CHAPTER 6.0
ALTERNATIVES

The California Environmental Quality Act (CEQA) requires that an EIR describe and evaluate a range of reasonable alternatives to the proposed project, or alternatives to the location of the proposed project. The purpose of the alternatives analysis is to explore ways that most of the basic objectives of the proposed project could be attained while reducing or avoiding significant environmental impacts of the project as proposed. This approach is intended to foster informed decision-making and public participation in the environmental process.

This chapter evaluates alternatives to the proposed 2007 LRDP and examines the potential environmental impacts associated with each alternative. The State CEQA Guidelines indicate that EIRs are required to evaluate a "…range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project" (Section 15126.6[a] State CEQA Guidelines). Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered. When addressing feasibility, Section 15126.6 of the CEQA Guidelines states that the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries. The Guidelines also state that the discussion of alternatives should focus on "…alternatives capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly" (Section 15166.6[b] State CEQA Guidelines). CEQA further directs that "…the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed" (Section 15126.6[d] State CEQA Guidelines).

The following sections discuss the project alternatives that were considered pursuant to CEQA. Based on the State CEQA Guidelines, the following six project alternatives to avoid or reduce significant project impacts were identified and are discussed in Section 6.2: (1) the No Project (No Growth) Alternative, (2) the Reduced Student Enrollment Capacity (32,000) Alternative, (3) the Reduced Student Enrollment Capacity (35,000) Alternative, (4) the Reduced Development Footprint Alternative, (5) the Increased Campus Housing Alternative, and (6) the Increased TDM Alternative.

6.1 PROJECT OBJECTIVES

As stated in the Project Description, the fundamental project objectives for the 2007 LRDP are:

1. To accommodate the physical resources needed to support UCI's strategic academic goals, including the capacity to serve long range growth needs in teaching, research, and public service programs in a manner that preserves the environmental quality of the campus and surrounding community.
2. To continue to maintain access to UCI by supporting mid-range (Year 2010-11) enrollment demand projections and by providing the flexibility to accommodate long-range (Year 2025-26) enrollment needs as determined by future regional and statewide demand.
3. To accommodate new teaching, research, and clinical uses in the Health Sciences.
4. To accommodate additional moderately priced, on-campus housing to support the recruitment and retention of faculty, students, and staff, and to limit impacts to the off-campus housing market and the regional circulation network.
5. To accommodate social, cultural, and recreational opportunities that contribute to the quality of campus life.
6. To refine campus land use, circulation, and open space plans to promote the development of a cohesive community and to enhance the quality of the campus environment.

6.2 ALTERNATIVES ANALYZED

This section presents an evaluation of six alternatives to the proposed 2007 LRDP: (1) the No Project (No Growth) Alternative, (2) the Reduced Student Enrollment Capacity Alternative A (32,000), (3) the Reduced Student Enrollment Capacity Alternative B (35,000), (4) the Reduced Development Footprint Alternative, (5) the Increased Campus Housing Alternative, and (6) the Increased TDM Alternative. For each alternative, a brief description is first presented, followed by a summary impact analysis relative to the 2007 LRDP, and an assessment of the degree to which the alternative would meet the 2007 LRDP project objectives. Table 6-1 provides a comparison of the significant direct impacts that would result from the 2007 LRDP and the impacts that would result from each of the analyzed alternatives. In addition to significant direct impacts, less-than-significant impacts and cumulative impacts associated with the 2007 LRDP are addressed in Table 6-1 in areas for which those impacts would be greater than for the proposed project. Table 6-2 provides a summary of the selected alternatives' abilities to meet the 2007 LRDP project objectives.

The No Project Alternative was included for analysis in this section pursuant to the CEQA Guidelines. The No Project Alternative would maintain the existing 2005-2006 enrollment of 24,434 students; no further development would occur under this alternative. The Reduced Student Enrollment Capacity Alternatives would result in less development square footage than the proposed 2007 LRDP to accommodate a student enrollment capacity of up to 32,000 and 35,000 students; however, the development footprint of these alternatives would be the same as the footprint proposed under the 2007 LRDP. The Reduced Development Footprint focuses on increasing the amount of open space remaining on campus in order to reduce impacts to biological resources, cultural resources, paleontological resources, and hydrology and water quality. The Increased Campus Housing Alternative focuses on increasing on-campus housing in order to reduce impacts to air quality and traffic associated with

students, faculty, and staff that commute to campus. Lastly, the Increased TDM Alternative focuses on reducing traffic impacts through expanded transportation demand management strategies.

Table 6-1. Summary of Analysis for Alternatives to the 2007 LRDP

2007 LRDP			Alternatives to the 2007 LRDP					
Issue Areas with Potential for Significant Impacts under the 2007 LRDP or its Alternatives	**Without Mitigation**	**With Mitigation**	**No Project**	**Reduced Student Enrollment Capacity (32,000 students)**	**Reduced Student Enrollment Capacity (35,000 students)**	**Reduced Development Footprint**	**Increased Campus Housing**	**Increased TDM**
4.1 Aesthetics								
Visual Character and Quality (Aes-1)	S	LS	▼	▼	▼	▲	▲	—
Lighting and Glare (Aes-2)	S	LS	▼	▼	▼	▲	▲	—
4.2 Air Quality								
Consistency with Applicable Air Quality Standards (Air-2)	S	SU						
Construction related impacts			▼	▼	▼	—	▲	—
Operational and vehicle related impacts			▼	▼	▼	—	▼	▼
Cumulative impacts from CO, NO_x, VOCs, PM_{10}, and $PM_{2.5}$ emissions	S	SU	▼	▼	▼	—	—	▼
4.3 Biological Resources								
Sensitive and Special Status Plant Species (Bio-1)	S	LS	▼	—	—	▼	—	—
Sensitive and Special Status Animal Species (Bio-2)	S	LS	▼	—	—	▼	—	—
Riparian Habitat and Other Sensitive Natural Communities (Bio-3)	S	LS	▼	—	—	▼	—	—
Wetlands (Bio-4)	S	LS	▼	—	—	▼	—	—
4.4 Cultural Resources								
Archeological Resources (Cul-1)	S	LS	▼	—	—	▼	—	—
Historical Resources (Cul-2)	S	LS	▼	—	—	▼	—	—
Paleontological Resources (Cul-4)	S	LS	▼	—	—	▼	—	—
4.6 Hazardous Materials								
Construction-related Road Closure Affecting Emergency Response (Haz-6)	S	LS	▼	—	—	—	—	—
4.7 Hydrology and Water Quality								
Site Drainage and Hydrology (Hyd-1)	S	LS	▼	—	—	▼	—	—
Water Quality (Hyd-2)	S	LS	▼	▼	▼	▼	—	—
4.8 Land Use								
Applicable Land Use Plans, Policies, and Regulations	LS*	-	—	—	—	▲	▲	—
Incompatibilities with Adjacent Land Uses (Lan-2)	S	LS	▼	—	—	▲	▲	—
4.9 Noise								
Exposure to Permanent Ambient Noise (Noi-1)	S	LS	▼	▼	▼	—	▼	▼
Temporary Increases in Ambient Noise (Noi-2)	S	LS	▼	—	—	—	—	—
Excessive Ground borne Vibration or Noise (Noi-4)	S	LS	▼	—	—	—	—	—

Issue Areas with Potential for Significant Impacts under the 2007 LRDP or its Alternatives	2007 LRDP: Without Mitigation	2007 LRDP: With Mitigation	Alternatives to the 2007 LRDP: No Project	Reduced Student Enrollment Capacity (32,000 students)	Reduced Student Enrollment Capacity (35,000 students)	Reduced Development Footprint	Increased Campus Housing	Increased TDM
4.12 Recreation								
Deterioration of Parks and Recreational Facilities (Rec-1)	LS*	-	▼	▼	▼	—	▲	—
Construction of New Recreational Facilities (Rec-2)	S	LS	▼	—	—	—	—	—
4.13 Transportation, Traffic, and Parking								
Increases in Traffic (Tra-1)	S	LS	▼	▼	▼	—	▼	▼
4.14 Utilities, Service Systems, and Energy								
Wastewater Treatment (Utl-1)	LS*	-	▼	▼	▼	—	▲	—
New Water or Wastewater Facilities (Utl-2)	S	LS	▼	▼	▼	—	▲	—
Impacts from New Storm Water Facilities (Utl-3)	S	LS	▼	—	—	▼	—	—
Water Supply Availability (Utl-4)	LS*	-	▼	▼	▼	—	▲	—
Landfill Capacity (Utl-5)	LS*	-	▼	▼	▼	—	▲	—
Energy Consumption (Utl-7)	S	LS	▼	▼	▼	—	▲	—

▲ Alternative is likely to result in greater impacts to issue when compared to proposed project
— Alternative is likely to result in a similar impacts to issue when compared to proposed project
▼ Alternative is likely to result in less impacts to issue when compared to proposed project, however, impacts would still be significant before mitigation.
S Significant impact
LS Less than significant impact
SU Significant and unavoidable impact
* This less than significant impact was included in Table 6-1 because one or more of the alternatives would result in greater impacts to this issue area than the 2007 LRDP. The alternatives would result in similar or fewer impacts to the remaining less than significant impacts.

Table 6-2. Ability of Project Alternatives to Meet LRDP Project Objectives

LRDP Project Objectives	Ability of Alternatives to Meet the LRDP Project Objectives						
	Proposed Project	No Project	Reduced Student Enrollment Capacity (32,000 students)	Reduced Student Enrollment Capacity (35,000 students)	Reduced Development Footprint	Increased Campus Housing	Increased TDM
To accommodate the physical resources needed to support UCI's strategic academic goals, including growth plans associated with the enhancement of its standing among the best comprehensive research universities in the country.	Yes	No	Yes	Yes	Yes	Yes	Yes
To accommodate the student enrollment growth needed to achieve campus academic objectives and serve regional and statewide enrollment demands.	Yes	No	Partial	Partial	Yes	Yes	Yes
To accommodate new teaching, research, and clinical uses in the Health Sciences.	Yes	Partial	Yes	Yes	Yes	Yes	Yes
To accommodate additional moderately priced, on-campus housing to support the recruitment and retention of faculty, students, and staff, and to limit impacts to the off-campus housing market and the regional circulation network.	Yes	No	Yes	Yes	Partial	Partial	Yes
To accommodate social, cultural, and recreational opportunities that contribute to the quality of campus life.	Yes	Partial	Yes	Yes	Partial	Partial	Yes
To refine campus land use, circulation, and open space plans to promote the development of a cohesive community and to enhance the quality of the campus environment.	Yes	Yes	Yes	Yes	Yes	Partial	Yes

6.2.1 NO PROJECT (NO GROWTH) ALTERNATIVE

CEQA requires the No Project Alternative to be addressed in an EIR. Under the No Project Alternative, the 2007 LRDP would not be implemented, no further development would occur, and student enrollment capacity would be not increased. Under this alternative, campus population would remain at the existing 2005-2006 student enrollment levels of 24,434 students and 7,463 faculty and staff. No new construction would occur on campus. The percentage of students that are housed on campus would not increase and would remain at 44 percent. Finally, UCI would not have an updated land use document for the campus.

6.2.1.1 IMPACT ANALYSIS

Aesthetics. Because no further development would occur on the UCI campus, no new buildings would be built in currently undeveloped areas. Further, there would be no extensive new lighting installed on campus. Therefore, compared to the 2007 LRDP, the No Project Alternative would result in less impacts to visual quality and character (Impact Aes-1) and would result in less light and glare impacts (Impact Aes-2). The No Project Alternative would not result in impacts to Aesthetics.

As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution.

However, because no further development would occur on campus, this alternative's contribution would not be cumulatively considerable.

Air Quality. Under the No Project Alternative, there would be no construction-related emissions of criteria pollutants. Further, because the campus population would not increase, there would be no increase of UCI-related traffic volumes and vehicular emissions. Stationary source emissions from boilers, engines, and laboratory chemical use would also be maintained at existing levels, as energy use and research facilities would not increase. Therefore, the No Project Alternative would result in no impact to air quality and emissions standards (Impact Air-2), which would be less than impacts resulting from the 2007 LRDP. Moreover, because no additional development would occur, no additional toxic air contaminants (TAC) would be emitted. Therefore, although the TAC and localized CO impacts to sensitive receptors (Air-3) would be less than significant for the 2007 LRDP, there would be no impacts under the No Project Alternative, which would result in less impacts when compared to the 2007 LRDP. Because there would be no increase in operational activities and no further construction, odor impacts (Air-4) for the No Project Alternative would be less than those under the 2007 LRDP (which would be less than significant).

