have no major environmental or land use constraints, such as endangered species, rare plants or animals, etc.

The University has conducted a review of parcels that meet the criteria listed above, and has identified the following sites:

Santa Monica Airport. The site is located in the City of Santa Monica and consists of one parcel totaling about 300 acres of land. It is located west of Bundy Avenue, and south of Ocean Park Boulevard. A portion of the airport area of approximately 35 acres is currently the subject of a development proposal by the City of Santa Monica for development of office space and parking. Environmental constraints related to noise, traffic, visual quality, and land use compatibility might reduce the amount of developable building space.

Sepulveda Basin Recreation Area. The site is located in the City of Los Angeles, and consists of one parcel totaling about 1,770 acres. It is located north of the Ventura (101) Freeway and west of the San Diego (405) Freeway, and is generally bounded by Louise Avenue on the west and Victory Boulevard on the north. The site has access from Balboa Boulevard, Burbank Boulevard, and Woodley Avenue. Environmental constraints on the site include the existing recreational facilities and the use of the area for flood water containment and groundwater replenishment during heavy winter storms.

Veterans Administration. The West Los Angeles Veterans Administration property, including the Brentwood and Wadsworth hospitals, is located immediately west of the San Diego (405) Freeway, north of Ohio Avenue, and east of Federal Avenue, San Vicente Boulevard, and Gorham Avenue. The site is approximately 390 acres and can be accessed via Wilshire Boulevard, Ohio Avenue, and Constitution Avenue. Although there is adequate open space to accommodate the proposed LRDP development, deed restrictions on the property limit uses to facilities for Veterans (e.g., an "Old Soldier's Home"). Areas of land south and east of the existing Wadsworth Hospital building provide a parcel of adequate size for development.

Family Student Housing (Sepulveda and Sawtelle). The site is located on Sepulveda and Sawtelle boulevards, south of National Boulevard and north of Palms Boulevard. It is bisected by the San Diego (405) Freeway and currently occupied by 647 apartment units that provide housing for students with spouses and/or children. The site is accessible from Sepulveda and Sawtelle boulevards, and freeway access is available from National Boulevard and south of Venice Boulevard.

Playa Vista. The site is located in the City of Los Angeles, north of the community of Westchester, east of Playa del Rey and Marina del Rey, west of the San Diego (405) Freeway, and south of the Marina (90) Freeway, approximately eight miles southwest of the Westwood campus. The site is approximately 950 acres, including the Ballona Wetlands area. The property is currently the subject of a proposal by private developers to construct a mixed-use development of office, residential, retail, and recreational facilities, and to set aside a portion of the property for preservation of the Ballona Wetlands. The site is roughly rectangular in shape and generally flat, except for the extreme southern portion, which extends along a bluff that defines the northern edge of the community of Westchester. The majority of the site is undeveloped, although several office buildings and a helicopter plant have been constructed previously, generally along the southern portions of the property. Playa Vista can be accessed from Jefferson Boulevard, Culver Boulevard, Lincoln Boulevard, and Sepulveda Boulevard.

Westchester Bluffs. Located south of the Playa Vista property, this 57-acre parcel was acquired by the University to provide a site for faculty homes. The site is accessible via Century Boulevard and Pershing Drive.

Bel Air Country Club. Located immediately north of the main campus, the Bel Air Country Club occupies approximately 60 acres of land used as a golf course with associated club structures, as are all of the country clubs discussed below. Portions of the parcel are relatively flat and extend into the canyons north of campus.

Los Angeles Country Club. Located apprbximately one mile east of campus, this parcel is approximately 310 acres, and is bisected by Wilshire Boulevard. This site is bounded roughly by Sunset Boulevard on the north, Club View Drive on the west, Santa Monica Boulevard on the south, and the City of Beverly Hills on the east.

<u>Brentwood Country Club</u>. Located approximately two miles west of campus, the parcel is approximately 140 acres in size and located between San Vicente Boulevard on the north and Montana Avenue on the south.

<u>Hillcrest Country Club</u>. The site is located in the Rancho Park area, approximately five miles southeast of campus. Comprising about 150 acres, the site is bounded by Pico Boulevard on the north, with residential streets on the east, south, and west. Motor Avenue bisects the property.

