BUSINESS PARK LAND STRATEGY
Technical Report

City of Davis
Community Development and Sustainability Department
Economic Development Division
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BUSINESS PARK LAND STRATEGY
TECHNICAL REPORT

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CHAPTER 1

PROJECT OVERVIEW

INTRODUCTION

What is Davis' economic future? Addressing this important question represents the overarching objective of the Business Park Land Strategy (BPLS): to better understand Davis' long-term economic future and provide guidance for future decisions regarding community economic development goals for the 2010-2035 timeframe.

Policy documents ranging from the 2000 General Plan to the 2006 – 2010 Economic Development Strategic Goals, to the 2009 – 2010 City Council Goals identify Davis economic development priorities. These emphasize growth in biotechnology, "green" technology, and other knowledge-based activities to facilitate expansion of this burgeoning sector and capitalize on proximity to UC Davis research strengths. As a result, Davis' economic future will continue to be influenced by its economic development policy framework, a business climate conducive to business growth, the demand for local growth in knowledge-based business and across the economy, and the available land supply. How Davis ensures opportunity for future business growth and positions itself for growth in key industry sectors are important components in achieving a desired economic future. The BPLS provides background analysis for community consideration when addressing these issues. More specifically, this report:

- Summarizes current economic development policy
- Quantifies the value of knowledge-based business growth in Davis
- Analyzes the Davis economy as well as UC Davis activities contributing to business growth and entrepreneurialism
- Draws conclusions regarding the Davis business climate based on interviews across a broad spectrum of "key informants" in the Davis business community
- Provides 25-year business growth projections
- Quantifies the economic impact of two future business growth projection scenarios as well as a hypothetical "business park"
- Analyzes the Davis vacant commercial land inventory and its ability to accommodate future business growth in the 25-year timeframe
- Provides a path for near and longer term land decisions to facilitate future business growth.

The BPLS draws several primary conclusions resulting from the above analysis:

- The study confirms Davis' economic development policy framework focusing on technology, life science, and knowledge-based business growth is appropriate and complements Davis economic and workforce strengths.
- Economic analysis of research and development and manufacturing activities by local technology companies confirms substantial local economic benefit.
- Based on historical business growth, 39 interviews with "key informants", and business growth projections, Davis is poised for substantial growth in knowledge-based industries.
- Davis' land supply represents immediate as well as future challenges to facilitating future business growth, particularly if the vacant 100 acre industrially zoned property at 1111 E. Covell Blvd (ConAgra property) is developed for other uses.
- The study confirms that while Davis has historically played a passive role in facilitating business growth, a more proactive role needs to be played in the future. This is needed particularly in knowledge-based industries to ensure Davis capitalizes on its competitive advantages and desired business growth opportunities are not lost to neighboring or regional communities.

BACKGROUND

The need for the BPLS was originally identified by the Davis City Council in December 2008, shortly after Lewis Planned Communities development application submittal for the ConAgra property. Lewis Planned Communities' "Cannery Park" project application was primarily a residential development with a portion of land dedicated for business park uses (approximately 20 acres)[1]. The City Council requested a better understanding of long-term business growth implications and land use tradeoffs should the property be rezoned for primarily residential uses. That is, the extent to which the proposed project would affect Davis' commercial land supply and long term ability to accommodate future business growth.[2]

Prior to submitting the Cannery Park development application, in February 2008 the City Council requested Lewis Planned Communities fund a city-initiated study assessing the site's economic feasibility as a business park[3]. The study was conducted by Economic Strategies Group (ESG) and completed in August 2008. It concluded *the site is viable as a business park* provided a broad range of uses is allowed. If restricted to a narrow range of uses (e.g. research and technology uses only), it was projected to require an excessive, non-viable buildout time (39 years). The ESG Study also conducted an extensive analysis on Davis' economy and provided contextual background of the greater Bay Area-Sacramento regional economy from which the BPLS builds.

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[1] See Chapter 6: Existing Vacant Land Inventory & Land Adequacy, for uses consistent with the "Business Park" land use designation.
[2] "Long term" defined as the 2010- 2035 timeframe.
[3] Economic Strategies Group. Business Park Viability Study: Cannery Park. August 15, 2008. Hereafter referred to as "ESG Study"

BPLS STUDY PURPOSE

In January 2009 a processing timeline for the Cannery Park development application as well as process framework for the BPLS project was presented to Council. The BPLS objective focused on eight key questions:

1. What are the City's long term needs for business park-type land?
2. What methodology and/or factors should be used to determine projected need?
3. How is the market for business park land shifting? How is the modern "business park" changing? Are traditional business park land development patterns still appropriate or are they evolving into new land use patterns?
4. Is the City's current land inventory sufficient to meet its long term needs for business park-type uses? If so, is this still true if the Cannery Park site is approved for other uses?
5. Is a dedicated "business park" needed?
6. What sites in addition to the existing land inventory should be considered for business park type uses; and/or a dedicated business park? How does this change if the Cannery Park site is rezoned? Do we need to consider additional business park sites if the Cannery Park site is not rezoned?
7. What criteria should be used to rank the relative merits of the possible sites?
8. What strategies should be developed or actions should be taken to assure that the City has an adequate supply of business park-type land available to support future development?