As evaluated in Section 4.2.4 (Air Quality) in this EIR, cumulative impacts to air quality standards and sensitive receptors would be significant, while cumulative impacts to air quality plans and objectionable odors would be less than significant. However, because no further development would occur on campus and there would be no substantial increases in the number of vehicles to and from campus, the emission levels of the No Project Alternative would be similar to those of the existing condition. Therefore, the cumulatively considerable contribution of existing pollutant emissions to the non-attainment Basin under the No Project Alternative would be less than that of the 2007 LRDP.

Biological Resources. Under the No Project Alternative, no new development would occur in currently undeveloped areas. Therefore, there would be no impacts to sensitive plants and animal species, sensitive habitats (including wetlands), or wildlife movement corridors (Impacts Bio-1, Bio-2, Bio-3, Bio-4, and Bio-5) under the No Project Alternative when compared to the significant impacts that would occur under the 2007 LRDP.

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. Because no development would occur under this alternative, there would be no direct encroachments into the NCCP Reserve. Therefore, this alternative's contribution to significant cumulative impacts to biological resources would not be cumulatively considerable.

Cultural Resources. Because no further development would occur under the No Project Alternative, no undeveloped land would be disturbed. Therefore, there would be no impacts to potentially significant or unknown archaeological (Impact Cul-1) or paleontological resources (Impact Cul-4), human remains (Impact Cul-3), or existing and potentially significant historic buildings (Impact Cul-2) under the No Project Alternative when compared to the significant impacts that would occur under the 2007 LRDP.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because no development would occur under this alternative, there would be no direct impacts to these cultural resources. Therefore, this alternative's contribution to significant cumulative impacts to cultural resources would not be cumulatively considerable.

Geology and Soils. Because no further development would occur on campus under the No Project Alternative, there would be no impacts to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), or expansive soils (Impact Geo-4) under the No Project Alternative when compared to the significant impacts that would occur under the 2007 LRDP.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. No further development would occur under this alternative. Therefore, this alternative's contribution to significant cumulative impacts related to geology and soils would not be cumulatively considerable.

Hazards and Hazardous Materials. Because the number of research and laboratory facilities would not increase under the No Project Alternative, the use and disposal of hazardous materials would also remain at existing levels. Therefore, impacts related to transport, use, and disposal of hazardous materials (Impact Haz-1), accidental releases (Impact Haz-2), nearby schools (Impact Haz-3), or listed sites (Impact Haz-4) would be less than those impacts under the 2007 LRDP. Because the campus is not located within John Wayne Airport's Accident Potential Zones, impacts from nearby airports (Impact Haz-5) would be the same under either the No Project Alternative or the 2007 LRDP. Because no construction would occur, there would be need for temporary road closures; therefore, impacts resulting from emergency response and evacuation plans (Impact Haz-6) would be less under this alternative when compared to the proposed project. Lastly, because the size of the campus population and the number of structures would be less than under the 2007 LRDP, there would be less risk associated with wildfires under the No Project Alternative than under the 2007 LRDP (Haz-7).

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. However, because no further development would occur on campus, this alternative would not increase the risk of wildfire to people or structures. Therefore, this alternative's contribution to significant hazards and hazards materials cumulative impacts would not be cumulatively considerable.

Hydrology and Water Quality. Because no further development would occur under this alternative, there would be no increase to the amount of impervious surfaces on campus and no changes would be made to the drainage and hydrology of the campus. Therefore, there would be no impacts to hydrology and drainage (Impact Hyd-1) under the No Project Alternative. Further, because no construction would occur on campus, there would be no construction related water quality impacts (Impact Hyd-2). No further development would also curb post-construction water impacts (Impact Hyd-2). Overall, hydrology and water quality impacts under the No Project Alternative would be less than those under the 2007 LRDP.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact relating to seiches, mudflows, and tsunamis is less than significant. Because no further development would occur and the campus population would not significantly increase under this alternative, hydrology and water quality impacts from the No Project Alternative would result in a contribution that is not cumulatively considerable to the significant cumulative impact.

Land Use and Planning. Because UCI is a part of the UC system, a constitutionally created entity of the State of California, UCI is not subject to municipal regulations such as the city General Plans. However, as under the 2007 LRDP, the No Project Alternative would comply with the General Plans of the

surrounding cities (Impact Lan-1); therefore, impacts under this alternative would be less than significant and would be the same as those under the 2007 LRDP. Further, because there would be no further development, there would be no incompatibilities with adjacent land uses (Impact Lan-2). Therefore, these types of impacts would be less under the No Project Alternative than under the 2007 LRDP.

As evaluated in Section 4.8.4 (Land Use) in this EIR, a significant cumulative impact related to incompatibilities between adjacent land uses exists; however, cumulative impacts due to inconsistencies with applicable land use plans would be less than significant. Because no further development would occur under this alternative, there would be no direct impacts to land use under this alternative. Therefore, this alternative's contribution to significant cumulative land use impacts would not be cumulatively considerable.

Noise. No new stationary noise sources or sensitive receptors would be constructed and vehicular traffic would not increase under the No Project Alternative. Therefore, no new permanent or temporary noise impacts would occur (Impacts Noi-1 and Noi-2). Further, because no construction would occur, there would be no impacts resulting from ground borne vibration (Impact Noi-4). Due to the location and distance of campus from the John Wayne Airport, impacts resulting from aircraft noise (Impacts Noi-3) under this alternative would be the same as those under the 2007 LRDP.

As evaluated in Section 4.9.4 (noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from permanent increase to ambient noise is significant due to increased noise from vehicles and roadways. Because the campus population would not increase and the number of vehicles would not increase, the existing noise level would not substantially change under this alternative. Therefore, this alternative's contribution to significant cumulative noise impacts would not be cumulatively considerable.

Population and Housing. Because student enrollment, and consequently faculty and staff recruitment, would be stalled at 2005-2006 levels, there would be no growth in the area or increased demand for housing directly or indirectly attributable to UCI (Impacts Pop-1 and Pop-2). These impacts would be less under the No Project Alternative than under the 2007 LRDP. Because neither the No Project Alternative nor the 2007 LRDP would displace people or housing (Impacts Pop-3 and Pop-4), these impacts would be the same under either scenario.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would not substantially increase the campus population, the No Project Alternative would not directly impact regional population growth or housing supply and demand. Therefore, this alternative's contribution to significant cumulative impacts to population and housing would not be cumulatively considerable.

Public Services. The campus is adequately served by fire and police services (Impacts Pub-1 and Pub-2) and there is adequate capacity with Irvine Unified School District for children associated with the campus community (Impact Pub-3). Therefore, because the student enrollment and numbers of faculty and staff would not increase beyond 2005-2006 levels, the No Project Alternative would have less impact to public services than the 2007 LRDP.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because the campus population would not increase under this alternative, the demand for these services would not substantially exceed the existing demand. Therefore,

this alternative's contribution to significant cumulative impacts to public services would not be cumulatively considerable.

Recreation. The amount of recreation facilities both on- and off-campus adequately serve the UCI community. Because student enrollment and the number of faculty and staff would not increase above 2005-2006 levels, existing recreation facilities are not expected to deteriorate as a result of the UCI community (Impact Rec-1) and no new facilities would be required (Impact Rec-2). Therefore, impacts to recreation under the No Project Alternative would be less than those under the 2007 LRDP.

As evaluated in Section 4.12.4 (Recreation) in this EIR, the cumulative impact to existing parks and recreational facilities is less than significant and that the cumulative impact resulting from the construction of new recreational facilities is significant. Because no additional recreational facilities would be constructed under the No Project Alternative, this alternative's contribution to significant cumulative impacts to recreation would not be cumulatively considerable.

Transportation, Traffic, and Parking. Because enrollment would not increase above 2005-2006 levels, the volume of traffic attributable to UCI would not increase above current levels under the No Project Alternative (Impact Tra-1). Further, under this alternative, the demand for parking would not increase above existing levels (Impact Tra-2). Therefore, impacts resulting from traffic increases and to parking would be less under the No Project Alternative than under the 2007 LRDP. Because UCI would maintain its Commuter Services program to reduce the amount of traffic attributable to UCI, this alternative would not conflict with UCI's alternative transportation policies (Impact Tra-3); therefore, impacts to applicable transportation plans and policies under the No Project Alternative would be similar to those under the 2007 LRDP.

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant and cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. Because this alternative would not substantially increase the campus population and consequently would not substantially increase the total trip generation and the number of vehicles on campus, this alternative's contribution to significant cumulative impacts to cultural resources would not be cumulatively considerable.

Utilities, Service Systems, and Energy. Because the campus population would not increase above 2005-2006 levels under the No Project Alternative, the demand for wastewater treatment, potable and reclaimed water, solid waste disposal, and energy would not increase and would be less than the demand under the 2007 LRDP. Irvine Ranch Water District (IRWD) can adequately treat wastewater from UCI (Impacts Utl-1) and UCI's potable and reclaimed water demands are accommodated within the IRWD Urban Water Management Plan (UWMP). Therefore, no new water or wastewater facilities would be constructed under this alternative (Impact Utl-2). Because the existing storm drain facilities are adequate for the campus, no new storm drain facilities would be constructed (Impact Utl-3). With the proposed expansion, the landfill serving the UCI campus would be able to serve the campus until 2053 (Impact Utl-5) and UCI would continue to strive to divert more than 50 percent of waste from the landfill (Impact Utl-6). Lastly, a smaller campus population would have a smaller demand for energy (Impact Utl-7). Therefore, because the No Project Alternative would have less demand for utilities, service systems, and energy, impacts to utilities, service systems, and energy would be less than those of the 2007 LRDP.

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities and water supply availability are less than significant. However, cumulative impacts to the development of new water and waste water facilities and storm water facilities, landfill capacity, and energy consumption are significant. Because the campus population would not

increase under this alternative, the demand for utilities and services would not substantially exceed the existing demand. Therefore, this alternative's contribution to significant cumulative impacts to utilities and service systems would not be cumulatively considerable.

6.2.1.2 ABILITY TO ACCOMPLISH PROJECT OBJECTIVES

The No Project Alternative would accomplish only three of the six project objectives for the 2007 LRDP. Because no further development would occur, the No Project Alternative would not be able to accommodate the development of physical resources needed to support UCI strategic academic goals. Because student enrollment would not be increased above 2005-2006 levels, this alternative would not allow UCI to meet enrollment demand projections as determined by future regional and statewide demand. Because no new on-campus housing would be constructed, the No Project Alternative would not support faculty and staff recruitment and retention goals. Three project objectives could be partially achieved with no further development on campus. The No Project Alternative would partially achieve the objective to accommodate new programs in the Health Sciences and the objective to accommodate social, cultural, and recreational opportunities as less space would be available for these programs. Lastly, this alternative would not prevent UCI from enhancing the quality of the campus environment.

6.2.2 REDUCED STUDENT ENROLLMENT CAPACITY ALTERNATIVE A (32,000)

A Reduced Student Enrollment Capacity Alternative A is considered for the purpose of reducing the following significant impacts associated with the 2007 LRDP: aesthetics; air quality; recreation; transportation, traffic, and parking; and utilities, service systems, and energy.

Under this alternative, UCI would implement the 2007 LRDP with a reduced student enrollment capacity. The 2007 LRDP would increase student enrollment capacity on campus to accommodate 37,000 students, as compared to the current enrollment of 24,434, for an increase of 12,566 students, or approximately 51 percent. The Reduced Student Enrollment Capacity Alternative A would increase student enrollment capacity on campus to accommodate 32,000 students for an increase of 7,566 students, or approximately 31 percent, over the current enrollment of 24,434. Under this alternative, the campus population accommodated would be smaller, however, the alternative would include the same proposed land use changes, the same mix of planned facilities, and substantially the same development footprint as the 2007 LRDP. The reduced student enrollment evaluated in this alternative would require less square footage of development than the 2007 LRDP accommodates, which would likely be reflected in reduced building heights.

6.2.2.1 IMPACT ANALYSIS

Aesthetics. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in less significant impacts to visual character because the height of the development under this alternative would be lower (Impact Aes-1). Because the development footprint would be substantially the same, this alternative could also result in significant light and glare impacts similar to the 2007 LRDP (Impact Aes-2). However, these impacts may be slightly less than those associated with the 2007 LRDP due to reduced building heights.

As with the 2007 LRDP, both of these impacts would be mitigated via implementation of mitigation measures Aes-1A and Aes-2A, Aes-2B and Aes-2C. As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution. For the same reasons given in Section 4.1.4 for the 2007

LRDP, the contribution of the Reduced Student Enrollment Capacity Alternative A to these significant cumulative impacts would not be cumulatively considerable for visual character, and would be cumulatively considerable for light and glare, but mitigated with implementation of mitigation measure Aes-2B.

