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DRAFT INTERIM REPORT

UC BERKELEY FISCAL IMPACT ANALYSIS

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City of Berkeley

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I. INTRODUCTION AND RESULTS

INTRODUCTION

Economic & Planning Systems, Inc. (EPS) has been retained by the City of Berkeley (City) to provide information and analysis concerning the likely fiscal (public services) impacts of the University of California at Berkeley's (UC) new 2020 Long Range Development Plan (2020 LRDP). The analysis is designed to support discussions with UC on fair compensation/ mitigation payments.

The 2020 LRDP sets out UC's plans for growth and development between 2005 and 2020. A similar fiscal impact study was commissioned by the City in 1989 to evaluate the impacts of the prior LRDP that covered the period 1990 to 2005 (Economic & Planning Systems, Inc., 1989, *Fiscal Impacts of the University of California at Berkeley Long Range Development Plan upon City of Berkeley* (1989 Fiscal Report)). Negotiations with UC at that time resulted in a mitigation agreement (*Mitigation Implementation Agreement by and between the City of Berkeley and the Regents of the University of California*, July 26, 1990 (1990 Mitigation Agreement)) that laid out a series of UC payments to the City to cover its fiscal impacts. These payments, which generally fall below the actual impact of UC as estimated in the 1989 Report, are due to expire in 2005, and a new mitigation agreement has yet to be established.

The fiscal impacts considered cover a broad range of the public services provided by the City, including public safety, sewer and storm drain, and transportation services among others. Impacts associated with infrastructure, capital facilities, and major equipment were considered (e.g. major road improvements, new fire equipment), as well as the on-going impacts of providing public services, including personnel costs, supplies, and equipment. As explained below, only the direct effects of UC population and facilities are considered. Secondary effects, both positive and negative, are highly speculative and are not evaluated in this analysis.

The primary purpose of this Report was to evaluate the fiscal impacts of the 2020 LRDP. However, in the course of doing so, the methodology developed also revealed the existing fiscal impact of UC. These impacts are also reported. The key results of the Report are below.

SUMMARY OF FISCAL IMPACT RESULTS

1. UC has a significant fiscal impact on the City of Berkeley.

The City provides a broad array of public services to all residents, businesses, and entities located within its bounds. UC is both a major employer and provider of housing, and as such demands a broad array of services. At the same time, UC, as a tax-exempt entity, is not subject to many of the taxes and charges the City uses to ensure that development pays its fair share of public services. As a result, UC does not pay its own way, and this fiscal deficit means that the City is required to reduce the overall level of its services citywide or fund services to UC using revenues from other sources.

2. UC impacts include the on-going and capital costs associated with service provision.

UC fiscal impacts include the cost of providing capital facilities, infrastructure, and major equipment to serve UC – the "capital" side of the fiscal equation. These capital expenditures tend to require large periodic investments. UC fiscal impacts also include the costs of personnel, supplies, and smaller equipment associated with service provision – the "on-going" side of the equation. These are on-going costs that are borne by the City each year.

3. UC's tax exempt status means that it does not automatically pays its own way.

As a State entity, UC is exempt from the payment of a large suite of local government charges, including property taxes, assessments, and other special taxes. These revenues fund a significant proportion of the City's General Fund expenditures as well as a number of specific services. UC does generate revenues to the City, including sales tax revenues, as well as revenues tied to a City's population count, such as auto in-lieu fees and gas taxes. The revenues do not, however, come close to covering the full costs of service provision.

4. Mitigation measures established in association with the last LRDP (effective from 1990 to 2005) made an important contribution to the funding of City public services, but fell well short of covering UC's full fiscal impact.

The 1990 Mitigation Agreement between the City and UC provided a good starting point for mitigation/ compensation payments from UC to the City. Payments included UC contributions towards major fire equipment, sewer operations and capital costs, and stormwater services. At their peak, these payments resulted in an annual payment of $779,000 in 1998 (the average payment between 1990 and 2002 was $580,000 in nominal dollars). Even at the peak, these payments did not come close to covering the full cost impacts of UC as quantified in the 1989 Fiscal Report.

5. Several of these mitigation payments have already ended, others expire by 2005/6 and no new mitigation measures are in place.

Many of the UC mitigation payments under the 1990 Mitigation Agreement have ceased, and most others are due to expire in 2005/6 at the end of the term of the prior LRDP. The 2020 LRDP will become effective in 2005/6 and last for fifteen years through 2020/21. No new compensation/ mitigation measures are in place at this time.

6. The 2020 LRDP calls for the addition of 2,600 new beds on-campus, 2.2 million square feet of additional facilities, both on and off campus, and 2,300 parking spaces. It also projects the addition of 1,650 new students and 3,670 new faculty, academic and non-academic staff, visitors, and vendors (faculty/ staff).

The 2020 LRDP envisions a major expansion of UC. The number of students is expected to increase by 5.2 percent, the number of faculty/ staff by 26.0 percent, the number of beds provided by 22.4 percent, and the amount of academic and support space by 18.2 percent. **Table 1** summarizes these changes:

Table 1
Summary of Proposed UC Growth under 2020 LRDP
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020	Percent Increase
Number of Students	31,800	1,650	33,450	5.2 percent
Number of Beds	11,600	2,600	14,200	22.4 percent
Faculty/ Staff (1)	14,135	3,670	17,805	26.0 percent
Academic & Support Space	12.1 million	2.2 million	14.3 million	18.2 percent
Parking Spaces	7,600	2,300	9,900	30.3 percent

(1) Includes new faculty, academic and non-academic staff, visitors and vendors.

7. The annual, increase in public services costs associated with the 2020 LRDP is estimated at about $1.95 million, including $1.1 million in on-going costs, $425,000 in capital costs, and $425,000 in sewer/ stormwater costs.

The 2020 LRDP is expected to have impacts across most City departments. This Report focused on the seven departments where impacts are expected to be the most significant. It also assumed that current service standards would be adequate over the next fifteen years. The estimated additional public service cost impacts resulting from the 2020 LRDP at its buildout by cost category are presented below in 2003 dollars (see **Table 2a**).

Table 2a
Summary of Annual Cost Impacts of 2020 LRDP by Department/ Category
(2003 Dollars)
UC Berkeley Fiscal Impact Analysis

Department	On-Going	Capital (1)	Sewer/ (2) Stormwater	Total
Fire/ Emergency Services	$562,000	$230,000	--	$793,000
Police	$387,000	$10,000	--	$398,000
Public Works - Sewer/ Stormwater	--	--	$424,000	$424,000
Public Works/ Transportation (1)	$56,000	$171,000	--	$227,000
Parks & Recreation	$45,000	$12,000	--	$57,000
Planning	$38,000	$0	--	$38,000
Health & Human Services	$22,000	$0	--	$22,000
Total	**$1,111,000**	**$423,000**	**$424,000**	**$1,959,000**

(1) Capital costs include facilities, vehicles, and major equipment.
(2) The sewer/ stormwater estimates are from the B&C Report. They are separated from the other on-going/ capital costs for presentation purposes.

8. The current annual cost of providing these same public services to the existing UC is $13.5 million, including $8.1 million in on-going costs, $2.7 million in capital costs, and $2.7 million in sewer/ stormwater costs.

As part of this analysis, the cost of providing services to UC at the current time was estimated. The estimated annual cost impact of providing these services is estimated at $13.5 million, including $2.7 million in capital costs, $8.1 in on-going costs, and $2.7 million in sewer/ stormwater costs. The current public service cost impacts of UC by cost category are presented below (see **Table 2b**).

Table 2b
Summary of Existing Annual Cost Impacts of UC by Department/ Category
(2003 Dollars)
UC Berkeley Fiscal Impact Analysis

Department	On-Going	Capital (1)	Sewer/ (2) Stormwater	Total
Fire/ Emergency Services	$4,087,000	$1,673,000	--	$5,760,000
Police	$2,910,000	$74,000	--	$2,984,000
Public Works - Sewer/Stormwater	--	--	$2,698,000	$2,698,000
Public Works/ Transportation	$326,000	$806,000	--	$1,132,000
Parks & Recreation	$460,000	$123,000	--	$583,000
Planning	$165,000	$0	--	$165,000
Health & Human Services	$153,000	$0	--	$153,000
Total	**$8,101,000**	**$2,676,000**	**$2,698,000**	**$13,475,000**

(1) Capital costs include facilities, vehicles, and major equipment.
(2) The sewer/ stormwater estimates are from the B&C Report. They are separated from the other on-going/ capital costs for presentation purposes.

9. The combined net annual fiscal impact of providing public services necessary to accommodate both the existing UC community as well as growth projected from the 2020 LRDP is estimated at $13.0 million in 2003 dollar terms. This net fiscal impact estimate accounts for about $2.5 million in tax and fee revenue generated by the UC and its associated public service population.

The total costs of providing public services necessary to accommodate the existing UC community and its public service population as well as growth in the UC community as projected in the 2020 LRDP is estimated at $15.4 million, which includes $9.2 million in on-going operation and maintenance costs, $3.15 million in capital costs, and $3.15 million in sewer/stormwater costs. However, the UC is also estimated to generate approximately $2.5 million a year in revenues, which includes $2.1 million from the existing public service population and an additional $400,000 associated with 2020 LRDP growth (see **Table 3**). The primary revenues generated by the UC include sales tax, auto in-lieu fee, and gas tax. The difference between total costs of $15.4 and total revenues of $2.5 million, or $12.9 million, represents the net fiscal impact of the UC and its public service population through build-out of the LRDP in 2020.

Table 3
Net Annual Fiscal Impact (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
Annual Revenues	$2,100,000	$400,000	$2,500,000
Annual Costs			
Sewer/Stormwater	$2,700,000	$425,000	$3,150,000
On-going	$8,100,000	$1,100000	$9,200000
Capital	$2,700,000	$425,000	$3,150,000
Subtotal	$13,500,000	$2,000,000	$15,500,000
Net Fiscal Impact	**($11,400,000)**	**($1,600,000)**	**($13,000,000)**

10. Without its tax-exempt status, the City would collect as much as $2.5 million annually from UC under its 2020 LRDP.

Estimates of property tax, assessment, and ad valorem tax payments were made for the new development program proposed by the 2020 LRDP. Using approximations of assessed valuation based on private sector building comparables and 2020 LRDP estimates of square footage, the lost revenues were calculated. These lost annual revenues were estimated at $2.5 million annually at 2020 LRDP buildout in 2003 dollars. The payment of these City charges by UC would cover the new public service cost impacts of UC. An approximation was also made of the lost revenues associated with the current UC size. The current loss of revenues was estimated at $10.8 million.

11. Inflation will increase the annual payments required from UC.

All results are provided in constant 2003 dollar terms. Actual annual payments required from UC through time will be higher due to inflation. Fair share compensation/ mitigation payments should be converted from the 2003 dollar estimates into a nominal dollar payment in the relevant year.

KEY METHODS AND ASSUMPTIONS

This analysis is based on a set of calculations and assumptions regarding UC population; UC academic, residential, and associated facilities; and UC demand for City services and infrastructure. All assumptions are described in the text and footnoted in the Report tables. Key methods and assumptions are described below:

- **Scale of UC Impact.** For analysis purposes, this Report considers UC as a major activity center in the City of Berkeley, providing both jobs and housing, and generating significant activity on the campus and in the surrounding area. The Report evaluates the public service demands and impacts of UC-related population (including students, faculty, staff, visitors, and vendors) when they are on or around UC campus/ facilities or commuting to them. As a result, students who live and study on campus will have a greater impact than students who commute to it from other places of residence. This more focused approach creates a more clearly defined analysis and avoids the complications of considering secondary impacts – for example, the evening/ weekend cost and revenue implications of UC staff living in the City of Berkeley.

- **Current and Projected UC Size.** At the base of the impact analysis is the "project description", which includes estimates of the current UC population and facilities and the expected additions under the 2020 LRDP. The Report relies primarily on information provided by UC to estimate current and projected UC population as well as current and projected UC facilities (e.g., campus beds, academic and support space, and parking spaces). When additional information – such as full-time campus residents and square-feet-per-bed conversion factors – was required, EPS developed estimates based on existing conditions and other data sources.

- **Two Approaches to Estimating Impacts**. The Report takes two approaches to estimating UC impacts. The primary approach estimates the service demands and associated costs of providing public services for each major City department. In cases where UC partially covers its service demands by providing its own set of services (such as police and recreational facilities), the net demand on City services is estimated. The service costs to each department are then summed and revenues generated by UC (such as sales taxes) are subtracted to determine the net fiscal impact of UC. The second approach estimates the revenues not paid by UC given its tax status. Without this special tax status, UC would pay a number of taxes and assessments which would be available to cover their public service cost impacts. These two approaches provide alternative (not additive) estimates of UC's fiscal impact on the City.

- **Service Demand.** UC service demands are tied to measurable components of UC, such as UC population or UC facilities. For categories of impact that correlate with population size, for example, this Report employs a population-based service demand approach, subtracting out the services provided by UC. This approach recognizes differences in service demands by different categories of UC affiliates (e.g., students living on-campus versus off-campus) as well as differences from typical full-time Berkeley residents. In general, this report assumes that the full set of service demands associated with full-time campus residents can be attributed to UC and will be at the same level of service demands as full-time Berkeley residents. Only half of the service demands of off-campus residents and UC faculty/ staff, however, are attributed to UC as they only spend about half their time in and around UC facilities.

- **Departments Evaluated.** As mentioned above, the primary approach to impact analysis in this Report starts with an evaluation of the service demand and cost impacts by City Department. The evaluation considers the seven departments where the impacts are likely to be greatest, including fire and emergency services, police, public works, transportation, parks and recreation, planning, and health and human services. Other departments will be somewhat affected but are not evaluated, including a range of General Government services, a portion of whose costs are variable as City population grows.

- **Cost Estimates.** The cost calculations described throughout this report were developed using information provided by the City and using departmental budget data reported in the City's Proposed FY 2004 & 2005 Biennial Budget ("FY 2003 Adopted" figures). Costs per unit of service provision were presumed to remain constant (in 2003 dollars) unless otherwise noted. With the exception of wastewater and stormwater services, no adjustment was made for the fact that City levels of service and expenditures might be higher if UC covered a greater share of its public service costs.

- **Capital vs. On-Going Costs.** Public service impacts can be divided into capital impacts and on-going impacts. Whenever possible, this report distinguishes between these costs – capital costs are those associated with one-time purchases of equipment or facilities that depreciate over time. In many cases this distinction is based on capital line items reported in each department's annual budget summary (i.e., "capital outlay"). In other cases, certain "capital" costs were not specifically included in the "capital outlay" line item because capital items were paid for annually (i.e., annual departmental payments to the Vehicle Replacement Fund, which is used to purchase new vehicles). In such cases EPS performed additional research to transfer such items from non-capital to capital budget estimates. The on-going costs include the regular personnel, supplies, and equipment costs associated with providing public services.