Originally, this study intended to rely upon ESG Study land absorption-based assumptions to determine the existing land supply's adequacy in accommodating future business growth. As the project evolved, feedback received through business community interviews and the Business and Economic Development Commission (BEDC), made clear a need to also analyze projected demand for and economic benefit of business growth. The City contracted with the Center for Strategic Economic Research (CSER) to conduct supplemental economic analysis in response to the following three key questions:

1. What are the benefits of knowledge-based businesses in Davis?
2. How much knowledge-based business growth is projected for Davis?
3. What is the economic benefit/revenue potential of additional business growth?

Davis economic development policies and strategies emphasize knowledge-based business growth[4]. As a result, this report emphasizes such business growth and conditions necessary to facilitate further development within these industries. However, as the ESG Study concluded, the Davis economy is dynamic and comprised of a wide range of businesses contributing to a high quality of life[5]. Thus, employment projections were generated for all industry sectors as reference points for future Davis business growth in its entirety and accompanying land needs. These employment growth projections are converted to the following major use/building type categories to asses land needs: office, industrial, retail, and public. Two major uses/building types most typically associated with business park-type development – office and industrial - are emphasized in this study[6].

TIMING: Why Now?

Though the original impetus for the BPLS was the Cannery Park application, the study addresses important issues relating to Davis' economic future. The BPLS continued as a priority despite withdrawal of the Cannery Park application due to its importance for understanding the city's long-term economic health and extent to which Davis' existing land supply can accommodate economic growth.

The timing of the study is appropriate to assess Davis' economic future. It is important for Davis to plan and competitively position itself for desired business growth post-economic recession. The BPLS will function as a technical background report for a future update of the General Plan's Economic Development element and/or future land use decisions affecting business growth.

The City is nearing completion of the 2013 General Plan Housing Element. While housing needs remain an important community issue, Davis' economic future is equally important, particularly in current economic recession and local budget contexts. The Housing Element update focuses on housing needs and potential land supply. Several sites deemed appropriate for residential uses in the Housing Element update are either already commercially zoned or are sites that may be appropriate for business park-type development as well. The BPLS serves as a resource to assess costs and benefits of alternate commercial or residential land use decisions allowing the necessary contextual balance for fully informed land use decisions affecting the community.

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[4] "Knowledge-Based Business" is occasionally used interchangeably with "High Intellectual Capital" firms, a term used in the ESG study and defined as "firms that use leading edge tech applications as a key element of their business" (Pg 36). Under this definition, knowledge-based business and high intellectual capital activities span all employment sectors. However, this study formally defines for Davis "Knowledge-Based" employment as a combination of North American Industry Classification System (NAICS) activities comprised primarily of "Professional, Scientific, and Technical Services" and a subset of high value activities in the "Manufacturing" employment sectors. The term, "Innovation Companies" used occasionally in the study reflects a subset of "knowledge-based" companies and typically represent technology firms focused on commercializing applied scientific research.

[5] ESG Study, Pg 32.

[6] The BPLS Technical Report provides a greater level of detail.

STUDY PROCESS

The BPLS consisted of an 18 month process comprising the following five phases:

1. *Existing Inventory (January 2009 – November 2009)*

   An updated inventory of parcels appropriate for business park-type development was conducted for this study. Inventory metrics included total acreage, employment capacity, and building square footage.

2. *Business Community Outreach (May 2009 – October 2009)*

   39 semi-structured interviews with Davis business community members, 7 teleconferences/surveys of UC Davis spinoffs not located in Davis, regular BEDC meeting updates[7].

3. *Study (September 2009 – March 2010)*

4. *Public Review of Study (March 2010 – Summer 2010)*

STUDY ORGANIZATION

The BPLS Technical Report is organized around seven primary chapters, three addendum chapters, and an appendix. Main chapters are sequenced from presenting a basic overview of Davis' economic development policies, through a framework for land availability decision making. A brief overview of each chapter follows:

Chapter 1: Project Overview

Chapter 2: Economic Development Policies & Strategies and the Value of Knowledge-Based Business Growth. This chapter provides an overview of local economic development policy. This policy foundation is supported by economic analysis demonstrating the value of knowledge-based business growth in Davis.

Chapter 3: Davis Economy. Davis' employment and workforce profiles; the role UC Davis plays in the local economy, particularly in knowledge-based industries, are analyzed. Additionally, the extent to which countywide and regional economic development partnerships can facilitate knowledge-based business growth are noted.