Air Quality. Reduced enrollment would result in less construction and a smaller increase in vehicle trips, as compared to the 2007 LRDP. As a result, this alternative would result in lower emissions from construction and traffic. Emissions from campus operations would also be incrementally lower. However, the Reduced Student Enrollment Capacity Alternative A would still result in significant direct and cumulative air quality impacts from construction and operational emissions (Impact Air-2). This is because the reduction in vehicular emissions associated with a 20 percent decrease in student enrollment capacity (compared to the 2007 LRDP) would not be substantial enough to drop the total projected operational emissions below the criteria pollutant significance thresholds, as indicated in Table 4.2-9 in Section 4.2.3 (Air Quality) of this EIR, for which the Basin is considered a non-attainment area for O_3, CO, PM_{10}, and $PM_{2.5}$. Similar to the 2007 LRDP, these impacts would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C.

Due to the 20 percent decrease in student enrollment capacity (compared to the 2007 LRDP), this alternative would result in less direct impacts to sensitive receptors from exposure to carcinogenic, non-carcinogenic, and localized CO pollutant concentrations, and less cumulative impacts to sensitive receptors from exposure to CO "hot spots". Nevertheless, as with the 2007 LRDP, these impacts would still be less than significant because the significance thresholds would not be exceeded. As evaluated in Section 4.2.4 (Air Quality) of this EIR, a significant cumulative impact exists within the Basin in terms of exposure of sensitive receptors to carcinogenic and non-carcinogenic pollutant concentrations (TAC emissions) from all sources. This alternative would result in fewer students being exposed to TAC emissions from UC emissions compared to the 2007 LRDP. For the same reasons given in Section 4.2.4 for the 2007 LRDP, the contribution of the Reduced Student Enrollment Capacity Alternative A to this significant cumulative impact would be cumulatively considerable, but mitigated with implementation of energy-saving projects and programs.

Biological Resources. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in similar significant impacts with regard to biological resources including sensitive animal species, sensitive habitats (other than wetlands), and wetlands (Impacts Bio-2, Bio-3, and Bio-4, respectively) because the developable area in the this alternative would be substantially the same as that in the 2007 LRDP. As with the 2007 LRDP, these impacts would be mitigated via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3A, Bio-3B, Bio-3C, Bio-3D, Bio-3E, and Bio-3F.

Because this alternative would have substantially the same development footprint as the 2007 LRDP, it would also result in similar impacts to sensitive plant species and wildlife corridors (Impacts Bio-1 and Bio-5), which would be less than significant.

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. This alternative would have the same development footprint as the 2007 LRDP and would not result in direct encroachments into the NCCP Reserve. In addition, similar to the 2007 LRDP, this alternative would avoid the cumulatively considerable indirect impacts to biological resources within areas of the NCCP Reserve that are adjacent to LRDP development footprints via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3D, Bio-3E, and Bio-3F.

Cultural Resources. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in similar significant impacts with regard to cultural resources, including archaeological, historic, and paleontological resources and human remains (Impacts Cul-1, Cul-2, Cul-4, and Cul-3, respectively), because the developable area identified in Reduced Student Enrollment Alternative A is the same as that in the 2007 LRDP. As with the 2007 LRDP, impacts to cultural resources would be mitigable to a less than significant level.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because this alternative would have the same development footprint as the 2007 LRDP and would implement the same mitigation measures as the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable. Because paleontological monitoring is required at all development sites in the Orange County area, cumulative impacts to paleontological resources are considered to be less than significant.

Geology and Soils. Because the development footprint under the Reduced Student Enrollment Capacity Alternative A would be similar to that of the 2007 LRDP, impacts related to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), and expansive soils (Impact Geo-4) would also be similar. Therefore, impacts to geology and soils would be similar under the Reduced Student Alternative as those under the 2007 LRDP.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. Because this alternative would have the same development footprint as the 2007 LRDP and would implement the same geotechnical recommendations from a geotechnical investigation, direct impacts to this issue from the Reduced Student Enrollment Capacity Alternative A would likely result in a similar contribution to this significant cumulative impact and would not be cumulatively considerable. The 2007 LRDP determined that cumulative impacts related to erosion and top soil loss and unstable and expansive soils were less than significant.

Hazards and Hazardous Materials. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in similar significant impacts with regard to hazardous materials (Impacts Haz-1 and Haz-2) and contaminated sites (Impact Haz-4) because the similar quantities and types of materials would be anticipated under either scenario. Further, the development footprint in the Reduced Student Enrollment Capacity Alternative A would be the same as that in the 2007 LRDP; therefore, hazardous impacts to nearby schools (Impact Haz-3), evacuation routes and emergency plans (Impact Haz-6), and increased risk of wildfire (Impact Haz-7) would also be similar. Likewise, because each scenario occurs on the UCI campus, each would have similar impacts resulting from airports (Impact Haz-5). As with the 2007 LRDP, impacts related to hazards and hazardous materials would be mitigable to a less than significant level.

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. Because this alternative would have the same development footprint and would implement a fuel modification program, the Reduced Student Enrollment Capacity Alternative A would result in a similar contribution that is not cumulatively considerable.

Hydrology and Water Quality. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in similar significant impacts with regard to hydrology because the

developable area identified in this alternative would be the same as that in the 2007 LRDP. Therefore, the amount of new impervious surfaces that could be generated would also be similar (Impact Hyd-1). With regard to water quality, the Reduced Student Enrollment Capacity Alternative A would have similar significant impacts but on a decreased scale because the total population that generates pollutants would be less that of the 2007 LRDP (Impact Hyd-2). As with the 2007 LRDP, impacts related to hydrology and water quality would likely be mitigable to a less than significant level.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact relating to seiches, mudflows, and tsunamis is less than significant. Because this alternative would follow the same permitting rules and regulations as the 2007 LRDP, hydrology and water quality impacts from the Reduced Student Enrollment Capacity Alternative A would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Land Use and Planning. Because UCI is a part of the UC system, a constitutionally created entity of the State of California, UCI is not subject to municipal regulations such as the city General Plans. However, as under the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would comply with the General Plans of the surrounding cities (Impact Lan-1); therefore, impacts under this alternative would be less than significant and would be the same as those under the 2007 LRDP. Further, because this alternative would include the same proposed development and land uses as the 2007 LRDP, any impacts due to incompatibilities with adjacent land uses would be similar (Impact Lan-2). Therefore, land use impacts under the Reduced Student Enrollment Capacity Alternative A would be similar to those under the 2007 LRDP.

As evaluated in Section 4.8.4 (Land Use) , the propose project would contribute to significant cumulative impacts related to incompatibilities between adjacent land uses; however, the project's contribution would be less than significant. Because the Student Enrollment Capacity Alternative A would have a similar development footprint and land uses, and would implement the same mitigation measures, this alternative would also contribute to the significant cumulative land use impacts; however the contribution would not be cumulatively considerable .

Noise. Because the development footprint would be similar, the Reduced Student Enrollment Capacity Alternative A would result in similar significant impacts with regard to temporary noise and ground borne vibration (Impacts Noi-2 and Noi-4). Permanent noise impacts associated with the Reduced Student Enrollment Capacity Alternative A would be less because it would result in less traffic. As with the 2007 LRDP, temporary noise impacts and impacts due to excessive ground borne vibration would be mitigable to a less than significant level. Both scenarios would have similar aircraft noise impacts because the location of these scenarios is the same (Impact Noi-3). As with the 2007 LRDP, permanent noise impacts would be mitigable in the Reduced Student Enrollment Capacity Alternative A.

As evaluated in Section 4.9.4 (noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from permanent increase to ambient noise is significant due to increase noise from vehicles and roadways. Because this alternative would reduce the number of students on campus and, consequently, the number of vehicles on the campus, this alternative's contribution to this significant cumulative impact would not be cumulatively considerable.

Population and Housing. Similar to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would not result in significant impacts to population and housing. Population impacts from the Reduced Student Enrollment Capacity Alternative A would be less than for the 2007 LRDP because

this alternative would have a smaller campus population (Impact Pop-1 and Pop-2). Because the student population would be less than that of the 2007 LRDP, a reduced number of students (same percentage) would be housed on campus, but fewer students would require off-campus housing. Because both the Reduced Student Alternative and the 2007 LRDP would develop buildings, housing, and associated infrastructure within the campus boundaries, no people or housing would be displaced (Impact Pop-3 and Pop-4). Therefore, the impacts associated with off-campus housing demand would be less than the impacts associated with the 2007 LRDP.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would reduce the number of students on campus and consequently reduce the number of student living off-campus, the contributions from this alternative would be less than those of the 2007 LRDP, which were not cumulatively considerable.

Public Services. Because the campus population under the Reduced Student Enrollment Capacity Alternative A would be less than that of the 2007 LRDP, demand on public services, including fire, police, and schools, would also be less (Impacts Pub-1, Pub-2, and Pub-3). As with the 2007 LRDP, impacts would be less than significant.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because this alternative would reduce the number of students on campus and consequently the demand for public services, the cumulative contributions from this alternative would be less than that of the 2007 LRDP. However, the contribution to the cumulative fire protection impact would remain a cumulatively considerable contribution due to the general increase from the 2005-2006 levels.

Recreation. Because the Reduced Student Enrollment Capacity Alternative A would have a smaller campus population than the 2007 LRDP, impacts to existing facilities would be less under this alternative than those of the 2007 LRDP (Impact Rec-1). Impacts resulting from the construction of new recreational facilities would be similar to those under the 2007 LRDP, which would be significant and mitigated to a less than significant level (Impact Rec-2).

As evaluated in Section 4.12.4 (Recreation) in this EIR, implementation of the 2007 LRDP would result in less than significant cumulative impacts to existing parks and recreational facilities and significant cumulative impacts due to construction of new recreational facilities. Because this alternative would reduce the number of students on campus and therefore the number of recreational facility users, the cumulative contribution from this alternative would be less than that of the 2007 LRDP, which are not cumulative considerable.

Transportation, Traffic, and Parking. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative A would result in less total vehicle trip generation. It is anticipated that this difference would be comparable to the difference in growth between the projected student enrollment of the Reduced Student Enrollment Capacity Alternative A and 2007 LRDP. The student enrollment of Reduced Student Enrollment Capacity Alternative A would be approximately 13.5 percent less than the enrollment of the 2007 LRDP. Under the 2007 LRDP, which proposed to increase student enrollment by 12,500 students, the projected ADT for the UCI campus is 146,554. The Reduced Student Enrollment Capacity Alternative A proposes to increase student enrollment by 7,500 students. While this alternative proposes a smaller campus population than the 2007 LRDP, increases in traffic due to increased student enrollment would likely be significant. However, with implementation of mitigation measures, the impacts would be mitigable to a less than significant level (Impact Tra-1). Potential parking supply

impacts would be expected to be similar to the 2007 LRDP because similar increases in population and redevelopment of parking lots could occur under the Reduced Student Enrollment Capacity Alternative A (Impact Tra-2). These impacts would also be mitigable to a less than significant level. Under the Reduced Student Enrollment Capacity Alternative A, UCI would continue to implement its Commuter Services Program; therefore, impacts relating to alternative transportation plans would be similar (Impact Tra-3).

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant. Cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. Because this alternative would reduce the number of students on campus and consequently reduce the total trip generation, the cumulative contributions from this alternative would be less than that of the 2007 LRDP; however, this alternative's contribution would remain cumulatively considerable.

Utilities, Service Systems, and Energy. Because the campus population under the Reduced Student Enrollment Capacity Alternative A would be less than that of the 2007 LRDP, demand for wastewater treatment, potable and reclaimed water, solid waste disposal, and energy would also be less than the 2007 LRDP (Impacts Utl-1, Utl-2, Utl-4, Utl-5, and Utl-7). Under this alternative, UCI would comply with regulations and continue to strive to divert more than 50 percent of waste from the landfill (Impact Utl-6). Lastly, because an increase in campus population and development would result in an increase of impervious surfaces, additional storm water facilities would be required. The Reduced Student Enrollment Capacity Alternative A would result in similar impacts related to the construction of new storm water facilities (Impact Utl-3). As with the 2007 LRDP, impacts would be less than significant with mitigation.

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities and water supply availability are less than significant. However, cumulative impacts to the development of new water and waste water facilities and storm water facilities, landfill capacity, and energy consumption are significant. Because this alternative would reduce the number of students on campus and hence the demand for utilities and service systems, the cumulative contributions from this alternative would be less than that of the 2007 LRDP, which are not cumulatively considerable.

6.2.2.2 Ability to Accomplish Project Objectives

Because this alternative is similar to the 2007 LRDP, this alternative would fulfill many of the project objectives for the 2007 LRDP. This alternative would accommodate an increase in physical resources to support UCI's academic goals; new teaching and research in the Health Sciences; increased housing to support recruitment and retention goals; and social, cultural, and recreational opportunities on-campus. Further, the Reduced Student Enrollment Capacity Alternative A would refine campus land use, circulation, and open space plans. However, this alternative would only partially accomplish objectives to accommodate student enrollment growth consistent with regional and statewide enrollment demands.

