Meeting Date:
February 26, 2003

Staff Report

February 19, 2003

TO: City Council

FROM: Bill Emlen, Planning and Building Director
Katherine Hess, Planning and Redevelopment Administrator
Bob Wolcott, Senior Planner

SUBJECT: Internal Housing Needs Analysis

Staff Recommendation

Staff recommends that the City Council:

1. **Receive and review the Internal Housing Needs study** for discussion on March 12, 2003. Staff requests that Council email any questions to staff in advance, preferably prior to March 3, 2003.
2. **Discuss the study at the Council meeting on March 12, 2003.**

Staff placed this item on consent calendar to allow the Council and other interested parties to begin reviewing the housing needs study. The item will return on the regular agenda of the March 12th meeting for a full presentation and discussion. At that time, staff will provide recommendations related to the housing needs study and the next steps for a joint housing strategy / memorandum of understanding with UC Davis, a long range growth management plan, and amendments to the General Plan and housing allocation ordinance.

Background

September 25, 2002. The City Council discussed community growth and General Plan Amendment requests.

The Council passed a motion to implement a community growth parameter of approximately 250 units per year with a recommended distribution of 201 units for the City and 49 units for UC Davis. The parameter is subject to a study of internally-generated housing needs and additional work on implementation.

In addition, the Council directed staff to:

- Implement amendments to the General Plan and Phased Allocation Ordinance and possible other mechanisms.

- Begin in fiscal year 2004-05 and extend through 2010, the current General Plan or until replacement of the current General Plan.
- Re-evaluate in 2005 when the next fair share obligations are issued by Sacramento Area of Council Of Governments (SACOG).
- Involve both infill and new growth.
- That there be a mix of housing types and price levels.
- That the proposed new neighborhood by the University is assumed to be annexed to the City and that facility and staff units be part of the City's growth parameter of 250 units per year.

The Council stated the preliminary growth parameter of 250 units would be:
- Approximately 1% of the current housing units of approximately 25,000 and consistent with the General Plan policies.
- Approximately one half of the average annual number of units built from 1987 to 2002 and equal to the average annual number of units in the fair share housing obligations issued by SACOG.
- A measure in place until the next fair share obligations are released in 2005.

The Council directed staff to review the following issues:
- Would student housing in the University new neighborhood be part of the 250 units per year?
- What projects would be exempt from the new growth scenario?
- Are units allowed to "roll over" if not built within the year?
- If a planned project is not approved through a Measure J vote, what would happen?

October 9, 2002. The City Council continued a discussion of General Plan Amendment requests. The Council passed motions to continue consideration of the following proposed projects at this time:
- Aspen Court residential
- Palms Playhouse residential
- Sycamore Lane apartments
- Da Vinci Court residential
- Covell Village project

The Council appointed a subcommittee consisting of Council members Asmundson and Harrington to consider an internally-generated needs study.

<u>Brief Summary of "Internal Housing Needs Analysis"</u>
Staff, with the agreement of the Council subcommittee, hired the firm of Bay Area Economics to prepare a study of "Internal Housing Needs" for the City of Davis. The study includes the growth of students, faculty and staff at UCD as the major contributor to the projected housing need (see the study in Attachment 3).

Major findings. Some of the major findings of the study are:

1. **Research of techniques to encourage provision of workforce housing.** Research indicates there are a number of mandatory and voluntary kinds of workforce housing programs that are project-based and employee-based.

   Policy implications include:
   - The City has committed substantial resources for affordable housing for lower income households. Without reducing this commitment, the City may wish to expand its efforts to promote housing for middle income households.
   - Program options could include regulations to provide a specified proportion of housing units for moderate income households, use available voluntary programs to assist in the production of such housing, and establish local public/private partnerships to either promote or directly construct such housing.

2. **Existing unmet housing needs.** The data indicates that:
   - The absolute number of households overpaying for housing, has increased since 1990 along with the growth of the total number of households, but the proportion of households overpaying has actually decreased.
   - A higher percentage of Davis workers live within 15 minutes of work as compared to workers within the region overall. This can be interpreted as there not being a pent-up demand for local housing from people who currently work in Davis but commute into Davis from other more distant communities.

   Policy implications include:
   - There is still a growing need for local affordable housing because of the absolute number of households overpaying for housing.
   - By regional standards, Davis appears to do quite well in accommodating a large proportion of its workers near their workplaces. Thus, the City may wish to concentrate its available resources on increasing the supply of affordable housing for households already living in Davis or those new workers who would seek housing in Davis on their own without outreach by the City.
   - To address the existing low apartment vacancy rate, the City could encourage more multi-family rental housing. The current shortfall is approximately 600 units but the City would need to expand its supply steadily above this number in coming years as local housing demand continues to grow.

3. **Projecting future growth in internal housing demand.** The estimated internal housing demand in the Davis area ranges from 468 to 517 units per year during the 2003 to 2015 time period (see Table 9 of the study). After accounting for UCD's planned housing construction during the time period, the demand that would remain <u>after</u> UCD's planned construction ranges from 275 to 326 units per year.

   The estimated need is based on the following sources of internal housing demand:
   - UCD student, faculty and staff housing demand.
   - UCD research park employee housing need.

- City of Davis office / business park and industrial employee housing need.
- Housing need related to demand for retail / service workers necessary to satisfy new local demand.
- A growth factor of new household formation based on "natural growth".

Policy implications include:

- The City and University should recognize that primary population growth from UCD expansion and local business parks will in turn lead to additional secondary growth induced by the primary growth, as businesses expand to serve the growing market.
- The largest portion of the unmet housing demand is from the City's "natural" rate of growth (that is, demand from children growing up in the community). The housing need based on natural growth may be overstated because not all Davis youths will choose to remain in Davis. On the other hand, there be an off-setting amount of youths migrating from other communities. The City should determine the appropriate share of the housing demand from natural increase that should be provided.
- The City may wish to explore with UCD the possibility of UCD to plan more housing production and/or to cooperate with the City to plan for development of such housing off-campus.
- The City must balance concerns regarding rate of growth and ultimate size along with keeping in-commuting of local workers to a reasonable level to minimize traffic and other environmental impacts.

4. **Mix of housing types and price levels needed in new housing.** Existing tenure and income distributions provide a reasonable basis for assessing the needs of future households. Table 10 reflects a segmentation of Davis households by tenure and income based on 2000 Census. Approximately 45% of Davis households were renters and 55% were homeowners. Table 10 provides calculations of the affordable home prices and affordable rents for the different income categories for homeowners and renters, respectively.

   Table 11 shows how the information in Table 10 could be used to target new housing units in a hypothetical 500 unit new housing subdivision. Table 11 shows a unit allocation of types and prices that follows the income and tenure segmentation from Table 10. 55% of the units would be owner units and 45% of the units would be rental units. The owner units would be allocated as follows:

   - Approximately 29 households would be accommodated more effectively in either affordable or market rate rental units because it is most likely not cost effective to subsidize new owner units for households capable of paying about $142,000 to purchase homes.
   - Approxiately 110 households who could afford housing of $143,000 to $408,000 would be candidates for multi-family (attached) types of for-sale housing products with lower land costs per unit.
   - Approximately 53 households could afford housing in a range of about $408,000 up to $611,000.
   - Approximately 30 households could afford luxury/custom built homes of more than $611,000.

The rental units would be allocated as follows:

- Approximately 152 households (30 percent of the total households in the hypothetical development) would need to be provided with affordable rental units.
- Approximately 74 of the renter households would likely be accommodated in market rate rental units.
- Approximately 60 households could afford luxury rental units or to rent single family homes. The highest incomes in this category could afford to purchase homes but for various reasons prefer to rent housing.

5. **General demographic trends affecting community housing need.** Two demographic trends are identified:
   - General aging of the population. Davis may experience increased demand for different types of senior housing for seniors who already live in the community as well as those coming to Davis to be near other family members.
   - Increasing prevalence of non-family households (such as singles and groups of unrelated individuals living together) and family households without children (such as empty nesters or couples without children). There is increased demand for housing to accommodate these types of living situations.

6. **Possible areas of further research.** Two areas are identified:
   - A survey of local worker housing needs and preferences which could garner information to assist policy makers in tailoring housing assistance programs to better meet the needs of local workers at various household income levels. Survey responses could also provide marketing information that would assist housing developers.
   - Research possible workforce housing programs in terms of funding sources, implementation techniques, and program guideline options prior to adopting such programs.

How Council Might Use the Study

For the March 12th meeting, staff will provide options for how the Council might use the information in the study. Eventually, Council and staff will use the study as a major input in future decisions on:

- A joint housing strategy / memorandum of understanding with UCD
- A long range growth management plan for the City
- Amendments to the General Plan and housing allocation ordinance.

Attachments

1. Minutes of the City Council Meeting on September 25, 2002.
2. Minutes of the City Council Meeting on October 9, 2002.
3. "Internal Housing Needs Analysis" Report, Bay Area Economics, February 2002.

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Attachment 1.
Minutes of the City Council Meeting on September 25, 2002.

Attachment 2.
Minutes of the City Council Meeting on October 9, 2002.

Attachment 3.
"Internal Housing Needs Analysis" Report,
Bay Area Economics, February 2002.

INTERNAL HOUSING NEEDS PROJECTIONS 2000 TO 2015

City of Davis

Prepared for:
City of Davis
Planning and Building Department

February 19, 2003

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February 19, 2003

Bob Wolcott
Senior Planner
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Planning and Building Department
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Dear Bob:

Attached please find a final version of the Davis Internal Housing Needs Study, to be forwarded to the City Council. This revised draft incorporates comments and direction provided by City staff and sub-committee members.

As we discussed when we last met as a group, I think the analysis has revealed some interesting new information that contributes to the discussion of long-term housing needs within the City of Davis. We will look forward to the opportunity to present this study to the City Council on March 12.

Please do not hesitate to give me a call if you have any questions.

Sincerely,

Matt Kowta
Principal

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EXECUTIVE SUMMARY

The purpose of this study was to examine "internal housing needs" in the City of Davis through the year 2015. In this study, internal housing needs are defined as the need for new housing production that originates from within the community itself, rather than demand for housing that originates from outside of Davis, such as demand for commuter housing to accommodate workers who are employed in other communities. In addition, internal housing needs include existing unmet needs as well as needs that will arise as the community expands.

This study first involved compiling an overview of the different types of "workforce" housing programs that have been implemented in locations in the U.S. Workforce housing programs are those aimed at providing housing for local workers, typically with an emphasis on encouraging homes for lower- and moderate-income households, to determine whether there are program options that would be available to the City of Davis, if the City of Davis decided that this would be a local policy priority. Next, the study assesses the extent to which an existing unmet need exists for affordable housing in general, and for housing to accommodate a greater share of local workers who may currently be in-commuting from other communities. The final part of the study identifies several sources of internal housing demand and projects them out through the year 2015, comparing this housing demand to planned UCD housing development, and estimating the resulting unmet need in the Davis area that could be accommodated by new housing development elsewhere in the City of Davis.

Workforce Housing Programs

Our research into "workforce" housing programs has indicated that many communities have established workforce housing programs that resemble the City of Davis' existing inclusionary housing program, in that they take a regulatory (i.e., mandatory) approach to requiring that new developments provide at least a portion of their new housing as affordable units. As in Davis, many other communities have also encouraged the use of "voluntary" programs, such as state and federal grants and tax credits and other means of financial assistance, to produce affordable housing. While many of these mandatory and voluntary programs have existed for quite some time, it appears that in recent years the concept of linking affordable housing production to the needs of local workers has taken on new meaning relating to overall community economic development and sustainability. Whereas the affordable housing may previously have been targeted to lower-income households in general, there is an increasing emphasis on the need to produce affordable housing as a means to ensure that the local labor force has adequate housing. Perhaps as a result of this, affordable housing programs are increasing gaining the attention of the private sector as an economic development tools, rather than as social programs.