Chapter 4: Davis Business Climate. Results of in-depth outreach conducted to the Davis business community revealing their thoughts on prospects for knowledge-based business growth, local economic development, and land use policy are summarized.

Chapter 5: Business Growth Projections and Economic Impact Analysis. This chapter tests qualitative feedback from the Davis business community with econometric employment change modeling resulting in 25-year employment across all sectors. Specific emphasis is placed on knowledge-based industry. Econometric modeling is supplemented with alternative employment projections. Economic impact analyses for two employment growth scenarios as well as a hypothetical 100-acre (66 net acres) business park are provided.

[7] See Chapter 4 for additional outreach process details.

Chapter 6: Existing Vacant Land Inventory and Land Adequacy. Existing vacant land appropriate for business growth purposes within the existing city boundary, the extent of business growth absorption capability, and land adequacy for future business growth are analyzed.

Chapter 7: Conclusions and Next Steps. This chapter provides a path for near and longer term land decisions to facilitate future business growth.

Addenda & Appendix

The report concludes with three addendum chapters providing a brief overview of issues relevant to the study.

Addendum 1: Infrastructure Capacity and Generalized Impact Analysis. Long-range planning activities, particularly those with land use implications, are likely to result in concerns regarding localized impacts. The study proposes no land use changes. However, as future business growth may place demands on local infrastructure, this topic is explored at a generalized level

Addendum 2: Role of Downtown. Many Davis land use and economic development policies prioritize downtown as the commercial and cultural heart of the community. Peripheral office development may adversely affect the downtown office market, as well as the market for private redevelopment opportunities with office use components. This subject is explored in this chapter.

Addendum 3: Role of Agricultural Economy. Davis exists within an agricultural setting and is surrounded by agricultural uses. The role of Davis in the local agricultural economy is briefly explored.

The Appendix provides additional data tables, explanation of analysis assumptions, as well as the CSER economic analysis report. The Appendix is organized by chapter.

Conclusions

The BPLS project has evolved over time from an historical land absorption analysis to a more thorough analysis of the economic value of, conditions necessary to facilitate, and land adequacy for future business growth. Thus, this study emphasizes Davis' economic future as much as it does land use and supply. With the BPLS set in this context, readers and decision makers will find this document a resourceful planning tool to guide future economic development initiatives and land use decisions.

CHAPTER 2

ECONOMIC DEVELOPMENT POLICIES & STRATEGIES AND VALUE OF KNOWLEDGE-BASED BUSINESS GROWTH

INTRODUCTION

Economic Development is critical to a healthy local economy. On a broad scale, any community activity that enables a healthy economy can fall within the economic development realm. As many definitions for economic development exist as there are practitioners in the field. However, a few definitions were selected to provide a better understanding of economic development and its role in a local community.

> "*Economic Development: the process of creating wealth through the mobilization of human, financial, capital, physical and natural resources to generate marketable goods and services. The economic developer's role is to influence the process for the benefit of the community through expanding job opportunities and the tax base."*[8]

An excerpt from the California Association for Local Economic Development (CALED) defines economic development as[9]:

> *"…local economic development involves the allocation of limited resources - land, labor, capitol and entrepreneurship in a way that has a positive effect on the level of business activity, employment, income distribution patterns, and fiscal solvency.*
>
> *It is a process of deliberate intervention in the normal economic growth by making it easier or more attractive. Communities in California are giving attention to what they can do to promote fiscal stability and greater economic development.*
>
> *Economic development is a concerted effort on the part of the responsible governing body in a city or county to influence the direction of private sector investment toward opportunities that can lead to sustained economic growth. Sustained economic growth can provide sufficient incomes for the local labor force, profitable business opportunities for employers and tax revenues for maintaining an infrastructure to support this continued growth. There is no alternative to private sector investment as the engine for economic growth,*

[8] American Economic Development Council, 1984.
[9] California Association for Local Economic Development. What is Economic Development? <http://www.caled.org/resources/what-economic-development>.

but there are many initiatives that can be supported to encourage investments where the community feels they are needed the most.

Economic development is not community development. Community development is a process for making a community a better place to live and work. Economic development is the creation of wealth by which community benefits are created. There are only three approaches used to enhance local economic development. They are:

- *Business Retention and Expansion - enhancing existing businesses*
- *Business Attraction - attracting new business*
- *Business Start-ups - encouraging the growth of new businesses"*

While definitions vary within the common theme, promoting business growth and generating wealth for community benefit is the primary objective of economic development. Communities benefit from economic development through:

- Increased tax base
- Job development
- Business retention
- Economic diversification
- Economic self-sufficiency
- Improved quality of life

Strategies vary depending on community priorities such as job growth, higher paying jobs, increasing municipal revenue, etc.