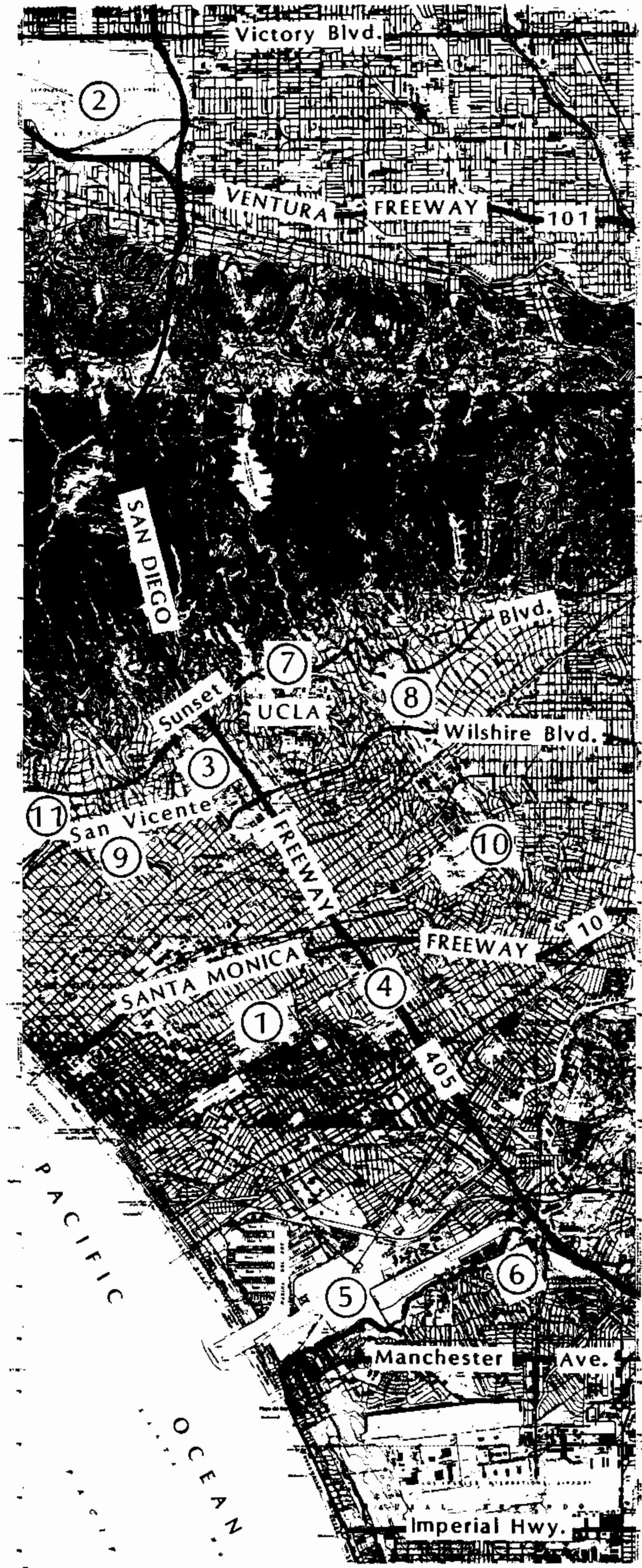
<u>Riviera Country Club</u>. The site is located in Pacific Palisades, approximately four miles west of campus, south of Sunset Boulevard. The site is approximately 150 acres in size and is currently occupied by a golf course, clubhouse, and related ancillary facilities.

Figure VI-1 locates the alternative sites.

Relationship to Project Objectives

The development of an off-campus "satellite" campus would fail to meet several of the academic objectives set forth in the Draft LRDP, and would also create significant new obstacles to the maintenance and enhancement of the quality of University education. For these reasons, UCLA has determined that development of future facilities on a site other than the main campus is undesirable and impractical. The general impacts of pursuing such an alternative on instructional and research program objectives, together with the potential for increased operational costs, weighs decisively against the establishment of a "satellite" campus.

<u>Instructional Implications</u>. To fulfill its mission of undergraduate, graduate, and professional instruction, the existing complement of academic units (the College of Letters and Science with five divisions, seven general campus and four health science professional schools, and the College of the Arts) has evolved. This organizational structure, including 27 interdepartmental programs, 24 organized research units, and many other less-structured interdisciplinary efforts, establish a framework that permits undergraduate and graduate students the opportunities for both a general education and specialization in a wide variety of academic disciplines. General education requirements for undergraduates require students to undertake coursework in a range of academic disciplines, and thus many departments provide the basic education core that is common to all undergraduates.