Policy Implication: Davis should evaluate the foundations of its own affordable housing programs and determine whether a stronger link should be established between these *programs and local economic development. If so, there may be the potential to gain greater private sector support for the programs. In conjunction with this, there is also a need to consider whether it would be appropriate to establish formal preferences for people employed locally in accessing available affordable housing units.*

Our review of existing workforce housing programs indicated that there are relatively few examples of mandatory workforce housing programs that are targeted to moderate income households, and there are few, if any mandatory programs that are targeted to above moderate-income households. The reason for this is likely because there is a less clearly identifiable "public" purpose in mandating the production of housing for households who have incomes near or above the median household income for the area. Thus, in certain communities, the responsibility for workforce housing programs for moderate and above moderate-income households has fallen largely to private sector groups that have embraced workforce housing for middle-income households as a necessary ingredient for local economic development.

Policy Implications: As within many other communities that are involved in affordable housing production, the City of Davis does not have a strong program for the production of affordable housing for moderate and/or above moderate-income households. Although insufficient to meet all the need, there are substantial resources available for the production of affordable housing for lower income households, but there is relatively little emphasis placed on production for middle-income households. Because lower-income households have few if any options in the absence of assisted housing, it is not recommended that the City divert existing resources from its lower-income affordable housing programs; however, the City may wish to consider expanding its efforts to promote middle-income housing. Program options could include:

a. *Providing regulatory incentives for housing developments that provide a specified proportion of units as affordable to moderate-income households.*

b. *Establishing a more pro-active program to promote the use of available "voluntary" programs to assist in the increased local production of affordable housing for moderate-income households.*

c. *Establishing local public/private partnerships to either promote or directly construct workforce housing for local middle-income workers.*

Existing Unmet Housing Needs

The data seem to indicate that in terms of the proportion of the overall population of households within the City of Davis, the proportion of Davis households that are experiencing housing cost burdens that exceed state and federal guidelines for affordability has actually decreased since 1990. This has occurred during an extended period of an extremely tight rental housing market and a for-sale housing market that has spiked significantly. What has been less obvious is that household incomes have risen steadily during this same time period and the early 1990's declines in the housing market gave incomes a chance to gain ground on housing costs. Still, as the City of Davis has grown to include more households overall, the absolute number of households over-paying for housing has increased.

Policy Implication: Because of the increase in the absolute number of households over-paying for housing, there is still a growing need for local affordable housing. Thus, the City should continue to implement its existing affordable housing policies and consider options to target additional resources, when available, to specific segments of the local household population that may be under-served.

The data seem to indicate that in terms of regional commuting standards, Davis workers are actually more likely at present to live within an area that is local to their place of work as compared to workers within the region overall. In other words, we were not able to find evidence based on regional commute patterns that there is a pent-up demand for local housing from people who currently work in Davis but commute into Davis each day from other more distant communities.

Policy Implication: At this time, it does not appear necessary to target new affordable housing programs as a means to entice or help additional local workers who do not already live in Davis to secure housing in Davis. By regional standards, Davis appears to do quite well in accommodating a large proportion of workers near their workplaces; thus, the City may wish to concentrate its available resources on increasing the supply of affordable housing for households already residing in Davis or those new workers who would in the future seek housing in Davis on their own without requiring outreach on the City's part.

Current apartment vacancy rates are extremely low in Davis and have been so for a number of years. Anecdotally, the lack of available apartment units may be leading to increased incidence of over crowding, or of local workers and students being forced to live outside of Davis due to lack of housing. In addition, with a sustained low vacancy rate, market pressures seem to have contributed to significant increases in average apartment rental rates over the last two years.

Policy Implication: *To address the low apartment vacancy rate, an appropriate response would be for the City to encourage the production of more multifamily rental housing. While the current shortfall of rental units appears to be about 600, the City will need to work to expand its supply steadily above this number in the coming years as local housing demand continues to grow.*

Projecting Future Growth in Internal Housing Demand

After considering the various sources of internal housing demand along with the University's plans to develop housing to accommodate growth in students, faculty, and staff, we estimate that there will be an outstanding need for the City of Davis to accommodate an average of about 276 to 326 additional housing units per year within the City through the year 2015 (see last row of Table 9). The approximate sources of this "excess" housing demand are as follows:

- Primary Growth-Related Demand (39%)
    - UCD Student Housing Surplus for Period (-10%)[1]
    - UCD Staff/Faculty Unmet Demand (4%)
    - UCD Research Park Employee Unmet Demand (22%)
    - UCD Affiliate Employee Unmet Demand (4%)
    - City of Davis Office/Business Park Employees (19%)

- Secondary Retail/Service Employment-Related Demand (8%)
    - Supported by UCD Students/Workers (6.5%)
    - Supported by City of Davis Office/Business Park Employees (1.5%)

- Household Growth Due to Natural Rate of Increase (54%)

(Note: individual percents do not total to 100 due to independent rounding. Figures are approximate.)

Policy Implications: The City and University should recognize that primary population growth from sources such as UCD expansion and from development of local office/business/research parks will in turn lead to additional secondary population growth induced by the primary growth, as businesses expand to locate in Davis to serve the growing market.

The analysis suggests that up to about 26 percent of the unmet or "excess" housing demand is directly attributable UCD's projected growth. Overall, the largest portion of the "excess" housing demand is from the City's natural rate of growth. The concept of natural rate of growth may be over-stating the actual internal housing need, because not all Davis youth will choose to remain in Davis; however, because those youth who do choose to leave Davis will create demand for housing somewhere else, the City of Davis may wish to consider setting a goal of meeting 100 percent of demand resulting from the

[1] For the 2003-2015 period, the study indicates that UCD will construct a surplus of new student housing relative to the projected enrollment increases for the period; however, this "surplus" of student housing is necessary to make up for the fact that student housing construction has lagged enrollment increases in past years.

natural increase without allowing for out-migration as a way of meeting a housing responsibility that would otherwise have to be met by another community.

Because the University may be directly responsible for as much as 26 percent of the "excess" housing demand, and indirectly responsible for a significant portion of the natural rate of increase in population due to the fact that a large portion of the existing base of Davis residents are university affiliated, the City may wish to explore with the University the possibility of the University revising its own housing production plans to accommodate a portion of the "excess" housing demand and/or to cooperate with the City to plan for development of such housing off-campus.

The City of Davis must balance concerns regarding the City's rate of growth and its ultimate size along with a desire to keep the incidence of UCD student and local employee in-commuting to a reasonable level so as to minimize traffic and other community impacts. For example, if UCD continues to grow and the City and the University combined do not provide enough new local housing to satisfy the demand for local housing, then students and local workers who otherwise might have chosen to live in Davis will need to commute in from other locations, bringing increased traffic, congestions, and related impacts, such as air pollution, and fuel use.

Future Local Housing Needs – Types and Price Ranges

A broad brush review of the housing market conditions and the types of households that have been attracted to Davis in the past suggest that local housing needs should continue to focus on maximizing the resources that can be made available to expand the supply of housing affordable to low and very-low income households, particular renters. In addition, the City should consider whether a lack of housing affordable to moderate-income households who might otherwise be expected to be homeowners warrants that additional efforts be made to expand the supply of ownership housing that could be purchased by moderate and even some above-moderate income households. These households can afford rental housing; thus, the primary reason to expand housing opportunities for moderate-income households is not to protect against homelessness or to mitigate the incidence of households occupying substandard housing units or overcrowding, as may the base with lower-income households. One motivating factor would likely be to ensure a broad demographic representation within the community rather than a bifurcation of upper income homeowners and lower income renters and to offer such households homeownership opportunities as a means of helping with employee recruiting and retention in services and industries that are deemed key to the City in terms of economic development. Other considerations in favor of encouraging workers to live within the local community include reduction of the impacts of commuting, and better integrating employees socially with the community.

Policy Implication: In considering the options to address moderate-income homeownership needs, the City should consider whether it is appropriate to use *regulatory means, such as expanding the inclusionary requirements to include moderate-income housing set-asides, or to use voluntary means, or a combination. Efforts to provide assistance to moderate- and above moderate-income households will ideally be carried out in cooperation with local employers and the business community in general; however it will first be necessary to educate the business community about the opportunities to assist and benefits to businesses from doing so, in order to gain their cooperation.*

Key Assumptions

A number of assumptions have been made in order to carry out the analyses that are described in this report. These assumptions are noted on the within the text or on individual tables. In addition, the following summary table contains a listing of key assumptions and the sources of those assumptions.

Key Assumptions

1. UCD Housing Construction and Student/Staff/Faculty Projections, 2003 to 2015		Karl Mohr, UC Davis Office of Resource Management & Planning

These assumptions are key because they state how much University-related housing demand is expected and how much University housing will be constructed. Based on LRDP plan available as of February 2003, assuming the Neighborhood Core development alternative as modified per verbal communication with UCD staff.

2. UCD Community Housing Need (proportion of people who need housing in Davis)	90% of students 75% of faculty 40% of staff	Karl Mohr, UC Davis Office of Resource Management & Planning

These assumptions are key because they determine how many new UCD students and employees will seek housing in the Davis area, as opposed to commuting from other communities.

3. Percent of Workers Employed in Davis who also live locally	47.1%	U.S. Census, 2000

These assumptions are key because they determine how many new non-UCD employees (including UCD affiliates and UCD Research Park employees) will seek housing in the Davis area, as opposed to commuting from other communities.

4. Average Number of Workers Per Household In Davis	1.31	U.S. Census, 2000

This assumption is key because it determines how many housing units will be necessary to house local students and workers who choose to reside in Davis. By dividing total employees seeking housing locally by 1.31, we account for the fact each individual worker does not always reside in his or her own individual housing unit. For example, this allows for housing units shared by two UCD employees, or housing units shared by a UCD employee and an employee of a firm in a City of Davis business park.

5. Average % Internal Housing Increase from "Natural Growth" (See Appendix E.)	0.80%	State Department of Finance, Report E-6, for Yolo County

This assumption is key because it determines the additional housing necessary each year to house growth resulting from the net increase due to the fact that, historically, there have been more births than deaths in Davis in a given year. For a given year, the natural growth rate is based on the difference between births and deaths 18 year earlier and is applied to the population base 18 years earlier. See Appendix E for year-by-year growth.

Key Assumptions, continued

6. Percent of local "Natural Growth" accommodated locally	100%	

This assumption is key because it assumes a policy position that the City of Davis will accommodate all of its "Natural Growth" in housing demand each year; increasing housing production requirements.

7. "Dwelling Unit Equivalent" for Student Housing Beds	2.5 beds = 1 housing unit	U.S. Census, 2000

This assumption is key because it provides a means of converting student housing demand and supply, which is expressed in terms of "beds" into housing units, which is the common unit of analysis in this study.

8. Number of secondary retail/services workers supported by each new local household generated from "primary" UCD or City of Davis business/office park employee households.	0.315	IMPLAN Input-Output Model, Minnesota IMPLAN Group; BAE.

This assumption is key because it states the number of new retail and service workers who would be supported by the increased household expenditure of new "primary" demand households attracted to Davis.

9. Local Capture of Resident Retail and Services Demand (for purposes of calculating new local retail/service employees supported by household growth; based on 1999/2000 estimated citywide retail leakage.)	65%	BAE

This assumption is key because it states the portion of the new retail / services workers supported by the expenditures of new primary demand households who would actually be employed in establishments in Davis. A portion of these local retail services workers (47.1%) are assumed to seek housing locally, per the assumption stated above.