This chapter focuses on two primary areas related to Davis economic development. First, background information provides a foundation of understanding regarding Davis economic development polices and strategies. Second, a focus is placed on the value of business growth in Davis by quantifying the positive effect of knowledge-based industries on the local economy.

BRIEF HISTORY OF DAVIS ECONOMIC DEVELOPMENT

The first formal recognition of the need to proactively facilitate business growth occurred in 1991 when the Davis City Council first appointed an Economic Development Task Force to examine the need for business and economic development in Davis in response to that era's economic downturn. The Task Force completed a report titled, "Business Development in Davis." The report concluded a need existed to increase sales tax revenue through expansion of local business. Davis has been addressing this economic development issue for several years, emphasizing maintaining compatibility with the community value system. While the "Business Development in Davis" report focused primarily on retail sales tax leakage, the value of economic development was explicitly expressed, underscoring the importance of business growth in a healthy community.

The need to integrate economic development into community decision-making has long been recognized by the City of Davis. However, for much of Davis' history, few resources were dedicated specifically for this purpose. Economic Development responsibilities were handled through the City Manager's office through 1998 under the unofficial "Economic Development Manager" title. In March 1999 the Economic Development Coordinator position was created and transferred to the Planning and Building Department (now Community Development). Recognizing a formal forum to advise City Council on business-related issues was needed to address business community interests, the City established the Business and Economic Development Commission (BEDC) in October 2002. The BEDC has since served in an advisory role on a wide range of Davis business-related issues.

Today, Davis' economic development team provides a range of services including:

- Collaborating with and supporting local business organizations
- Partnering with regional economic development organizations
- Project management
- Facilitating business community networking/contacts
- Promoting entrepreneurialism
- Marketing, assisting, and facilitating business attraction/development prospects
- Maintaining relationships with local commercial brokers
- Monitoring the business climate
- Maintaining a commercial land database
- Maintaining available space listings
- Creating annual Economic Indicators report (in-progress)
- Conducting business outreach visits
- Contracting for business consultations with the Small Business Development Center

EXISTING ECONOMIC DEVELOPMENT POLICIES AND STRATEGIES

Several layers of policies and strategies guiding Davis economic development include:

- 2001 General Plan:
  - General Plan Visions
  - Land Use and Growth Management Section
  - Economic and Business Development Section
- 2006 – 2010 Economic Development Strategic Goals
- 2009 – 2010 City Council Goals

2001 General Plan:

The 2001 General Plan provides direction regarding economic development objectives. Three main sections reference business growth in a business park land

context: Visions, Land Use and Growth Management, and Economic and Business Development.

General Plan Visions[10]

The General Plan Visions section highlights 15 broad-ranging community objectives. Included in the Visions section are three objectives relating to business growth.

Broad Range of Services and Businesses:

- Develop a broad range of services and businesses to meet the daily needs of Davis citizens for employment, shopping, education and recreation
- Promote economic vitality by developing a diversity of enterprises

Synergistic Partnership with UC Davis:

- Recognize and strengthen the positive synergistic partnership between the City and UC Davis

Regional Context:

- Recognize Davis' role within the broader region
- Make decisions on City policy with an understanding of regional impacts
- Maximize available resources through joint planning with other agencies and jurisdictions

Community Form Section: Land Use and Growth Management

The General Plan addresses components of business growth and business park-type development in the Land Use and Growth Management section. Many issues raised by an economic analysis conducted in 1996 remain and are intensified due to land absorption since then. The study conclusions include[11]:

- There was an unmet demand for new industrial space in Davis of approximately 200-250 gross acres of industrial growth through 2010. However, the regional industrial market serves the warehouse and distribution sector. Davis does not offer competitive advantages relative to other cities in the market area.
- The sector for which Davis offers advantages – high tech startups, R&D and manufacturing – demand either more affordable space, larger lots than Davis has in inventory, or lots located away from residential uses. Without resolving this dilemma, Davis is not in a position to absorb the amount of development assumed in the Major Projects Financing Plan, creating public facility financing cash flow problems for the City.

Additionally, the economic analysis provided overarching recommendations to encourage industrial/business park-type land development[12]:

[10] City of Davis. General Plan. Pgs 43-44.
[11] City of Davis. General Plan. Pgs 53-54.
[12] City of Davis. General Plan. Pg 54.

- Develop a strategy that targets higher value-added, technology oriented industrial uses that are attracted to Davis' competitive advantages, particularly its University linkages, educated workforce and quality of life for employees.
- Offer a variety of lot sizes for these industries, including affordable incubator facilities for start-ups, flexible R&D space, and large lots (20-50 acre lots that may be assembled) for manufacturing firms and build-to-suit developments.
- Shorten the approval process with discretionary approvals completed upfront.
- Relieve the Major Projects Financing Plan fee burden for industrial uses by reviewing the nexus assumptions.