6.2.3 Reduced Student Enrollment Capacity Alternative B (35,000)

A Reduced Student Enrollment Capacity Alternative B is considered for the purpose of reducing the following significant impacts associated with the 2007 LRDP: aesthetics; air quality; recreation; transportation, traffic, and parking; and utilities, service systems, and energy.

Under this alternative, UCI would implement the 2007 LRDP with a reduced student enrollment capacity. The 2007 LRDP would increase student enrollment capacity on campus to accommodate 37,000 students, as compared to the current enrollment of 24,434, for an increase of 12,566 students, or approximately 51 percent. The Reduced Student Enrollment Capacity Alternative B would increase student enrollment capacity on campus to accommodate 35,000 students for an increase of 10,566 students, or approximately 43 percent, over the current enrollment of 24,434. Under this alternative, the campus population accommodated would be smaller, however, the alternative would include the same proposed land use changes, the same mix of planned facilities, and substantially the same development footprint as the 2007 LRDP. The reduced student enrollment evaluated in this alternative would require less square footage of development than the 2007 LRDP accommodates, which would likely be reflected in reduced building heights. The impacts and achievement of LRDP objectives for this alternative would be similar to the Reduced Enrollment Capacity Alternative A (32,000)

6.2.3.1 IMPACT ANALYSIS

Aesthetics. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in less significant impacts to visual character because the height of the development under this alternative would be lower (Impact Aes-1). Because the development footprint would be substantially the same, this alternative could also result in significant light and glare impacts similar to the 2007 LRDP (Impact Aes-2). However, these impacts may be slightly less than those associated with the 2007 LRDP due to reduced building heights.

As with the 2007 LRDP, both of these impacts would be mitigated via implementation of mitigation measures Aes-1A and Aes-2A, Aes-2B and Aes-2C. As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution. For the same reasons given in Section 4.1.4 for the 2007 LRDP, the contribution of the Reduced Student Enrollment Capacity Alternative B to these significant cumulative impacts would not be cumulatively considerable for visual character, and would be cumulatively considerable for light and glare, but mitigated with implementation of mitigation measure Aes-2B.

Air Quality. Reduced enrollment would result in less construction and a smaller increase in vehicle trips, as compared to the 2007 LRDP. As a result, this alternative would result in lower emissions from construction and traffic. Emissions from campus operations would also be incrementally lower. However, the Reduced Student Enrollment Capacity Alternative B would still result in significant direct and cumulative air quality impacts from construction and operational emissions (Impact Air-2). This is because the reduction in vehicular emissions associated with a five percent decrease in student enrollment capacity (compared to the 2007 LRDP) would not be substantial enough to drop the total projected operational emissions below the criteria pollutant significance thresholds, as indicated in Table 4.2-9 in Section 4.2.3 (Air Quality) of this EIR, for which the Basin is considered a non-attainment area for O_3, CO, PM_{10}, and $PM_{2.5}$. Similar to the 2007 LRDP, these impacts would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C.

Due to the five percent decrease in student enrollment capacity (compared to the 2007 LRDP), this alternative would result in less direct impacts to sensitive receptors from exposure to carcinogenic, non-carcinogenic, and localized CO pollutant concentrations, and less cumulative impacts to sensitive receptors from exposure to CO "hot spots". Nevertheless, as with the 2007 LRDP, these impacts would still be less than significant because the significance thresholds would not be exceeded. As evaluated in Section 4.2.4 (Air Quality) of this EIR, a significant cumulative impact exists within the Basin in terms of exposure of sensitive receptors to carcinogenic and non-carcinogenic pollutant concentrations (TAC

emissions) from all sources. Although this alternative would result in fewer students being exposed to TAC emissions from UC emissions, compared to the 2007 LRDP, the campus would likely experience the same growth in laboratory and research programs as would occur under the 2007 LRDP. For the same reasons given in Section 4.2.4 for the 2007 LRDP, the contribution of the Reduced Student Enrollment Capacity Alternative B to this significant cumulative impact would be cumulatively considerable, but mitigated with implementation of energy-saving projects and programs.

Biological Resources. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in similar significant impacts with regard to biological resources including sensitive animal species, sensitive habitats (other than wetlands), and wetlands (Impacts Bio-2, Bio-3, and Bio-4, respectively) because the developable area in the this alternative would be substantially the same as that in the 2007 LRDP. As with the 2007 LRDP, these impacts would be mitigated via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3A, Bio-3B, Bio-3C, Bio-3D, Bio-3E, and Bio-3F.

Because this alternative would have substantially the same development footprint as the 2007 LRDP, it would also result in similar impacts to sensitive plant species and wildlife corridors (Impacts Bio-1 and Bio-5), which would be less than significant.

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. This alternative would have the same development footprint as the 2007 LRDP, which would not result in direct encroachments into the NCCP Reserve. In addition, similar to the 2007 LRDP, this alternative would avoid the cumulatively considerable indirect impacts to biological resources within areas of the NCCP Reserve that are adjacent to LRDP development footprints via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3D, Bio-3E, and Bio-3F.

Cultural Resources. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in similar significant impacts with regard to cultural resources, including archaeological, historic, and paleontological resources and human remains (Impacts Cul-1, Cul-2, Cul-4, and Cul-3, respectively), because the developable area identified in the 2007 LRDP is the same as that in the 2007 LRDP. As with the 2007 LRDP, impacts to cultural resources would be mitigable to a less than significant level.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because this alternative would have the same development footprint as the 2007 LRDP and would implement the same mitigation measure as the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Because paleontological monitoring is required at all development sites in the Orange County area, cumulative impacts to paleontological resources are considered to be less than significant.

Geology and Soils. Because the development footprint under the Reduced Student Enrollment Capacity B Alternative would be similar to that of the 2007 LRDP, impacts related to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), and expansive soils (Impact Geo-4) would also be similar. Therefore, impacts to geology and soils would be similar under the Reduced Student Alternative as those under the 2007 LRDP.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. Because this alternative would have the same development footprint as the 2007 LRDP and would implement the same geotechnical recommendations from a geotechnical investigation, direct impacts to this issue from the Reduced Student Enrollment Capacity Alternative B would likely result in a similar contribution to this significant cumulative impact and would not be cumulatively considerable. The 2007 LRDP determined that cumulative impacts related to erosion and top soil loss and unstable and expansive soils were less than significant.

Hazards and Hazardous Materials. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in similar significant impacts with regard to hazardous materials (Impacts Haz-1 and Haz-2) and contaminated sites (Impact Haz-4) because the similar quantities and types of materials would be anticipated under either scenario. Further, the development footprint in the Reduced Student Enrollment Capacity Alternative B would be the same as that in the 2007 LRDP; therefore, hazardous impacts to nearby schools (Impact Haz-3), evacuation routes and emergency plans (Impact Haz-6), and increased risk of wildfire (Impact Haz-7) would also be similar. Likewise, because each scenario occurs on the UCI campus, each would have similar impacts resulting from airports (Impact Haz-5). As with the 2007 LRDP, impacts related to hazards and hazardous materials would be mitigable to a less than significant level.

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. Because this alternative would have the same development footprint and would implement a fuel modification program, the Reduced Student Enrollment Capacity Alternative B would result in a similar contribution that is not cumulatively considerable.

Hydrology and Water Quality. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in similar significant impacts with regard to hydrology because the developable area identified in this alternative would be the same as that in the 2007 LRDP. Therefore, the amount of new impervious surfaces that could be generated would also be similar (Impact Hyd-1). With regard to water quality, the Reduced Student Enrollment Alternative would have similar significant impacts but on a decreased scale because the total population that generates pollutants would be less that of the 2007 LRDP (Impact Hyd-2). As with the 2007 LRDP, impacts related to hydrology and water quality would likely be mitigable to a less than significant level.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact relating to seiches, mudflows, and tsunamis is less than significant. Because this alternative would follow the same permitting rules and regulations as the 2007 LRDP, hydrology and water quality impacts from the Reduced Student Enrollment Capacity Alternative B would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Land Use and Planning. Because UCI is a part of the UC system, a constitutionally created entity of the State of California, UCI is not subject to municipal regulations such as the city General Plans. However, as under the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would comply with the General Plans of the surrounding cities (Impact Lan-1); therefore, impacts under this alternative would be less than significant and would be the same as those under the 2007 LRDP. Further, because this alternative would include the same proposed development and land uses as the 2007 LRDP, any impacts due to incompatibilities with adjacent land uses would be similar (Impact Lan-2). Therefore, land use

impacts under the Reduced Student Enrollment Capacity Alternative B would be similar to those under the 2007 LRDP.

As evaluated in Section 4.8.4 (Land Use) in this EIR, significant cumulative impacts related to incompatibilities between adjacent land uses exists; however, cumulative impacts due to inconsistencies with applicable land use plans would be less than significant. Because the Student Enrollment Capacity Alternative B would have a similar development footprint and similar land uses and would implement the same mitigation measure, this alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Noise. Because the development footprint would be similar, the Reduced Student Enrollment Capacity Alternative B would result in similar significant impacts with regard to temporary noise and ground borne vibration (Impacts Noi-2 and Noi-4). Permanent noise impacts associated with the Reduced Student Enrollment Capacity Alternative B would be less because it would result in less traffic. As with the 2007 LRDP, temporary noise impacts and impacts due to excessive ground borne vibration would be mitigable to a less than significant level. Both scenarios would have similar aircraft noise impacts because the location of these scenarios is the same (Impact Noi-3). As with the 2007 LRDP, permanent noise impacts would be mitigable in the Reduced Student Enrollment Capacity Alternative B.

As evaluated in Section 4.9.4 (noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from permanent increase to ambient noise is significant due to increase noise from vehicles and roadways. Because this alternative would reduce the number of students on campus and, consequently, the number of vehicles on the campus, this alternative's contribution to this significant cumulative impact would not be considerable.

Population and Housing. Similar to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would not result in significant impacts to population and housing. Population impacts from the Reduced Student Enrollment Capacity Alternative B would be less than for the 2007 LRDP because this alternative would have a smaller campus population (Impact Pop-1 and Pop-2). Because the student population accommodated would be less than of the 2007 LRDP, a reduced number of students (same percentage) would be housed on campus, but fewer students would require off-campus housing. Because both the Reduced Student Enrollment Capacity Alternative B and the 2007 LRDP would develop buildings, housing, and associated infrastructure within the campus boundaries, no people or housing would be displaced (Impact Pop-3 and Pop-4). Therefore, the impacts associated with off-campus housing demand would be less than the impacts associated with the 2007 LRDP.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would reduce the number of students on campus, the contributions from this alternative would be less than those contributions from the 2007 LRDP, which are not cumulatively considerable.

Public Services. Because the campus population under the Reduced Student Enrollment Capacity Alternative B would be less than that of the 2007 LRDP, demand on public services, including fire, police, and schools, would also be less (Impacts Pub-1, Pub-2, and Pub-3). As with the 2007 LRDP, impacts would be less than significant.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because this alternative would reduce the number of students on campus and consequently the demand for public services, the cumulative contributions from this

alternative would be less than that of the 2007 LRDP. However, the contribution to this impact would remain cumulatively considerable due to the general increase from the 2005-2006 levels.

Recreation. Because the Reduced Student Enrollment Capacity Alternative B would have a smaller campus population than the 2007 LRDP, impacts to existing facilities would be less under this alternative than those of the 2007 LRDP (Impact Rec-1). Impacts resulting from the construction of new recreational facilities would be similar to those under the 2007 LRDP, which are significant (Impact Rec-2).

As evaluated in Section 4.12.4 (Recreation) in this EIR, the cumulative impact to existing parks and recreational facilities is less than significant and that the cumulative impact resulting from the construction of new recreational facilities is significant. Because this alternative would reduce the number of students on campus and therefore the number of recreational facility users, the cumulative contributions from this alternative would be less than that of the 2007 LRDP, which are not cumulative considerable.

Transportation, Traffic, and Parking. Compared to the 2007 LRDP, the Reduced Student Enrollment Capacity Alternative B would result in less total vehicle trip generation. The student enrollment of Reduced Student Enrollment Capacity Alternative B would be approximately five percent less than the enrollment of the 2007 LRDP. Under the 2007 LRDP, which proposed to increase student enrollment by 12,500 students, the projected ADT for the UCI campus is 146,554. The Reduced Student Enrollment Capacity Alternative B proposes to increase student enrollment by 10,500 students. While this alternative proposes a smaller campus population than the 2007 LRDP, increases in traffic due to increased student enrollment would likely be significant. However, with implementation of mitigation measures, the impacts would be mitigable to a less than significant level (Impact Tra-1). Potential parking supply impacts would be expected to be similar to the 2007 LRDP because similar increases in population and redevelopment of parking lots could occur under the Reduced Student Enrollment Capacity Alternative (Impact Tra-2). These impacts would also be mitigable to a less than significant level. Under the Reduced Student Enrollment Capacity Alternative B, UCI would continue to implement its Commuter Services Program; therefore, impacts relating to alternative transportation plans would be similar (Impact Tra-3).