INTRODUCTION

The purpose of this study is to evaluate housing needs within the City of Davis with the objective of quantifying two primary housing needs within the City of Davis. The first need is the existing unmet demand for affordable housing. For the purposes of this study, unmet demand for affordable housing is defined as the number of existing households in need of affordable housing plus the number of households of existing workers who presently commute from outside Davis but might otherwise reside in Davis if appropriate housing were available. The second need is for new housing necessary to satisfy Davis' internally generated housing demand. For the purposes of this study, internally generated housing demand is defined to mean housing demand created by a combination of the following factors:

1. UCD student housing need
2. UCD Research Park employment growth.
3. Other UCD staff and faculty employment growth.
4. Other Citywide office or business/industrial park employment growth.
5. Need for expanded housing to allow for natural population growth[1].
6. Local-serving retail and service sector employment growth.

BAE conducted this study in collaboration with staff from the City of Davis Planning and Building Department (Bill Emlen, Planning and Building Director; Bob Wolcott, Senior Planner) and a City Council sub-committee charged with overseeing this work (Council Members Ruth Asmundson and Mike Harrington). These individuals each contributed input to the actual work scope and methodology that is reflected below. In addition, they provided comment and feedback on the draft study. Finally, Council Member Asmundson also researched and supplied BAE with information regarding UCD-related housing demand and planned UCD housing production for the 2003 to 2015 period.

It should be noted that the City of Davis currently has an affordable housing program that focuses primarily on meeting the needs of very low- and low-income households and, to a lesser extent, to the needs of moderate-income households. This study is not limited to the needs of these groups, but addresses housing production needed to meet the needs of households at all income levels, with a particular emphasis on quantifying the need for housing to accommodate the growing UCD population and other local workers.

[1] Natural population growth is the net increase in population due to births exceeding deaths.

Techniques to Encourage Provision of Workforce Housing

This portion of the study involved a literature review and discussions with a number of individuals who have been involved with workforce housing issues to develop an overview of the different techniques that have been utilized to encourage the provision of workforce housing in communities elsewhere in the United States. The purpose of these inquiries was to assess the range of techniques that might be available to the City of Davis to establish a link between new housing production and provision of workforce housing.

Upon referral from City of Davis staff, BAE first contacted Lori Raineri of Government Financial Strategies, Inc. in Sacramento. City staff were familiar with Ms. Raineri due to her past participation on a City of Davis citizen's committee dealing with local housing issues. Government Financial Strategies has consulted on a number of projects involved with establishing workforce housing programs. Government Financial Strategies' experience in this realm is in the form of employer-sponsored workforce housing programs. In addition to providing feedback on this topic via telephone interview, Ms. Raineri also forwarded to BAE copies of materials compiled by Government Financial Services regarding workforce housing programs for the City of Sunnyvale, specifically dealing with teacher and City employee assistance programs. Conversation with Ms. Raineri and a review of the materials forwarded by Government Financial Services provided useful insight to the workforce housing issue.

BAE also contacted representatives of RBF Consulting, Inc. RBF Consulting was involved in the establishment of a program that required the developer of a portion of the former Hamilton Air Force Base to provide a preference to local workers in leasing and sales of affordable housing units that are to be developed in accordance with a developer agreement established between the developer and the City of Novato. The resident preference requirements apply not only to initial leasing and home sales but also to re-leasing of vacant rental units and to re-sale of owner units. In addition to speaking with RBF staff about this program, BAE also obtained and reviewed copies of background materials relating to the program.

In addition, BAE conducted a general web-based search for information regarding workforce housing programs in other jurisdictions. Among others, BAE found relevant information on sites maintained by the Urban Land Institute, Fannie Mae Foundation, Cities of San Francisco, Novato, and San Rafael, the Southeast Community Development Corporation (Denver), and the Association of Bay Area Governments.

Finally, BAE staff conducted follow-up telephone conversations with representatives of a number of housing programs, which are listed in Appendix A, regarding the effectiveness and their satisfaction with the programs.

Overview of Findings

Table 1 summarizes a range of different types of workforce housing programs, including information about the income levels that each type of program typically serves, and examples of communities in which these programs are in place.

There are three basic types of workforce housing programs: mandatory programs, State/Federal assistance programs, and voluntary programs. Most people involved with affordable housing issues are familiar with the first two types, although only recently has the term "workforce housing" been attached to many of these programs that have historically been known simply as "affordable housing" programs. Voluntary programs are less well-known but gained increasing visibility during the late 1990s as housing shortages in urban areas coupled with economic booms that made businesses compete for employees made employers realize access to affordable housing could be a compelling employee benefit.

Mandatory workforce housing programs include those such as inclusionary requirements, housing in-lieu fee programs, and various types of regulatory agreements such as those entered into by government agencies and developers in conjunction with negotiations over entitlements to develop property. State/Federal assistance programs include programs such as Mortgage Credit Certificates, Mortgage Revenue Bonds, federal multifamily mortgage loan programs, state and federal tax credits, and so forth. These programs rely on incentives offered to private developers in exchange for commitments to develop and maintain specified affordable housing units. Voluntary programs include a wide variety of programs that, rather than relying on government police powers to compel participation, rely on other incentives or motivations to get the private sector to participate in the development or provision of housing for workers.

Workforce housing programs can be "employee-based" or "project-based." The former involves assistance provided to directly to employees so that they can better compete for market-rate housing in the open market. Project-based programs provide the assistance to specific housing developments, with the intention that the housing development receiving assistance will then offer housing to targeted groups. In either case, the assistance is typically in the form of financial subsidy or in the form of some sort of technical assistance, coordination of resources, or advocacy that is provided either to individuals or on behalf of specific projects as a means of encouraging the workforce housing.

In terms of the household income levels served, workforce housing programs have historically focused on lower-income households, but are also starting to increasingly target the needs of moderate-income households. Typically, government sponsored mandatory programs target lower income households and, to a limited extent, moderate-income households, while voluntary private sector programs may also include above-moderate income households.

Table 1: Summary of Workforce Housing Program Mechanisms

Mandatory Programs	Income Levels Assisted: Lower Income	Moderate Income	Above Moderate	Examples
Project-Based				
Inclusionary Housing Requirements	Yes	Yes	unknown	widespread; Davis, San Rafael
Affordable Housing In-Lieu Fees, Excise Taxes, Etc.	Yes	Yes	unknown	widespread; Boulder, CO
Developer Agreements, Exactions, Sales/Leasing Preferences, etc.	Yes	Yes	unknown	widespread; Novato (Hamilton AFB)
Employee-Based				
Unknown				

Voluntary Programs	Income Levels Assisted: Lower Income	Moderate Income	Above Moderate	Examples
Project-Based				
Employer Sponsored Housing	Yes	Yes	Yes	UCD Aggie Village, Santa Clara Unified School District
Government Financing Assistance/Incentives	Yes	Yes	Yes	Typical subsidized affordable housing project; subsidized above-moderate units are typically developer subsidies; tenants pay market rates.
Technical Assistance/Resource Coordination/Advocacy	Yes	Yes	Yes	widespread; Denver, CO
Employee-Based				
Mortgage Credit Certificates	Yes	Yes	no	widespread; California Debt Limit Allocation Committee (Teacher Program);County of Santa Clara; County of San Mateo,Office of Housing
Downpayment/Closing Costs Assistance Programs	Yes	Yes	unknown	widespread; CalPERS; CalSTRS; California Cities Home Ownership Authority; City of Belmont; City of San Jose, Department of Housing; County of San Mateo, Office of Housing; Santa Clara Housing Trust Fund
Homeownership training classes and other resources	Yes	Yes	Yes	widespread; Sunnyvale. All programs associated with Fannie Mae or Freddie Mac require homebuyer education.

Sources: Government Financial Strategies, Inc.; Bay Area Economics, 2002.

EXISTING HOUSING NEEDS

Because the Davis city government serves current residents as its primary constituency, a discussion of Davis' future housing need should acknowledge existing housing needs that are currently unmet. For the purposes of this study, we have addressed three aspects of current housing needs in particular - existing local households who are in need of more affordable housing, existing local workers who do not currently live in Davis due to factors relating to housing availability and affordability, who may otherwise wish to live in Davis, and the existing historically low apartment vacancy rates.

Since 1990, Davis has seen considerable growth in the number of households making their home in Davis. Household income levels have increased, and home rental rates and home purchase prices have also increased. The City of Davis' existing programs have also succeeded in significantly adding to the supply of affordable housing. This study sought to evaluate whether, taking all of these factors into consideration, the number of lower and moderate- income households overpaying for housing has increased in the last 12 years.

Existing Households Over-Paying for Housing

Davis has long-standing policies to ensure that a portion of new housing production is provided at levels that are affordable to lower income households; however, as in many communities, the existing supply of affordable housing units is not adequate to ensure that all households are able to secure housing that does not require them to spend inordinate amounts of their income for shelter. The U.S. Department of Housing and Urban Development and the State Department of Housing and Urban Development as well as many local affordable housing programs define affordable housing as that which costs a household no more than 30 percent of their gross monthly income. An estimate of the number of households paying more than 30 percent of their incomes for housing thus provides a good indicator of the existing unmet demand for affordable housing.

Using a special tabulation of 1990 U.S. Census data, the U.S. Department of Housing and Urban Development estimated that in 1990, there were approximately 18,000 households within the City of Davis. Of these households, special Census data tabulations indicated that approximately 8,200, or 46 percent were very low-income, low-income, or households with moderate income that were no more than 95 percent of the area median income when adjusted for household size. Of these very low-, low- and moderate-income households, HUD calculated that approximately 7,000 of those households, or about 85 percent of them had housing cost burdens of greater than 30 percent of their household incomes. Put another way, almost 40 percent of all Davis households in 1990 were low- to moderate-income households who were paying more for their housing than what was considered affordable by federal guidelines. These data are summarized in Table 2. Although not included in the table, additional households with incomes above 95 percent of the area median income were also overpaying for housing.

Increase in number of local households. As shown in Table 3, it is estimated that the number of Davis households increased by approximately 5,800 between 1990 and 2002. The average rate of growth in the number of Davis households for the period was 2.1 percent annually. This is relatively slow compared to such rapidly growing Sacramento area communities as Folsom and Rocklin, which grew in the rage of five percent annually during the same time period. Davis' household growth rate was higher than the rate of other similar college towns, such as Chico, Santa Cruz, and San Luis Obispo, which all grew less than 2.0 percent annually during the same time frame.

Increase in number of affordable housing units. An exact breakout of affordable housing units constructed in Davis since 1990 was not readily available from the City of Davis Planning and Building Department; however, for other purposes, the City has compiled an inventory of affordable housing units produced since 1987, which indicated that the City has added 1,577 units to its affordable housing stock since 1987.

Increase in local incomes. According to data from the U.S. Census and from Claritas, shown in Table 3, the rate of increase in the Davis median family income between 1990 and 2002 was approximately 4.0 percent per year. This provides an indicator of the rate of increase in overall household incomes in Davis, recognizing that certain income groups, particularly lower income groups and are not likely to have seen their rise in income keep pace with the overall median. In comparison to the other communities for which income data was collected, this was in the middle of the group. In both Folsom and Santa Cruz median household incomes rose by 4.5 percent annually. Chico's and Rocklin's medians increased 3.7 percent and 3.8 percent annually, respectively, and San Luis Obispo's increased only 2.9 percent.

Increase in local apartment rental rates. According to information reported by 1990 and 2000 Census respondents, Davis median rent (including rents for single-family homes and other types of rental other than apartments), rose 2.8 percent annually from $588 in 1990 to $775 in 2000.[2] In comparison, the Census data indicate that median rents increased in the other communities for which data were collected by 1.9 percent (San Luis Obispo) to 4.7 percent annually (Folsom).