1. Santa Monica Airport
2. Sepulveda Basin Recreation Area
3. Veterans Administration
4. Family Student Housing
5. Playa Vista
6. Westchester Bluffs
7. Bel Air Country Club
8. Los Angeles Country Club
9. Brentwood Country Club
10. Hillcrest Country Club
11. Riviera Country Club

UCLA
Long Range
Development Plan EIR

Figure VI-1
Off-Site Alternatives
Potential Sites

These general education requirements, coupled with interdisciplinary courses and degree programs, make the proximity of many departments and facilities of critical importance. Remote instructional locations would be extremely disruptive to a wide variety of academic programs, particularly in undergraduate teaching, where the campus is committed to improvements in quality.

Research Implications. To fulfill its mission of conducting original research, the campus has established a wide range of academic programs and established organized research units in areas not accommodated within traditional academic departments. In traditional academic departments, proximity of research facilities to office and instructional space has a major impact on the conduct of productive research. The benefits of these research activities also include the improvement and refinement of principles and ideas presented in the classroom. Proximity of facilities and academic office space is especially critical for interdisciplinary research programs, where faculty and research staff from various departments often interact on common ideas or research topics. The Draft UCLA 1990 LRDP recognizes the need to focus future academic growth in the Core Campus Zone, the existing core of the academic enterprise, while permitting some research activities to be located in the Southwest zone. This is, in part, due to the recognition that some research activities can be separated from the core academic enterprise; yet the LRDP proposes only a small amount of research space for the Southwest Zone as a consequence of the need to maintain program adjacencies for the majority of research functions, and to provide faculty with access to various support facilities such as libraries.

Although the campus has concluded that the development of a "satellite" campus is undesirable and impractical, analysis of whether such a development would reduce the potential impacts of the Draft LRDP is required to fulfill the obligations of the California Environmental Quality Act (CEQA). Recent court actions require an analysis of development at alternate locations to compare and contrast the potential effects at different sites.

The separation of academic and research functions would impose functional and operational constraints; therefore, the most proximate sites would involve the least disruption to campus programs and activities. As the likelihood of acquiring an alternate site appears remote due to restrictions on the sites listed above or the cost of acquisition, the analysis of potential sites in this document therefore includes the most proximate site under the control of the campus - Family Student Housing (Sepulveda and Sawtelle). In addition, the Veterans Administration property in West Los Angeles is identified as the most proximate site with large areas of land that are not currently being utilized other than as landscaped spaces. It should be noted that the potential for acquisition of the site is considered extremely remote. Finally, since this EIR is a programmatic evaluation of impacts resulting from overall implementation of the Draft LRDP, a programmatic evaluation of the nature and comparable magnitude of environmental impacts resulting from development of a satellite campus is also included.

Environmental Impacts

Land Use. As with the proposed LRDP, implementation of Alternative 7 could result in land use impacts related to building intensity and compatibility with adjacent uses. For the Veterans Administration site, land use incompatibilities with the existing hospital facilities could result. For the Family Student Housing site, the apartment units would be demolished and replaced with academic and research facilities in an area that is primarily residential. For the purposes of this analysis, it is assumed that design solutions and appropriate facility siting would mitigate land use impacts. Site plans and architectural designs for each alternative location would have to be evaluated individually. Still, the potential for land use incompatibilities is considered significant.

Population, Employment and Housing. Because all development in the Draft LRDP would be accommodated under this alternative, student, faculty, and staff population could increase by 3,128. The impacts of these increases on the surrounding area would have to be evaluated according to the specific alternative location chosen. Since a significant number of students, faculty and staff would need to regularly attend classes or use resources located on the existing UCLA campus, daily population levels at the main campus would not be significantly reduced. Thus, population and employment impacts would increase at the off-campus location and not decrease, by a significant amount, population and employment on the existing campus. This impact is considered greater than the Draft LRDP. For the Family Student Housing site, the University would have to locate another site for replacement of the apartment units lost. For the Veterans Administration site, new population would be introduced to existing open space.

Traffic, Circulation and Parking. These impacts under the off-site alternative would have to be evaluated on a site-specific basis, taking into account the existing traffic patterns, levels of service, infrastructure system, and access points of the alternative site.