Community Form Section: Economic and Business Development

The Economic and Business Development section reflects the guiding vision for community priorities related to economic development. Implementation measures related to business park-type development through land use designations are addressed in the "Land Use and Growth Management" section and explored in Chapter 6 of this report. The Economic and Business Development section of the plan emphasizes economic and business development as necessary, vital, and integral to maintaining and enhancing the city's overall quality of life. While it provides guidance on several economic development goals, policies integral to this study are presented below[13]:

Goal ED 3.1: Retain existing businesses and encourage new ones as means to increase higher paying jobs, create greater job diversification, and create a more balanced economy for all economic segments of the community, while also maintaining the City's fiscal and environmental integrity.

Policy ED 3.1: Adopt policies that make Davis a more business-friendly community and eliminate unnecessary barriers to business.

Goal ED 3.2 Encourage new businesses to locate in Davis, targeting business, which improves the city's fiscal base, are consistent with the City's values and identity, and match the employment skills of the population, such as those in the emerging technology and knowledge-based industries.

- *Actions:*

  b. Develop an industrial land use strategy that targets technology oriented industrial and light industrial uses that contribute to the creation of jobs and the economic health of the community.

  e. Explore the establishment of a specialized zone or incubator facilities to target specific industries, for example, a high technology or life science zone.

[13] City of Davis. General Plan. Pgs 201-203.

f. Study opportunities to designate lands for "green" technology, high technology and University related research uses within or adjacent to the City. Work closely with the local business community, community leaders and UC Davis officials in determining when and where such uses can best be accommodated in addition to the 25-acre enterprise site planned on the UC Davis campus. Preference should be given to sites that are viable economically and consistent with compact City form principles.

- Consider re-designating or rezoning land(s) within the City limits from Industrial, Business Park or General Commercial to research-oriented Business Park uses.
- Designation of a peripherally sited URRP (University Related Research Park) shall only occur after:

  a. It is determined that lands within the City limits would not meet the needs for "research-oriented" Business Park uses.

  b. Specific guidelines for development projects on the periphery of the City are adopted.

Analysis informing the 2001 General Plan concluded in early 1996 and may not be appropriate for projecting business park-type land need to 2035. Recent historical development, real estate market dynamics, economic trends, and Davis' economic strengths are analyzed in Chapter 3 to better understand Davis' competitiveness and evaluate current policies regarding future business growth. However, the General Plan remains the guiding document for future development and provides a foundation from which future policy and land use analysis occur.

2006 – 2010 Economic Development Strategic Goals

In 2005, the Davis City Council established mid-range economic development strategic goals bridging annual Council Goals and the General Plan. Many strategic goals reinforce those in the General Plan. BPLS-relevant strategic goals are summarized below[14]:

Business Recruitment and Attraction

- Encourage new businesses to locate in Davis, targeting businesses which improve the city's fiscal base, are consistent with the City's values and identity, and match the employment skills of the population, such as those in the emerging technology and knowledge-based industries (Economic Development Goal 3.2).
- Attract biotechnology, high tech, knowledge-based industries; locally owned and serving retail; green business and other targeted industries to Davis. Sponsor a

[14] City of Davis. Economic Development Strategic Goals 2006 – 2010. <http://cityofdavis.org/meetings/business/ED_Strategic_Goals_2006-2010.pdf>.

green technology conference to encourage these types of businesses to locate and stay in Davis.

- Work with existing high tech and knowledge-based companies to bring their suppliers, etc. to Davis (develop critical mass).
- Look into possibility of partnering with the private sector and UC Davis to develop a business incubator or center for technology innovation.
- Work with UC Davis programs such as UC Connect and Tech Transfer to assist research spin-offs looking to locate in Davis.
- Investigate establishment of specialized "local enterprise zones" that are targeted for specific enterprises.

Economic Climate

- Maintain a database of available land for non-residential development.
- Ensure that land is available in appropriately zoned parcels to encourage suitable non-residential development, with respect to the long-range vision of the community.
- Review planned developments where development has not occurred to see if modifications are necessary.

2009 – 2010 City Council Goals

City Council adopts biennial goals. 2009-2010 City Council Goals relevant to this study include[15]:

Fiscal Stability: Promote Compatible Economic Development

- Continue to retain and attract compatible economic development, such as high tech industry, auto dealerships, downtown retail, restaurant and hotel business, while recognizing that economic development is unlikely to rival expenditure control when it comes to fiscal stability.
- Collaborate more closely with UC Davis to strengthen commitment to life sciences, high tech, green and clean businesses consistent with the character of university community and related to UCD research activities.
- Deliberately pursue strategy for targeting technology businesses, to include development of high-tech research and business parks/zones.
- Consider development of Green Business Zones.