- **Lost Revenue Calculations.** Lost revenues calculations were based on the City's average allocation of property taxes for private development, the current schedule of assessments on property, and pertinent rates for other charges on development not paid by UC. The assessed value of UC property was estimated by dividing it into residential and institutional buildings and estimating their likely market values if developed and sold/ leased by a private developer.

REPORT ORGANIZATION

Following this summary chapter, **Chapter II** discusses the current population, the residential, academic & support profiles, and growth projections used in this analysis. **Chapter III** presents fiscal impact cost calculations for the City departments that are expected to be most significantly affected by UC growth, estimates offsetting revenues generated by UC, and determines the net fiscal impact of UC growth. **Chapter IV** describes an alternative fiscal impact estimate based on the sources of revenue the City does not receive given UC's status as a tax exempt entity.

II. LRDP PROJECT DESCRIPTION

UC is in the process of preparing and adopting a Long Range Development Plan (LRDP) that will outline and guide campus development between 2005 and 2020 (hereafter "2020 LRDP"). UC's existing LRDP, adopted in 1990 and amended in 2002, is scheduled to expire in 2005. State law requires that UC prepare an Environmental Impact Report (EIR) for any new or updated LRDP, pursuant to the California Environmental Quality Act (CEQA). In association with the CEQA process, UC published a Notice of Preparation (NOP) of its proposed LRDP on August 29, 2003 that: (1) describes the purpose of the proposed LRDP, (2) outlines current development and development proposed to occur under the LRDP, and (3) summarizes the findings of the CEQA initial study, which defines what environmental impacts will be addressed in the EIR.

All assumptions used in this report regarding current and projected UC development were taken directly from the August 29 NOP. Assumptions regarding population and development in the City of Berkeley were compiled from a variety of sources as cited in the text and tables. **Table 4** presents a summary of current, proposed, and total projected development, with more detailed demographic and development assumptions presented for UC and the City in **Tables 5** and **6**.

EXISTING CONDITIONS AND SERVICE POPULATION

As summarized in **Table 4**, UC is currently estimated to consist of 31,800 daytime students and 14,135 faculty and staff. In terms of physical development, UC currently operates 8,200 "campus beds" and occupies 12.1 million square feet (sqft) of "academic and support" space. The estimate of campus beds provided in the NOP does not include several categories of "unofficial" UC beds—such as fraternities, sororities, and cooperative housing. At the City's request, UC estimated that these affiliated residential categories comprise approximately 3,400 additional beds, for a total of 11,600 beds, as summarized in **Table 5**. Assuming residential density is 223 sqft per bed, total current residential square footage is estimated at about 2.6 million sqft.[1] With current academic and support space, UC's current total square footage is estimated at 14.7 million. Finally, UC currently owns and operates 7,600 parking spaces.

[1] The estimated residential density factor of 223 sqft per bed was calculated by dividing total residential sqft (approximately 1.8 million, as reported on UC's website), by the current number of "official" campus beds (8,200), as the 1.8 million figure is assumed not to include fraternities, sororities, and cooperative housing.

Table 4
Project Description -- UC Summary
UC Berkeley Fiscal Impact Analysis

Item	Current	Net New	Total
Population			
Student	31,800	1,650	33,450
Faculty/Staff (1)	14,135	3,670	17,805
Total	45,935	5,320	51,255
Residential			
Beds	11,600	2,600	14,200
Square Feet (2)	2,581,874	578,696	3,160,570
Academic & Support (SqFt) (3)	12,100,000	2,200,000	14,300,000
Total SqFt	14,681,874	2,778,696	17,460,570
Parking Spaces	7,600	2,300	9,900
Total City population	106,350	--	--
Student residents of City (4)	19,398	--	--
Non-UC residents	86,952	--	--

(1) This category includes faculty, academic and non-academic staff, and "other visitors/vendors" as reported in the LRDP.

(2) Assumes 223 SqFt per bed, based on current beds per total residential SqFt.

(3) The 2.2 million new square feet includes 1.0 million on-campus and 1.2 million off-campus.

(4) According to UC staff, 39 percent of UC students report addresses outside the City of Berkeley.

Source: UC Berkeley LRDP/NOP; Economic & Planning Systems, Inc.

Table 5
Project Description -- UC Residential
UC Berkeley Fiscal Impact Analysis

Item	Current	Net New	Total (2020)
Beds			
Campus beds (1)	8,200	2,600	10,800
Other UC beds (2)	3,400	0	3,400
Subtotal	11,600	2,600	14,200
Population			
Total Students	31,800	1,650	33,450
On-campus (3)	11,600	2,600	14,200
Off-campus (4)	20,200	-950	19,250
Faculty/Staff (5)	14,135	3,670	17,805
Total Population	45,935	5,320	51,255
Student Population by Place of Residence			
Outside Berkeley (6)	12,402	--	--
City of Berkeley	19,398	--	--

All data from NOP for LRDP, unless otherwise noted.
(1) Beds formally operated by UC. Most are close to, but not on, core campus.
(2) Includes fraternities, sororities, and UC-recognized off-campus housing (cooperative housing, international house, etc.) (Provided by UC, February 10, 2004). Does not include students/faculty living in privately-owned housing.
(3) Equal to the number of campus beds.
(4) Total students minus campus beds.
(5) This category includes faculty, academic and non-academic staff, and "other visitors/vendors" as reported in the LRDP.
(6) According to UC staff, 39 percent of UC students report addresses outside the City of Berkeley.

Source: UC Berkeley LRDP/NOP; Economic & Planning Systems, Inc.

Table 6
UC Service Population Equivalent (1)
UC Berkeley Fiscal Impact Analysis

Item	Total Peak Population (existing)	Service Pop. Factor (2)	Estimated Peak Service Population			Percent Increase
			Current	Net New	Total	
UC Service Population						
On-campus student residents	11,600	1.00	11,600	2,600	14,200	22%
Off-campus students	20,200	0.50	10,100	(475)	9,625	-5%
Faculty/Staff	14,135	0.50	7,068	1,835	8,903	26%
Total	**45,935**		**28,768**	**3,960**	**32,728**	**14%**
City-wide Service Population						
City residents not employed	51,676	1.00	51,676	--	--	--
City residents working in Berkeley (3)	23,588	1.00	23,588	--	--	--
City residents working outside Berkeley (3)	31,086	0.50	15,543	--	--	--
Non-Residents working in Berkeley (4)	53,612	0.50	26,806	--	--	--
Total Peak City-wide Service Population	**159,962**		**117,613**	--	--	--
UC Service Population as % City-wide			24%			

(1) Service population is a measure used to estimate the relative impact of different demographic groups at the height of on-campus activity (i.e., during term-time).

(2) The service population factor measures the relative contribution of different demographic groups to peak service demand. Off-campus students, faculty, and staff are assumed to spend about half (50 percent) of their day on or round campus/ UC facilities. As a result, their service demand attributable to UC is set at 50 percent. City residents who work outside of the City and non-residents working in the City are assumed to spend about half (50 percent) of their day in the City. As a result, their service demand attributable to UC is set at 50 percent.

(3) U.S. Census Bureau, 2000 "journey to work" data.

(4) ABAG 2002

Source: Census 2000; ABAG; UC Berkeley LRDP/NOP; Economic & Planning Systems, Inc.

The total current population of the City of Berkeley is estimated at 106,350.[2] This estimate includes UC students who are residents of Berkeley and other residents. As shown in **Table 4**, based on estimates of student resident status provided by UC, this analysis estimates that approximately 19,400 students are Berkeley residents, and the remaining population consists of roughly 87,000 residents.

This analysis uses current population counts by demographic category (e.g., UC students living on campus, UC students living off-campus, faculty/staff, etc.) to estimate a current "service population." These estimates equate the total UC population to Berkeley resident equivalents, based on the amount of time each population segment is expected to spend on and around campus, and thus result in a demand for City services that may be attributed to UC based on the methodology underlying this analysis. This analysis assumes that campus residents represent the same demand for services as a typical full-time Berkeley resident (a resident who lives and works in the City), while off-campus residents, faculty, and staff each represent one-half the demand of a typical Berkeley resident – i.e. because about half their time is spent at and around the campus, off-campus population's average service demand will be half that of a full-time Berkeley resident. Similarly, Berkeley residents who work outside of the City are given half the weight of a full-time Berkeley resident as are nonresidents who work in Berkeley but live elsewhere.

As shown in **Table 6**, this results in an estimated total current UC service population of about 28,800 and a total current City service population of 117,600. As a result, UC service population represents 24 percent of the City service population. The new LRDP is also shown to increase the UC service population by 3,960, or 14 percent. These estimates are used to calculate the service demand and cost impacts of the UC where no better measures were available. The approach used for each department is described in subsequent chapters.

DEVELOPMENT ESTIMATES AND ASSUMPTIONS

This analysis calculates fiscal impacts associated with "net new" development under the proposed LRDP. "Net new" development represents the net increase in each development type, taking into account proposed construction as well as proposed renovation, conversion, and demolition of existing facilities. All development estimates presented in the NOP are assumed to represent net new development. As summarized in **Table 4**, the proposed LRDP addresses construction of 2,600 net new "campus beds," 2.2 million net new sqft of "academic and support space" and 2,300 net new parking spaces. These proposed amounts represent net increases over existing development of 22 percent, 18 percent, and 30 percent, respectively. The proposed LRDP also describes

[2] This number was developed and provided by the City of Berkeley, and reflects the City's proposed adjustment to the 2000 Census, which the City believes missed approximately 6,000 UC students/Berkeley residents. This proposed adjustment has been reviewed and endorsed by UC, but has yet to be officially adopted by the U.S. Census Bureau.

the expansion of campus population to include an additional 1,650 students and 3,670 faculty/staff, increases of 5 percent and 26 percent, respectively. Using the same methodology described above, and as summarized in **Table 6**, this analysis estimates that population growth associated with the proposed LRDP will result in a net new UC service population equivalent of 3,960, an increase of 14 percent.

Figures presented in the proposed LRDP represent development "caps": future development in excess of these amounts would require UC to prepare individualized EIRs, and the conclusions of the proposed LRDP's EIR (under development) would not apply to this additional growth. While the proposed LRDP presents total development "caps," it provides very little information regarding the location, configuration, or density of projected development. In particular, the proposed LRDP states that all residential development will occur within a "housing zone," though this zone is defined so broadly that no conclusions can be made regarding specific locations.[3]

The ultimate fiscal impact experienced by the City will depend on the specific location of future development. For example, municipal infrastructure in certain parts of the City has greater capacity than in other areas, and development would thus be more easily accommodated in certain areas than in others. Similarly, whether future development occurs on property already owned by UC or on property that is currently under private ownership will significantly influence future changes in property tax revenues received by the City. Because very little information was provided regarding location of development, this report developed a "location blind" methodology. A greater degree of specificity, such as that provided in the 1990 LRDP, would have allowed a more location-specific, and potentially more accurate, fiscal impact methodology.

[3] The "housing zone" is defined as any part of Berkeley or Oakland that is "within a mile of the center of campus, or within a block of a transit line providing trips to campus in under 20 minutes."

III. COST APPROACH— FISCAL IMPACT ESTIMATES BY DEPARTMENT

This chapter is divided into eight sections, each presenting the methodology and fiscal impact calculation for the City services provided by that department. The Public Works Department is split into two sections, one for sewer and stormwater services and one for transportation-related services, some of which are provided by the Transportation department. The following seven departments are expected to experience the most significant fiscal impact in association with UC's 2020 LRDP:

- **Fire and Emergency Medical Services**
- **Police**
- **Public Works (Sewer / Stormwater)**
- **Public Works / Transportation**
- **Parks & Recreation**
- **Planning**
- **Health and Human Services**

Each section below describes the range of services provided by the City and UC; any existing or historical mitigation arrangements between the City and UC designed to off-set UC impacts; and the assumptions, methodology, and calculations used to estimate the fiscal impacts associated with UC. The estimates for Public Works (Sewer/ Stormwater) are taken from Brown and Caldwell, April 2004, Final Report *City of Berkeley Sewer Service Charges and Connection Fees, and Clean Stormwater Study and the Evaluations of "Fair Share" Contributions from the UC Regents* (B&C Report).

FIRE AND EMERGENCY MEDICAL SERVICES

This section describes the methodology used to calculate UC-related fiscal impacts for fire and emergency medical facilities and services. As UC expands in size and population, additional capital facilities and equipment will be required to maintain existing fire and emergency medical service standards.

SERVICE DESCRIPTION

UC has its own fire inspection and code enforcement personnel, but does not maintain a firefighting or EMS staff. As a result, the Berkeley Fire Department (BFD) provides the vast majority of fire and emergency medical protection to UC. The BFD service to UC includes standard responses to calls for service. In addition, the BFD staff reported that UC campus creates a complex and intensive source of demand for fire and emergency medical services and equipment.

The BFD determines its service and response standards by weighing a variety of factors including City-wide unit coverage, response times, building size, nearby population, health and safety issues (e.g., hazardous materials), property value, and insurance risk, among other factors. Covering more than 1,200 acres, UC campus houses a variety of facilities that create the need for specialized fire response, including wildfire response units for steep hillside preserves, ladder trucks for high-rise residential dormitories, HAZMAT units for laboratories and facilities containing hazardous materials, and elevated response times based on high property values (e.g., rare books, laboratory equipment, etc.).

HISTORICAL MITIGATION

Since 1990, UC has contributed to fire department operations in the form of fixed annual payments of $50,000 for fire/HAZMAT training and four one-time payments totaling $914,000 for equipment purchases. The annual payments are scheduled to expire at the end of the 2005-2006 academic year, and no formal agreement was reached or is currently in place to provide continued funding for the purchase of equipment.[4]

[4] Although the 1990 Mitigation Implementation Agreement between the City and the UC Regents called for the City Manager and Vice Chancellor to develop a set of service standards and a schedule of equipment acquisition and replacement by the end of fiscal year 1990-1991, these measures were never developed. The Fire Department and UC Environmental Health and Safety Department continue to work towards completing these elements of the Agreement.

FISCAL IMPACT CALCULATION

As described above, the BFD uses a complex set of inputs to determine fire staffing, response, and service standards. Unfortunately, there is no fire department-specific data that accurately measures the UC's impact on the need for staff, supplies, equipment, and facilities. Based on interviews with BFD staff and a review of available data, EPS determined the best way to estimate BFD expenditures in serving UC would be to use the relative service population numbers for UC and the City as a whole.