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant and cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. Because this alternative would reduce the number of students on campus and consequently reduce the total trip generation, the cumulative contributions from this alternative would be less than that of the 2007 LRDP; however, this alternative's contribution would remain cumulative considerable.

Utilities, Service Systems, and Energy. Because the campus population under the Reduced Student Enrollment Capacity Alternative B would be less than that of the 2007 LRDP, demand for wastewater treatment, potable and reclaimed water, solid waste disposal, and energy would also be less than the 2007 LRDP (Impacts Utl-1, Utl-2, Utl-4, Utl-5, and Utl-7). Under this alternative, UCI would comply with regulations and continue to strive to divert more than 50 percent of waste from the landfill (Impact Utl-6). Lastly, because new storm water facilities would be constructed under this alternative, the Reduced Student Enrollment Capacity Alternative B would result in similar impacts related to the construction of new storm water facilities (Impact Utl-3). As with the 2007 LRDP, impacts would be less than significant with mitigation.

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities and water supply availability are less than significant. However, cumulative impacts to the development of new water and waste water facilities and storm water facilities,

landfill capacity, and energy consumption are significant. Because this alternative would reduce the number of students on campus and hence the demand for utilities and service systems, the cumulative contributions from this alternative would be less than that of the 2007 LRDP, which are not cumulatively considerable.

6.2.3.2 ABILITY TO ACCOMPLISH PROJECT OBJECTIVES

Because this alternative is similar to the 2007 LRDP, this alternative would fulfill many of the project objectives for the 2007 LRDP. This alternative would accommodate an increase in physical resources to support UCI's academic goals; new teaching and research in the Health Sciences; increased housing to support recruitment and retention goals; and social, cultural, and recreational opportunities on-campus. Further, the Reduced Student Enrollment Capacity Alternative B would refine campus land use, circulation, and open space plans. However, this alternative would only partially accomplish objectives to accommodate student enrollment growth consistent with regional and statewide enrollment demands.

6.2.4 REDUCED DEVELOPMENT FOOTPRINT ALTERNATIVE

A Reduced Development Footprint Alternative is considered for the purpose of reducing the following significant impacts associated with the 2007 LRDP: biological resources, cultural resources, and hydrology and water quality.

Under the Reduced Development Footprint Alternative, the 2007 LRDP would be implemented with a smaller development footprint, increasing the amount of open space remaining on the campus. A reduced development footprint would be accomplished by reducing the designated land area for certain development categories identified in Table 3-5 in Section 3.0 (Project Description) of this EIR and increasing the overall development density.

The Reduced Development Footprint Alternative, which consists of the following features, would achieve most of the project objectives:

- Central Core academic and support space capacity to accommodate an enrollment of 37,000 students on a smaller development footprint, resulting in high rise academic buildings and high rise lower division student housing.
- No housing would be built in mixed use areas (as planned by the 2007 LRDP), and less land area would be available for student and faculty and staff housing in the south campus housing reserve area. As a result, the Reduced Development Footprint Alternative would require substantially higher densities for on-campus housing requiring high-rise, multi-level parking structures to serve housing, and high density multi-family housing for students and faculty/staff housing.
- No mixed use development would occur in the east campus and north campus. The 2007 LRDP identifies land use areas to provide a 24-hour campus experience for students and faculty and staff to engage the campus and local community, and provide income to support campus academic programs. The reduced development alternative would allocate no land for mixed use.
- The additional open space resulting from the Reduced Development Footprint Alternative would primarily occur in outer campus areas since most land areas in the central academic core are currently developed. Approximately 83 additional acres of outer campus land would remain as open space that could be utilized for passive recreation and habitat needs.

6.2.4.1 IMPACT ANALYSIS

Aesthetics. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative could result in greater significant impacts to visual character due to the increase in high rise buildings (Impact Aes-1), which may not be mitigated with implementation of mitigation measures due to the increased heights of the buildings. Further, larger buildings could result in greater light and glare impacts (Impact Aes-2), although less land area would be developed overall. However, mitigation measures Aes-2A, Aes-2B, and Aes-2C would mitigate this significant impact to below a level of significance.

As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution. For the same reasons given in Section 4.1.4 of the 2007 LRDP, the contribution of the Reduced Development Footprint Alternative to these significant cumulative impacts may be cumulatively considerable for visual character due to the increased heights of buildings and would be cumulatively considerable for light and glare; however, the light and glare impacts would be mitigated with implementation of mitigation measures Aes-2A, Aes-2B, and Aes-2C.

Air Quality. The Reduced Development Footprint Alternative would result in a similar amount of construction on campus, which would result in similar air quality impacts due to construction. Further, because the same number of students would be accommodated on campus, the increase in average daily trips would be the same. Therefore, air quality impacts due to emissions above significance thresholds would be the same under this alternative as with the 2007 LRDP (Impact Air-2). Similar to the 2007 LRDP, these impacts would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C.

Similar to the 2007 LRDP, the cancer risk to sensitive receptors associated with this alternative would be less than significant due to similar toxic air contaminant emissions from similar increases in research and laboratory programs and in energy use and production (Impact Air-3). There would be no odor impacts, which is similar to the 2007 LRDP because construction emissions, vehicular emissions, and campus activities would be similar under the Reduced Development Footprint Alternative (Impact Air-4).

As evaluated in Section 4.2.4 (Air Quality) in this EIR, cumulative impacts to air quality standards and sensitive receptors would be significant, while cumulative impacts to air quality plans and objectionable odors are less than significant. Because a similar amount of construction would occur under this alternative as under the 2007 LRDP, the Reduced Footprint Alternative would result in a cumulatively considerable contribution to these significant cumulative impacts. The cumulative impact to air quality standards would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C, while the cumulative impact to sensitive receptors would be mitigated with implementation of energy-saving projects and programs.

Biological Resources. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative would result in less significant impacts with regard to biological resources because the developable area in this alternative would be less than that in the 2007 LRDP. However, the potential to significantly impact sensitive plant and animal species and sensitive vegetative communities (Impacts Bio-1, Bio-2, Bio-3, and Bio-4) would still exist. As with the 2007 LRDP, impacts to biological resources would be mitigable to a less than significant level. Because UCI participates in the NCCP Program, this alternative would result in similar less than significant impacts to wildlife corridors (Impact Bio-5).

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange

Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. This alternative would have a smaller development footprint than the 2007 LRDP, which would not result in direct encroachments into the NCCP Reserve. In addition, this alternative would avoid the cumulatively considerable indirect impacts to biological resources within areas of the NCCP Reserve that are adjacent to LRDP development footprints via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3D, Bio-3E, and Bio-3F. Therefore, this alternative would likely result in a smaller contribution to the significant cumulative impact than the 2007 LRDP and would not be cumulatively considerable.

Cultural Resources. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative would result in fewer significant impacts with regard to cultural resources, including archaeological, paleontological, and historical resources, and human remains (Impacts Cul-1, Cul-2, Cul-4, and Cul-3, respectively), because the developable area in this alternative would be less than that in the 2007 LRDP. As with the 2007 LRDP, impacts to cultural resources would be mitigable to a less than significant level.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because this alternative would have a smaller development footprint than the 2007 LRDP and would implement the same mitigation measure as the 2007 LRDP, the Reduced Development Footprint Alternative would likely result in a similar [why not smaller?] contribution to this significant cumulative impact, and would not be cumulatively considerable. Because paleontological monitoring is required at all development sites in the Orange County area, cumulative impacts to paleontological resources are considered to be less than significant.

Geology and Soils. While the development footprint under the Reduced Development Footprint Alternative would be smaller than the footprint of the 2007 LRDP, a similar amount of construction would occur. Therefore, impacts related to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), and expansive soils (Impact Geo-4) would also be similar to those under the 2007 LRPD, which were less than significant.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. Because this alternative would have a similar amount of construction as the 2007 LRDP and would implement the same geotechnical recommendations from a geotechnical investigation, direct impacts to this issue from the Reduced Development Footprint Alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable. The 2007 LRDP determined that cumulative impacts related to erosion and top soil loss and unstable and expansive soils were less than significant.

Hazardous Materials. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative would result in similar significant impacts with regard to hazardous materials (Impacts Haz-1 and Haz-2), nearby schools (Impact Haz-3), contaminated sites (Impact Haz-4), and evacuation routes and emergency routes (Impact Haz-6) because the similar quantities and types of materials and the similar amount of construction that would occur would be anticipated under either scenario. However, the development footprint in this alternative would be smaller than that in the 2007 LRDP, particularly the development in the outer regions of campus; therefore, hazardous impacts due to increased risk of wildfire (Impact Haz-7) would also be less. Likewise, because each scenario occurs on the UCI campus, each would have similar impacts resulting from airports (Impact Haz-5). As with the 2007 LRDP, impacts related to hazards and hazardous materials would be mitigable to a less than significant level.

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of

nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. This alternative would have a smaller development footprint and would implement a fuel modification program. Therefore, the Reduced Development Footprint Alternative would result in a smaller contribution that is not cumulatively considerable.

Hydrology and Water Quality. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative would result in fewer significant impacts with regard to hydrology because the developable area identified this alternative would be less than that in the 2007 LRDP and, therefore, the amount of new impervious surfaces that could be generated would also be less (Impact Hyd-1). With regard to water quality, the Reduced Development Footprint Alternative would have similar significant impacts as the 2007 LRDP (Impact Hyd-2). Even with less developed land, the campus population would be the same which would generate the similar quantities of pollutants as the 2007 LRDP; however, the total land use under this alternative would less than under the 2007 LRDP which would result in fewer impacts to water quality. As with the 2007 LRDP, impacts related to hydrology and water quality would likely be mitigable to a less than significant level.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact to relating to seiches, mudflows, and tsunamis is less than significant. Because this alternative would follow the same permitting rules and regulations as the 2007 LRDP, hydrology and water quality impacts from the Reduced Development Footprint Alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Land Use and Planning. Because UCI is a part of the UC system, a constitutionally created entity of the State of California, UCI is not subject to municipal regulations such as the city General Plans. However, as under the 2007 LRDP, the No Project Alternative would comply with the General Plans of the surrounding cities (Impact Lan-1); therefore, impacts under this alternative would be less than significant and would be the same as those under the 2007 LRDP. However, due to high rise development in the Central Core of the campus, a greater potentially significant impact with regard to compatibility with neighboring land uses (Impact Lan-2) could occur. Impacts associated with compatibility with neighboring land uses could be mitigated to a less than significant level.

As evaluated in Section 4.8.4 (Land Use) in this EIR, significant cumulative impacts related to incompatibilities between adjacent land uses exists; however, cumulative impacts due to inconsistencies with applicable land use plans would be less than significant. The Reduced Development Footprint Alternative would have a smaller development footprint with similar land uses and would implement the same mitigation measure. However, the increased heights of buildings would increase this alternative's contribution to a significant cumulative land use impact. Therefore, this alternative would have greater contribution to this cumulative impact than the 2007 LRDP and would be cumulatively considerable.

Noise. Even though the development footprint of this alternative would be less than that of the 2007 LRDP, significant construction would occur on-campus. Therefore, the Reduced Development Alternative would result in similar significant impacts with regard to temporary noise and ground borne vibration (Impacts Noi-2 and Noi-4). Further, permanent noise impacts associated with this alternative would be the same because similar amounts of traffic would be generated due the similar size of the campus population (Impact Noi-1). As with the 2007 LRDP, permanent and temporary noise impacts and impacts due to excessive ground borne vibration would be mitigable to a less than significant level. Both scenarios would have similar aircraft noise impacts because the location of these scenarios is the same (Impact Noi-3).

As evaluated in Section 4.9.4 (Noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from a permanent increase to ambient noise is significant due to increase noise from vehicles and roadways. However, the 2007 LRDP's contribution would not be cumulatively considerable and because the Reduced Footprint Alternative would increase the number of students on campus and, consequently, the number of vehicles on the campus by the same amount as the 2007 LRDP, this alternative's contribution to this significant cumulative impact would also not be cumulatively considerable, similar to the 2007 LRDP's contribution.

Population and Housing. Because the Reduced Development Footprint Alternative would result in the same population increases as the 2007 LRDP, direct and indirect impacts to area-wide growth would be similar (Impacts Pop-1 and Pop-2). This alternative would accommodate the same amount of on-campus housing proposed under the 2007 LRDP. Similar to the 2007 LRDP, this alternative would not displace people or housing (Impacts Pop-3 and Pop-4). Therefore, impacts to population and housing under the Reduced Development Footprint would be similar to those under the 2007 LRDP.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would increase the number of students on campus by the same amount as the 2007 LRDP, the contributions from this alternative would be similar to those of the 2007 LRDP, which are not cumulatively considerable.