Through adopted policies and strategies Davis has placed a high priority on business growth in areas catering to the community's strength: high-intellectual capital, knowledge-based business growth; particularly in the high-tech, biotechnology, and energy-related sectors. This chapter focuses on the policy foundation for which

[15] City of Davis. Davis City Council Goals and Key Objectives 2009 – 2010. <http://cityofdavis.org/story/pdfs/Council-Goals-2009-2010.pdf>.

business growth should occur. For reference, Davis' Economic profile and trends are explored in detail in Chapter 3.

VALUE OF KNOWLEDGE-BASED BUSINESS GROWTH

Davis has established an appropriate policy framework for supporting future business growth in knowledge-based industries and Davis. While encouraging growth in such industries is intuitive and appropriate for Davis, the *economic value* of continuing their growth has not been recently explored. In many circumstances, knowledge-based industries locate research and development-related activities in Davis. As a result, the economic value of these industries is not quantified regularly since this activity often does not result in taxable sales. Thus, the City contracted with the Center for Strategic Economic Research (CSER) to quantify the direct impact these industries have on the local Davis economy. Excerpts of that analysis follow[16]:

Effective economic development programs can help create the climate that shapes the future economy by aligning resources with community values, competitive assets, and regional opportunities. At the most basic level, economic development programs focus on the interconnected goals of growth and development within the local economy.

Growth, a quantitative change, in isolation can either signal an improvement or deterioration in the local economy depending on the context. For example, growth may be concentrated in low-paying jobs and, while there is economic growth, incomes on a per capita basis may fall and overall quality of life may decline. For that reason, growth must be closely aligned with the concept of development within local economic development programs.

Development, a qualitative change, emphasizes improvements in welfare and quality of life, concepts which are often ignored or inconsistent with outcomes if growth is the sole focus. The broader process of economic development occurs when growth and development are consistent. For instance, growth may bring higher-paying jobs that push up incomes or close income gaps in addition to building critical physical and social infrastructure that benefit the community and overall quality of life. Taken together, growth and development are the foundational elements of local economic development programs, which are generally organized around the objectives of creating and maintaining employment, expanding the tax base, and improving quality of life. These core objectives tend to cut across multiple business and community interests, but each program must be customized to accommodate specific trade-offs based on the local context. A classic example is the aspiration to create jobs for local residents and avoid out-migration versus the desire to curb community growth and simply benefit from economic growth in other parts of the larger region. It is important to note that accomplishing the objectives of economic development do not necessarily depend on an increase in population—the core objectives can be achieved by attracting,

[16] Center for Strategic Economic Research (CSER). Analysis of the Value of Economic Development and Potential Employment Growth in the City of Davis. February 26, 2010. See Appendix for full report.

expanding, retaining, and creating companies that increase local welfare and are aligned with the local labor market.

Business establishments are the most tangible component of a local economy. Local establishments directly generate economic benefits and also sustain additional economic activity through linked suppliers of goods and services and employee spending within the local economy. By producing goods and providing services, a typical establishment supports full- and part-time jobs and related compensation (e.g. salaries and benefits), creates economic output (market value of goods and services), and generates tax revenues (e.g. sales and property taxes) all within the local economy.

Local establishments also create what is known as indirect benefits in the local economy through supplier relationships for purchases of required goods and services. For example, Company A requires office supplies that it purchases locally from Company B. Company B's response to the demand from Company A creates additional economic benefits in the form of jobs, output, and tax revenues. The workers, in turn, generate induced benefits through consumption activities in the local economy. Those workers commuting into the area for jobs within local establishments often spend money locally during the work day through purchases such as food and gas. Workers who live in the area typically divert a large share of their paychecks to the local economy, spending on items such as housing, groceries, and personal services. This spending activity creates demands on local companies, which then respond by creating jobs, output, and tax revenue. If indirect and induced activities occur within the local economy, instead of leaking out to surrounding areas, the economic benefits of a local establishment are maximized.

Even with recognized retail and business-to-business sales leakages, establishments within the City of Davis still create notable indirect and induced benefits. When the local economy grows (through attraction and expansion of establishments), the dynamic response of direct, indirect, and induced activities create a wide range of economic benefits. Conversely, if the local economy contracts (through establishment exits or reductions) there is also a wide-ranging response throughout the local economy as indirect and induced activities are also affected.

All local establishments can be classified into sectors which are either base or local-serving, both of which respond to different growth dynamics and produce different levels of economic benefits. Base sectors are typically described by the following characteristics: they bring net new wealth into an economy; they generally produce goods and services for export; and they face few geographical constraints, allowing them to operate anywhere that they deem attractive. On the other hand, local-serving sectors normally move wealth around a local area, produce goods and services for local consumption, and are strategically located to serve a local market (residents or base sectors).

Base sectors are active drivers of economic development while local-serving sectors are passive participants, simply responding to economic and demographic growth trends. Since they tend to generate much greater economic benefits (mainly due to output and compensation levels) and bring net new wealth into the community, businesses within base sectors are often viewed as high value in economic development terms.