Although the data from the U.S. Census provide a ready means of comparing apartment rental rate trends among communities, the U.C. Davis Student Housing Office, the <u>average</u> local apartment rental rate increased by 3.7 percent annually between 1990 and 2001, by 6.93 percent in 2002. It should be noted that, in addition to extending to 2002

[2] This does not necessarily mean that rents rose 2.8 percent annually across the board; changes in median can result from a shift in the mix of units offered for rent (e.g., an increasing proportion of larger, more expensive units could raise the median even if rents for existing units remained stagnant). Nevertheless, an increasing median is a good indicator that the market for housing is becoming more expensive.

and expressing the average rather than the median rent, this information also includes only apartment complexes, and does not include other types of rental housing, such as single-family homes, which are included in the Census data.

At any rate, considering either source of apartment rental rate information, it appears that the increase in apartment rental rates was actually slightly lower than the increase in household incomes during the 1990 to 2000 time period but the increases in the last two years have likely been greater than increases in income.

Increase in local home purchase prices. Data from the Yolo County Assessor's office for the 1990 through 2001 time period indicate that the median home sales price in Davis increased an average of 3.3 percent per year, again suggesting that for the entire period, the increase in home prices did not outpace the increase in household incomes.[3] It is interesting to note however, that the median home price actually declined in Davis between 1990 and 1995, and did not surpass 1990 levels until 1999. Nevertheless, the very rapid ascent in home prices between 1995 and the present is reflected in the rate of the median home price increase between 1995 and 2001, which was 9.0 percent per year, or more than double the rate of increase in the local median household income. Thus, while affordability likely improved between 1990 and 1995 due to falling home values, we are more cognizant of the rapid increases experienced since 1995, which has contributed to a sense of severely deteriorating affordability in recent years. These data, along with data for the cities of Folsom, Rocklin, San Luis Obispo, and Santa Cruz are shown in Table 5[4].

Increase in percentage of households overpaying for housing between 1990 and 2000. Census data allow us to compare the percentage of overall households overpaying for housing between 1990 and 2000. As shown in Table 6, the percentage of households overpaying for housing in Davis actually decreased between 1990 and 2000. The figure in 1990 was 46.2 percent of all households and by 2000 this had dropped to 43.8 percent. These data corroborate the information just presented, which suggests that local household income levels actually increased somewhat more rapidly than rents or home prices. This is not to say that the problem of overpayment is disappearing, or that it is

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[3] As with the apartment rent data, it should be noted that changes in the median could be due to the distribution of prices of homes sold in a particular timeframe while the values of individual homes may not necessarily have changed. For example, an increasing median sales price can be due to the fact that sales in a particular time period were predominantly large, expensive luxury homes.

Data for the City of Davis do not include mobile homes but include all other for-sale home types (e.g., single-family detached, single-family attached, condominiums, planned unit development, etc.). To the extent that mobile homes tend to be less expensive than other types of conventionally built dwellings, these data may over-state the overall median home sale price; however, our focus in this part of the analysis is more on the overall trend in the median price and how it is changing relative to incomes.

[4] Data for the cities of Folsom, Rocklin, San Luis Obispo, and Santa Cruz include all for-sale home types, thus the median in a give year may not be directly comparable to Davis' median.

getting smaller. In fact, the absolute number of households overpaying for housing increased by 1,645. Also, it is worth noting that overpayment for housing is much more prevalent for renters than it is for owners. In Davis, the percentage of renters overpaying in 2000 was 58.7 percent, while only 23.1 percent of owners were overpaying.

Although somewhat surprising, Davis' experience with reduction in the proportion of households overpaying for housing was not unique. All of the other communities for which data was collected also experienced declines, ranging from three-tenths of a percentage point in San Luis Obispo, to almost eight percentage points in Folsom. Also, in the other communities the prevalence of overpayment was higher in the renter category than the owner category, although Folsom was somewhat unique in that the proportion of renter households overpaying was only about six percentage points higher than in the owner category, while it was significantly higher in Davis and the other communities.

Summary Estimate of Increase in Local Households Overpaying for Housing. Based on the information presented in this section, the proportion of households in Davis that are overpaying for housing actually decreased between 1990 and 2000. Still, the absolute number of households overpaying increased to almost 9,600 households, or about 44 percent of the households in all. Based on these figures, there continues to be a substantial and growing pent up demand for affordable housing among existing Davis households, particularly renters. In addition, anecdotal information indicates that local home prices and rents tended to increase in 2001 and most of 2002 while the prospects for continued increases in household incomes were probably falling.

Historically Low Apartment Vacancy Rates

Since the late 1990's, apartment vacancy rates in Davis have remained at exceptionally low levels. This situation continues, as documented by the UCD Student Housing Office's 2002 Davis Apartment Vacancy and Rental Rate Report, which found a 0.2 percent vacancy rate in its stock of 8,376 surveyed apartment units. Economists and planners generally agree that a vacancy rate of approximately five percent represents a good equilibrium between supply and demand, where households have an adequate supply of vacant units to choose from yet apartment owners can achieve reasonable operating results without pressure to decrease rents to fill their units but at the same time are not able to raise rents exorbitantly.

Based on this standard, given Davis existing demand for apartment housing, the City has a current under-supply of apartment rental units. For example, a UC Davis representative has indicated that there are anecdotal stories of UCD students who are living in over-crowded housing or who are choosing to live outside of Davis due to the lack of available vacant rental units. For the purposes of this study, we have estimated the number of additional housing units that would be necessary to increase the Citywide rental vacancy rate to a level of five percent, based on rental units as of 2000, the most recent comprehensive data available. The 2000 U.S. Census indicates that there were 12,713 rental housing units in Davis in 2000. If the vacancy rate at the time was 0.2 percent, then this would have equated to approximately 25 vacant units. If the targeted vacancy rate was five percent, this would have equated to approximately 636 vacant units total. Thus, based on the 2000 rental stock, it would require construction of 611 additional rental units in order to achieve a five percent rental vacancy rate.

Table 2: 1990 Davis Households Overpaying for Housing

Household by Type, Income and Housing Problem	Renters: Elderly 1 & 2 member households	Renters: Small Related (2 to 4)	Renters: Large Related (5 or more)	Renters: All Other Households	Renters: Total Renters	Owners: Elderly	Owners: All Other Owners	Owners: Total Owners	**Total Househ**
Very Low Income	322	878	58	3,652	4,910	237	393	630	[illegible]
0 to 30% MFI	149	416	9	2,256	2,821	53	241	294	[illegible]
% Cost Burden > 30%	70%	90%	100%	90%	89%	70%	90%	86%	[illegible]
% Cost Burden > 50%	36%	82%	33%	89%	85%	26%	75%	66%	[illegible]
31 to 50% MFI	182	462	49	1,396	2,089	184	152	336	[illegible]
% Cost Burden > 30%	77%	81%	84%	90%	87%	42%	75%	57%	[illegible]
% Cost Burden > 50%	45%	46%	39%	63%	57%	23%	37%	29%	[illegible]
Other Low-Income									
(51 to 80% MFI)	99	500	88	1,364	2,051	240	361	601	**2,652**
% Cost Burden > 30%	66%	74%	70%	77%	76%	24%	67%	50%	[illegible]
% Cost Burden > 50%	21%	7%	8%	17%	14%	15%	20%	18%	[illegible]
Moderate Income									
(81 to 95% MFI)	34	183	42	490	749	82	290	372	**1,121**
% Cost Burden > 30%	88%	27%	14%	21%	25%	6%	45%	37%	[illegible]
% Cost Burden > 50%	0%	0%	0%	0%	0%	6%	12%	11%	[illegible]
Total Households**	**613**	**2,651**	**280**	**6,947**	**10,491**	**1,499**	**5,978**	**7,477**	[illegible]
Lower Income Households Over-Paying for Housing	**310**	**1,119**	**112**	**4,337**	**5,887**	**172**	**573**	**745**	**6,642**

** Includes all income groups -- including those above 95% MFI

Sources: CHAS Data Book Table 1C, 1990; Bay Area Economics

Table 3: Households by Income Level 1990-2002

	Davis				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	18,245	22,959	24,052	2.3%	2.1%
Less than $15,000	5,195	4,867	3,419	-0.7%	-3.2%
$15,000 to $24,000	2,921	2,799	3,187	-0.4%	0.7%
$25,000 to $34,000	2,149	2,311	2,554	0.7%	1.3%
$35,000 to $49,000	2,910	2,643	3,065	-1.0%	0.4%
$50,000 to $74,000	2,633	3,552	4,226	3.0%	3.7%
$75,000 to $99,000	1,382	2,450	3,065	5.9%	6.3%
$100,000 to $149,000	764	2,802	2,595	13.9%	9.9%
$150,000 or more	291	1,535	1,941	18.1%	15.7%
Median, All Households	$29,238	$42,454	$48,701	3.8%	4.0%
Median Family Household Income	$48,020	$74,051	$75,715	4.4%	3.6%

	Chico				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	19,952	23,424	24,361	1.6%	1.5%
Less than $15,000	7,432	6,275	4,696	-1.7%	-3.5%
$15,000 to $24,000	4,157	3,894	4,324	-0.7%	0.3%
$25,000 to $34,000	2,847	2,981	3,700	0.5%	2.0%
$35,000 to $49,000	2,654	3,524	3,773	2.9%	2.7%
$50,000 to $74,000	1,802	3,541	4,192	7.0%	6.7%
$75,000 to $99,000	530	1,631	1,673	11.9%	9.2%
$100,000 to $149,000	321	1,019	1,181	12.2%	10.5%
$150,000 or more	209	559	822	10.3%	11.1%
Median, All Households	$20,605	$29,359	$33,202	3.6%	3.7%
Median Family Household Income	$30,492	$43,077	$47,012	3.5%	3.4%

	Folsom				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	8,830	17,220	18,360	6.9%	5.8%
Less than $15,000	1,209	1,056	983	-1.3%	-1.6%
$15,000 to $24,000	1,040	1,128	1,124	0.8%	0.6%
$25,000 to $34,000	941	1,180	1,227	2.3%	2.1%
$35,000 to $49,000	1,510	2,044	1,883	3.1%	1.7%
$50,000 to $74,000	2,196	3,483	2,968	4.7%	2.3%
$75,000 to $99,000	1,071	3,100	3,172	11.2%	8.7%
$100,000 to $149,000	648	3,532	4,050	18.5%	15.1%
$150,000 or more	215	1,697	2,953	22.9%	22.3%
Median, All Households	$46,687	$73,175	$82,842	4.6%	4.5%
Median Family Household Income	$53,840	$82,448	$92,629	4.4%	4.3%

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Table 3: Households by Income Level 1990-2002, continued

	Rocklin				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	7,210	13,293	14,047	6.3%	5.3%
Less than $15,000	984	940	690	-0.5%	-2.7%
$15,000 to $24,000	843	1,002	944	1.7%	0.9%
$25,000 to $34,000	1,165	1,139	1,165	-0.2%	0.0%
$35,000 to $49,000	1,549	1,585	1,975	0.2%	1.9%
$50,000 to $74,000	1,577	3,111	3,808	7.0%	7.0%
$75,000 to $99,000	682	2,272	2,304	12.8%	9.8%
$100,000 to $149,000	296	2,358	2,097	23.1%	16.3%
$150,000 or more	114	886	1,064	22.8%	18.7%
Median, All Households	$40,373	$64,737	$65,380	4.8%	3.8%
Median Family Household Income	$45,892	$72,245	$70,917	4.6%	3.4%

	San Luis Obispo				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	17,033	18,656	19,236	0.9%	0.9%
Less than $15,000	4,939	4,844	3,121	-0.2%	-3.5%
$15,000 to $24,000	3,289	2,670	2,984	-2.1%	-0.7%
$25,000 to $34,000	2,625	2,343	2,647	-1.1%	0.1%
$35,000 to $49,000	2,467	2,667	3,152	0.8%	1.9%
$50,000 to $74,000	2,117	2,628	3,340	2.2%	3.6%
$75,000 to $99,000	937	1,539	1,756	5.1%	5.0%
$100,000 to $149,000	445	1,239	1,475	10.8%	9.7%
$150,000 or more	214	726	761	13.0%	10.3%
Median, All Households	$26,062	$31,926	$37,806	2.1%	2.9%
Median Family Household Income	$40,655	$56,319	$58,080	3.3%	2.8%