Table 6 in **Chapter II** shows the service population calculations and estimates that the UC-related service population is about 24 percent of the total City service population. Applying this methodology to the fire department implicitly assumes that the demand for services from persons who spend their daytime in the City (e.g., employees who live elsewhere) is half that of persons who spend their full day in the City (e.g. residents who are employed in the City). This is a standard assumption that has been used to estimate public safety service demand in a number of cities.

The total BFD budget allocation is $23,551,000. BFD budget data was categorized and divided between capital costs and on-going costs based on input from BFD staff; on-going service costs represented about 71 percent of total costs, while capital expenditures constituted the remaining 29 percent, including the purchase or lease of facilities, major equipment, and machinery. As a result, the total annual fire department cost per service population is $200, including $58 on capital costs and $142 on noncapital costs.

Estimates of existing and new UC-related fire service cost impacts were based on these factors. The existing cost per service population was applied to the UC's existing service population and its new service population under the LRDP to derive UC's impacts on costs. **Table 7** below summarizes the results of this analysis and **Table 8** provides the full set of assumptions and calculations.

Table 7
Annual Fire Service Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$4,087,000	$563,000	$4,649,000
Capital Costs	$1,673,000	$230,000	$1,903,000
Total	**$5,760,000**	**$793,000**	**$6,553,000**

Table 8
UC-Related Fire Department Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
Service Population (1)			
UC Existing	28,768	a1	See Table 6
UC New LRDP	3,960	a2	See Table 6
City Existing	117,613	b	See Table 6
UC as proportion of City (existing)	24%	c = a1 / b	calculation
BFD Operational Costs			
Total Fire Budget (2003 Adopted)	$23,551,100	g	City Budget
Capital Outlay (2)	$6,840,544	h	City Budget (1)
Non-capital expenditures	$16,710,556	i = g - h	calculation
Total cost per service population	$200	j = g / b	calculation
Average capital cost per service pop.	58	k = h / b	calculation
Average non-capital cost per service pop.	$142	l = i / b	calculation
Annual UC-related Fire Service Cost Calculations			
Current capital costs	$1,673,160	m = a1 * k	calculation
Current non-capital costs	$4,087,311	n = a1 * l	calculation
Current, total costs	$5,760,471	o = m + n	calculation
Net new capital costs	$230,319	p = a2 * k	calculation
Net new non-capital costs	$562,640	q = a2 * l	calculation
Net new, total costs	$792,960	r = p + q	calculation
Total (2020) capital costs	$1,903,479	s = m + p	calculation
Total (2020) non-capital costs	$4,649,951	t = n + q	calculation
Total (2020), total costs	$6,553,431	u = s + t	calculation

(1) City Budget - Adjusted FY 2004 data.

(2) Includes facilities, vehicles, and major equipment.

BFD = Berkeley Fire Department

Sources: Berkeley Fire Department; City of Berkeley; Economic & Planning Systems, Inc.

POLICE

This section describes the methodology used to calculate UC-related fiscal impacts for police services. As UC expands in size and population, additional capital facilities and equipment will be required to maintain existing police service standards.

SERVICE DESCRIPTION

Under the current Departmental Order (March 1, 1999), UC police have operational responsibility of UC campus and certain off-campus buildings, and the Berkeley Police have operational responsibility for the entire City of Berkeley outside UC campus, including all UC-property outside campus boundaries not specifically assigned to UC police. UC police have legal authority to exercise police powers on campus and within one mile of campus, while City police have legal authority throughout the entire City, including UC campus.

In practice, joint police operations are conducted in a cooperative manner, with officers responding to calls for service in both territories when requested and/or appropriate. City police play a more significant role in serving the UC population than vice versa. For example, City police address incidents around campus and other UC facilities involving students, faculty, and staff (whether as victims or perpetrators) and provide specialized services such as large-scale crowd control, traffic control, and booking facilities.

HISTORICAL MITIGATION

Costs incurred by the City to respond to some UC requests—crowd control at football games and use of the City's booking facility, for example—are partially reimbursed by UC on a case-by-case basis. Other costs, however, such as responding to student-related incidents in the vicinity of campus and instituting a weekend over-time patrol ("party patrol") near the fraternities/sororities in the southside area, are not reimbursed, and represent City police costs directly attributable to UC.

FISCAL IMPACT CALCULATION

Based on interviews with BPD staff, EPS determined that the best way to estimate BPD expenditures to serve UC would be to consider annual CFS generated in the vicinity of campus. The Federal Clery Act requires all campuses and universities participating in Federal student aid programs to report annual crime statistics on campus and in the areas immediately surrounding campus. In complying with the Clery Act, UC selected an expanded campus boundary (the "Clery area") and requests annual crime statistics

from the BPD within this area to produce its annual UC Clery Report[5] (see **Figure 1**). It should be emphasized that this crime reporting boundary was specifically defined by UC to capture crimes occurring in the vicinity of campus.

The BPD provided data for CFS occurring in the Clery area between 2000 and 2002. The majority of UC official and unofficial (e.g., fraternities, sororities, and co-ops) residences are located within this area, and UC population living off-campus also spend much of their time in the Clery area. Overall, approximately 14 percent of annual City CFS occur in the Clery area.

As BPD staff have pointed out, while UC population both generates CFS directly and indirectly (i.e., by contributing to a "target rich" environment that attracts criminal activity from other areas), not all CFS within the Clery area can be attributed to UC or its affiliates. Many persons unrelated to UC live and work in the area. Unfortunately, neither the City, the BPD, nor the UC police collects crime reporting or statistical data that allow an accurate estimate of those Clery area calls specifically affiliated with UC. The current UC-related population counts provided above and 2000 Census Data on jobs and households in the Clery area can, however, be used to provide an indication of the proportion of the calls that are UC-related as described below.

TAZ-level land use analysis conducted by the Hausrath Economics Group (HEG) and adjusted based on the boundaries of the Clery area imply that 18,500 people live in the Clery area (including the core campus) and 21,100 jobs are located in the Clery area (see **Table 9**). About 11,600 of these residents are on-campus students and 14,135 of these jobs are UC-related jobs. As a result, the residents not directly associated with UC in the Clery area total 6,900 and the jobs not directly associated with UC total 7,000. Commute pattern information was not available for non-UC-related commutes into and out of the Clery area, so all residents were counted as full time residents, and the non-UC service population in the Clery area was conservatively estimated at 10,400 (the sum of 6,900 and 3,500).

The relative presence of UC and other service populations in the Clery area combined with the number of calls for service (to both UC police and the BPD) were then used to estimate the proportion of calls addressed by the BPD that were generated by UC-related service population. As shown in **Table 10**, the total service population in the Clery area is 39,200 including 28,800 UC-related and 10,400 other. According to UC, the UC police responded to 23,000 calls for service in 2002 while the BPD responded to 26,000 calls for service in the Clery area, for a total of 49,000 CFS emanating from the Clery area. This represents an average of 1.25 CFS per service population. Assuming that the UC service population and the non-UC service population are similar in their

[5] The Clery Act states that annual crime statistics must be reported for the campus, unobstructed public areas immediately adjacent to or running through the campus, and certain non-campus facilities including Greek housing and remote classrooms. The UC Clery area is bordered by Derby Street (east of College Avenue) and Dwight Way (west of College Avenue) to the south, Shattuck Avenue to the west, and Virginia Street to the north.

Figure 1

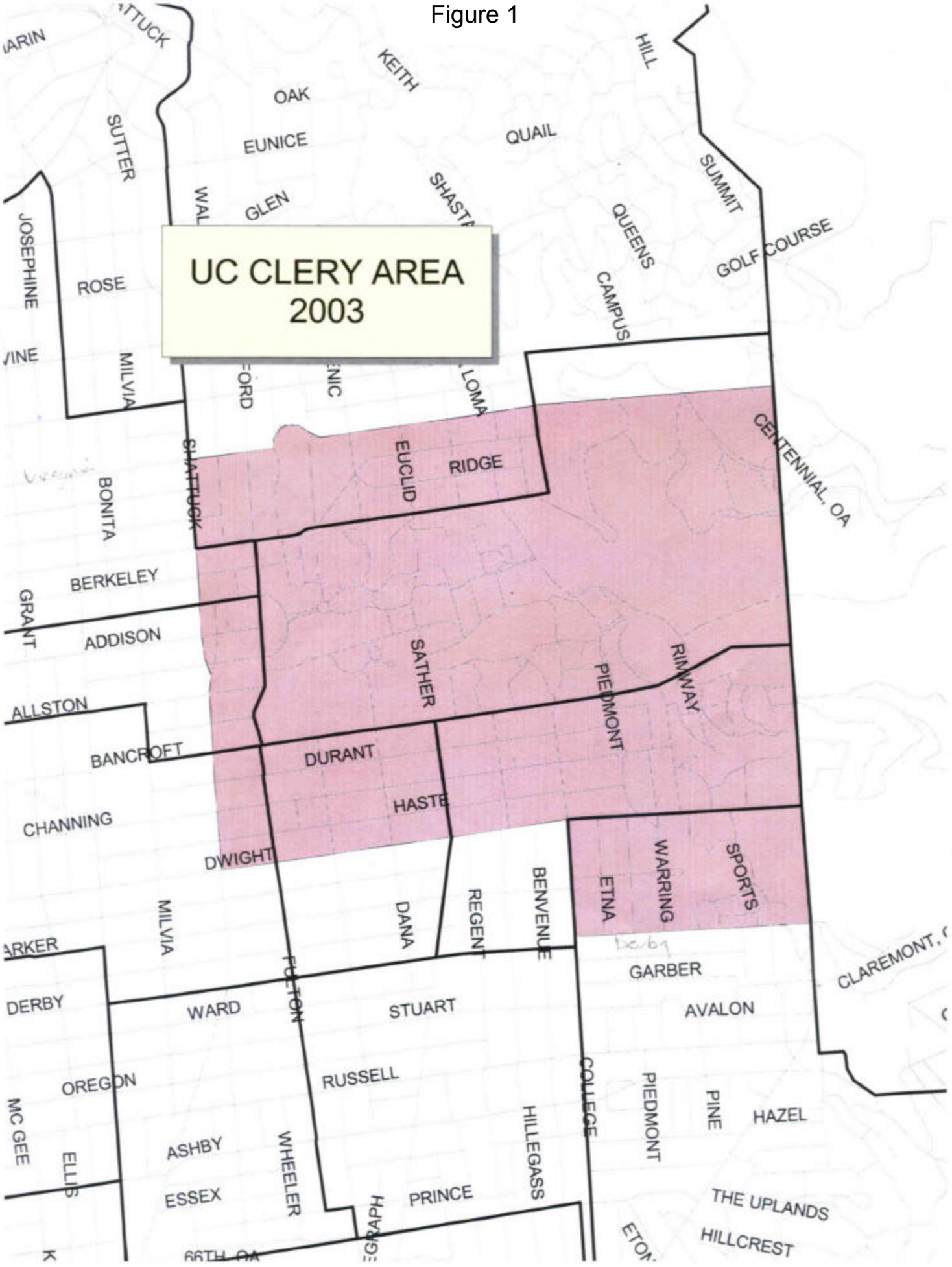
UC CLERY AREA
2003
KEITH
OAK
EUNICE
GLEN
QUAIL
HILL
SUMMIT
SUTTER
JOSEPHINE
ROSE
MILVIA
QUEENS
CAMPUS
GOLF COURSE
EUCLID
RIDGE
CENTENNIAL, OA
SHATTUCK
BONITA
BERKELEY
GRANT
ADDISON
SATHER
PIEDMONT
RIMWAY
ALLSTON
BANCROFT
DURANT
HASTE
CHANNING
DWIGHT
ETNA
WARRING
SPORTS
BENVENUE
DANA
REGENT
MILVIA
GARBER
DERBY
WARD
STUART
AVALON
CLAREMONT,
OREGON
RUSSELL
COLLEGE
PIEDMONT
PINE
HAZEL
MC GEE
ELLIS
ASHBY
WHEELER
HILLEGASS
ESSEX
PRINCE
THE UPLANDS
HILLCREST

Table 9
Population and Jobs in Clery Area, 2000
UC Berkeley Fiscal Impact Analysis

Item	Complete TAZ (2) Population	Jobs		Overlap % (3)	TAZ in Clery Area Population	Jobs
TAZs (1)						
21	4,120	1,080		60%	2,472	648
20	3,556	4,043		30%	1,067	1,213
402	183	930		100%	183	930
403	84	790		100%	84	790
404	588	787		100%	588	787
22	1,203	11,165	(4)	100%	1,203	11,165
24	4,311	450		100%	4,311	450
401	2,137	328		100%	2,137	328
805	2,242	1,532		100%	2,242	1,532
806	327	1,402		100%	327	1,402
25	987	863		100%	987	863
808	958	442		100%	958	442
35	3,924	1,117		50%	1,962	559
Total	**24,620**	**24,929**			**18,521**	**21,108**
UC-related (5)	**--**	**--**			**11,600**	**14,135**
Non-UC	**--**	**--**			**6,921**	**6,973**
Non-UC Service Population (5)					**6,921**	**3,487**

(1) TAZs that overlap with Clery area.
(2) Data from Hausrath Economics Group (HEG) UCB/LBNL Land Use Database January 28, 2004 memo.
(3) EPS estimate based on comparison of maps and land area overlap.
(4) Excludes UC LBNL employment.
(5) See Table 5.
(6) Conservatively high as assumes all non-UC related Clery area residents spend their days in the Clery area. Jobs are given a 50 percent service factor
Source: HEG; EPS

Table 10
BPD CFS generated by UC and Non-UC
UC Berkeley Fiscal Impact Analysis

Item	UC	City	Total
Service Population	28,768	10,408	39,175
CFS Responses (BPD & UCP) (1)	23,000	26,055	49,055
CFS/ serv. Capita	1.25	1.25	1.25
CFS Generated	36,023	13,032	49,055
CFS BPD Responses	13,023	13,032	26,055
Proportionate Share	50%	50%	100%

(1) Includes UC-provided 23,000 CFS addressed by UC police and BPD-provided 26,055 calls addressed by BPD in Clery area.

Source: UC; BPD; EPS

police service requirements, UC is estimated to generate about 36,000 CFS and the City 13,000. Given that UC police respond to 23,000 CFS, the net overflow of UC CFS into the Clery area is about 13,000, similar to the number of CFS generated by non-UC related population. In other words, 50 percent of the CFS addressed by BPD in the Clery area are UC-related, while 50 percent are non-UC-related. This represents about 7 percent of all BPD CFS.

The total BPD annual budget allocation is $39.6 million, 97 percent of which is for on-going costs and 3 percent for capital costs, including the purchase/ leasing of facilities, vehicles, machinery, and major equipment. The existing UC cost impact was estimated based on these costs expressed on a per-CFS basis and the estimated number of BPD CFS generated by UC. The costs associated with the 2020 LRDP were then estimated based on the increase in the service population. **Table 11** shows the results of this analysis and **Table 12** provides a full set of assumptions and calculations.