However, vehicle trips would increase under this alternative due to the need for students, faculty, and staff to utilize facilities on the Westwood campus; transportation shuttle service could mitigate some of this potential impact, but traffic impacts on both the existing and potential satellite campus site would be increased under this alternative. Vehicle trips would be of shorter distance to and from the Veterans site compared to the Family Student Housing location.

Biological Resources. The existing biological environment of the alternative site would have to be evaluated in detail and potential biological impacts assessed in relation to the proposed LRDP. There are no known biological constraints on the Family Student Housing location or the Veterans site. For purposes of this EIR, it is assumed that appropriate facility siting and design solutions would adequately mitigate any potential biological impacts. Thus, biological impacts are considered comparable under this alternative and the Draft LRDP.

Historical and Archaeological Resources. The existing historical and archaeological environment of the alternative location would have to be evaluated before potential impacts could be assessed. Site-specific historical and archaeological record checks and field surveys could help determine potential impacts on alternative locations. There are no known historical and archaeological constraints on the Family Student Housing location or the Veterans site. For purposes of this EIR, it is assumed that appropriate facility siting and design solutions would adequately mitigate any potential historical and archaeological impacts. Thus, historical and archaeologial impacts are considered comparable under this alternative and the Draft LRDP.

Visual Quality. The potential for significant impacts on visual quality could be significant under this alternative because new development would occur on open or less developed space. The Veterans Administration site currently includes large-scale institutional buildings and open space; university buildings could be visually compatible in this environment. However, the Family Student Housing site is in a residential and commercial area where university buildings might have greater impacts on visual quality. Since the proposed chiller/cogeneration facility would not be included under this alternative, this significant visual impact would not occur. Visual impacts are thus considered less under this alternative.

Geology, Soils and Seismicity. The site-specific characteristics of the alternative location would have to be evaluated before potential impacts could be assessed. There are no known geological constraints on the Family Student Housing location or the Veterans site. For purposes of this EIR, it is assumed that appropriate facility siting and design solutions would adquately mitigate any potential geological impacts. Thus, geology impacts are considered comparable under this alternative and the Draft LRDP.

Hydrology and Water Quality. The site-specific characteristics of the alternative location would have to be evaluated before potential impacts could be assessed. There are no known water quality constraints on the Family Student Housing location or the Veterans site. For purposes of this EIR, it is assumed that appropriate facility siting and design solutions would adequately mitigate any potential water quality impacts. Thus, water quality impacts are considered comparable under this alternative and the Draft LRDP.

Air Quality. Under this alternative, air quality impacts would be comparable to the proposed LRDP because all development potential under the proposed LRDP would take place, only at a different location. The potential for more vehicle trips between the main campus and the alternative site would, however, result in increased air pollution emissions. Vehicle trips would be of a shorter distance to and from the Veterans site compared to the Family Student Housing location.

Noise. As with the proposed project, demolition and construction would generate short-term noise impacts on sensitive receptors. Construction-noise impacts on the Veterans site would affect nearby hospital functions and patients. These impacts on the Family Student Housing site would affect nearby residents. It is assumed that the Veterans site would incur less demolition activity due to the amount of open space compared to the Family Student Housing site, whose structures would have to be demolished and replaced with educational and research facilities. There are no known noise constraints on the Family Student Housing location or the Veterans site. For purposes of this EIR, it is assumed that appropriate facility siting and design solutions would adequately mitigate any potential noise impacts. Thus, noise impacts are considered comparable under this alternative and the Draft LRDP.

Utilities. Impacts on utilities (water supply, solid waste and wastewater) use would be comparable to the proposed LRDP, given that the projected building area and University population would be the same. ~~However, since the proposed chiller/cogeneration facility would not be developed under this alternative, water demand would be less than under the Draft LRDP.~~

Energy. The increased energy efficiency that would result from the development of the proposed chiller/cogeneration facility would not be achieved under this alternative. Thus, more energy would be needed to provide electrical, heating and cooling services to facilities at a satellite campus, and this impact would be greater.

Hazardous Materials. Similar amounts of hazardous materials would be used under this alternative, resulting in comparable hazardous materials handling and hazardous waste generation.

Public Services. Since the projected building area and University population would be the same under this alternative as under the proposed LRDP, impacts on public services would be comparable.

Growth Inducement

As with the proposed LRDP, overall University population could increase by approximately 3,128 persons with the off-site alternative. Approximately 97 percent of this growth would be in academic and other staff positions.