Public Services. Because the campus population under the Reduced Development Footprint Alternative would be similar to that of the 2007 LRDP, demand on public services, including fire, police, and schools, would also be similar (Impacts Pub-1, Pub-2, and Pub-3). As with the 2007 LRDP, impacts would be less than significant.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because this alternative would increase the number of students on campus by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP. However, the contribution to the cumulative fire protection impact would remain a cumulatively considerable contribution due to the general increase from the 2005-2006 levels.

Recreation. Because the Reduced Development Footprint Alternative would have a similar campus population as the 2007 LRDP, impacts to existing facilities would be similar under this alternative to those of the 2007 LRDP (Impact Rec-1). Impacts resulting from the construction of new recreational facilities would be similar to those under the 2007 LRDP and would be mitigated through environmental analysis (Impact Rec-2).

As evaluated in Section 4.12.4 (Recreation) in this EIR, the cumulative impact to existing parks and recreational facilities is less than significant and the cumulative impact resulting from the construction of new recreational facilities is significant. Because this alternative would increase the number of students on campus and therefore the number of recreational facility users by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to those of the 2007 LRDP and are not cumulative considerable.

Transportation, Traffic, and Parking. Compared to the 2007 LRDP, the Reduced Development Footprint Alternative would result in a similar total vehicle trip generation. Therefore, impacts resulting from increased traffic and parking supply would be similar to those in the 2007 LRDP (Impacts Tra-1 and

Tra-2). Under the Reduced Student Enrollment Alternative, UCI would continue to implement its Commuter Services Program; therefore, impacts relating to alternative transportation plans would be similar (Impact Tra-3).

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant and cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. Because this alternative would increase the number of students on campus and consequently increase the total trip generation by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP and this alternative's contribution would remain cumulatively considerable.

Utilities, Services Systems, and Energy. Because the campus population under the Reduced Development Footprint Alternative would be similar to that of the 2007 LRDP, demand for wastewater treatment, potable and reclaimed water, solid waste disposal, and energy would also be similar to the 2007 LRDP (Impacts Utl-1, Utl-2, Utl-4, Utl-5, and Utl-7). Under this alternative, UCI would comply with regulations and continue to strive to divert more than 50 percent of waste from the landfill (Impact Utl-6). Lastly, the Reduced Development Footprint Alternative would result in less impacts related to the construction of new storm water facilities (Impact Utl-3) because the development footprint would be smaller and fewer storm water facilities would be needed. As with the 2007 LRDP, impacts would be less than significant with mitigation.

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities and water supply availability are less than significant. However, cumulative impacts to the development of new water and waste water facilities and storm water facilities, landfill capacity, and energy consumption are significant. Because this alternative would increase the number of students on campus and hence the demand for utilities and service systems by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP and would be not cumulatively considerable.

6.2.4.2 ABILITY TO ACCOMPLISH PROJECT OBJECTIVES

The Reduced Development Footprint Alternative would accomplish four of the six 2007 LRDP's objectives. This alternative would accommodate the physical resources need to support UCI's strategic academic goals and would accommodate an increase in student enrollment to meet regional and statewide demand. Because additional construction would occur under this alternative, the Reduced Development Footprint Alternative would accommodate expanded resources and program in the Health Sciences. However, this alternative would only partially accomplish the objective to provide additional on-campus housing. As high-density housing would result in significant increases in housing construction costs, this alternative would not achieve UCI's goal of accommodating additional moderately priced, on-campus housing to support the recruitment and retention of faculty, staff and students, and to limit impacts to the off-campus housing market. Further, this alternative would partially meet the University's objectives of accommodating social, cultural, and active recreational opportunities due to the elimination of mixed use development on campus. By retaining additional open space which provides visual benefits and recreational opportunities, the Reduced Development Footprint Alternative would meet UCI's objective of enhancing the quality of the campus environment. Therefore, this alternative would accomplish four of the six project objectives and partially meet the other two objectives.

6.2.5 INCREASED CAMPUS HOUSING ALTERNATIVE

An Increased Campus Housing Alternative is considered for the purpose of reducing significant impacts associated with the 2007 LRDP to transportation, traffic, and parking.

The Increased Campus Housing Alternative would accommodate a larger on-campus housing program at the same student enrollment capacity as the proposed 2007 LRDP. The 2007 LRDP identifies a goal to house 50 percent of undergraduate and graduate students on campus (17,637 beds). Under this alternative, this goal would be increased to provide housing for approximately 75 percent of undergraduate and graduate students, or approximately 26,500 beds. The Increased Campus Housing Alternative would also increase the number of proposed faculty and staff housing capacity on the main campus by 50% to 2,250 units, which combined with the North Campus housing capacity results in a total capacity of 2,975 housing units. The 2007 LRDP would accommodate 1,250 to 1,700 faculty/staff dwelling units. This alternative would accommodate approximately 20 percent of the faculty and staff while the 2007 LRDP would accommodate approximately 11 to 15 percent, depending on the development of the Housing Reserve.

To achieve this larger on-campus housing program within the current land use designations (development footprints), future on-campus housing would be constructed at a substantially higher density than the proposed 2007 LRDP, resulting in high-rise building types for student housing. In addition, certain neighborhoods of existing student housing would require redevelopment at higher densities. Additional land areas in the West Campus, Academic Core, and East Campus would be allocated for student housing. As a result, the density of academic and support uses buildings in the central core would increase, and land area available for open space and playfields in the East Campus and the "For-Profit" Inclusion Area and academic facilities in the West Campus would decrease. This alternative was added to reduce the significant impacts to air quality, noise, and traffic.

6.2.5.1 IMPACT ANALYSIS

Aesthetics. Compared to the 2007 LRDP, the Increased Campus Housing Alternative could result in greater significant impacts to visual character due to the increase in high rise buildings (Impact Aes-1). Further, larger buildings could result in greater light and glare impacts (Impact Aes-2). Unlike the 2007 LRDP, mitigation measures may not mitigate impacts below a level of significance.

As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution. For the same reasons given in Section 4.1.4 for the 2007 LRDP, the contribution of the Increased Campus Housing Alternative to these significant cumulative impacts may be cumulatively considerable for visual character due to the increased heights of buildings, and would be cumulatively considerable for light and glare, but mitigated with implementation of mitigation measure Aes-2B.

Air Quality. The Increased Campus Housing Alternative would result in more construction on campus, which would result greater air quality impacts due to construction. However, because a greater number of students, faculty and staff would be living on-campus, the peak-hour vehicle trip generation would be less than that of the 2007 LRDP. Therefore, air quality impacts due to construction emissions may be greater under this alternative, but operational emissions due to vehicles would be less (Impact Air-2). Similar to the 2007 LRDP, air quality impacts from construction and operational emissions would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C. The cancer risk to sensitive receptors would be similar for this alternative as under the 2007 LRDP due to similar toxic air contaminant emission from similar increases in research and laboratory programs and in energy use and

production (Impact Air-3). Campus activities would be similar under the Increased Campus Housing Alternative; therefore, odor impacts would be similar to those under the 2007 LRDP (Impact Air-4).

As evaluated in Section 4.2.4 (Air Quality) in this EIR, cumulative impacts to air quality standards and sensitive receptors are significant, while cumulative impacts to air quality plans and objectionable odors are less than significant. Slightly more construction would occur under this alternative which would result in higher emissions than the 2007 LRDP; however, because more students would be living on campus, vehicular emission would decrease. Therefore, because there would be fewer impacts to air quality over the long-term due a reduction in the number of vehicles attributed to commuters, the Increased Campus Housing Alternative would result in a smaller contribution to a significant cumulative impact, which would remain a cumulatively considerable contribution following implementation of mitigation measures Air-2A, Air-2B, and Air-2C.

Biological Resources. Compared to the 2007 LRDP, the Increased Campus Housing Alternative would result in similar significant impacts with regard to biological resources because the developable area in this alternative would be similar to that in the 2007 LRDP. Therefore, the potential to significantly impact sensitive plant and animal species and sensitive vegetative communities (Impacts Bio-1, Bio-2, Bio-3, and Bio-4) would exist. As with the 2007 LRDP, impacts to biological resources would be mitigable to a less than significant level. Because UCI participates in the NCCP Program, this alternative would result in similar less than significant impacts to wildlife corridors (Impact Bio-5).

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. This alternative would have the same development footprint as the 2007 LRDP, which would not result in direct encroachments into the NCCP Reserve. In addition, this alternative would avoid the cumulatively considerable indirect impacts to biological resources within areas of the NCCP Reserve that are adjacent to LRDP development footprints via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3D, Bio-3E, and Bio-3F. Therefore, this alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Cultural Resources. Compared to the 2007 LRDP, the Increased Campus Housing Alternative would result in similar significant impacts with regard to cultural resources, including archaeological and paleontological resources, and human remains (Impacts Cul-1, Cul-2, Cul-4, and Cul-3, respectively), because the developable area in this alternative would be similar to that of the 2007 LRDP. As with the 2007 LRDP, impacts to cultural resources would be mitigable to a less than significant level.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because this alternative would have a similar development footprint as the 2007 LRDP and would implement the same mitigation measure as the 2007 LRDP, direct impacts to these cultural resources from the Increased Campus Housing would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable. Because paleontological monitoring is required at all development sites in the Orange County area, cumulative impacts to paleontological resources are considered to be less than significant.

Geology and Soils. Because the development footprint under the Increased Campus Housing Alternative would be similar to that of the 2007 LRDP, impacts related to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), and expansive soils (Impact

Geo-4) would also be similar. Therefore, impacts to geology and soils resulting from the Increased Campus Housing Alternative would be similar to those resulting from the 2007 LRDP.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. Because this alternative would have a similar development footprint as the 2007 LRDP and would implement the same geotechnical recommendations from a geotechnical investigation, direct impacts to this issue from the Increased Campus Housing Alternative would likely have a similar not cumulatively considerable contribution to the significant cumulative impact as the 2007 LRDP. The 2007 LRDP determined that cumulative impacts related to erosion and top soil loss and unstable and expansive soils were less than significant.

Hazardous Materials. Compared to the 2007 LRDP, the Increased Campus Housing Alternative would result in similar significant impacts with regard to hazardous materials (Impacts Haz-1 and Haz-2) and contaminated sites (Impact Haz-4) because the similar quantities and types of materials would be anticipated under either scenario. Further, the development footprint in the Increased Campus Housing Alternative would be the same as that in the 2007 LRDP; therefore, hazardous impacts to nearby schools (Impact Haz-3), evacuation routes and emergency plans (Impact Haz-6), and increased risk of wildfire (Impact Haz-7) would also be similar. Likewise, because each scenario occurs on the UCI campus, each would have similar impacts resulting from airports (Impact Haz-5). As with the 2007 LRDP, impacts related to hazards and hazardous materials would be mitigable to a less than significant level.

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. This alternative would have a similar development footprint and would implement a fuel modification program. Therefore, the Increased Campus Housing Alternative would result in a similar contribution that is not cumulatively considerable.

Hydrology and Water Quality. Compared to the 2007 LRDP, the Increased Campus Housing Alternative would result in similar significant impacts with regard to hydrology because the developable area identified this alternative would be the same as that in the 2007 LRDP and, therefore, the amount of new impervious surfaces that could be generated would also be similar (Impact Hyd-1). With regard to water quality, the Increased Campus Housing Alternative would have similar significant impacts because the total land uses and population that generates pollutants would be similar to that of the 2007 LRDP (Impact Hyd-2). As with the 2007 LRDP, impacts related to hydrology and water quality would likely be mitigable to a less than significant level.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact to relating to seiches, mudflows, and tsunamis is less than significant. Because this alternative would follow the same permitting rules and regulations as the 2007 LRDP, hydrology and water quality impacts from the Increased Campus Housing Alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Land Use and Planning. Compared to the 2007 LRDP, the Increased Campus Housing Alternative would likely result in greater impacts with regard to applicable land use plans and policies, specifically the East Campus Housing Memorandum of Understanding between the Regents and the City of Irvine. High rise student housing in the East Campus area would violate this agreement, which would result in a significant impact to applicable plans and policies (Impact Lan-1). High rise buildings may also increase

the potential for incompatibility between adjacent land uses, which would result in a greater significant impact than in the 2007 LRDP (Impact Lan-2).