In addition to police service demand generated by CFS, civil unrest that is catalyzed on the campus and driven by students occurs periodically in the City and creates demand for police services. This additional demand includes large incidents, such as the Volleyball Court riots and the Rosebud Denovo shooting riots in the 1990s, as well as smaller incidents that require BPD policing, such as "standard" political protest marches. The BPD estimates that the smaller events result in an annual cost of about $60,000 in police time, including about $30,000 in overtime and $30,000 worth of time of on-duty staff. A turbulent year with larger events can result in an additional annual cost of $450,000, including about $150,000 in overtime and $300,000 worth of on-duty staff. These types of larger events and/or years only happen periodically, however. Assuming such events occur once every five years, the average annual cost due to these larger events is $90,000, for a total annual average cost of $150,000, including small and large events. For the purposes of this analysis, it is assumed that the number and cost of events will increase proportionally with the increase in the number of students. Given that the number of students is expected to increase by 5.2 percent under the new LRDP, the additional annual cost associated with the new development is estimated at about $8,000 each year. **Table 11** also shows these cost impacts.

Table 11
Annual Police Service Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs (general CFS)	$2,759,000	$380,000	$3,139,000
On-Going Costs (civil unrest)	$150,000	$8,000	$158,000
Capital Costs	$74,000	$10,000	$84,000
Total	**$2,984,000**	**$398,000**	**$3,382,000**

Table 12
UC-Related Police Department Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
BPD Calls-for-service Data (2000-'02)			
City-wide CFS	181,930	a	BPD (1)
CLERY Area CFS	26,055	b	BPD (2)
CLERY CFS as % City Total	14.3%	c = b / a	calculation
Assumed CLERY calls associated w/ UC	50.0%	d	See Table 10
Percent City-wide CFS associated w/ UC	7.2%	e = c * d	calculation
BPD CFS associated with UC	13,028	f = b * d	calculation
Service Population			
UC Existing	28,768	g	See Table 6
UC New LRDP	3,960	h	See Table 6
UC Percent Growth	14%	i = g + h	See Table 6
BPD Operational Costs			
Total BPD Budget (2003)	$39,579,019	j	City Budget
Capital Outlay (4)	$1,039,377	k	City Budget (3)
Non-capital expenditures	$38,539,642	l = j - k	calculation
Total cost per CFS	$217.55	m = j / a	calculation
Average capital cost per CFS	$5.71	n = k / a	calculation
Average non-capital cost per CFS	$211.84	o = l / a	calculation
Annual UC-related Police Service Cost Calculations			
Current capital costs	$74,427	p = n * f	calculation
Current non-capital costs	$2,759,716	q = o * f	calculation
Current, total costs	$2,834,143	r = p + q	calculation
Net new capital costs	$10,245	s = p * i	calculation
Net new non-capital costs	$379,890	t = q * l	calculation
Net new, total costs	$390,135	u = s + t	calculation
Total (2020) capital costs	$84,672	v = p + s	calculation
Total (2020) non-capital costs	$3,139,606	w = q + t	calculation
Total (2020), total costs	$3,224,278	x = v + w	calculation

(1) Based on a BPD query of RMS Data from 2000, 2001, and 2002.

(2) The CLERY Area is a region defined by UC Berkeley for the purposes of mandatory reporting of annual crime statistics in the vicinity of UC campuses. From its northern edge on Virginia Street, it is bounded by Shattuck Street, Dwight Way, College Street, and Derby Street. The eastern boundary is in the Berkeley Hills.

(3) City Budget - Adjusted FY 2004 data.

(4) Includes facilities, vehicles, and major equipment.

CFS = Calls for service; BPD = Berkeley Police Department

Sources: Berkeley Police Department; UC Berkeley; City of Berkeley; Economic & Planning Systems, Inc.

WASTEWATER, STORMWATER, SOLID WASTE

This section estimates UC-related fiscal impacts for facilities and services funded by the City of Berkeley Public Works Department for wastewater, stormwater, and solid waste. The cost estimates are based on the Brown and Caldwell, April 2004, Draft Report, *City of Berkeley Sewer Service Charges and Connection Fees, and Clean Stormwater Fees Study for the Evaluation of "Fair Share" Contributions from the UC Regents* (B&C Report).[6] The cost estimates presented in this chapter are for both existing UC impacts and additional future impacts under the 2020 LRDP and are shown in 2003 dollar terms. The estimates are equivalent to the nominal dollar estimates shown in Chapter 5: Mitigation Implementation Agreement 'Fair Share' Information of the BC Report, Table 5.2.

SERVICE DESCRIPTION

UC constructs and maintains the wastewater and stormwater infrastructure on campus, while the City operates, maintains, constructs, and replaces the infrastructure that collects wastewater and stormwater from the terminal distribution points at the borders of the UC campus and delivers it to the EBMUD interception main (wastewater) or tidal gates to the San Francisco Bay (stormwater). UC currently provides its own solid waste and recycling services for the campus, and contracts independently with a solid waste receiving yard in Richmond for disposal. The City also provides all these services (wastewater, stormwater, solid waste) for UC-owned off-campus facilities.

MITIGATION

The City does not receive sanitary or storm sewer service charge revenues from UC as it does from other public and private sewer users in Berkeley. In addition to EBMUD wastewater treatment charges, EBMUD collects City sewer fees on its Berkeley consumer bills on behalf of the City. EBMUD collects the sewer fee from all EBMUD water customers except UC.[7] For stormwater, the City recoups expenses as a stormwater fee on annual tax bills; as a tax-exempt agency, UC does not pay this fee.

UC has historically reimbursed a portion of its sanitary/storm sewer cost through per-unit sewer hook-up fees ($200 per new residential unit), annual lump sum payments of $250,000 in sewer capital facility fees, and escalating annual lump sum payments of sewer O&M fees (approximately $207,000 in 2002). In addition, UC has paid varying fees for other utilities, including stormwater (approximately $32,800 in 2002). The agreement establishing these payments will expire at the end of the 2005-'06 academic year.

[6] Solid waste costs were estimated by City staff.

[7] EBMUD could charge UC for City sewer service using the EBMUD billing system.

FISCAL IMPACT CALCULATION

The B&C Report estimates all of the costs of providing wastewater and stormwater service to UC, except for the capital costs associated with the stormwater infrastructure and the additional stormwater costs associated with the 2020 LRDP. It estimates the UC cost impact in fiscal year 2005/06 in addition to the annual incremental impacts associated with UC growth under the 2020 LRDP (assuming a consistent growth rate though 2020/21) and an expected rate of cost escalation.[8] EPS converted the B&C Report results into 2003 dollar terms and evaluated the solid waste services. The results of these analyses are provided below.

SOLID WASTE

At the current time, UC primarily contracts solid waste collection and disposal independently with an operator outside Berkeley. UC's waste disposal is nonetheless counted against the City of Berkeley's diversion requirements, which define waste disposal goals and City charges. UC maintains an account with the Berkeley transfer station, and is reportedly considering diverting its plant debris to the Berkeley facility where it can be composted. Because the remaining capacity of the Berkeley transfer station is relatively limited, if this additional disposal by UC were to occur, the City might need to expand capacity, which would result in a fiscal impact partially attributable to UC. At the current time, City staff estimate the annual cost impact associated with solid waste totals $68,500. This includes $14,500 for roll-off bins and disposal for end and beginning semester cleanups and $54,000 in special neighborhood pickups for the UC campus area.[9]

SANITARY SEWER/ CLEAN STORMWATER

Table 13 summarizes the UC cost impacts associated with sanitary sewer and clean stormwater in 2003 dollar terms and **Table 14** shows the detailed time series cost estimates from the B&C Report. The sewer service charges include operating and maintenance costs and replacement costs. The sewer hook-up costs consist of capital costs. As shown, when converted into 2003 dollar terms, the 2005/06 UC annual cost estimate is $2.63 million, including $2.51 million in sanitary sewer costs and about $117,000 in stormwater costs. The new 2020 LRDP is expected to add about $424,000

[8] The B&C sewer rate model projects increases in sewer use assuming a fixed annual increase in sewer accounts per year. EPS divided current UC beds and non-residential sqft by current residential and non-residential sewer accounts to develop "sewer account factors" that allowed calculation of annual growth rates associated with proposed LRDP growth. This growth rate was then used in the B&C model to calculate sewer rates and costs relative to current and projected growth as described in the LRDP.

[9] Roll-off bins and disposal costs estimated based on 30 twenty cubic yard bins at a cost of $485 per bin. Special neighborhood pick-up costs estimated at three 150-ton pick-ups at $119.86 per ton. All data provided by City Public Works department.

annually to these costs by LRDP buildout, with incremental costs growing throughout the LRDP period (2005 to 2020). The impact of UC not paying these costs will fall on the system users who will pay higher charges as a result.[10] These results are summarized in **Table 13**.

Table 13
Annual Sewer/ Stormwater Fiscal Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
Sewer Service Charges	$1,996,000	$309,000	$2,304,000
Sewer Hook Up Fees	$516,000	$115,000	$631,000
Clean Storm water Fees (1)	$117,000	$0	$116,000
Solid Waste Cost	$68,500	$0	$68,500
Total	**$2,698,000**	**$424,000**	**$3,122,000**

(1) The B&C Report did not estimate UC stormwater capital cost impacts or clean stormwater fees required to cover growth under the new LRDP.

[10] Generally, sewer and stormwater service charges are calculated by dividing total system costs by the number of accounts to develop rate charges per account. When fewer accounts are available (because EBMUD does not charge UC, for example), the total cost is distributed a mong the remaining rate payers, thus raising their rates. In this sense, other rate payers are subsidizing UC's "fair share" of system wide costs.

Table 14
Brown and Caldwell Estimates of UC System Sanitary Sewer and Clean Stormwater Costs Projections
UC Berkeley Fiscal Impact Analysis

Cost Category	Fiscal Year Starting 2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Nominal Dollar Estimates (1)										
Sewer										
Sewer Service Charges	$2,117,812	$2,202,838	$2,291,208	$2,383,050	$2,478,501	$2,577,702	$2,680,760	$2,787,864	$2,899,173	$3,014,808
Hook-Up Fees	$547,672	$571,721	$596,841	$623,066	$650,427	$678,957	$708,873	$740,033	$772,472	$806,417
Total Sewer	$2,665,483	$2,774,559	$2,888,049	$3,006,116	$3,128,928	$3,256,659	$3,389,633	$3,527,897	$3,671,645	$3,821,225
Stormwater (2)										
Storm Water Fee	$123,960	$127,679	$131,509	$135,454	$139,518	$143,704	$148,015	$152,455	$157,029	$161,740
Total Sewer/ StormWater	**$2,789,443**	**$2,902,238**	**$3,019,558**	**$3,141,570**	**$3,268,446**	**$3,400,363**	**$3,537,648**	**$3,680,352**	**$3,828,674**	**$3,982,964**
2003 Dollar Estimates (3)										
Sewer										
Sewer Service Charges	$1,996,241	$2,015,909	$2,035,708	$2,055,640	$2,075,706	$2,095,908	$2,116,217	$2,136,666	$2,157,257	$2,177,961
Hook-Up Fees	$516,233	$523,205	$530,286	$537,462	$544,722	$552,054	$559,591	$567,174	$574,792	$582,573
Total Sewer	$2,512,474	$2,539,115	$2,565,994	$2,593,102	$2,620,428	$2,647,962	$2,675,808	$2,703,840	$2,732,049	$2,760,534
Stormwater (2)										
Storm Water Fee (4)	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844
Total Sewer/ StormWater	**$2,629,318**	**$2,655,959**	**$2,682,838**	**$2,709,946**	**$2,737,272**	**$2,764,806**	**$2,792,652**	**$2,820,684**	**$2,848,893**	**$2,877,378**

(1) From Brown and Caldwell, Draft Report, Sewer Service Charges and Connection Fees, and the Clean Stormwater Fees Study for the Evaluation of "Fair Share" contributions from the UC Regents.
(2) The B&C Report did not estimate UC stormwater capital cost impacts.
(3) The Brown and Caldwell calculations assume a 3 percent annual cost escalation. This cost escalation is removed in estimating the 2003 dollar impacts.
(4) The B&C Report did not estimate the effect of the 2020 LRDP on stormwater cost impacts.

Source: Brown and Caldwell; Economic & Planning Systems, Inc.

Table 14
Brown and Caldwell Estimates of UC System Sanitary Sewer and Clean Stormwater Costs Projections
UC Berkeley Fiscal Impact Analysis

Cost Category	2015	2016	2017	2018	2019	2020
Nominal Dollar Estimates (1)						
Sewer						
Sewer Service Charges	$3,134,935	$3,259,775	$3,389,465	$3,524,191	$3,664,101	$3,809,443
Hook-Up Fees	$841,913	$878,811	$917,349	$957,575	$999,743	$1,043,705
Total Sewer	$3,976,849	$4,138,587	$4,306,814	$4,481,766	$4,663,844	$4,853,147
Stormwater (2)						
Storm Water Fee	$166,592	$171,589	$176,737	$182,039	$187,500	$193,125
Total Sewer/ StormWater	**$4,143,441**	**$4,310,176**	**$4,483,551**	**$4,663,806**	**$4,851,345**	**$5,046,273**
2003 Dollar Estimates (3)						
Sewer						
Sewer Service Charges	$2,198,781	$2,219,748	$2,240,835	$2,262,044	$2,283,347	$2,304,775
Hook-Up Fees	$590,501	$598,428	$606,476	$614,631	$623,007	$631,459
Total Sewer	$2,789,282	$2,818,176	$2,847,311	$2,876,675	$2,906,353	$2,936,234
Stormwater (2)						
Storm Water Fee (4)	$116,844	$116,844	$116,844	$116,844	$116,844	$116,844
Total Sewer/ StormWater	**$2,906,126**	**$2,935,020**	**$2,964,155**	**$2,993,519**	**$3,023,198**	**$3,053,078**

(1) From Brown and Caldwell, Draft Report, Sewer Service Charges and Connection Fees, and the Clean Stormwater Fees Study for the Evaluation of "Fair Share" contributions from the UC Regents.
(2) The B&C Report did not estimate UC stormwater capital cost impacts.
(3) The Brown and Caldwell calculations assume a 3 percent annual cost escalation. This cost escalation is removed in estimating the 2003 dollar impacts
(4) The B&C Report did not estimate the effect of the 2020 LRDP on stormwater cost impacts.

Source: Brown and Caldwell; Economic & Planning Systems, Inc.