	Santa Cruz				
All Households	**1990 Census**	**2000 Census**	**2002 Estimate**	**90-00**	**90-02**
Total	18,182	20,368	21,040	1.1%	1.1%
Less than $15,000	4,123	2,960	2,114	-3.3%	-5.0%
$15,000 to $24,000	3,007	2,148	2,232	-3.3%	-2.3%
$25,000 to $34,000	2,635	2,053	2,082	-2.5%	-1.8%
$35,000 to $49,000	3,212	2,903	2,897	-1.0%	-0.8%
$50,000 to $74,000	3,158	3,855	4,009	2.0%	1.9%
$75,000 to $99,000	1,157	2,492	2,743	8.0%	6.9%
$100,000 to $149,000	627	2,406	2,965	14.4%	12.7%
$150,000 or more	263	1,551	1,998	19.4%	16.9%
Median, All Households	$31,846	$50,605	$56,289	4.7%	4.5%
Median Family Household Income	$41,714	$62,231	$72,242	4.1%	4.3%

Source: Claritas, US Census, Bay Area Economics 2002

Table 4: Median Rent, 1990 to 2000

City	Median Rent 1990	Median Rent 2000	90-00
Davis	$588	$775	2.8% (a)
Chico	$456	$594	2.7%
Folsom	$593	$939	4.7%
Rocklin	$653	$900	3.3%
San Luis Obispc	$599	$724	1.9%
Santa Cruz	$707	$941	2.9%

Note:

(a) According to UCD Apartment Rental Survey data, from 1990 to 2001, the average apartment rental rate increased an average of 3.65% per year, and increased an average of 6.93 percent in 2002.

Source: Census, BAE

Table 5: Median House Prices, 1990 to 2001

	1990	1995	2001	Average Annual Change 90-01	Average Annual Change 95-01
Davis	$235,000	$199,645	$335,000	3.3%	9.0%
Folsom	n.a.	$207,292	$280,849	n.a.	5.2%
Rocklin	n.a.	$201,917	$245,462	n.a.	3.3%
San Luis Obispo	n.a.	n.a.	$331,634	n.a.	n.a.
Santa Cruz	n.a.	$267,757	$474,140	n.a.	10.0%

Sources: RAND, Yolo County Assessor's Office; Bay Area Economics 2002

Table 6: Households Paying 30 Percent or More of Income for Housing

Davis	1990	2000	% Change 90-00
Total Renter HHs	10,617	12,717	19.8%
Renters Overpaying	6,371	7,471	17.3%
Percent of Renters	**60.0%**	**58.7%**	
Total Owner HHs	6,577	9,184	39.6%
Owners Overpaying	1,573	2,118	34.6%
Percent of Owners	**23.9%**	**23.1%**	
Total Households Overpaying	7,944	9,589	20.7%
Percent of Households Overpaying	**46.2%**	**43.8%**	
Chico			
Total Renter HHs	10,361	14,089	36.0%
Renters Overpaying	6,061	7,658	26.3%
Percent of Renters	**58.5%**	**54.4%**	
Total Owner HHs	4,526	8,300	83.4%
Owners Overpaying	1,077	2,226	106.7%
Percent of Owners	**23.8%**	**26.8%**	
Total Households Overpaying	7,138	9,884	38.5%
Percent of Households Overpaying	**47.9%**	**44.1%**	
Folsom			
Total Renter HHs	2,275	4,079	79.3%
Renters Overpaying	1,078	1,357	25.9%
Percent of Renters	**47.4%**	**33.3%**	
Total Owner HHs	5,469	11,964	118.8%
Owners Overpaying	1,791	3,282	83.2%
Percent of Owners	**32.7%**	**27.4%**	
Total Households Overpaying	2,869	4,639	61.7%
Percent of Households Overpaying	**37.0%**	**28.9%**	
Rocklin			
Total Renter HHs	2,327	3,616	55.4%
Renters Overpaying	937	1,412	50.7%
Percent of Renters	**40.3%**	**39.0%**	
Total Owner HHs	4,058	8,891	119.1%
Owners Overpaying	1,254	2,514	100.5%
Percent of Owners	**30.9%**	**28.3%**	
Total Households Overpaying	2,191	3,926	79.2%
Percent of Households Overpaying	**34.3%**	**31.4%**	
San Luis Obispo			
Total Renter HHs	9,449	10,800	14.3%
Renters Overpaying	5,888	6,579	11.7%
Percent of Renters	**62.3%**	**60.9%**	
Total Owner HHs	5,585	6,107	9.3%
Owners Overpaying	1,490	1,665	11.7%
Percent of Owners	**26.7%**	**27.3%**	
Total Households Overpaying	7,378	8,244	11.7%
Percent of Households Overpaying	**49.1%**	**48.8%**	
Santa Cruz			
Total Renter HHs	9,509	10,915	14.8%
Renters Overpaying	5,582	5,454	-2.3%
Percent of Renters	**58.7%**	**50.0%**	
Total Owner HHs	7,343	8,238	12.2%
Owners Overpaying	2,202	2,859	29.8%
Percent of Owners	**30.0%**	**34.7%**	
Total Households Overpaying	7,784	8,313	6.8%
Percent of Households Overpaying	**46.2%**	**43.4%**	

Sources: U.S. Census; BAE, 20002.

Existing Local Workers Commuting from Other Areas

The purpose of this segment of the analysis was to evaluate whether the housing market conditions (e.g., a scarcity of relatively affordable for-sale homes, extremely low rental vacancy rates) in Davis appear to discourage local workers from living near their place of work, and if so, to estimate the number of households that include people currently employed within Davis but live outside the City who might select housing within Davis if appropriate housing options were available.

To address these questions, BAE first compiled 2000 U.S. Census data concerning "journey to work" for Davis residents, as shown in Table 7. At this time, detailed data indicating the place of residence for local workers is not available; however, the Census has published information regarding workers' commute times. The first step was to estimate the number of local residents who work locally, which we conservatively defined as those who commute less than 15 minutes to work. We found that there were 31,165 employed local residents, and 13,906 of them either worked at home or commuted less than 15 minutes. This represents 44.6 percent of the working Davis population. Table 7 also contains journey to work data for residents of the Sacramento Region (Sacramento-Yolo CMSA[5]) as a whole, indicating that a much smaller percentage, 29.8 percent, commute less than 15 minutes to work.

Next, in Table 8, we estimated the number of jobs in the Davis area as 29,542, using SACOG employment projections data, including jobs at UCD. We then subtracted from this number the number of Davis residents who worked locally (13,906) and estimated that approximately 15,600 jobs, our about 52.9 percent of Davis area jobs were filled by workers who commuted 15 minutes or more. Comparing this last figure to the figure on Table 7, which indicates that regionally 70.2 percent of workers commute 15 minutes or more, it appears that as a group, people who work in the Davis area are more likely to live within 15 minutes commute of their workplace than residents of the region who work elsewhere in the region. This suggests that on a gross level, there is not a significant pent-up demand from existing Davis workers who live elsewhere for housing in Davis, as would be indicated if there were an excessive proportion of in-commuters.

Summary of Existing Unmet Housing Needs

This analysis has shown that there are significant unmet housing needs associated with the substantial number of local households who are shouldering housing cost burdens that are not considered affordable. This problem does not necessarily create a need for new housing production. If sufficient subsidies were available to provide to individual households, they could all remain in their existing housing units and enjoy increased affordability.

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[5] This includes Sacramento, Placer, El Dorado, and Yolo Counties.

Regarding housing production needs, the analysis has shown that there potentially is a need to expand the local apartment rental supply in order to provide enough extra units so that the extremely low apartment vacancy rates can rise to a more reasonable level and give renters a more optimal range of choices in vacant units when seeking rental housing.

Should the City decide that it should focus efforts on meeting either of these two existing unmet housing needs, these efforts will be in addition to the efforts needed to address the future internally generated housing demand, as discussed in the next section.

Table 7: 2000 Commute Times, Davis Residents

	Davis		Sacramento Region (a)	
	Number	Percentage	Number	Percentage
Total Employed Residents	**31,165**	100.0%	**799,989**	100.0%
Employed Residents Who Did Not Work at Home	29,958	96.1%	767,710	96.0%
Travel Time to Work				
Employed Residents Who Worked at Home	1,207	3.9%	32,279	4.0%
Less than 10 minutes	5,636	18.1%	94,668	11.8%
10 to 14 minutes	7,063	22.7%	111,401	13.9%
Sub-total, residents working locally	**13,906**	**44.6%**	**238,348**	**29.8%**
15 to 19 minutes	4,821	15.5%	122,312	15.3%
20 to 24 minutes	3,939	12.6%	123,642	15.5%
25 to 29 minutes	2,015	6.5%	52,019	6.5%
30 to 34 minutes	2,912	9.3%	113,986	14.2%
35 to 44 minutes	1,224	3.9%	47,593	5.9%
45 to 59 minutes	987	3.2%	50823	6.4%
60 to 89 minutes	622	2.0%	29212	3.7%
90 or more minutes	739	2.4%	22054	2.8%
Sub-total, residents commuting	**17,259**	**55.4%**	**561,641**	**70.2%**
Mean travel time to work (minutes)	**20.6**		**25.6**	

Note:

(a) Sacramento Region includes El Dorado, Placer, Sacramento, and Yolo Counties

Sources: Bureau of the Census 2000; Bay Area Economics

Table 8 : Total In-Commuter Workers in Davis

Workers	Number	% of workers
Jobs in Davis (a)	29,542	
Number of Davis Residents Working Locally	13,906	47.1%
Total In-Commuter Workers	15,636	52.9%

Notes:

(a) Includes workers in the City of Davis and UCD employees

(b) Working locally is defined is having a commute time of less than 15 minutes. According to the Census Journey to Work file, 4,493 people bike to work and another 1,440 walk. If any of these residents' commute times are greater than 15 minutes, the number of in-commuters is overstated.

Sources: SACOG, US Census; Bay Area Economics

PROJECTED HOUSING NEEDS

Over time, new housing needs will be added to existing housing needs. For this portion of the study, our objective was to quantify a number of different sources of internal housing demand that will create a need for an increased local housing supply in the future. As by far the largest local employer, UCD will be a driving factor in the growth of the City of Davis' future housing need. In addition to university students, university faculty and staff create demand for local housing. With the development of the UCD research park properties underway, a future source of UCD-related housing demand will be employees of businesses and institutions located in the research park area. In addition to UCD-related demand, the City of Davis itself expects development in its office/business park/light industrial zones to attract new employees who, like UCD employees, will generate new local demand housing. Finally, new households attracted to Davis as university students or employees, or to fill new jobs in the City's developing business and office parks will in turn generate demand for local retail goods and services. When new retail and service businesses open up to serve this increasing household demand, we can expect that a portion of those employed in these new retail and service businesses will also wish to live in Davis, further increasing local housing demand. A final component of future internal housing demand will be the natural rate of growth from within the City's existing households. All other things being equal, when the number of local births exceeds the number of local deaths, this causes a net increase in the population, which can be expected to lead to an increase in housing demand.

Estimates of future housing demand from these sources are discussed below. Davis City Councilmember Ruth Asmundson has assisted with this part of the study by compiling data supplied by the University of California, Davis regarding anticipated growth in UCD students, staff, and faculty through the year 2015.