Some of these new employees may choose to reside near the off-site location; for both the Veterans' and the Family Student Housing locations, the West Los Angeles area would provide a convenient commute. The West Los Angeles area currently experiences a residential vacancy rate under five percent. Therefore, new private sector housing development might be initiated due, in part, to new UCLA employees relocating to the area.

The local resident student population could increase by approximately 4,000 Under this alternative, students would either live off campus or at the newly developed off-site location. The University's development of off-campus units is considered a growth-inducing impact comparable to the growth-inducing impact of the proposed LRDP. Short-term construction-related employment would be created under this alternative. It is assumed that most of the construction employees will already live within commuting distance of their job sites, thereby not creating a demand for permanent housing or resulting in an increase in the area's permanent population.

Summary of Significant Impacts

Implementation of the off-site alternative would be expected to result in significant, nonmitigable impacts in the following issue areas:

Air Quality
Traffic
Utilities (water consumption and wastewater)

Summary of Alternatives Analysis

Tables VI-1 through VI-3 illustrate the environmental impact comparisons discussed above. Although the numerical values assigned to each alternative in Table VI-3 cannot be interpreted mathematically, the matrix does provide a method for comparing the relative advantages and disadvantages of each alternative.

The significant unavoidable effects resulting from implementation of the Draft LRDP -- visual quality, land use, water supply and wastewater would be wholly avoided under Alternatives 1 (No Projects) and 2 (No New Projects), reduced but not avoided under Alternatives 3 (Reduced Development), 5 (No Southwest Housing) and 7 (Off-site Development), and maintained or slightly increased under Alternatives 4 (High Density on the Main Campus) and 6 (Vacate Leased Space in Westwood).

Alternatives 1, 2 and 3 would reduce, but not eliminate significant cumulative effects on air quality, traffic, water supply, wastewater, and solid waste. The cumulative adverse impacts associated with the other alternatives are similar to or greater than those resulting from implementing the Draft LRDP.

Implementation of Alternatives 1 and 2 would not meet the Draft LRDP project objectives. Alternative 3, the environmentally superior alternative, would likewise fail to meet the Draft LRDP project objectives. The other alternatives have impacts which are similar to or greater than the Draft LRDP.

TABLE VI-1
COMPARISON OF IMPACTS:
PROPOSED LRDP VS. ALTERNATIVES

Impact Area	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7
Land Use	(-1)	(-1)	(+/-)	(+/-)	(+/-)	(+1)	(+/-)
Population, Employment and Housing	(-1)	(-1)	(-1)	(0)	(+1)	(+1)	(+1)
Traffic, Circulation and Parking	(-1)	(-1)	(-1)	(-1)	(+1)	(+1)	(+1)
Biological Resources	(-1)	(-1)	(+/-)	(+1)	(0)	(0)	(+/-)
Historical and Archaeological Resources	(-1)	(+/-)	(+/-)	(+1)	(+/-)	(+/-)	(+/-)
Visual Quality	(-1)	(-1)	(+/-)	(+1)	(+/-)	(+/-)	(-1)
Geology, Soils and Seismicity	(-1)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)	(+/-)
Hydrology and Water Quality	(-1)	(-1)	(-1)	(+1)	(+/-)	(+/-)	(+/-)
Air Quality	(-1)	(-1)	(-1)	(-1)	(+1)	(+1)	(+1)
Noise	(-1)	(-1)	(-1)	(+/-)	(-1)	(+1)	(+/-)
Utilities	(-1)	(-1)	(-1)	(0)	(+/-)	(+1)	~~(-1)~~ (0)
Energy	(-1)	(+1)	(+/-)	(0)	(+/-)	(+1)	(+1)
Hazardous Substances	(-1)	(-1)	(+/-)	(0)	(+/-)	(+/-)	(+/-)
Public Services	(-1)	(-1)	(-1)	(+1)	(-1)	(+1)	(0)
TOTAL	(-14)	(-10)	(-7)	(+3)	(+1)	(+8)	(+2)

(-1) = Impact considered to be less when compared with proposed LRDP.
(+1) = Impact considered to be greater when compared with proposed LRDP.
(0) = Impact considered to be equal to proposed LRDP.
(+/-) = Impact uncertain; case-by-case evaluation required.

Source: Cotton/Beland/Associates, Inc.