PUBLIC WORKS / TRANSPORTATION

This section describes the methodology used to calculate UC-related fiscal impacts for transportation facilities and services. These services are provided by a combination of the Public Works and Transportation departments. The section also evaluates Transportation Demand Management (TDM) and parking impacts. As the UC population expands, additional capital and maintenance expenditures will be required to maintain current transportation infrastructure and service standards.

SERVICE DESCRIPTION

The City of Berkeley constructs and maintains virtually all of the roads and pedestrian and bicycle paths in the City. City services include, but are not limited to, street and sidewalk improvement, repair, and cleaning, signalization, construction of traffic calming measures, transit planning, and maintenance of transportation infrastructure. With respect to UC, the most significant impacts to City transportation activities and expenditures are the heavy daily UC-related traffic volumes (vehicular, pedestrian, and bicycle); road wear associated with large-scale construction; and the provision of services specifically tailored to UC, such as circulation design measures, signalization, street and sidewalk maintenance near campus, and pedestrian and bicycle crossing construction and maintenance near campus.

HISTORICAL MITIGATION

UC has not historically made any mitigation payments to offset impacts to construction and maintenance of the City's transportation infrastructure. The only contributions UC has made have been through payment of permit-related cost recovery charges, such as right-of-way and parking meter permit fees in association with long-term construction projects. The Transportation department has specifically requested UC contributions for joint-funding of pedestrian crossings and signalization along the northern campus boundary. To date, UC has not provided any funding for such projects.

FISCAL IMPACT CALCULATION

Discussions with Public Works and Transportation Department staff and a review of available data revealed four primary areas of quantifiable UC fiscal impact. These include: (1) capital costs associated with street improvements; (2) the suite of street, sidewalk, street light, and traffic signal maintenance expenditures around campus; (3) the capital cost of traffic signalization; and (4) Transportation Demand Management measures that serve UC and the City as a whole. The UC fiscal impact on each of these components is described below.

STREET IMPROVEMENTS

Street improvements refer to the capital costs associated with periodic street overlays and reconstruction. Based on interviews with Public Works staff, EPS determined the best way to estimate the street improvement impacts of UC is based on its share of automobile transportation generation, as measured by trips. The results of this analysis are shown in **Table 15** and detailed assumptions and calculations in **Table 16**.

Available data on the commute mode of the UC population (including students, faculty, and staff), as reported in the UC 2020 LRDP Draft EIR, was used to estimate the proportion of the UC population that commutes by automobile, as shown in **Table 16**. About 9,350 of the existing 45,900 UC-related population commute to UC by car, or roughly 20 percent. The 2020 LRDP is expected to add about 5,300 to the UC population, about 2,000 of which are expected to commute by car. The proportion is higher for the 2020 LRDP because the expansion includes a higher percentage of staff (whose propensity to commute by car is significantly above that of the students) and the new population is expected to live further from campus.

The total number of trip ends (each commute has two trip ends, work and home) in the City of Berkeley is about 60,700 based on the City of Berkeley's General Plan. Consistent with our definition of UC, UC-related trip ends are only counted at their arrival at UC, not on their commute home, even if this home is in the City. As a result, at the current time, the UC-related trip ends total 9,350, 15 percent of the total trip ends in the City of Berkeley.

Annual street improvement costs vary by year depending on the particular streets in need of improvement, but over time result in a consistent average. The 2003 capital outlay for street improvements was $4.9 million, according to the City of Berkeley 2002/2003 budget, equivalent to $0.22 per trip end. UC's existing 15 percent share of trip ends translates into an annual cost impact of $755,400. The 2020 LRDP additional annual street improvements costs equal $163,000 based on the additional trip ends generated and the average cost per trip end.

Table 15
Annual Street Improvement Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	--	--	--
Capital Costs	$755,000	$164,000	$919,000
Total	**$755,000**	**$164,000**	**$919,000**

STREETS, SIDEWALKS, STREET LIGHTS, AND TRAFFIC SIGNALS MAINTENANCE

The UC population creates a need for sidewalk and pedestrian area maintenance, street sweeping, street lighting and traffic system maintenance, and general cleaning, especially in the vicinity of campus. The City Public Works department has estimated these costs based on the citywide unit cost applied to the streets abutting the UC campus, and calculated a total annual cost estimate of approximately $225,000 attributable to UC. Because these costs are primarily associated with the physical size of the UC campus (e.g., curb and sidewalk miles, etc.), this analysis estimates future costs associated with proposed LRDP development based on the expected growth in total square feet of campus development. As shown in **Table 17**, UC's cost impact is $225,000 annually at the current time and will increase by $42,000 each year with the new 2020 LRDP. Detailed calculations of these costs are shown in **Table 18**.

Table 17
Annual Street & Sidewalk Maintenance Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$225,000	$42,000	$267,000
Capital Costs	--	--	--
Total	**$225,000**	**$42,000**	**$267,000**

Table 16
UC Share of Transportation Trips and Street Improvement Costs
Berkeley Fiscal Impact Study

Item	UC Students	UC Faculty	UC Staff	UC Total	City Total
Base Population Data					
2003 UC Population (1)	31,800	1,758	12,377	45,935	--
New 2020 LRDP Population (1)	1,650	220	3,450	5,320	--
Daily Commuters (2) 90%					
2003 UC Population	28,620	1,582	11,139	41,342	--
New 2020 LRDP Population	1,485	198	3,105	4,788	--
UC Commute Mode					
2003 - Drive Alone (3)	10%	51%	51%	--	--
New 2020 - Drive Alone (4)	13%	56%	55%	--	--
UC Auto Commuters (Drive Alone)					
2003 UC Auto Commuters	2,862	807	5,681	9,350	--
New 2020 LRDP Auto Commuters	198	111	1,720	2,029	--
Current UC Share of Daily Trip Ends					
2003 Auto Commute Trip Ends (5)	2,862	807	5,681	9,350	60,693 (6)
UC as % of City Total	5%	1%	9%	15%	100%
Street Improvement Costs					
Annual 2003 Cost	$231,212	$65,189	$458,954	$755,355	$4,903,202 (7)
Cost per End Trip					$0.22 (8)
Annual New LRDP Cost	$15,956	$9,006	$138,967	$163,929	--

(1) See Table 1.
(2) Assumes a daily attendance of 90 percent to account for vacations, sick leave, and other work absences per Fehr & Peers in University of California, Berkeley, 2020 LRDP Draft EIR, Appendix F-1: Traffic Analysis and Background, page F.1-13.
(3) Factors based on a 2001 faculty/ staff survey and a 2000 student survey, as reported in University of California, Berkeley, 2020 Draft LRDP, Chapter 4: Transportation and Traffic, page 4.12-17.
(4) Based on Fehr and Peers Associates, June 2003, Table F.1-6, 2020 LRDP Person Trip Generation by Mode Choice, Population Segment, and Residence Distance, in University of California, Berkeley, 2020 LRDP Draft EIR, Appendix F-1: Traffic Analysis and Background, page F.1-15. Consistent with the population categorization in this Report, post-docs and visiting scholars are placed into the staff category.
(5) Every commute involves two trips, each with a trip end: the workplace and the place of residence. This analysis only allocates the trip end that occurs at a UC building to the UC share of trip ends; i.e. it does not include any return trips to places of residence in Berkeley.
(6) From February 2001 City of Berkeley Draft General Plan EIR, p126 and p128. The total vehicle trip end estimate for the City of Berkeley in 2020 of 63,979 trips is reduced by the projected 3,286 trip ends from 2005 to 2020 (Fehr & Peers Associates, 1999).
(7) From City of Berkeley Adopted FY 2002/ 2003 Biennial Budget, p243.
(8) Total annual cost divided by total daily trip ends multiplied by 365.

Sources: University of California, Berkeley, 2020 LRDP Draft EIR; City of Berkeley Draft General Plan; Fehr & Peers Associates; City of Berkeley Adopted Budget FY 2002/03; Economic & Planning Systems, Inc.

Table 18
UC-Related Traffic and Road Maintenance Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
Signalization (Capital)			
Annual signals installed, City-wide	1.0	a	City of Berkeley
Average cost per signal ($2004)	$150,000	b	City of Berkeley
Current UC "fair share"	15%	c	UC Berkeley LRDP EIR
UC "fair share" contribution	$23,108	d = a * b * c	calculation
Current UC service population	28,768	e	Table 6
Fair share per current UC affiliate	$0.80	f = e / d	calculation
"Net new" service population	3,960	g	
"Net new" UC "fair share" contribution	$3,181	h = f * g	
Total (2020) "fair share" contribution	$26,289	i = d + h	
Street & Traffic System Maintenance (Non-capital)			
Street sweeping	$10,929		
Sidewalk maintenance	$67,875		
General cleaning	$43,559		
Street rehabilitation	$21,627		
Sidewalk rehabilitation	$8,712		
Street light system maintenance	$48,300		
Traffic signal system maintenance	$24,275		
Current UC "fair share" contribution	$225,277	j	City of Berkeley
Current UC SqFt	14,681,874	k	Table 4
Fair share per current 1,000 UC SqFt	$15.34	l = j / (k/1,000)	calculation
"Net new" UC SqFt	2,778,696	m	Table 4
"Net new" UC "fair share" contribution	$42,636	n = l * (m/1,000)	calculation
Total (2020) "fair share" contribution	$267,913	o = j + n	calculation
Transportation Demand Management Program			
Capital costs (one time):			
Transit signage	$8,000		
DT bikestation expansion	$330,000		
Bike/pedestrian streetscaping	$573,000		
Electronic BART sign (DT)	$100,000		
Electronic parking signage	$1,080,000		
Satellite parking	$150,000		
Subtotal	$2,241,000	p	City of Berkeley
UC "fair share" contribution	$345,234	q = c * p	calculation
Annualized contribution (15 yrs) (1)	$31,051	r = q (annualized)	calculation
Total UC service population (2020) (2)	32,728	s	Table 6
Fair share per UC affiliate (2020) (2)	$0.95	t = r / s	calculation
"Net new" UC fair share contribution	$3,757	u = t * g	
Current fair share contribution	$27,294	v = t * e	

Table 18
UC-Related Traffic and Road Maintenance Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
Non-capital/annual costs:			
TRIP commute store	$125,000		
TDM evaluation study	$25,000		
DT bikestation expansion	$35,000		
Marketing/education	$20,000		
DT employee EcoPass	$50,000		
Commuter incentives	$20,000		
Staffed info kiosk	$75,000		
Valet parking in City garages	$204,000		
City ride share	$190,000		
Subtotal	$744,000	w	City of Berkeley
UC "fair share" contribution	$114,616	x = c * w	calculation
Fair share per UC affiliate (2020) (2)	$3.50	y = x / s	calculation
"Net new" UC fair share contribution	$13,868	z = y * g	
Current fair share contribution	$100,747	aa = y * e	
Est. Annual UC contribution required			
Capital Costs:			
Current	$50,402	bb = d + v	calculation
Net New	$6,938	cc = h + u	calculation
Total (2020)	$57,340	dd = bb + cc	calculation
Non-capital Costs:			
Current	$326,024	ee = j + aa	calculation
Net New	$56,504	ff = n + z	calculation
Total (2020)	$382,529	gg = ee + ff	calculation

(1) The annual financing costs (principal and interest) from 2005 to 2020 that would fund UC's total "fair share" contribution, assuming a real interest rate of 4.0%.
(2) Divided by total (2020) service population because both existing and future development should contribute to this one-time cost.

Sources: City of Berkeley; Economic & Planning Systems, Inc.

SIGNALIZATION AND TDM PROJECTS

Traffic Signalization

Transportation department staff indicate that approximately one additional intersection signalization occurs each year, at a total cost of roughly $150,000 per event. Installation of new signals may occur throughout the City, but is most likely to occur in locations characterized by heavy traffic and pedestrian use, which often occur in the vicinity of campus or near other "student nodes." Because these improvements serve the entire Berkeley community, this analysis estimates UC's "fair share" contribution using the traffic allocation methodology described for street improvements described above. Using the 15 percent trip-end "fair share" allocation factor, UC's estimated current annual fiscal impact for traffic signalization is approximately $23,000, or $0.80 per current UC service population. "Net new" development under the LRDP is expected to result in an additional cost of approximately $3,200 per year (see **Table 18**).

Transportation Demand Management (TDM)

City policy emphasizes transportation demand management as a key approach to managing existing and increasing future transportation trips in the City. This analysis estimates UC's "fair share" contributions towards the City's TDM program. The City provided a catalogue of TDM programs and projects designed to improve traffic flow and to reduce automobile transit share across the City. This analysis estimates UC's fair share contribution for these programs based on its relative contribution of automobile trips in the City, 15 percent, as described above. This analysis also assumes that these TDM programs, as envisioned, will serve both current and future development. The programs have been divided between capital and non-capital costs. As shown in **Table 18**, UC's fair share for capital TDM costs is estimated at roughly $345,000. The annual fiscal impact was estimated by calculating the cost to finance a $345,000 loan from 2005 to 2020 (the timeframe of the LRDP), assuming a real interest rate of four (4) percent – roughly $31,000 annually. The annual fair share of non-capital costs is approximately $114,000 for UC growth through 2020. **Table 17** presents a combined summary of signalization and TDM impacts.

Table 19
Annual Signalization and TDM Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$159,000	$22,000	$181,000
Capital Costs	$79,000	$11,000	$90,000
Total	**$238,000**	**$33,000**	**$271,000**

PARKS AND RECREATION

This section describes the methodology used to calculate UC-related fiscal impacts for facilities and services provided by the City of Berkeley Parks & Recreation Department. As the UC population expands, additional park facilities, equipment, and staffing will be required to maintain current recreation service standards.

SERVICE DESCRIPTION

The City provides a variety of parks and recreational facilities that are open to all, including the UC community. In particular, the City owns and maintains 52 individual parks totaling nearly 300 acres, in addition to numerous tennis courts, swimming pools, a full-service marina, and other recreational facilities. Field and picnic area booking logs as well as anecdotal department staff evidence indicate that UC use — and UC student use in particular — of City-owned park facilities is significant, and results in considerable wear-and-tear to fields and picnic facilities. UC provides a wide range of open space and recreational facilities for its community, including the Recreational Sports Facility (RSF), Kleeberger Field, tennis courts, and a variety of open space. Most of these facilities are not open to the general public (RSF membership to the general public is available at a fee amount equivalent to membership in a private fitness club).

HISTORICAL MITIGATION

UC has never made payments or contributions to the City to offset capital, operational, or maintenance expenditures for parks and recreational facilities, and UC does not pay the City parks assessment or contribute to the financing of the Measure S General Obligation bond (parks maintenance bond) – the main sources of parks and recreation funding in Berkeley.