As evaluated in Section 4.8.4 (Land Use) in this EIR, significant cumulative impacts related to incompatibilities between adjacent land uses exists; however, cumulative impacts due to inconsistencies with applicable land use plans would be less than significant. The Increased Campus Housing Alternative would have a similar development footprint with similar land uses and would implement the same mitigation measure, but this alternative would have increased building heights and would be inconsistent with the existing agreement with the City of Irvine. The increased buildings heights would increase this alternative's contribution to a significant cumulative land use impact. Therefore, this alternative would have greater contribution to the cumulative impact than the 2007 LRDP and would be cumulatively considerable

Noise. Because the development footprint would be similar, the Increased Campus Housing Alternative would result in similar significant impacts with regard to temporary noise and ground borne vibration (Impacts Noi-2 and Noi-4). Permanent noise impacts associated with the Increased Campus Housing Alternative would be less because it would result in less commuter traffic as more students would be living on campus. As with the 2007 LRDP, temporary noise impacts and impacts due to excessive ground borne vibration would be mitigable to a less than significant level. Both scenarios would have similar aircraft noise impacts because the location of these scenarios is the same (Impact Noi-3). As with the 2007 LRDP, permanent noise impacts would be mitigable in the Increased Campus Housing Alternative.

As evaluated in Section 4.9.4 (noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from permanent increase to ambient noise is significant due to increase noise from vehicles and roadways. The Increased Campus Housing Alternative would reduce the number of vehicles driven on a daily basis because more of the campus population would be living on campus would not commute to campus. Therefore, this alternative's contribution to this significant cumulative impact would not be cumulatively considerable and would be less that the 2007 LRDP's contribution.

Population and Housing. Because the Increased Campus Housing Alternative would result in the same population increases as the 2007 LRDP, direct and indirect impacts to area-wide growth would be similar (Impacts Pop-1 and Pop-2). However, this alternative would increase the amount of on-campus housing proposed under the 2007 LRDP, which would reduce impacts to regional housing demand and the resulting physical environment impacts in the area. Similar to the 2007 LRDP, this alternative would not displace people or housing (Impacts Pop-3 and Pop-4). Therefore, impacts to population and housing under the Increased Campus Housing would be less than those under the 2007 LRDP.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would allow a greater number of students to live on campus than the 2007 LRDP, the contributions from this alternative to housing supply and demand would be less than those of the 2007 LRDP and would not be cumulatively considerable.

Public Services. Because the campus population under the Reduced Increased Campus Housing Alternative would be similar to that of the 2007 LRDP, demand on public services, including fire, police, and schools, would also be similar (Impacts Pub-1, Pub-2, and Pub-3). As with the 2007 LRDP, impacts would be less than significant.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because this alternative would increase the number of students on campus by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP. However, the contribution to the cumulative fire protection impact would remain a cumulatively considerable contribution due to the general increase from the 2005-2006 levels.

Recreation. While the Reduced Increased Campus Housing Alternative would have a similar campus population than the 2007 LRDP, impacts to existing facilities may be greater under this alternative than those of the 2007 LRDP. In order to accommodate the increased housing, on-campus open space designated as recreational open space in the 2007 LRDP in the East and West Campuses would be converted to student housing. The reduction in land area for new recreational areas might increase the demand for existing recreational facilities, which would increase the use of these facilities and resulting deterioration (Impact Rec-1). Therefore, impacts to existing facilities may be greater under the Increased Campus Housing Alternative than under the 2007 LRDP. Impacts resulting from the construction of new recreational facilities would be similar to those under the 2007 LRDP (Impact Rec-2).

As evaluated in Section 4.12.4 (Recreation) in this EIR, the cumulative impact to existing parks and recreational facilities is less than significant and the cumulative impact resulting from the construction of new recreational facilities is significant. Because this alternative would increase the number of students on campus and therefore the number of recreational facility users by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to those of the 2007 LRDP, which are not cumulative considerable.

Transportation, Traffic, and Parking. Compared with the 2007 LRDP, the Increased Campus Housing Alternative would result in less peak hour vehicle trip generation due to the increase of students and faculty and staff living on campus. Therefore, impacts resulting from increase in traffic would be less under this alternative (Impact Tra-1). Parking supply may be impacted due to limited space available for the additional parking that would be needed to accommodate the additional on-campus housing. Therefore parking impacts may be greater under this alternative (Impact Tra-2). Under the Increased Campus Housing Alternative, UCI would continue to implement its Commuter Services Program; therefore, impacts relating to alternative transportation plans would be similar (Impact Tra-3).

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant and cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. Because this alternative would increase the number of students living on campus, the total trip generation would decrease. Because, the contribution to the cumulative impact from this alternative would be less than the contribution from the 2007 LRDP; the Increased Campus Housing Alternative would result in a contribution that is not cumulatively considerable, with the implementation of mitigation measures Tra-1A through Tra-1J.

Utilities, Services Systems, and Energy. While the campus population under the Increased Campus Housing Alternative would be similar to that of the 2007 LRDP, the overall number of buildings and density would increase due to the increase in on-campus housing. Therefore, demand for wastewater treatment, water and wastewater treatment facilities, potable and reclaimed water, solid waste disposal, and energy (Impacts Utl-1, Utl-2, Utl-4, Utl-5, and Utl-7) would most likely increase due to the increase in buildings and the percentage of campus population living on-campus. When compared to the 2007 LRDP, this would result in a greater impact on these services. Under this alternative, UCI would continue to comply with regulations and continue to strive to divert more than 50 percent of waste from the landfill

(Impact Utl-6). Lastly, the Increased Campus Housing Alternative would result in similar impacts related to the construction of new storm water facilities (Impact Utl-3).

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities, water supply availability, and landfill capacity are less than significant. However, cumulative impacts to the development of new water and waste water facilities and storm water facilities, and energy consumption are significant. Impacts resulting from this alternative would be mitigated; therefore, the contribution from this alternative would be similar to that of the 2007 LRDP, and would not be cumulatively considerable. Even with the increase in energy consumption, UCI would comply with Title 24 which would reduce energy consumption; therefore, the contribution from this alternative would be similar to that of the 2007 LRDP, and would not be cumulatively considerable.

6.2.5.2 ABILITY TO ACCOMPLISH PROJECT OBJECTIVES

The Increased Campus Housing Alternative would fully accomplish three of the six 2007 LRDP's project objectives and would partially accomplish the remaining three objectives. This alternative would achieve the University's objective of accommodating the physical resources and capacity to serve long-range growth needs in a manner that preserves the environmental quality of the campus and surrounding community. This alternative would be able to support the increase in student enrollment and the increase in Health Sciences programs. The Increased Campus Housing Alternative would partially meet the University's objectives of providing additional moderately priced housing to support the recruitment and retention of faculty, students and staff, and to limit impacts to the off-campus housing market, but it is likely the cost premiums of high-rise construction and redevelopment of existing occupied housing would impact the student housing affordability and access on campus. This alternative would also impact the University's ability to accommodate the recreational opportunities that contribute to the quality of campus life, as less land would be available for expansion of playfields in the east campus. Lastly, this alternative would reduce the amount of land area available for the development of academic and support uses and Inclusion Area uses in the central core and west campus. High-rise housing development and reduction in open space would change the visual character of the outer campus, impacting the visual quality and community character of the campus in relation to that of the adjacent surrounding community. Therefore, the Increased Campus Housing Alternative would accomplish three of the project objectives and would partially accomplish three of the project objectives.

6.2.6 INCREASED TDM ALTERNATIVE

An Increased TDM Alternative is considered for the purpose of reducing the following significant impacts associated with the 2007 LRDP: air quality (operation), recreation; and transportation, traffic, and parking.

The Increased TDM Alternative would implement additional Transportation Demand Management (TDM) strategies to achieve a measurable reduction in project-related traffic impacts with the objective of an overall trip reduction of 25% for Peak Hour Trips (PHT) and Average Daily Trips (ADT). The campus currently generates approximately 6,740 PHT and 77,000 ADT. The 2007 LRDP is projected to generate an additional 6,143 PHT and 70,000 ADT, for a total of 12,883 PHT and 146,554 ADT. These projections are based on current commuting habits and TDM implementation. This alternative would require implementation of significant additional TDM measures to achieve a 25% overall reduction. A 25% overall reduction would equate to a reduction of 3,220 PHT and 36,638 ADT, or approximately a 50% reduction in the new trips projected from the proposed 2007 LRDP.

A trip reduction of this magnitude would require significant policy changes, investment in transit, lifestyle changes, development program changes, and reduced parking supply. As a significant amount of UCI traffic is generated by Inclusion Area employees; this alternative would also require a reduction in trips generated by non-UCI Inclusion Area employees.

Elements of a significantly expanded TDM Program may include:

- Policy measures that restrict single-occupancy vehicle parking for segments of the campus population
  - No on-campus parking for lower division undergraduate on-campus residents
  - No on-campus parking for lower division undergraduate commuters
  - No on-campus parking for students living within the campus vicinity (Irvine, Newport Beach)
- Substantial financial incentives, policy measures, or mandatory requirements that increase alternative transportation use for students and staff including carpools, vanpools, transit and shuttle use.
- Significant investment in bicycle infrastructure including grade-separated crossings, bike carriers on shuttle buses, bike lockers, shower and changing facilities.
- Reduction in on-campus parking supply (conversion of parking supply to other uses), to reflect trip reduction goals.
- Limiting the need for students and staff to commute to campus on a daily basis through increased use of distance learning, telecommuting, and alternate work schedules.
- Substantial increases in summer enrollment with commensurate reduction in Fall/Winter/Spring quarter enrollment.
- Significant shift in class schedules from peak hour to off-peak hours
- Expansion of UCI shuttle service to additional off-campus areas with high concentrations of students, faculty, and staff, local transit hubs, park and ride facilities, and other key destinations.
- Transit incentives or trip reduction requirements for non-UCI Inclusion Area employees in University Research Park, North Campus and other for-profit development areas to promote carpool/rideshare incentives, vanpool, transit or UCI shuttle access, and reducing supply of available parking permits.

Implementation of TDM measures in the Increased TDM Alternative would result in significant costs as shuttle service, vanpool, and other transit programs would require significant subsidies for capital and operating expenses.

6.2.6.1 IMPACT ANALYSIS

Aesthetics. Because the Increased TDM Alternative would have the same development area and footprint as the 2007 LRDP, impacts to visual character of the UCI campus and impacts cause by light and glare would be similar to 2007 LRDP impacts. Fewer parking structures would be required, but 2007 LRDP parking structure sites are located in existing lit parking lots.

As evaluated in Section 4.1.4 (Aesthetics) of this EIR, a significant cumulative impact exists within the geographic area identified in Figure 4.1-1 in terms of visual character and regional light pollution. For the same reasons given in Section 4.1.4 for the 2007 LRDP, the contribution of the Increased TDM

Alternative to these significant cumulative impacts may be cumulatively considerable for visual character due to the increased heights of buildings, and would be cumulatively considerable for light and glare, but mitigated with implementation of mitigation measure Aes-2B.

Air Quality. Because the scope of construction under the Increased TDM Alternative would be similar to that under the 2007 LRDP with a slight reduction in construction resulting from fewer parking structures, the Increased TDM Alternative would result in similar construction emission impacts. However, due to the expanded TDM measures to be implemented under this alternative, the total trip generation would be less than that of the 2007 LRDP. Therefore, air quality impacts due to construction emissions would be similar under this alternative, but operational emissions due to vehicles would be less (Impact Air-2); nevertheless, these impacts would remain significant following implementation of mitigation measures Air-2A, Air-2B, and Air-2C. The cancer risk to sensitive receptors would be similar due to similar toxic air contaminant emission from similar increases in research and laboratory programs and increases energy use and production (Impact Air-3). Campus activities would be similar under the Increased Campus Housing Alternative; therefore, odor impacts would be similar to those under the 2007 LRDP (Impact Air-4).

As evaluated in Section 4.2.4 (Air Quality) in this EIR, cumulative impacts to air quality standards and sensitive receptors would be significant, while cumulative impacts to air quality plans and objectionable odors are less than significant. This alternative aims to reduce the number of vehicles on campus and air emissions from the increase in campus population. Therefore, this alternative would result in a smaller contribution to the significant cumulative air quality impact than the 2007 LRDP; however, the contribution would likely remain cumulatively considerable following implementation of mitigation measures Air-2A, Air-2B, and Air-2C.

Biological Resources. Compared to the 2007 LRDP, the Increased TDM Alternative would result in similar significant impacts with regard to biological resources because the developable area in this alternative would similar to that in the 2007 LRDP. Therefore, the potential to significantly impact sensitive plant and animal species and sensitive vegetative communities (Impacts Bio-1, Bio-2, Bio-3, and Bio-4) would exist. As with the 2007 LRDP, impacts to biological resources would be mitigable to a less than significant level. Because UCI participates in the NCCP Program, this alternative would result in similar less than significant impacts to wildlife corridors (Impact Bio-5).