UCD Student Housing Need

UCD plans to increase its student enrollment substantially in the coming years. According to information furnished by UCD, the university expects to increase undergraduate and graduate enrollment by approximately 4,140 new students from 2002-03 through 2015-16. The university plans to construct new student housing units that will satisfy the anticipated local housing demand created by the new students, plus currently "under-housed[6]" students, plus housing adequate to house another 898 existing students[7]. Thus, over time, the University plans call for reducing the demand on privately owned

[6] This represents a number of students who are currently living in student housing that is over its designed capacity. An example is students who have been placed in make-shift space created from dormitory common areas.

[7] This apparent surplus is the result of student housing construction lagging enrollment increases of the last several years. The additional units will accommodate existing members of the student body who have been under-provided with campus housing.

and operated student housing. The student housing demand and housing construction is summarized in Appendix B and then transferred to Appendix C, where it is spread evenly over the time period extending through 2015. This information in turn is incorporated into Table 9.

UCD Faculty and Staff Housing Need

In expanding to accommodate another 4,140 students, UCD will also need to hire more faculty and staff. According to UCD faculty and staff ratios, the University will hire an additional 274 faculty and 1,644 staff by 2015, as shown in Appendix B. During the same time frame, the University anticipates constructing 500 faculty and staff housing units. This would result in a shortfall of approximately 363 faculty and staff housing units to house that portion new faculty and staff who can be anticipated to seek housing in Davis.

UCD Research Park and UCD Affiliates Employee Housing Need

Appendix B shows that UCD has indicated that they expect potential employment at UCD's research park facilities to be approximately 2,350. In addition, UCD anticipates that the campus will employ an additional 420 UCD affiliates (people employed by outside companies, such as food service) by the year 2015. It is not clear at this point what proportion of the workers in the research park facilities would hold appointments that are separate from regular university faculty and staff positions discussed above; however, based on conversations with UCD staff, we are making the conservative assumption that the research park employees would be 100 percent in addition to the regular faculty and staff positions discussed above. UCD has not indicated a likely absorption period for the research park facilities so, for the purposes of this study, the employees are assumed to be phased in over the period of time from 2003 through 2015. UCD does not plan to construct any housing for these employees; thus, the total housing shortfall for these employees is 845 units for research park employees and 151 for UCD affiliates, as shown in Appendix C.

It should be noted that this analysis does not account for any of the employment that would be brought to Davis if UCD is the successful bidder for the National Institutes for Health (NIH) planned new "biodefense" research facility, for which UCD has been proposed as a potential location.

Citywide Non-UCD Office/Business Park and Industrial Employee Housing Need

The City of Davis has designated a number of sites throughout the city for office/business park and industrial development. The rate of development for these sites is difficult to project; however, BAE developed absorption assumptions for these land uses for the purposes of the General Plan fiscal impact analysis, and these assumptions can be utilized for this study as well. The upper part of Appendix D summarizes the growth projections for the 2002 to 2010 time period used for the General Plan fiscal impact analysis, while the absorption figures shown for 2011 through 2015 have been prepared specifically for this analysis by extending the General Plan absorption schedule using the rate of increase in the annual growth increment used for the 2002 to 2010 period. The lower part of Appendix D converts absorbed building space into new employees using employee density factors used in the General Plan update. These new employee projections then are added to Table 9 below the estimates of new UCD research park employees.

Estimate of New Households from UCD Research Park and City of Davis Office/Business Park "Primary" Household Generation

In addition to new population growth attributed to UCD student, staff, and faculty growth, the UCD research park employment and the employment in City of Davis office/business park developments can be considered as "primary" household generation, because the creation of the new jobs in these developments will attract and support new households. It is necessary to estimate how many of these new employees could actually be expected to seek housing in Davis, recognizing that for many reasons, a significant portion of local workers will always commute from other communities. We have estimated the number of these new workers who might be expected to live in the Davis area, based on the current proportion of Davis workers who live within the local area (47.1 percent). Finally, this number of new residents is converted into new household demand by dividing by the average workers per household in Davis (1.31)[8]. These calculations are shown on Table 9.

Housing Need Related to Demand for Retail/Service Workers Necessary to Satisfy New Local Demand

New Davis households generated by the sources of primary local job creation described above will generate increased local demand for retail goods and services. For the purposes of this analysis, we have utilized the IMPLAN computerized input-output model to estimate the increased demand that would be created from an increase in households that is equal to the internal housing demand estimated from the sum of the prior sources discussed above, including households that would be housed on the UCD campus. The IMPLAN model uses dollar flow tables that have been customized to reflect the structure of the Yolo County economy to estimate the additional spending in various sectors of the economy associated with an increase in local households. For this portion of the study, we focused on the increased household spending that IMPLAN projects in the retail and personal services sectors, including local K-12 schools and local government employment. Along with its estimates of increased spending, IMPLAN also projects the increased employment in the affected sectors. Future households can be expected to have a range of household income levels, and because those household income levels will generate varying household expenditure levels, it can be difficult to predict exactly how

[8] This figure allows for the fact that in some cases two or more workers may be housed in a single housing unit. These situations could include two workers employed at UCD sharing a house, a UCD employee and a non-UCD employee sharing a house, etc.

much additional retail and services spending could be expected as a result of a given number of new households. For this portion of the study, we have assumed that, on average, each new household can be represented by households in the $40,000 to $50,000 annual income range, which is the income range in which the median 2002 household falls. The IMPLAN model estimates that each local household in this income range makes total expenditures supporting on average 0.315 employees.

We apply the estimate of 0.315 new secondary retail/service employees per household to the sub-total of all new primary demand households. In order to estimate the total number of new service and retail workers that would be supported within Yolo County by the new household expenditures from the primary demand households.[9] Based on 4,014 new households associated with primary UCD students, faculty, staff, and research park employees, and City of Davis business/office park employees through the 2015 time period, we estimate local retail and services demand to support an additional 1,264 employees within Yolo County. If we assume that approximately 65 percent of the new local retail/service demand will be captured within the City of Davis, then we estimate that 822 of the cumulative new retail/service jobs would be in establishments in the City of Davis itself. Then, we apply the same 47.1 percent ratio to estimate the proportion of total local workers who also live locally and then divide this number by 1.31 local workers per household, we arrive at an estimate of 295 new local retail and service worker households through the 2015 time frame. These figures are shown on Table 9.

Growth Factor to Allow for New Household Formation to Accommodate "Natural Growth"

This component of new internal housing demand refers to the City's natural rate of increase in population due to local births exceeding local deaths. Specific information regarding the components of the "natural" rate of population growth in Davis are not available; however, the State Department of Finance publishes information regarding the components of population growth in California counties. For the purposes of this study, we first developed an estimate of the natural population growth by calculating the net natural increase in population (births minus deaths) for Yolo County for each year between 1985 and 2002. This number provides a proxy for the natural rate of increase in Davis' population. We apply the County natural growth rate to the number of Davis housing units for the corresponding year in order to estimate the number of new housing units that would be necessary 18 years later in order to accommodate the City's natural growth in the event that all of the children born in Davis were to stay in Davis and form their own households. These data and calculations are shown in Appendix E and are then transferred to Table 9 where the increased housing need is added to the internal demand projections. As shown in Table 9, this rate of increase could be expected to contribute

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[9] Note that this does not account for retail/service employee households who will be supported by households who do not have working members who may be attracted to Davis.

between about 136 and 186 new households per year to the Davis population, depending on the year.

A key assumption in this analysis is that the City's goal would be to accommodate 100 percent of the natural population growth with new housing units. Of course, it is clear that many of those children born in Davis will not choose to remain in Davis for their entire lives. At the same time, it is clear that for various reasons many people from outside of Davis will seek to move into Davis. If we assume that some children born in Davis will eventually move out of town, we assume that some other jurisdiction is accepting responsibility to house those individuals. If accommodating a share of regional population growth is accepted as a local responsibility, then reciprocity would call for Davis to accept responsibility for at least one person who comes from outside the City for each Davis child who migrates outside the City. Nevertheless, should the City of Davis decide for policy reasons not to accommodate 100 percent of natural population growth, then it will be a simple exercise to see the impact on overall housing needs from reducing the allowance for natural growth on Table 9.

Summary – New Housing Needed to Satisfy Internally Generated Housing Needs

As shown in the lower part of Table 9, the estimate internal housing demand for the City of Davis, considering the internal growth factors discussed above, ranges between 468 and 517 units per year for the 2003 to 2015 time period. After accounting for UCD's planned housing production during the time period, the "average" annual internal housing demand that remains to be satisfied by construction elsewhere in the Davis area ranges between about 276 and 326 units per year.

Owner and Renter Opportunities Needed in New Housing. It is difficult to predict the tenure mix and income levels of Davis' future new households; however, Davis' existing tenure and income distributions provide a reasonable basis to begin thinking about the needs of future households. Table 10 contains a segmentation of Davis households by tenure and income based on 2000 Census responses. As shown in the table, approximately 44.5 percent of households were renters, and approximately 55.5 percent were homeowners, suggesting that there is a need in this community for a substantial component of rental housing, as is the case in most communities that are host to universities and their large pool of student households for whom rental housing is typically most appropriate.

Sales Prices/Rent Levels Needed in New Housing. When broken out by tenure, it is plain to see that the household income distributions in Davis are very different. The greatest proportions of homeowners are concentrated in the middle to upper income ranges, while the greatest concentrations of renters are in the lower income ranges. Some of this is due to economic forces – i.e., the fact that lower income households simply cannot afford to purchase homes, even if they desired to be homeowners. Table 10 provides calculations of the affordable home prices and affordable rents for the different income categories for homeowners and renters, respectively.

As shown for homeowners, on the left side of the table, more than half of the existing homeowners could afford to purchase housing over $305,000, and more than a third could afford to purchase housing units costing over $407,000. The median sale price for 2001 was $335,000. Thus, the for-sale housing market in Davis is clearly serving a large proportion of households but, at the same time, homeownership is become more of an "elite" situation. For example, the income range for a moderate-income (80 to 120 percent of area median income) family of four in Yolo County in 2002 was $45,600 to $68,400 per year. Based on the income categories shown in Table 10, these household would be able to afford home costing a minimum of about $204,000, but substantially less than the $306,000 limit for a household earning $74,999 per year, and substantially less than the cost of a median-priced home in Davis. Davis has seen very little new home construction in the price ranges that could target moderate-income homebuyers. A large segment of the public who have traditionally been able to become homeowners in Davis will not be able to purchase homes within the City unless market conditions change, or actions are taken to spur development of lower-cost for-sale housing.

The situation for renters also suggests that market conditions are making housing affordability more of a challenge. Over one-third of the renter households earned less than $15,000 in 1999. Assuming that incomes have increased in pace with inflation, the households with income less than $15,000 in 1999 would now be able to afford to rent homes costing no more than $357 per month, and over half of the households would require homes renting for no more than $631 per month, meanwhile, median rent was $775 in 2000. It appears that moderate-income households with incomes of $50,000 and above would have plenty of affordable options in the rental market, it is not clear whether these households would choose to rent in Davis or to seek to purchase housing in other communities where more affordable housing is available.

In response to staff and Council Subcommittee comments on the Draft Report, the following example is provided as a way of illustrating how the information in Table 10 could be used to target new housing units to be constructed in a hypothetical 500 unit new housing subdivision, Table 11 shows a unit allocation that follows the income and tenure segmentation from Table 10, assuming that future households will be similar to existing households in terms of income distribution and tenure patterns.