FISCAL IMPACT CALCULATION

The fiscal impact methodology employed in this report recognizes that UC's existing recreational facilities meet a portion of the demand generated by the UC population, but that a significant amount of "spillover" occurs to the City's parks and recreational facilities. As shown in **Table 20**, the methodology begins by calculating a current "parks & recreation" service population, which includes non-UC residents of Berkeley as well as UC students, faculty, and staff whose recreational needs are not met by UC facilities. No specific information was available from UC or City sources that allowed an accurate calculation of UC park demand met by UC facilities. For the purposed of this analysis it is assumed that two-thirds (2/3) of the demand for park and recreation services and

Table 20
Parks and Recreation Fiscal Impact
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
Current Service Population			
Current city population	106,350	a	City of Berkeley
UC residents of Berkeley	19,398	b	Table 5
Non-UC Berkeley population	86,952	c = a - b	calculation
Current UC "standard" service population (1)			
On-campus residents	11,600	d	Table 6
Off-campus residents (50% discount)	10,100	e	Table 6
Est. UC park demand met by UC facilities	67%	g	EPS
Current UC "parks & rec" service population	7,161	h = (1-g) *(d+e)	
Current Citywide "parks & rec." service population	94,113	i = c + h	
Parks and Recreation Costs			
Annual park maintenance costs			
Landscape Services (2)	$5,087,077		
Building/Systems O&M	$962,764		
Sub-total	$6,049,841	j	City Budget
Annual park capital costs	$1,616,793	k	City Budget
Park maintenance cost per service pop.	$64	l = j / i	calculation
Park capital cost per service pop.	$17	m = k / i	calculation
"Net New" Service Population			
"Standard" service population	2,125	n	Table 6
"Parks & rec" service population	701	o = n * (1-g)	calculation
Current UC Fiscal Impact			
Capital	$123,021	p = m * h	calculation
Non-Capital	$460,329	q = l * h	calculation
Total	$583,349	r = p + q	calculation
"Net New" UC Fiscal Impact			
Capital	$12,047	s = m * o	calculation
Non-Capital	$45,078	t = l * o	calculation
Total	$57,125	u = s + t	calculation
Total UC Fiscal Impact (2020)			
Capital	$135,068	v = p + s	calculation
Non-Capital	$505,407	w = q + t	calculation
Total	$640,475	x = v + w	calculation

(1) UC parks & recreation service population excludes faculty/staff.
(2) Includes forestry services, landscaping services, and fire fuel management costs. Excludes marina.

facilities generated by UC is met by UC facilities. The remaining demand is met by City facilities and programs. This suggests a total service population of 94,113 in the City, 7,160 of which, or about 7.5 percent are associated with UC.

Annual park maintenance and capital facilities costs from the City Budget were used to estimate capital and non-capital costs per "parks service population." Costs associated with the Berkeley marina were excluded because City staff indicated that UC use of the marina and surrounding facilities represents a minor fraction of total demand. These cost factors were multiplied by current and "net new" (2020 LRDP) UC service populations to yield fiscal impact estimates. **Table 21** below summarizes the results of this analysis and **Table 20** provides the full set of assumptions and calculations.

Table 21
Annual Parks and Recreation Service Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$460,000	$45,000	$505,000
Capital Costs	$123,000	$12,000	$135,000
Total	**$583,000**	**$57,000**	**$640,000**

PLANNING

This chapter describes the methodology used to calculate UC-related fiscal impacts for services provided by the Planning Department. As UC expands in size and population, additional Planning staff time will be required to review development plans and respond to public inquiries regarding campus growth.

SERVICE DESCRIPTION

The City Planning Department devotes significant time and expense to reviewing and responding to a variety of UC-related activities. City efforts include reviewing environmental plans and documents, including: coordination of the public review process; performing CEQA special studies for certain types of development where the City serves as the State-mandated Certified Unified Program Agency (CUPA); monitoring UC mitigation performance following plan adoption; investigating public complaints related to construction and construction management; and reviewing, developing, and enforcing student-related zoning designations.

HISTORICAL MITIGATION

According to Planning Department staff, UC used to provide funding for one full-time senior planning staff position to review UC development plans, respond to citizen inquiries, and act as a liaison between the City and UC. This staff position was eliminated after UC discontinued funding.

UC has also historically made annual payments to the City to offset the City's costs to act as the CUPA agency, to track hazardous materials storage and facilities, and to respond to public inquiries regarding hazardous materials. According to City planning staff, UC's annual payments through 1997 used to adequately cover the City's costs to perform these tasks. In 1997, however, UC significantly reduced its annual payment (from approximately $60,000 to $16,000), which no longer adequately covers the City's costs.

FISCAL IMPACT CALCULATION

Planning Department staff indicated that previous UC funding commitments were adequate to offset departmental costs. This analysis therefore estimates the current annual fiscal impact based on costs to restore (1) one full-time senior staff employee to act as a UC liaison and environmental review coordinator and (2) annual payments equivalent to those made prior to 1997 to offset CUPA agency costs.

As shown in **Table 22**, the annual planning position is assumed to cost the City approximately $100,000 per year (including salary, benefits, and overhead). The $60,000 annual payment (in 1997 dollars) translates to an equivalent payment of approximately $74,000 ($2004), which would cover CUPA-related costs associated with both the UC campus proper and the Lawrence Berkeley National Laboratories (LBNL). No information was available regarding hazardous materials storage and/or inquiries to allocate costs between campus and the LBNL. This report therefore allocated costs based on total acreage, with approximately 85 percent of CUPA-related costs attributed to UC campus proper, or roughly $65,000 per year. The total estimated current fiscal impact is therefore about $165,000 annually.

Because planning-related impacts are primarily associated with development, projected fiscal impacts are assumed to correlate with increases in total building area. The current fiscal impact results in a "service demand factor" of approximately $11.00 per 1,000 sqft of UC development. Using this factor, "net new" growth under the 2020 LRDP is expected to result in additional fiscal costs of approximately $30,000 per year, or $192,000 annually by the time LRDP-permitted construction is completed. A summary of these fiscal impact results is shown in **Table 23**, below.

Table 23
Annual Planning Department Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	**2020 LRDP**	**Total 2020**
On-Going Costs	$165,000	$38,000	$203,000
Capital Costs	--	--	--
Total	**$165,000**	**$38,000**	**$203,000**

Table 22
UC-Related Planning Department Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount	Methodology	
		Formula	Source
UC Planning-Related Impacts (1)			
Required FTE	1.0	a	City Planning
Est. annual FTE cost ($2004)	$100,000	b	City Planning
Current annual impact	$100,000	c = a * b	calculation
UC HAZMAT-Related Impacts (2)			
Annual UC payment through 1997 (3)	$60,000	d	City Planning
CPI annual increase, 1997-2004	3.44%	e	BLS
2004 Equivalent payment	$76,029	f = d * (1+e)^7	calculation
Current LBNL acreage	183	g	LBNL website
Total UC acreage	1,232	h	UCB website
Non-LBNL campus (%)	85%	i = (h - g) / h	calculation
Annual UC impact (non-LBNL) (4)	$64,735	j = f * i	calculation
Total Annual UC Impact (Current)	**$164,735**	k = c + j	calculation
Current UC occupied SqFt	12,100,000	l	OLD Table 4
Current impact / 1,000 SqFt	$13.61	m = k / (l/1,000)	calculation
Projected "Net New" SqFt	2,778,696	n	OLD Table 4
Projected "New New" Impact	**$37,831**	o = m * (n/1,000)	calculation
Total Impact (2020)	**$202,566**	p = k + o	calculation

(1) Planning staff indicate that a full-time UC liaison staff member is required to handle UC permitting and environmental review issues, and to respond to citizen inquiries regarding UC development activities.
(2) As the State-authorized CUPA agency, the City is responsible for cataloguing HAZMAT-related uses on campus and enforcing associated Health & Safety Code issues. In this role the City also responds to citizen-initiated Community Right to Know inquiries and handles other development-related public relations.
(3) Planning staff indicate that UC made annual payments of $60,000 through 1997 to off-set HAZMAT-related impacts. City staff considered this payment sufficient to cover its costs, so is used as the basis for this impact calculation.
(4) LBNL was excluded from this calculation because the 2020 LRDP does not address future LBNL development.

BLS - U.S. Bureau of Labor Statistics
LBNL - Lawrence Berkeley National Laboratory
UCB - UC Berkeley

Sources: City of Berkeley; Economic & Planning Systems, Inc.

HEALTH AND HUMAN SERVICES

This chapter describes the methodology used to calculate UC-related fiscal impacts for services provided by the Health and Human Services Department. As UC expands in size and population, additional staffing resources may be required to provide current levels of public health services to City and UC populations.

SERVICE DESCRIPTION

The City Health and Human Services (HHS) Department operates a number of inspection, support, and outreach programs that support a safe and healthy environment for City and UC residents. Functions include infectious disease control and disaster planning. HHS provides a variety of services that are accessible to UC students and faculty – family planning, HIV/AIDS counseling, public health clinic, sexually transmitted and infectious disease counseling, tobacco prevention, tuberculosis control, and crisis response – some of which are supported by UC health services, by City and UC police, and by City fire/EMS staff. The Environmental Health Division of the HHS department provides inspection and environmental control services that directly benefit and/or respond to the UC population, and that are not provided by other agencies. Examples include restaurant and water supply inspections, vector control, noise and smoking ordinance enforcement, and abandoned vehicle and blighted property abatement.

HISTORICAL MITIGATION

UC has not historically made any mitigation payments to support HHS programs or services.

FISCAL IMPACT CALCULATION

The primary fiscal impact associated with UC involves infectious disease control and environmental health services provided by the HHS department.[11] **Table 24** presents a summary of estimated annual events and HHS staff time spent addressing and/or

[11] Staff from other HHS divisions, such as Employment and Special Event Permitting, noted potential impacts that may be associated with UC and/or future development, but impacts are not estimated as they were deemed either negligible or impossible to accurately quantify. In particular, the Employment Division noted its desire for UC to participate more fully in City programs designed to increase employment opportunities for local and/or at-risk populations. While a program goal worthy of mention, the fiscal impact of UC's lack of participation was unclear.

Table 24
UC-Related Health and Human Services (HHS) Service Demand
UC Berkeley Fiscal Impact Analysis

Item	Annual Events	Avg. Staff Time Per Event (Hrs)	Current Hours	Allocation Method	Allocation Current	Allocation Net New	Net New Hours
Formula:	*a*	*b*	*c=a *b*	*--*	*d*	*e*	*f=c*(e/d)*
Source:	*HHS*	*HHS*	*EPS*	*EPS*	*OLD Table 4*	*OLD Table 4*	*EPS*
Vector control	138	1	138	SqFt	14,681,874	2,778,696	26
Abandoned vehicles	9	2	18	Service Pop.	28,768	3,960	2
General environmental health	4	1	4	SqFt	14,681,874	2,778,696	1
Noise complaint investigations	25	2	50	Service Pop.	28,768	3,960	7
Smoking complaint investigations	9	1	5	Service Pop.	28,768	3,960	1
Water sampling/sewage	40	1	40	Service Pop.	28,768	3,960	6
Subtotal	225		255				42

(1) As reported by the Environmental Health department. UC-related impacts to other HHS departments were noted but information was not available to allow quantification of impacts. See report text for a discussion of these other impacts.

Sources: City of Berkeley; Economic & Planning Systems, Inc.

responding to environmental health issues related to the UC campus and population. Depending on whether HHS services better correlate with physical development (e.g., vector control) or population (e.g., noise complaints), these labor estimates were used to project future staff hours required to accommodate "net new" growth under the proposed LRDP. The current HHS staff billing rate ($120 per hour) was used to calculate current and "net new" environmental health service fiscal impact estimates of $31,000 and $5,000, respectively, as shown in **Table 25**. The annual City expenditure on communicable disease control, provided by City staff, totals $500,000, with a current UC cost impact of $122,300 based on its service population share of 24 percent. Growth in the UC's service population will add $16,800 in additional costs assuming similar per service population costs (see **Table 25**). The total estimated annual impact once all LRDP-approved development is completed is approximately $175,000. A summary of these fiscal impact results is shown in **Table 26**, below.

Table 26
Annual Health & Human Services Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$153,000	$22,000	$175,000
Capital Costs	--	--	--
Total	**$153,000**	**$22,000**	**$175,000**

Table 25
UC-Related Health and Human Services (HHS) Fiscal Impacts
UC Berkeley Fiscal Impact Analysis

Item	Amount		Methodology	
			Formula	Source
Current Annual Impacts				
Communicable Disease Control:				
Current CDC Annual Spending, City-wide	$500,000			HHS
UC Service Population %	24%			Table 6
UC current "fair share" CDC costs	$122,297			
Other HHS functions:				
Annual staff time	255	hours	a	Table 24
Departmental billing rate (2004-'05)	$120		b	HHS Dept.
UC current "fair share" other HHS costs	$30,540			
Current Annual Cost	$152,837		c = a * b	calculation
Estimated "Net New" Costs				
Communicable Disease Control:				
Percent UC service population growth	14%			
"Net new" CDC annual fair share	16,835			
Other HHS functions:				
"Net new" staff time, other HHS functions	42	hours	d	Table 24
"Net new" HHS other costs	$5,083			
"Net New" Annual Cost	$21,918		e = b * d	calculation
Estimated total impact (2020)	**$174,755**		f = c + e	calculation

(1) Based on occupied Academic & Support square feet (OLD Table 4) plus campus beds (Table 5), assuming 223 SqFt per bed.

Sources: City of Berkeley; Economic & Planning Systems, Inc.

SUMMARY OF TOTAL FISCAL IMPACTS

As summarized in **Table 27**, the total annual fiscal impact currently generated by UC population and facilities is estimated to be $13.5 million. About 20 percent of this amount is associated with sewer and stormwater services, about 20 percent with other capital costs, and about 60 percent with other ongoing costs. The additional annual fiscal impact associated with "net new" development under the 2020 LRDP is estimated to be $1.96 million.

Once all LRDP-approved development is completed, and assuming UC makes no mitigation payments, this report estimates that the City will incur annual fiscal costs of approximately $15.4 million each year to provide facilities and services for UC in 2003 dollar terms. A more detailed summary of costs by department is presented in **Table 28**.

Table 27
Total Annual Fiscal Impacts (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
On-Going Costs	$8,100,000	$1,111,000	$9,054,000
Capital Costs (1)	$2,676,000	$423,000	$3,099,000
Sewer/ Stormwater Costs	$2,697,000	$424,000	$3,122,000
Total	**$13,475,000**	**$1,959,000**	**$15,434,000**

(1) Capital costs include infrastructure improvement, capital facility, vehicles, and major equipment costs.