It is important to note that both base and local-serving sectors are important to a local economy (residents and businesses rely on local-serving sectors while base sectors drive development) and, in order to meet the core objectives of economic development, sector diversity is essential. Moreover, a diversified economy with both base and local-serving sectors helps reduce vulnerability to a single sector or small group of sectors and expand the local economy. It is important to highlight that diversification does not diminish the benefits of focusing on niche clusters—a local economy can have multiple niches or specializations while still creating stability through other key base and local-serving sectors.

Economic restructuring has spurred a focus on the dynamics of a knowledge-driven economy and the potential for a community to present a competitive advantage in fostering and growing establishments in knowledge-based sectors. Many of these can be considered base sectors - active drivers of economic development from which other business growth is derived. Due to the high value activities of many knowledge-based sectors, a clustering of establishments tends to support further innovation, wealth creation, and locational advantages.

The City of Davis is uniquely positioned to benefit from knowledge-based economic development. The presence of the University of California, Davis, a strong local and regional workforce, proximity to the San Francisco Bay Area, and a desirable quality of life are all competitive assets for attracting and growing knowledge-based sectors. In fact, the City's Economic Development Strategic Goals 2006-2010 emphasizes growth and development in these sectors, which are consistent with the City's values and identity. Successful economic development efforts focused on knowledge-based industries typically include:

- *Strategies that create a business climate and quality of life that attracts and retains companies and workers;*
- *Promote the transfer of research into marketable products and services;*
- *Deploy new products and services in other sectors of the economy;*
- *Support entrepreneurship and start-up businesses;*
- *Build certainty into the regulatory process;*
- *Create linkages between companies and support organizations (e.g. capital, networking, and advocacy); and*
- *Facilitate the development of appropriate facilities.*

Knowledge-based sectors, particularly activities like biotechnology, clean energy, and high-technology electronics, span across a number of different major industries like Professional & Business Services, Manufacturing, and Information. Each activity makes a unique contribution to a local economy based on the specific economic structure, inter-industry relationships, and employee spending patterns. The City of Davis Economic Development staff selected five knowledge-based industries which include three service-based activities and two light manufacturing activities. These prototypes are summarized below along with estimates of the full range of economic impacts based on IMPLAN model calculations (a widely-used economic input-output system)[17]. While these five prototypes represent examples of what is targeted in the Economic Development Strategic Goals, many more knowledge-based activities occur in the Davis economy.

Table 1 illustrates the economic benefit of every ten jobs in five targeted sectors, accounting for local economic structure and leakages

Table 1: "Targeted Knowledge-Based" Business[18] Economic Multipliers

Industry	Jobs	Additional Jobs through Direct & Induced Activities	Total Output	Employee Compensation	Annual State & Local Taxes
Scientific Research & Development Services (e.g. research and experimental development in life sciences, engineering, and physical sciences)	10	4	$1.7 m	$680,000	$180,000
Technical Consulting Services (e.g. environmental consulting, utilities management consulting, and agricultural consulting)	10	3	$1.9 m	$504,000	$198,000
Computer System Design Services (e.g. computer programming, systems integration, and processing facilities management)	10	3	$1.9 m	$616,000	$208,000
Life Sciences & Medical Device Manufacturing (e.g. diagnostic substances, pharmaceutical preparations and botanicals)	10	20	$10.2 m	$2,400,000	$682,000
Clean Energy Component Manufacturing (e.g. solar cells, thin film, and fuel cells)	10	3	$4.2 m	$916,000	$305,000

As Table 1 shows, knowledge-based business growth increases jobs, wages, capital investment, and community revenue from both direct (sales & service) or indirect sources (business-to-business, supplies, or other supporting business services) beneficial to a local community. Success in creating and maintaining employment, expanding the tax base, and improving quality of life generates a number of positive outcomes including economic stability, employment opportunities for residents, increased standard of living, positive perceptions of the business climate, productive use of property, and tax revenue for services and infrastructure. These impact levels can be fully realized and even boosted if the City is able to internalize a greater share of the indirect and induced activities (e.g. greater localized business-to-business commerce).

[17] See Appendix for more information regarding model methodology.
[18] See Chapter 3 for more detailed "Targeted Knowledge-Based" business definition.

Overall, growth and development, the key goals of economic development, can be beneficial to a local community. Success in creating and maintaining employment, expanding the tax base, and improving quality of life generates a number of positive outcomes including economic stability, employment opportunities for residents, increased standard of living, positive perceptions of the business climate, productive use of property, and tax revenue for services and infrastructure. For the City of Davis in particular, focusing on knowledge-based sectors and encouraging economic diversification can align growth and development with community values, competitive assets, and regional opportunities.