Owner Housing Units. As shown on the left side of the table, although there are a number of existing owner households in Davis with relatively low incomes, when dealing with current new housing costs, it is most likely not cost-effective to subsidize new owner units for households capable of paying about $142,000 to purchase homes. Approximately 29 prospective owner households would likely be accommodated more cost effectively in either affordable or market rate rental units. Then, about 110 households who could afford housing costing about $143,000 up to about $408,000 would be candidates for multifamily for-sale housing products of various densities that would potentially provide ownership housing that is more affordable than current market rate products in Davis by reducing the amount of land (a major cost factor) needed for each housing unit. Very little of these housing types has been constructed in Davis during the last ten years for a number of reasons, and although the economic attractiveness of these types of projects should be improving, the City might still need to create incentives or exert regulatory controls in order to bring about production of these types of units. About 53 of the owner households could afford housing that approximates current market rates for single-family homes in Davis, in a range of about $408,000 up to $611,000. Those households who are near the bottom of the range would need to be provided with homes similar to the new Phoenix Place homes on Covell Blvd., which are small-lot single-family homes. Those at the upper end of the range would be able to purchase standard single-family homes. About 30 households would likely seek luxury/custom built homes costing more than $611,000.

Renter Housing Units. In addition to the lower-income prospective owner households likely to be shifted to affordable rental units, the right side of Table 11 indicates almost all of about 152 renter households (or about 30 percent of the total households in the housing development) would need to be provided with affordable rental units. About 74 of the renter households would likely be adequately accommodated in market rate rental units, while about 50 of the renter households could afford luxury rental units or to rent single-family homes. This last 10 to 11 percent of the total households are those renters who can actually afford to purchase homes but who, for various reasons, prefer not to own their homes.

General Demographic Trends Affecting Community Housing Need. One of the primary demographic trends with the potential to affect community housing need is the general aging of the population. The elderly; however, typically “age in place.” This means that there is a tendency to stay in one’s long-time residence, rather than relocate to different types of housing or to different communities as one gets older, thus, the demand for senior housing, such as assisted living or congregate care facilities, or age-restricted communities, in a given community may not be related so much to the aging of the existing population as it is related to the attractiveness of the community as a magnet for the relatively small proportion of elderly households who do relocate to such facilities. In many respects, Davis appears to have an ideal environment to attract such households, for whom good climate, convenient access to healthcare, churches, continuing education opportunities, and cultural and recreational facilities are important. Davis’ reputation for safety and cultural diversity are also likely positive factors. Thus, in the coming years, Davis may experience pressure from “external” housing demand relating to senior housing, including the parents and grandparents of persons currently living in Davis.

Another national demographic phenomenon that has the potential to affect housing demand in Davis is the increasing prevalence of non-family households (e.g., singles and groups of unrelated individuals living together) and family households without children (e.g., empty-nesters or couples without children). As these types of households become more commonplace, housing built to accommodate these different types of living situations is finding more demand. This includes multifamily homeownership (e.g., condominiums) and various types of small-lot singe-family detached housing that does not carry the same maintenance responsibilities as traditional single-family homes, which have traditionally been the housing of choice for households with the resources to purchase homes. Thus, although Davis has traditionally had strong demand for rental apartments due to the large student population, demand for other types of multifamily housing products may be expected to increase.

Areas for Further Research. This study has produced a range of data that can assist the City of Davis in evaluating its needs for housing production levels necessary to satisfy future internal housing demand. It has also identified some program options that are available to the City to help to better link new housing production to the new workers who will be attracted to the City. Should the City decide that it is desirable to improve links between new housing production and the housing needs of local workers, it might be particularly useful for the City of Davis or other interested parties (e.g., local employers, housing developers) to conduct a survey of local worker housing needs and preferences. Such a survey could garner information that would assist policy-makers in tailoring housing assistance programs to better meet the needs of local workers at various household income levels. Survey responses could also provide very valuable marketing information that would assist housing developers to target their housing products and marketing techniques in order to efficiently reach out to prospective renters/buyers from within the local employment pool.

In addition, if the City of Davis and/or other local organizations or employers decide that it is desirable to establish one or more new workforce housing programs, it will likely be necessary to conduct significant research into the possible funding sources, implementation techniques, and program guideline options prior to actually adopting such programs.

Table 9: Projected New Internal Housing Needs

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
UCD Students/Staff/Faculty/Other Campus Employees													
New Student Housing (Hsg. Unit Equivalents) (Appendix C)	**153**	**306**	**460**	**613**	**766**	**919**	**1,072**	**1,226**	**1,379**	**1,532**	**1,685**	**1,838**	**1,992**
New Staff/Faculty Housing Units (Appendix C)	**38**	**76**	**114**	**152**	**190**	**228**	**266**	**304**	**342**	**380**	**418**	**456**	**500**
	192	192	192	192	192	192	192	192	192	192	192	192	192
Less Student Housing Surplus Needed to Cover Prior													
		(56)		(112)		(168)		(224)		(280)		(336)	
Plus Additional Housing to Cover Shortfall for													
		177		355		532		710		887		1,065	
Sub-total: UCD Housing Demand	**252**		**756**		**1,260**		**1,763**		**2,267**		**2,771**		**3,288**
locally, and current 1.31 workers per household) (Appendix D)	47	95	144	195	247	301	357	414	472	533	595	659	725
Cumulative		**598**		**1,203**		**1,812**		**2,429**		**3,052**		**3,682**	
Secondary Retail/Service Employees													
Primary Demand Households (0.315 per hh.)		188		379		571		765		961		1,160	
Demand Locally)		122		246		371		497		625		754	
Proportion, 47.1%)		58		116		175		234		294		355	
household)		44		89		133		179		225		271	
Cumulative		**44**		**89**		**133**		**179**		**225**		**271**	
TOTAL CUMULATIVE PRIMARY AND SECONDARY		**642**		**1,291**		**1,946**		**2,608**		**3,277**		**3,953**	
Average Annual Housing Demand Increment	**331**		**331**		**331**		**331**		**331**		**331**		**331**
	136	**139**		**168**	**165**		**186**	**185**		**177**	**167**		**147**
TOTAL ANNUAL INTERNAL HOUSING GROWTH	**468**		**467**		**497**		**517**		**499**		**498**		**478**
Less Planned University Housing Development (Average		192		192		192		192		192		192	
ANNUAL CITY HOUSING CONSTRUCTION NEED AFTER		**278**		**308**		**314**		**324**		**317**		**292**	

Sources: UC Davis, City of Davis, BAE.

Table 10: Davis Household Tenure and Income Segmentation

	Owners						Renters				
Annual Income (1999)	Households	Percent of Total	Percent of Owners	Affordable Home Expense	1999 Affordable Home Price Limit (a)	2002 Adjusted Home Price Limit (c)	Households	Percent of Total	Percent of Renters	1999 Affordable Monthly Rent (b)	2002 Adjusted Monthly Rent (c)
Under $15,000	336	1.5%	3.3%	$ 375	$ 55,727	$61,133	4,573	19.9%	35.9%	$ 325	$ 357
$15,000 to $19,999	169	0.7%	1.7%	$ 500	$ 74,302	$81,510	1,221	5.3%	9.6%	$ 450	$ 494
$20,000 to $24,999	294	1.3%	2.9%	$ 625	$ 92,878	$101,888	1,145	5.0%	9.0%	$ 575	$ 631
$25,000 to $34,999	567	2.5%	5.6%	$ 875	$ 130,029	$142,643	1,731	7.6%	13.6%	$ 825	$ 905
$35,000 to $49,999	996	4.3%	9.8%	$ 1,250	$ 185,755	$203,776	1,634	7.1%	12.8%	$ 1,200	$ 1,316
$50,000 to $74,999	2,067	9.0%	20.3%	$ 1,875	$ 278,633	$305,664	1,496	6.5%	11.8%	$ 1,825	$ 2,002
$75,000 to $99,999	1,983	8.6%	19.4%	$ 2,500	$ 371,510	$407,552	443	1.9%	3.5%	$ 2,450	$ 2,688
$100,000 to $149,999	2,425	10.6%	23.8%	$ 3,750	$ 557,265	$611,329	343	1.5%	2.7%	$ 3,700	$ 4,059
$150,000 or more	1,362	5.9%	13.4%	n.a.	n.a.	n.a.	142	0.6%	1.1%	n.a.	
Total	**10,199**	**44.5%**	**100.0%**				**12,728**	**55.5%**	**100.0%**		

Notes:

(a) Affordable housing cost (including principal, interest, taxes and insurance) is 30% of gross monthly income.

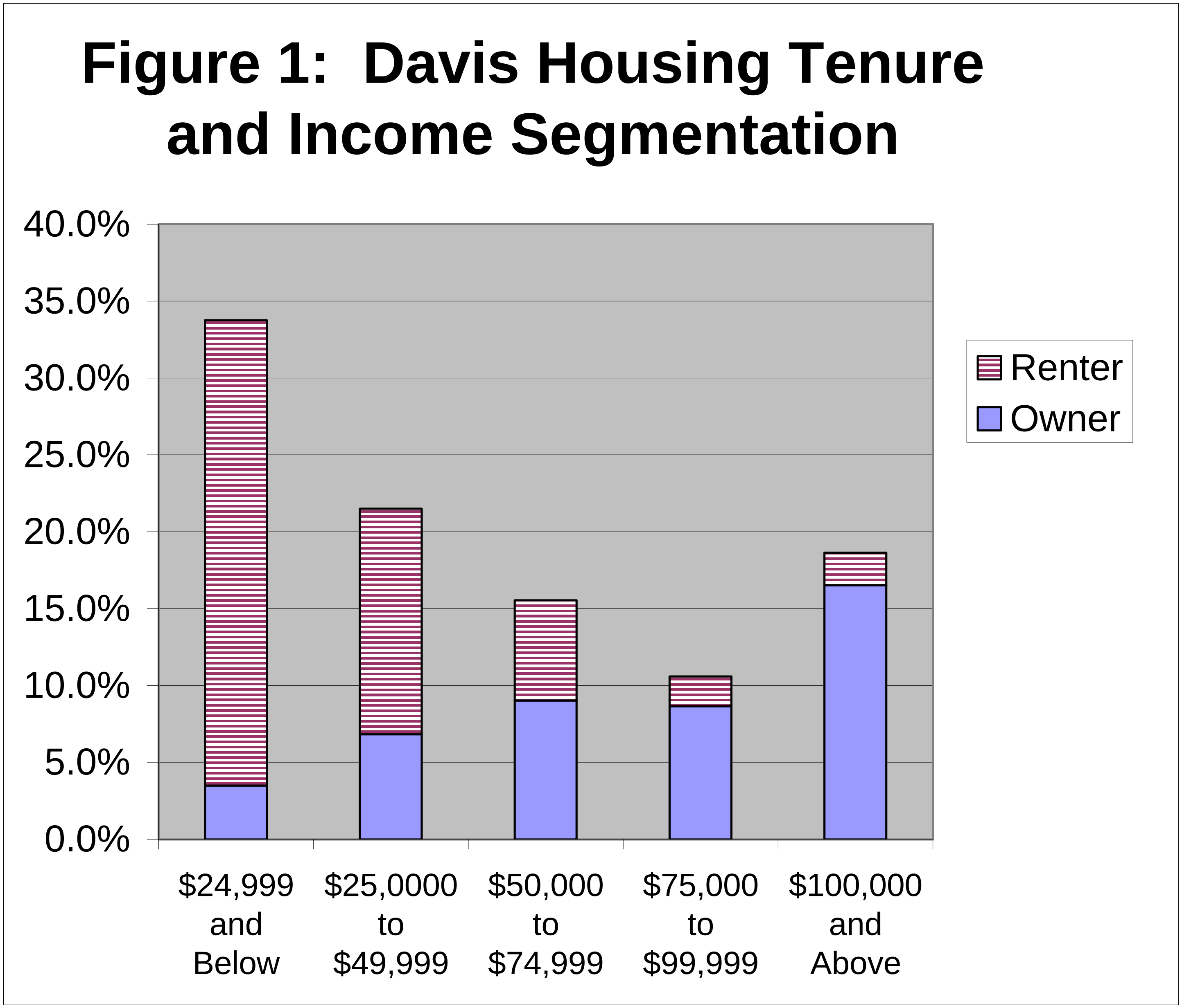
Interest Rate	6.0%	per year
Term	30	years
Downpayment	10%	
Insurance	0.2%	of purchase price
Taxes	1.4%	of purchase price

(b) Affordable rent is equal to 30 percent of gross monthly income, less $50 for utilities.