Table 28
Summary of Annual Fiscal Impacts (2003 Dollars)
UC Berkeley Fiscal Impact Analysis

Public Service Category	Current Annual Impact				Net New Annual Impact			
	Capital (1)	Non-capital	Sewer/ Stormwater	Total	Capital (1)	Non-capital	Sewer/ Stormwater	Total
Fire	$1,673,160	$4,087,311	--	$5,760,471	$230,319	$562,640	--	$792,960
Police	$74,427	$2,909,716	--	$2,984,143	$10,245	$387,890	--	$398,135
Public Works (Wastewater/ Stormwater) (1)	--	--	$2,697,818	$2,697,818	--	--	$423,760	$423,760
Public Works/ Transportation	$805,757	$326,024	--	$1,131,781	$170,867	$56,504	--	$227,371
Parks and Recreation	$123,021	$460,329	--	$583,349	$12,047	$45,078	--	$57,125
Planning	$0	$164,735	--	$164,735	$0	$37,831	--	$37,831
Health and Human Services	$0	$152,837	--	$152,837	$0	21,918	--	$21,918
Total	**$2,676,364**	**$8,100,953**	**$2,697,818**	**$13,475,135**	**$423,478**	**$1,111,861**	**$423,760**	**$1,959,100**

(1) Capital costs include infrastructure, facility, vehicle, and major equipment costs.
(2) Also includes solid waste impacts.
Sources: City of Berkeley; Economic & Planning Systems, Inc.

Table 28
Summary of Annual Fiscal Impacts (2003 Dollars)
UC Berkeley Fiscal Impact Analysis

Public Service Category	Total (2020) Annual Impact			
	Capital (1)	Non-capital	Sewer/ Stormwater	Total
Fire	$1,903,479	$4,649,951	--	$6,553,431
Police	$84,672	$3,297,606	--	$3,382,278
Public Works (Wastewater/ Stormwater) (1)	--	--	$3,121,578	$3,121,578
Public Works/ Transportation	$976,624	$382,529	--	$1,359,152
Parks and Recreation	$135,068	$505,407	--	$640,475
Planning	$0	$202,566	--	$202,566
Health and Human Services	$0	$174,755	--	$174,755
Total	**$3,099,843**	**$9,212,814**	**$3,121,578**	**$15,434,235**

(1) Capital costs include infrastructure, facility, vehicle, and major equipment costs.
(2) Also includes solid waste impacts.
Sources: City of Berkeley; Economic & Planning Systems, Inc.

CITY REVENUES GENERATED BY UC ACTIVITIES

In addition to fiscal costs generated by UC facilities and population, UC also generates some direct revenues that accrue to the City. As a tax-exempt entity, UC does not pay many of the typical revenue sources the City generally receives from private land owners and businesses – these are the focus of **Chapter IV**. This chapter estimates the direct revenues, including sales tax revenues and population-driven revenues. Consistent with the definition of UC used for cost estimation in this Report, it does not evaluate indirect or "downstream" revenue impacts associated with UC's presence in the City of Berkeley. It also does not estimate revenues that simply offset City costs that were not estimated above. The revenues generated are shown in **Table 29** and described below.

Table 29
Annual Revenues Generated (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	2020 LRDP	Total 2020
Sales Tax	$1,314,000	$185,000	$1,499,000
Auto. In-Lieu	$315,000	$70,000	$385,000
Gas Tax	$472,000	$106,000	$578,000
Total	**$2,101,000**	**$361,000**	**$2,462,000**

SALES TAX REVENUES

The UC population will spend a portion of its income on taxable goods and services in the City of Berkeley. In addition, the UC itself will purchase goods and services from vendors located in the City. The City receives 1 percent of most of these sales as sales tax revenues.

The evaluation of sales tax revenues generated by the UC in the City of Berkeley is shown in **Table 30**. The three different segments of the UC population, including on-campus students, off-campus students, and faculty/ staff, all generate different levels of taxable sales per capita. As discussed above, students residing on campus are assumed to be present in and around UC all of their time, off-campus students for half of their time, and faculty/ graduates during working hours.

The UC Economic Impact Study provided estimates of annual expenditures by on-campus students in 1998/9 dollars.[12] These estimates were converted into 2003 dollars using the consumer price index. Off-campus students UC-related expenditures were assumed to be precisely half the on-campus student expenditures. UC faculty/ staff were treated similar to office workers, who generally spend about $8 each working day on food and miscellaneous goods and service.

UC directly spent $602 million on goods, services, and construction in the fiscal year 1998/9, about 11.4 percent of which, or $68.5 million, was spent at vendors in the City of Berkeley. A full list of the vendors and sales was not available. This set of expenditures was converted into 2003 dollars and discounted by 25 percent to account for expenditures that were not on taxable items or where the sales tax revenue did not accrue to the City of Berkeley.

The resulting sales tax estimates include the generation of about $1.31 million annually in sales tax revenues by UC at the current time. An additional $185,000 annually will be accrued by the buildout of the LRDP (see **Table 30**).

MOTOR-VEHICLE IN-LIEU FEE/ GAS TAX

The motor-vehicle and gas taxes are all distributed by the State based on population. The current per capita revenue allocations include $40.50 in motor vehicle in-lieu fees, and $40.72 in gas taxes. There is significant uncertainty over the motor vehicle in-lieu tax at the current time, with the possibility that revenues may be cut by two-thirds or made whole through the redistribution of revenues from other local sources. This analysis takes a middle ground and assumes the per capita payment is cut by one-third to $27.15. Applying these factors to the existing on-campus UC population results in an annual total revenue of $787,000, including $472,000 from the gas tax and $315,000 from the motor vehicle in-lieu fees. Applying these same factors to growth under the 2020 LRDP results in an $176,000 in new annual revenues, including $106,000 in gas taxes and $70,000 in motor vehicle in-lieu fees (see **Table 31**).

[12] From Sedway Group, "Building the Bay Area's Future: A Study of the Economic Impact of the University of California, Berkeley", 2001.

Table 30
Sales Tax Revenues generated by UC
UC Berkeley Fiscal Impact Analysis

Item	On-Campus Students	Off-Campus Students	Faculty/ Staff	UC Direct Purchasing	UC Total
Population Assumptions					
Existing UC Population	11,600	20,200	14,135	--	25,735
Additional 2020 LRDP Population	2,600	-950	3,670	--	6,270
2020 Total	14,200	19,250	17,805	--	32,005
Retail Expenditure Assumptions					
Annual Retail Expenditure per Capita	$2,060 (1)	$1,030 (2)	$2,000 (3)	--	$4,060
UC-Generated Taxable Sales					
Current Taxable Sales	$23,896,000	$20,806,000	$28,270,000	$58,493,043 (4)	$131,465,043
Additional 2020 LRDP Sales	$5,356,000	-$978,500	$7,340,000	$6,774,420 (5)	$18,491,920
Total 2020 Sales	$29,252,000	$19,827,500	$35,610,000	$65,267,464	$149,956,964
UC-Generated Sales Tax					
Current City Sales Tax	$238,960.00	$208,060.00	$282,700.00	$584,930.43	$1,314,650.43
Additional 2020 LRDP Sales Tax	$53,560.00	-$9,785.00	$73,400.00	$67,744.20	$184,919.20
Total 2020 Sales Tax	$292,520.00	$198,275.00	$356,100.00	$652,674.64	$1,499,570

(1) The UC Economic Impact Study reports an expenditure of $1,812 each year by on-campus students in 1998/9 , excluding on-campus housing and meal plans, registration and fees, books and supplies, and non-resident tuition. Assuming that all these sales are taxable and occur in the City of Berkeley and converting the expenditures into 2003 dollars based on the consumer price index, the annual taxable student expenditure is $2,060.
(2) Off-campus students are assumed to spend half of their time in and around the campus. As a result, their UC-related taxable expenditures are assumed to be half those of the on-campus students.
(3) Faculty, staff, and other UC population are considered similarly to standard office workers. It is therefore assumed that they spend about $8 each day on eating out and other miscellaneous purchases. Assuming that they work 250 days each year, this results in an annual expenditure of $2,000 each year.
(4) Based on the UC Economic Impact Study estimate of $68.5 million of direct UC expenditures on goods, services, and construction in the City of Berkeley in 1998/9; inflated into 2003 dollars using the consumer price index; discounted by 25 percent to account for sales that do not generate sales taxes for the City of Berkeley.
(5) Increase based on growth in overall UC population.

Sources: 2020 LRDP; Sedway Group: UC Economic Impact Study; UC Berkeley Financial Aid Office; EPS

Table 31
Gas and Auto In-Lieu Tax Revenues generated by UC
UC Berkeley Fiscal Impact Analysis

Item	Gas Taxes	Auto In-Lieu	Total
Population Assumptions			
2003 City Population	106,350	106,350	106,350
Existing On-Campus Pop.	11,600	11,600	11,600
Additional 2020 LRDP Pop.	2,600	2,600	2,600
Current Revenues/ Ratios			
Current Annual Revenues	$4,331,060	$4,306,748	$8,637,808
Source	Actual 2002	Adopted 1993	--
Per City Capita Revenue	$40.72	$40.50	$81.22
Adjusted Per Capita (1)	$40.72	$27.15	$67.87
UC-Generated Revenues			
Current Revenues	$472,405	$314,937	$787,342
2020 LRDP Revenues	$105,884	$70,589	$176,473
Total 2020 Revenues	$578,289	$385,526	$963,815

(1) Assumes that auto in-lieu taxes are two-thirds their historical levels.
Source: Berkeley City Budget; EPS

NET FISCAL IMPACT

In its simplest form, the "net" fiscal impact of UC on the City of Berkeley is the difference between total revenues received by the City and the total costs the City incurs to provide facilities and services to UC. As described above, the total current annual impact associated with UC is estimated at approximately $13.4 million, while total annual revenues accruing from UC are approximately $2.1 million. The current net fiscal impact on the City of providing services and infrastructure to UC is therefore approximately negative $11.3 million per year in 2003 dollar terms.

Proposed development under the LRDP is estimated to produce revenues to the City of approximately $400,000 annually, while the cost of providing service to net new development is expected to cost the City approximately $2.0 million annually. The net fiscal impact associated with new development is therefore estimated to be negative $1.6 million annually in 2003 dollar terms.

By the time proposed development under the LRDP is complete, this analysis estimates that the City will incur annual fiscal losses of approximately $12.8 million. These results are summarized below in **Table 32**.

Table 32
Net Annual Fiscal Impact (2003$$)
UC Berkeley Fiscal Impact Analysis

	Current	**2020 LRDP**	**Total 2020**
Annual Revenues	$2,100,000	$400,000	$2,500,000
Annual Costs	$13,500,000	$2,000,000	$15,500,000
Net Fiscal Impact	**($11,400,000)**	**($1,600,000)**	**($13,000,000)**

IV. REVENUE APPROACH

Chapter III calculates the estimated annual costs each City department incurs to serve UC population and facilities, as well as any estimated revenues the City receives from UC activities. These two values are combined to provide a total estimate of net annual UC fiscal impact on the City currently and under the proposed LRDP development program. This chapter presents an alternative approach to estimating the fiscal impact of UC on the City by calculating the total revenues the City does not receive from UC because of its status as a tax exempt entity. In essence, this calculation answers the question, "how much additional revenue would the City receive if UC were a private entity?" It is important to note that the results presented in this chapter and in **Chapter III** are not additive; they are meant as alternative and complementary approaches that should be evaluated independent from one another.

Results of these lost revenue calculations are presented in **Tables 33** and **34**. **Table 33** shows the lost revenue calculations where lost revenues are discounted using a UC share factor. **Table 34** shows the results without the discount. The UC share factors applied differ by revenue category and are described in more detail below. In general, they are meant to reflect the fact that UC may already provide facilities or services that duplicate those supported by the funding mechanism in question. For example, it can be argued that a UC student does not generate the same demand for municipal library services as a typical Berkeley resident because UC provides its own library facilities (that student may still use City libraries, however, but to a lesser degree than a typical resident).

PROPERTY TAX

As a tax-exempt entity, UC does not pay property tax on any property it occupies. This includes land and properties it owns and occupies, as well as property it leases from private landowners. Were UC subject to property tax collection, as are most non-public landowners in the City of Berkeley, the City would receive approximately 32 percent of the Proposition 13-mandated one percent property tax collected annually by the County Tax Assessor/Auditor. The fiscal impact on the City government of this lost property tax revenue is significant. UC is one of the largest landowners/tenants in Berkeley, and many of the City facilities and services described in **Chapter III** are funded in large part from property tax revenues (i.e., the City's General Fund).