As evaluated in Section 4.3.4 (Biological Resources) of this EIR, the NCCP Reserve was established to mitigate significant cumulative impacts to sensitive biological resources within the County of Orange Central and Coastal sub-region; therefore, any impact to biological resources within the NCCP Reserve would be cumulatively considerable. This alternative would have the same development footprint as the 2007 LRDP, which would not result in direct encroachments into the NCCP Reserve. In addition, this alternative would avoid the cumulatively considerable indirect impacts to biological resources within areas of the NCCP Reserve that are adjacent to LRDP development footprints via implementation of mitigation measures Bio-2A, Bio-2B, Bio-3D, Bio-3E, and Bio-3F. Therefore, this alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Cultural Resources. Compared to the 2007 LRDP, the Increased TDM Alternative would result in similar significant impacts with regard to cultural resources, including archaeological, historical, and paleontological resources, and human remains (Impacts Cul-1, Cul-2, Cul-4, and Cul-3, respectively), because the developable area in this alternative would be similar to that of the 2007 LRDP. As with the 2007 LRDP, impacts to cultural resources would be mitigable to a less than significant level.

As evaluated in Section 4.4.4 (Cultural Resources) of this EIR, a significant cumulative impact to archaeological and historical resources and to human remains exists. Because this alternative would have a similar development footprint as the 2007 LRDP and would implement the same mitigation measure as the 2007 LRDP, direct impacts to these cultural resources from the Increased TDM would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Because paleontological monitoring is required at all development sites in the Orange County area, cumulative impacts to paleontological resources are considered to be less than significant.

Geology and Soils. Because the development footprint under the Increased TDM Alternative would be similar to that of the 2007 LRDP, impacts related to seismic-related hazards (Impact Geo-1), soil erosion and topsoil loss (Impact Geo-2), soil instability (Impact Geo-3), and expansive soils (Impact Geo-4) would also be similar. Therefore, impacts to geology and soils would be similar to those under the Increased TDM Alternative as those under the 2007 LRDP.

As evaluated in Section 4.5.4 (Geology and Soils) in the EIR, a significant cumulative impact related to seismic-related hazards exists. Because this alternative would have a similar development footprint as the 2007 LRDP and would implement the same geotechnical recommendations from a geotechnical investigation, direct impacts to this issue from the Increased TDM Alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

The 2007 LRDP determined that cumulative impacts related to erosion and top soil loss and unstable and expansive soils were less than significant.

Hazardous Materials. Compared to the 2007 LRDP, the Increased TDM Alternative would result in similar significant impacts with regard to hazardous materials (Impacts Haz-1 and Haz-2) and contaminated sites (Impact Haz-4) because the similar quantities and types of materials would be anticipated under either scenario. Further, the development footprint in the Increased TDM Alternative would be the same as that in the 2007 LRDP; therefore, hazardous impacts to nearby schools (Impact Haz-3), evacuation routes and emergency plans (Impact Haz-6), and increased risk of wildfire (Impact Haz-7) would also be similar. Likewise, because each scenario occurs on the UCI campus, each would have similar impacts resulting from airports (Impact Haz-5). As with the 2007 LRDP, impacts related to hazards and hazardous materials would be mitigable to a less than significant level.

As evaluated in Section 4.6.4 (Hazards and Hazardous Materials) in this EIR, cumulative impacts related to hazardous materials including use and transport, effect on nearby schools, contaminated sites, affect of nearby airports, and evacuation routes and emergency plans are less than significant. However, cumulative impacts related to risk of wildfires is significant. This alternative would have a similar development footprint and would implement a fuel modification program. Therefore, the Increased TDM Alternative would result in a similar contribution that is not cumulatively considerable.

Hydrology and Water Quality. Compared to the 2007 LRDP, the Increased TDM Alternative would result in similar significant impacts with regard to hydrology because the developable area identified this alternative would be the same as that in the 2007 LRDP and, therefore, the amount of new impervious surfaces that could be generated would also be similar (Impact Hyd-1). With regard to water quality, the Increased TDM Alternative would have similar significant impacts because the total land uses, population, and amount of paved surfaces (i.e. parking structures sites would remain as paved parking lots) that generates pollutants would be similar to that of the 2007 LRDP (Impact Hyd-2). As with the 2007 LRDP, impacts related to hydrology and water quality would likely be mitigable to a less than significant level.

As evaluated in Section 4.7.4 (Hydrology and Water Quality) in this EIR, significant cumulative impacts related to drainage and hydrology and water quality exist; however, the cumulative impact to relating to seiches, mudflows, and tsunamis is less than significant. Because this alternative would follow the same permitting rules and regulations as the 2007 LRDP, hydrology and water quality impacts from the Increased TDM Alternative would likely result in a similar contribution to this significant cumulative impact, and would not be cumulatively considerable.

Land Use and Planning. Compared to the 2007 LRDP, the Increased TDM Alternative would likely result in similar less than significant impacts with regard to applicable land use plans and policies (Impact Lan-1). Impacts caused by incompatibility between adjacent land uses would also result in impacts similar to those in the 2007 LRDP, which would be mitigated to a level below significance (Impact Lan-2).

As evaluated in Section 4.8.4 (Land Use) in this EIR, significant cumulative impacts related to incompatibilities between adjacent land uses exists; however, cumulative impacts due to inconsistencies with applicable land use plans would be less than significant. Because the Increased TDM Alternative would have a similar development footprint and similar land uses and would implement the same mitigation measure, this alternative would also have similar not cumulative considerable contribution to the cumulative impact as the 2007 LRDP.

Noise. Because the development footprint would be similar, the Increased TDM Alternative would result in similar significant impacts with regard to temporary noise and ground borne vibration, although the potential noise generated by TDM options is unknown (Impacts Noi-2 and Noi-4). There would be fewer permanent noise impacts (Impact Noi-1) resulting from vehicular noise under this alternative because it would result in less traffic on campus. As with the 2007 LRDP, temporary noise impacts and impacts due to excessive ground borne vibration would be mitigable to a less than significant level. Both scenarios would have similar aircraft noise impacts because the location of these scenarios is the same (Impact Noi-3). As with the 2007 LRDP, permanent noise impacts would be mitigable in the Increased TDM Alternative.

As evaluated in Section 4.9.4 (noise) in this EIR, cumulative impacts resulting from temporary or periodic increases in noise and ground borne vibrations are less than significant; however, the cumulative impact resulting from permanent increase to ambient noise is significant due to increase noise from vehicles and roadways. The Increased TDM Alternative would reduce the number of vehicles driven on a daily basis because more of the campus population would be living on campus would not commute to campus. Therefore, this alternative's contribution to this significant cumulative impact would not be cumulatively considerable and would be less that the 2007 LRDP's contribution.

Population and Housing. Because the Increased TDM Alternative would result in the same population increases as the 2007 LRDP, direct and indirect impacts to area-wide growth would be similar (Impacts Pop-1 and Pop-2). Similar to the 2007 LRDP, this alternative would not displace people or housing (Impacts Pop-3 and Pop-4). Therefore, impacts to population and housing under the Increased TDM would be the same as those under the 2007 LRDP.

As evaluated in Section 4.10.4 (Population and Housing) in this EIR, the cumulative impacts to direct and indirect regional growth and the displacement of people or housing are significant. Because this alternative would increase the number of students on campus by the same amount as the 2007 LRDP, the contributions from this alternative would be similar to those of the 2007 LRDP, which are not cumulatively considerable.

Public Services. Because the campus population under the Increased TDM Alternative would be similar to that of the 2007 LRDP, demand on public services, including fire, police, and schools, would also be similar (Impacts Pub-1, Pub-2, and Pub-3). As with the 2007 LRDP, impacts would be less than significant.

As evaluated in Section 4.11.4 (Public Services) in this EIR, cumulative impacts to fire protection, police services, and public schools are significant. Because this alternative would increase the number of students on campus by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP. However, the contribution to the cumulative fire protection impact would remain a cumulatively considerable contribution due to the general increase from the 2005-2006 levels.

Recreation. Because the Increased TDM Alternative would have a similar campus population as that of the 2007 LRDP, impacts to existing facilities would be similar under this alternative to those of the 2007 LRDP (Impact Rec-1). Impacts resulting from the construction of new recreational facilities would be similar to those under the 2007 LRDP and would be mitigated through environmental analysis (Impact Rec-2).

As evaluated in Section 4.12.4 (Recreation) in this EIR, the cumulative impact to existing parks and recreational facilities is less than significant and that the cumulative impact resulting from the construction of new recreational facilities is significant. Because this alternative would increase the number of students on campus and therefore the number of recreational facility users by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to those of the 2007 LRDP, which are not cumulative considerable.

Transportation, Traffic, and Parking. Compared to the 2007 LRDP, the Increased TDM Alternative would result in less total vehicle trip generation due to expanded TDM measures to reduce traffic. Therefore, impacts resulting from increases in traffic would be less under this alternative (Impact Tra-1). Furthermore, parking supply would be impacted due to limited space available to encourage other modes of transportation to the campus. Therefore parking impacts would be greater under this alternative (Impact Tra-2). Under the Increased TDM Alternative, UCI would continue to implement its Commuter Services Program; therefore, like the 2007 LRDP, this alternative would not conflict with plans and policies supporting alternative transportation (Impact Tra-3).

As evaluated in Section 4.13.4 (Transportation, Traffic, and Parking), cumulative impacts due to regional increase in traffic are significant and cumulative impacts resulting from inadequate parking and conflicts with alternative transportation plans and policies are less than significant. This alternative would substantially decrease the total trip generation. Therefore, the cumulative contributions from this alternative would be less than that of the 2007 LRDP and would not be cumulatively considerable.

Utilities, Services Systems, and Energy. Because the campus population under the Increased TDM Alternative would be similar to that of the 2007 LRDP, demand for wastewater treatment, potable and reclaimed water, solid waste disposal, and energy would also be similar to the 2007 LRDP (Impacts Utl-1, Utl-2, Utl-4, Utl-5, and Utl-7). Under this alternative, UCI would comply with regulations and continue to strive to divert more than 50 percent of waste from the landfill (Impact Utl-6). Lastly, the Increased TDM Alternative would result in similar impacts related to the construction of new storm water facilities (Impact Utl-3). As with the 2007 LRDP, impacts would be less than significant with mitigation.

As evaluated in Section 4.14.4 (Utilities, Service Systems, and Energy) in this EIR, cumulative impacts to wastewater treatment capacities and water supply availability are less than significant. However,

cumulative impacts to the development of new water and waste water facilities and storm water facilities, landfill capacity, and energy consumption are significant. Because this alternative would increase the number of students on campus and hence the demand for utilities and service systems by the same amount as the 2007 LRDP, the cumulative contributions from this alternative would be similar to that of the 2007 LRDP and would be not cumulatively considerable.

6.2.6.2 ABILITY TO ACCOMPLISH PROJECT OBJECTIVES

The Increased TDM Alternative achieves all of the LRDP's six project objectives. This alternative would accommodate the physical resources to support UCI's academic goals; student enrollment growth; expansion of Health Sciences programs; on-campus housing to assist with recruitment goals; and opportunities to contribute to enhanced quality of life on campus and would refine the campus's land use, circulation, and open space plans.

6.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative, the alternative having the potential for the fewest significant environmental impacts, from among the range of reasonable alternatives that are evaluated. Table 6-1 provides a summary comparison of the alternatives with the proposed 2007 LRDP with the purpose of highlighting whether the alternative would result in a similar, greater, or lesser impact, than the proposed 2007 LRDP. The No Project (No Growth) Alternative would avoid all significant environmental impacts of the development under the proposed 2007 LRDP. Because the campus population would not change, traffic and traffic-related noise and air quality impacts would not occur. The absence of new development under this alternative would reduce impacts associated with ground disturbance relative to the proposed project. However, while the No Project Alternative may allow the campus to continue to minimize its impacts to its environmental resources, it would not meet three of the six project objectives.

CEQA Guidelines Section 15126.6(e)(2) requires that the EIR shall identify another alternative among the other alternatives as environmentally superior if the environmentally superior alternative is the "no project" alternative. The Reduced Student Enrollment Capacity Alternative A is identified as environmentally superior between the four alternatives which are not "no project" alternatives. The Reduced Student Enrollment Capacity Alternative A, would limit growth of student enrollment to 32,000 students, and would therefore reduce some of the significant impacts which would result from the 2007 LRDP. Because the campus population would be decreased by 5,000 students and 1,000 associated faculty and staff, environmental impacts related to aesthetics (visual character and quality), air quality, water quality, noise, public services, recreation, traffic, and utilities and service systems would be less than the impacts for the 2007 LRDP. However, the impacts to lighting and glare, biological resources, cultural resources, hazardous materials, hydrology, land use, and parking would be similar to impacts from the 2007 LRDP because the developable area between the proposed project and this alternative would be the same.

While the Reduced Student Enrollment Capacity Alternative A would achieve five of the proposed project's six objectives, this alternative would only partially fulfill the university's objectives to increase student enrollment to serve regional and statewide enrollment demands. Because this alternative would limit the capacity of enrollment to 32,000 students, while the 2007 LRPD would limit capacity to 37,000 students, this objective would only be partially achieved.