	1999	**2002**	**% Change**
(c) Inflation Factor, 1999 to 2002:	174.2	191.1	109.7%

Maximum affordable home purchase prices and rents reflect maximums for the top of each respective income range.

Sources: U.S. Census, 2000; BAE.



Sources: U.S. Census, 2000; BAE.

Table 11: Unit Allocation for Hypothetical 500-Unit Housing Development

Owner Units				Rental Units			
Percent of Total	Units	2002 Adjusted Home Price Limit	**Possible Housing Types**	Percent of Total	Units	2002 Adjusted Monthly Rent	**Possible Housing Types**
1.5%	7	$61,133	Shift to affordable rental units	19.9%	100	$ 357	Affordable rental units
0.7%	4	$81,510	Shift to affordable rental units	5.3%	27	$ 494	Affordable rental units
1.3%	6	$101,888	Shift to affordable rental units	5.0%	25	$ 631	Affordable and market rate rental units
2.5%	12	$142,643	Shift to market rate rental units	7.6%	38	$ 905	Market rate rental units
4.3%	22	$203,776	High Density Multifamily For-Sale	7.1%	36	$ 1,316	Market rate rental units
9.0%	45	$305,664	Medium Density Multifamily For-Sale	6.5%	33	$ 2,002	Luxury rental units or single-family rental units
8.6%	43	$407,552	Attached Single-Family For-Sale	1.9%	10	$ 2,688	Luxury rental units or single-family rental units
10.6%	53	$611,329	Small Lot Single-Family at low-end; Standard Single-Family through high-end	1.5%	7	$ 4,059	Luxury rental units or single-family rental units
5.9%	30	n.a.	Luxury/Custom Single-Family	0.6%	3	n.a.	Luxury rental units or single-family rental units
44.5%	**222**			**55.5%**	**278**		

Sources: U.S. Census, 2000; BAE.

Appendix A: Workforce Housing Program Effectiveness

Community	Program	Effectiveness	Groups	Number Assists per Year	Comments
San Jose	Downpayment/ Closing Cost Assistance	Very good. This is a new improved version with the bugs worked out.	teachers	100	They are sending out a follow up survey to determine if they are still teaching, etc.
Boulder	In-lieu fees	Staff and public opinion are strong.	none	95	Preferences are given to those who live and work in Boulder. They are working towards 10% of all housing as affordable.
San Rafael	Inclusionary Program				
Novato	Developer agreements				
Santa Clara Unified School District	Employee sponsored housing	Very satisfied.	teachers	17.5	They are able to keep more teachers than otherwise possible helping about 100 teachers with mortgage credits and apartment rental units .
San Mateo	Mortgage Credit Certificates	Very Satisfied.	none	50-60	Their allocations are down, but they always exhaust them.
Denver	Technical assistance, resource coordination, advocacy				
Belmont	Downpayment/ Closing costs assistance	Needs Improvement.	police	1	They are revamping the program so that it is more utilized.
Santa Clara Housing Trust Fund	Downpayment/ Closing costs assistance	Very Satisfied.	none	450 in the past 1.5 years	
Sunnyvale	Homeownership training classes	It's a brand new program unknown.	teachers, city workers	unknown	

Sources: respective program representatives; BAE.

Appendix B: Summary of Gross UCD Housing Supply and Demand (2002-03 through 2015-16)

	2002-03 to 2003-04	1/2 of 02-03 and 03-04		2004-05 to 2015-16	Total 03-04 to 15-16	Community Housing Need % of Total	Community Housing Need #	Current Over-Assigned Students	Total Local Housing Need
Students	1,980	990		3,150	4,140	90%	3,726	356	4,082
Faculty (1 per 18.7 students)		106	(a)	168	274	75%	206		206
Staff (6 per faculty)		636	(a)	1,008	1,644	40%	658		658
Sub-total Faculty/Staff							863		863
Research Park I-80 Employees	-	-		1,400	1,400	47.1%	659		659
Research Park, W. Campus Employees	100	50		900	950	47.1%	447		447
Other Non-UC Affiliates Employees	160	80		340	420	47.1%	198		198

	Total Local Housing Need	Planned Beds	Surplus (b)
Students Local Housing Needs (Beds)	4,082	4,980	898

Faculty/Staff Local Housing Needs (Units)	Total Local Housing Need	Planned Units (c)	Shortfall
Faculty (Units)	206		
Staff (Units)	658		
Sub-total	863	500	363
Research Park Employees	1,106	-	1,106
Other Non-UC Affiliates	198	-	198

Notes:
(a) Faculty and staff for 03-04 time period are calculated based on 02 to 04 staff increase to allow for lag in hiring (i.e. UCD hiring usually lags enrollment so faculty and staff attributable to 02-03 student increases are assumed not to be housed in D
(b) Surplus is for 03-04 to 15-16 time period only. Surplus University construction during this period will address housing construction deficits incurred prior to 03-04.
(c) Based on UCD LRDP information available as of February 2003 which assumes development of the "Neighborhood Core" campus housing development alternative, modified based on personal communication with UCD staff (Karl Mohr, Associate Director - Public & Private Partnerships, Office of Resource Management and Planning).

Sources: UCD, BAE.

Appendix C: UCD Housing Demand and Supply Summary, Annual Averages 2003-04 to 2015-16

NOTE: FOR PURPOSES OF THIS ANALYSIS, HOUSING DEMAND AND PRODUCTION ESTIMATES HAVE BEEN AVERAGED OVER THE PERIOD 2002-03 TO 2015-16. ACTUAL POPULATION AND CONSTRUCTION RATES WILL FLUCTUATE OVER THE PERIOD. STUDENT HOUSING SURPLUS IS PLANNED TO ADDRESS DEFICIT INCURRED PRIOR TO 2003-04.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
STUDENT HOUSING SUPPLY/DEMAND													
New UCD Student Housing (Beds)	383	766	1,149	1,532	1,915	2,298	2,681	3,064	3,447	3,830	4,213	4,596	4,980
Housing Unit Equivalents (Assume 2.5 persons per HH)	153	306	460	613	766	919	1,072	1,226	1,379	1,532	1,685	1,838	1,992
New Local UCD Student Demand	314	628	942	1,256	1,570	1,884	2,198	2,512	2,826	3,140	3,454	3,768	4,082
Surplus(Deficit) of Student Beds	**69**	**138**	**207**	**276**	**345**	**414**	**483**	**552**	**621**	**690**	**759**	**828**	**898**
Housing Unit Equivalents (Assume 2.5 persons per HH)	*28*	*56*	*84*	*112*	*140*	*168*	*196*	*224*	*252*	*280*	*308*	*336*	*359*
EMPLOYMENT HOUSING SUPPLY/DEMAND FOR LOCAL HOUSING													
New Local UCD Faculty and Staff Demand	66	132	198	264	330	396	462	528	594	660	726	792	864
New Local UCD Research Park Employee Demand	85	170	255	340	425	510	595	680	765	850	935	1,020	1,107
New Local UCD Affiliates Employee Demand	15	30	45	60	75	90	105	120	135	150	165	180	198
Sub-total Local UCD Onsite Employee Housing Demand (Employees)	**167**	**334**	**501**	**668**	**835**	**1,002**	**1,169**	**1,336**	**1,503**	**1,670**	**1,837**	**2,004**	**2,169**
Faculty/Staff Housing Units Needed (Assuming 1.31 workers per household)	50	101	151	202	252	302	353	403	453	504	554	605	660
Research Park Employee Housing Units Needed (Assuming 1.31 workers per household)	65	130	195	260	324	389	454	519	584	649	714	779	845
UCD Affiliates Employee Housing Units Needed (Assuming 1.31 workers per household)	11	23	34	46	57	69	80	92	103	115	126	137	151
Sub-total Local UCD Onsite Employee Housing Demand (Units)	127	253	380	507	634	760	887	1,014	1,140	1,267	1,394	1,521	1,655
New UCD Staff Housing To Be Constructed	**38**	**76**	**114**	**152**	**190**	**228**	**266**	**304**	**342**	**380**	**418**	**456**	**500**
Surplus(Deficit) of UCD Employee Housing Units	**89**	**177**	**266**	**355**	**444**	**532**	**621**	**710**	**798**	**887**	**976**	**1,065**	**1,155**

Source: Karl Mohr, Associate Director - Public & Private Partnerships Office of Resource Management and Planning University of California, Davis.

Appendix D: City of Davis Office/Business Park Absorption Rate Assumptions

Commercial (square feet)	Baseline	Cumulative Growth Above 1999 Baseline, End of Year																Total Increase at
Square Feet	**1999**	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	**Buildout**
Office/Bus. Park	1,553,000	42,000	85,050	129,176	174,406	220,766	268,285	316,992	366,917	418,090	470,542	524,306	579,413	635,899	693,796	753,141	813,969	813,969
Industrial	800,000	33,600	68,611	105,093	143,107	182,717	223,991	266,999	311,813	358,509	407,167	457,867	510,698	565,747	623,109	682,879	745,160	745,160
Employees Cumulative																		
Office/Bus. Park	3,413	92	187	284	383	485	590	697	806	919	1,034	1,152	1,273	1,398	1,525	1,655	1,789	1,789
Industrial	640	27	55	84	114	146	179	214	249	287	326	366	409	453	498	546	596	596
Total Cumulative New Employees 2003-2015					130	263	401	542	688	838	992	1151	1314	1482	1655	1834	2017	
New Workers Likely to Live in Davis (Assuming Current Proportion, 47.1%)					61	124	189	255	324	395	467	542	619	698	780	864	950	
Housing Units Needed to House Local Workers (Assuming 1.31 Workers Per Household					47	95	144	195	247	301	357	414	472	533	595	659	725	

Notes:
Unless otherwise noted, absorption assumptions are from BAE.

Source: City of Davis, Comparative Evaluation of Research Park Proposals for Potential Inclusion in the City of Davis General Plan EIR, July, 1998; BAE, 1999.

Appendix E: Natural Growth Rate and Household Formation Lagging by 18 Years

Base Information							Housing Units Accommodate Natural Growth	
Year	Davis City Population	Natural Growth Rate Yolo County	Davis City Housing Units				Year	New Housing Units To Accommodate Natural Growth Household Formation
1980	36,640	0.74%						
1981	36,700	0.68%						
1982	37,700	0.89%						
1983	38,100	0.83%						
1984	38,900	0.82%						
1985	40,450	0.83%	16,437	>	18 years later	>	2003	136
1986	40,650	0.83%	16,737				2004	139
1987	41,200	0.77%	17,504				2005	135
1988	42,500	0.94%	17,871				2006	168
1989	44,650	0.90%	18,387				2007	165
1990	46,322	0.95%	18,310				2008	174
1991	47,050	1.0%	18,585				2009	186
1992	48,900	1.0%	19,101				2010	185
1993	50,100	0.8%	19,723				2011	167
1994	51,100	0.9%	20,171				2012	177
1995	52,500	0.8%	20,595				2013	167
1996	53,500	0.7%	20,867				2014	152
1997	54,400	0.7%	21,175				2015	147
1998	55,900	0.7%	21,735				2016	145
1999	57,200	0.7%	22,180				2017	149
2000	60,308	0.68%	23,249				2018	158
2001	61962	0.7%	24,295				2019	167
2002	63,324	0.64%	24,717				2020	158

Sources: State Department of Finance, BAE.