As described in **Chapter II** and shown in **Table 4**, at the current time, UC includes 11,600 beds and 12.1 million square feet of academic and support space. The proposed LRDP outlines construction of approximately 2,600 new beds and 2.2 million new sqft of academic and support space, representing a 22 percent and 18 percent increase over current levels, respectively. The LRDP does not specify or address whether these new facilities will be constructed on land already owned by UC, or whether UC will acquire

Table 33
Lost Revenue Estimate (with UC share factor)
UC Berkeley Fiscal Impact Analysis

Public Service Category	Funding Mechanism	Amount / Rate			UC Share Factor (1)	Annual UC Contribution Forgone (2)		
		Residential	Institutional	Unit		Current	Net New	Total (2020)
Voter-Approved Assessments and Special Taxes								
Street Lighting	Assessment	$0.0108	$0.0108	/BSF	50%	$79,282	$15,005	$94,287
Library - Measure E	Tax	$0.1292	$0.1956	/BSF	10%	$270,034	$50,509	$320,543
Berkeley Unified School District (BUSD)								
Class Size - Measure H	Tax	$0.1229	$0.1844	/BSF	10%	$254,855	$47,680	$302,535
School Facility Maint. - Measure BB	Tax	$0.0475	$0.0713	/BSF	10%	$98,537	$18,435	$116,972
Paramedic Service - Measure B	Tax	$0.0261	$0.0261	/BSF	100%	$383,373	$72,557	$455,930
Severely Disabled Fee - Measure E	Tax	$0.0093	$0.0093	/BSF	100%	$136,688	$25,870	$162,558
General Obligation Bonds - City								
Measure G (Disaster Preparedness)	Ad Valorem	0.030%	0.030%	of AV	100%	$571,802	$136,790	$708,592
Measure S (Seismic Tax)	Ad Valorem	0.043%	0.043%	of AV	33%	$267,317	$63,949	$331,267
Warm Water Pool	Ad Valorem	0.0035%	0.0035%	of AV	33%	$22,014	$5,266	$27,281
Animal Shelter	Ad Valorem	0.0075%	0.0075%	of AV	10%	$14,295	$3,420	$17,715
General Obligation Bonds - BUSD								
Measure A/ AA	Ad Valorem	0.1728%	0.1728%	of AV	10%	$329,358	$78,791	$408,149
New Measure	Ad Valorem	0.0320%	0.0320%	of AV	100%	$609,922	$145,909	$755,831
Parks - Measure A	Assessment	$0.0983	$0.0983	/BSF	33%	$476,314	$90,147	$566,461
Fire Equipment - Measure Q	Mello Roos	$0.0125	$0.0125	/BSF	100%	$183,523	$34,734	$218,257
Subtotal						$3,697,316	$789,062	$4,486,378
Other Taxes								
Transient Occupancy Tax (3)	City tax		12.0%	/room	--	$62,698	$0	$62,698
Parking Lot Tax (4)	City tax		10.0%	/space	--	$932,753	$282,281	$1,215,034
Subtotal (5)						$995,451	$282,281	$1,277,732
Tax Subtotal (w/o Property Tax)						**$4,692,767**	**$1,071,343**	**$5,764,110**
Property Tax (City share) (6)	Ad Valorem	0.32%	0.32%	of AV	--	$6,099,223	$1,459,092	$7,558,315
Total w/ Property Tax						**$10,791,990**	**$2,530,435**	**$13,322,425**

(1) This factor accounts for facilities/services funded by voter-approved mechanisms that the UC already provides.
(2) See Table 5 for residential projections (square foot calculations assume 223 SF per bed), and "for academic and support space projections.
Ad valorem calculations assume assessed values of $209 per new residential square foot and $152 per new academic and support square foot.
Ad valorem calculations assume assessed values of $167 per existing residential square foot and $122 per existing academic and support square foot.
(3) Current estimate based on 22 faculty club rooms, assuming 60% annual occupancy and an average room rate of $108. Assumes LRDP does not include any lodging space.
(4) Assumes 50% of spaces are fully occupied by student/faculty annual parking pass holders (at an average cost of $119 per year). Remaining spaces are fully occupied 9 months of the year, at an average daily rate of $8.00.
(5) The City's utility users tax has also not been included due to a lack of information.
(6) Current property tax forgone was not calculated due to the difficulty of tracking when various UC buildings were constructed and/or most recently improved/sold.
Assumes City receives 32% of the 1.0% property tax.
BSF = Building Square Foot; AV = Assessed Value.
Sources: City of Berkeley; Economic & Planning Systems, Inc.

Table 34
Lost Revenue Estimate (full valuation as non-exempt institution)
UC Berkeley Fiscal Impact Analysis

Public Service Category	Funding Mechanism	Amount / Rate			UC Share Factor (1)	Annual UC Contribution Forgone (2)		
		Residential	Institutional	Unit		Current	Net New	Total (2020)
Voter-Approved Assessments and Special Taxes								
Street Lighting	Assessment	$0.0108	$0.0108	/BSF	100%	$158,564	$30,010	$188,574
Library - Measure E	Tax	$0.1292	$0.1956	/BSF	100%	$2,700,338	$505,088	$3,205,426
Berkeley Unified School District (BUSD)								
Class Size - Measure H	Tax	$0.1229	$0.1844	/BSF	100%	$2,548,552	$476,802	$3,025,354
School Facility Maint. - Measure BB	Tax	$0.0475	$0.0713	/BSF	100%	$985,369	$184,348	$1,169,717
Paramedic Service - Measure B	Tax	$0.0261	$0.0261	/BSF	100%	$383,373	$72,557	$455,930
Severely Disabled Fee - Measure E	Tax	$0.0093	$0.0093	/BSF	100%	$136,688	$25,870	$162,558
General Obligation Bonds - City								
Measure G (Disaster Preparedness)	Ad Valorem	0.030%	0.030%	of AV	100%	$571,802	$136,790	$708,592
Measure S (Seismic Tax)	Ad Valorem	0.043%	0.043%	of AV	100%	$810,053	$193,786	$1,003,839
Warm Water Pool	Ad Valorem	0.0035%	0.0035%	of AV	100%	$66,710	$15,959	$82,669
Animal Shelter	Ad Valorem	0.0075%	0.0075%	of AV	100%	$142,951	$34,197	$177,148
General Obligation Bonds - BUSD								
Measure A/ AA	Ad Valorem	0.1728%	0.1728%	of AV	100%	$3,293,580	$787,910	$4,081,490
New Measure	Ad Valorem	0.0320%	0.0320%	of AV	100%	$609,922	$145,909	$755,831
Parks	Assessment	$0.0983	$0.0983	/BSF	100%	$1,443,375	$273,174	$1,716,549
Fire Equipment	Mello Roos	$0.0125	$0.0125	/BSF	100%	$183,523	$34,734	$218,257
Subtotal						$14,034,802	$2,917,132	$16,951,934
Other Taxes								
Transient Occupancy Tax (3)	City tax		12.0%	/room	--	$62,698	$0	$62,698
Parking Lot Tax (4)	City tax		10.0%	/space	--	$932,753	$282,281	$1,215,034
Subtotal (5)						$995,451	$282,281	$1,277,732
Tax Subtotal (w/o Property Tax)						**$15,030,253**	**$3,199,413**	**$18,229,666**
Property Tax (City share) (6)	Ad Valorem	0.32%	0.32%	of AV	--	$6,099,223	$1,459,092	$7,558,315
Total w/ Property Tax						**$21,129,476**	**$4,658,505**	**$25,787,981**

(1) Assumes UC does not receive credit for any of the facilities/ services it provides.
(2) See for residential projections (square foot calculations assume SF per bed), and "for academic and support space projections.
Ad valorem calculations assume assessed values of $ per new residential square foot and $ per new academic and support square foot.
Ad valorem calculations assume assessed values of $ per existing residential square foot and $ per existing academic and support square foot.
(3) Current estimate based on 22 faculty club rooms, assuming 60% annual occupancy and an average room rate of $108. Assumes LRDP does not include any lodging space.
(4) Assumes 50% of spaces are fully occupied by student/faculty annual parking pass holders (at an average cost of $119 per year). Remaining spaces are fully occupied 9 months of the year, at an average daily rate of $8.00.
(5) The City's utility users tax has also not been included due to a lack of information.
(6) Current property tax forgone was not calculated due to the difficulty of tracking when various UC buildings were constructed and/or most recently improved/sold. Assumes City receives 32% of the 1.0% property tax.
BSF = Building Square Foot; AV = Assessed Value.
Sources: City of Berkeley; Economic & Planning Systems, Inc.

new land for construction. To the extent that new LRDP growth occurs on land that is currently privately owned, additional parcels will be taken off the County tax rolls, causing the City to lose property tax revenue that it currently receives. Finally, were UC not tax-exempt, the proposed LRDP construction would increase the property value of each parcel on which development occurs, which would generate additional property tax revenue to partially offset the City's costs to provide services to those new facilities. Under the current tax structure, however, new growth creates new demand for services (see **Chapter III**) but does not yield additional funding to provide those services.

Table 33 presents an estimate of annual property tax revenues the City would receive from both existing property and the proposed LRDP development if UC were not tax exempt – approximately $7.5 million, including $6 million from existing property and $1.5 from new LRDP development at buildout. The calculation for the new LRDP assumes finished average residential and nonresidential property values of about $210 and $150 per building square foot, respectively. These property values were estimated assuming an average gross land value of $1.2 to $1.5 million per acre, a gross-to-net factor of 85 percent (to account for sidewalks, landscaping, parking, and other infrastructure), and vertical construction costs of $168 and $120 per building sqft for residential and nonresidential, respectively. Calculations for the existing property used the same set of assumptions, though property value estimates were discounted by 20 percent as a proxy for the effects of Proposition 13.[13]

VOTER-APPROVED ASSESSMENTS AND AD VALOREM TAX

In addition to the one percent property tax, Berkeley voters have approved a number of assessments and taxes to fund a variety of programs. These taxes and assessments are typically calculated and collected annually in conjunction with landowners' property tax bills, and represent an additional source of revenue the City does not receive from UC. Voter-approved assessments and Mello-Roos taxes are calculated based on building square footage, while ad valorem tax is calculated as a percentage of total assessed value. **Table 33** shows a catalogue of assessments, Mello-Roos special taxes, and ad valorem taxes levied in Berkeley, including the tax rate by property type. Each assessment or tax was approved by voters to fund a specific suite of programs or services, and revenues can only be used in a manner consistent with that fund's mandate.

As mentioned above, UC currently provides infrastructure and services that overlap with the voter-approved revenue mechanisms. **Table 33** estimates lost revenues associated with UC's tax exempt status by first estimating UC's "fair share" contribution to each funding category. Each assessment or tax category assumes a share factor,

[13] A more accurate estimate of current UC property values requires an inventory of UC property and improvements, including facility type and date of construction (or most recent sale/improvement). Proposition 13, passed in 1978 mandated that assessed values can increase by a maximum of 2% per year (unless the property is improved or sold).

which takes into account the degree to which UC facilities and services meet UC student/faculty demand for those services. Categories where UC currently provides services to offset demand—library, parks, and street lighting—were assigned share factors of 10 percent, 33 percent, and 50 percent, respectively. Categories associated with schools, where the UC population's demand for services is expected to differ from typical Berkeley residents, were assigned a share factor of 10 percent. UC was assumed to share the same share portion for all remaining categories as other Berkeley landowners, or an assumed factor of 100 percent.

As shown in **Table 33**, this analysis estimates that if UC were not tax exempt it would currently be responsible for approximately $3.7 million in annual payments associated with voter-approved assessments, Mello-Roos special taxes, and ad valorem taxes. Projected growth under the proposed LRDP would result in an additional annual payment of approximately $790,000 if UC were not tax exempt. By the time LRDP construction is complete, this analysis estimates the City will lose roughly $3.7 million annually from voter-approved mechanisms alone due to UC's tax exempt status. **Table 34** shows the annual revenues lost if a UC share factor did not apply. In this case, the annual losses include $14.4 million at the current time and $3.0 million once the new LRDP is built out.

OTHER TAXES AND REVENUES

The City of Berkeley collects transient occupancy tax (TOT) from privately owned lodging establishments and parking lot taxes from privately owned parking lots and garages. As a tax exempt entity, UC does not pay either of these taxes.

TRANSIENT OCCUPANCY TAX

The City of Berkeley charges a 12 percent TOT on all lodging sales at private establishments within the City. UC currently owns and operates one lodging facility—the 22-room faculty club in the center of campus—and does not pay the City's TOT. Faculty club staff indicate that the average annual occupancy rate is approximately 60 percent, and that room prices range from $50 to $175 per night. The average room rate across all rate classes is $108 per night. Based on these assumptions, this analysis estimates that annual room revenue at the faculty club is approximately $520,000, which would result in annual TOT revenue of about $62,000 per year if UC were not tax exempt, as shown in **Table 33**.

The LRDP does not provide any project specific information that describes whether proposed development is expected to include additional lodging facilities. This analysis therefore does not calculate future TOT revenue forgone in association with UC-owned lodging facilities. It should be noted that if the proposed hotel and conference facility in downtown Berkeley is owned and/or operated by UC, and is constructed in association

with projected growth under the LRDP, this would represent a potential additional source of lost TOT revenue to the City.

PARKING LOT TAX

The City of Berkeley currently charges a 10 percent parking tax on all parking charges levied by private operators. As shown in **Table 4**, UC currently operates 7,600 parking spaces and has proposed to add an additional 2,300 spaces in association with the LRDP. No estimates were available regarding total parking revenues collected by UC on its parking lots and structures. This analysis assumes that 50 percent of current and future spaces are occupied entirely by student and faculty annual parking permit holders. According to the UC parking website, annual faculty and student parking permits sell for $75 and $138, respectively. This analysis assumes that all remaining parking spaces are occupied 80 percent of the time at an average daily parking charge of $8.00 (equal to the pre-paid parking booklet daily rate).

Based on these assumptions, this analysis estimates that current UC parking spaces generate annual revenues of approximately $9.3 million, and that proposed "net new" parking spaces will generate about $2.8 million annually. As shown in **Table 33**, this produces an estimate that the City currently loses approximately $933,000 annually, and will lose an additional $282,000 annually, in parking lot tax due to UC's tax exempt status.

TOTAL LOST REVENUE

As summarized in **Table 33**, total current lost tax and assessment revenue is estimated to be approximately $10.8 million annually, including $6.1 million in property taxes, $3.7 million in assessments and special taxes, and $1.0 million in other taxes. Lost revenue associated with projected "net new" growth under the proposed LRDP is estimated to result in an additional $2.5 million in annual lost revenue, including $1.5 million in property taxes, $800,000 in assessments and special taxes, and $300,000 in other taxes. As mentioned above, if UC acquires land that is currently privately owned to construct LRDP projects, the City's total lost tax revenue would also include whatever the City currently receives in property tax and assessments from those parcels acquired from private sellers.

NON-PROFIT EVALUATION

An evaluation of the revenues that UC would pay if they were treated similar to other large non-profits in the City of Berkeley was largely conducted based on input from City staff. As shown in **Table 35**, the revenues paid by non-profits include the street lighting, clean water, business license, transient occupancy tax, and parking lot taxes. Applying

the tax rates to the existing UC and the new LRDP would result in annual revenue payments in $6.5 million at the current time and $7.7 million by the buildout of the LRDP.

Table 35
Lost Revenue Estimate (Large Non-Profit Status)
UC Berkeley Fiscal Impact Analysis

Public Service Category	Funding Mechanism	Amount/Rate Residential	Amount/Rate Institutional	Unit	Annual UC Contribution Forgone Current	Annual UC Contribution Forgone Net New	Annual UC Contribution Forgone Total (2020)
Voter- Approved Assessments and Special Taxes							
Street Lighting	Assessment	$0.0108	$0.0108	BSF	$158,564	$30,010	$188,574
Clean Storm (1)	Assessment	$0.06	$0.06	LSF	$470,448	$0	$470,448
Business License Tax (2)	Tax	$0.33	$0.33	BSF	$4,845,019	$916,970	$5,761,988
Subtotal					$5,474,031	$946,980	$6,421,010
Other Taxes							
Transient Occupancy Tax	City Tax		12.0%	Room	$62,698	$0	$62,698
Parking Lot Tax	City Tax		10.0%	Space	$932,753	$282,281	$1,215,034
Subtotal					$995,451	$282,281	$1,277,732
Total					**$6,469,482**	**$1,229,261**	**$7,698,742**

(1) Clean Storm: UC indicates the main campus has 180 acres
(provided by City staff) 1 Acre = 43,560 square feet
180 * 43,560 = Lot square feet of 7,840,800
(2) B/L Tax on Large Non-Profits: BSF - 120,000 * current rate of $0.33
(provided by City staff) Rate authorized up to $0.51 per BSF

Sources: City of Berkeley; EPS