CHAPTER 3

DAVIS ECONOMY

INTRODUCTION

Understanding the local economy helps facilitate the type and amount of business growth appropriate for the community. Davis has experienced substantial economic change over the past 20 years. Building from the ESG Study, this chapter analyzes Davis' economy in many contexts including historical, present, comparative, and regional, including:

- Overview ESG study conclusions of Davis economy
- Updated employment figures and historical trends
- Overview of Davis business establishments
- "Peer City" comparisons
- Davis workforce
- UC Davis activities contributing to spinoffs/startups and where they locate

Davis serves as an economic development partner with neighboring cities as well as unincorporated Yolo County to promote Yolo County business growth. Davis participated in the Yolo County Comprehensive Economic Development Strategy (CEDS) which summarizes the strengths, weaknesses, and priorities for the neighboring communities and County overall.

Davis also resides within two regional economies: a very broad "northern California" region, ranging from Santa Cruz County to Placer and El Dorado Counties as well as the six-county greater Sacramento region[19]. Davis partners with regional economic development organizations such as the Sacramento Area Commerce and Trade Organization (SACTO) and the Sacramento Area Regional Technology Alliance (SARTA), whose roles are to promote regional economic growth, particularly in knowledge-based industries where promising trends are occurring. Davis' opportunity to capitalize on these trends in regional business creation, attraction, and growth activities are highlighted in this chapter.

DAVIS ECONOMY

Overview of ESG Study Conclusions about Davis Economy

According to the ESG study, Davis represents a distinctive economic base with a very different composition from regional norms and other regional submarkets. The study characterized it as an "unusual, and very vibrant, economy." The ESG study concluded that "high intellectual capital" firms drive the Davis area economy and private sector growth is largely attributable to growth of these firms. High intellectual capital

[19] See ESG Study for detailed discussion.

businesses are not just tech firms commercializing applied scientific research, but rather all firms using leading edge tech applications as a key element of their businesses such as agriculture, life sciences, engineering, law, management, education, and health. Davis differs from the region in that overall it has:

- A lower percentage of employment in commoditized industries such as warehousing, transportation, utilities, and construction;
- A higher percentage of high intellectual capital inputs such as education and health;
- Greater stability and prosperity resulting from the size and steady growth of UCD which buffers economic cycles;
- Unusual educational attainment, high skills level, occupational employment, and access to substantial skilled labor from the Sacramento area.

Davis Employment

This study employs a "selected sector" approach to local employment where complementary and/or related industries are combined to form "sectors". This approach was taken to group employment into intuitive categories most relevant to the Davis economy. Of particular focus is business growth in "knowledge-based" business growth such as clean technology and biotechnology. Therefore, a somewhat narrow definition of knowledge-based business - those most closely aligned with Davis economic development goals and policies as highlighted in Chapter 2 is employed. However, it is important to note that per the ESG Study, substantial knowledge-based activities occur within other employment sectors including Business & Financial Services and Education & Health. These are complementary "business park-type uses" this study does not formally define as "knowledge-based". Since this study employs a unique selection of sectors and subsectors presented in forthcoming employment tables/figures, an overview of all sectors follows[20]:

Combined Knowledge Based: This sector represents "Targeted Knowledge - Based" and "Rest of Scientific, Professional & Technical" sectors as defined below, combined.

Targeted Knowledge Based: This sector represents a grouping of specific knowledge-based industries for which Davis economic development policy prioritizes for growth. It is comprised of select, high-value manufacturing, research & development, scientific & technical consulting, and high technology activities for which an historical presence has been established in Davis. These are extracted from the Manufacturing and Professional, Scientific, & Professional NAICS Code (33, and 54, respectively). The term "Innovation Company" used in Chapter 4 can be used interchangeably with "Target Knowledge Based".

Rest of Scientific, Professional & Technical: This sector represents remaining employment from the Scientific, Professional & Technical sector after specific activities were relocated to the "Targeted Knowledge Based" sector. Remaining industries include

[20] For more information, see 2007 NAICS Codes and Titles <http://www.census.gov/naics/2007/NAICOD07.HTM#N61)>.

attorneys/legal services, accounting, testing laboratories, graphic design, consulting services, advertising, and public relations firms.

Agriculture & Natural Resources: Industries in this sector include farming, animal production, agricultural support services, and natural resource extraction.

Construction: This sector includes all industries associated with construction.

Rest of Manufacturing: This sector represents remaining Davis manufacturing employment after specific, high-value manufacturing activities were relocated to the "Target Knowledge Based" sector.

Wholesale, Transportation, Utilities: This sector includes finished-goods wholesalers, passenger & freight transportation services, postal service, and utilities.

Retail, Leisure, and Hospitality: Industries in this sector include retail trade; arts, entertainment, & recreation; accommodation & food services; and "other services" not easily categorized including repair services, dry cleaning, religious organizations, and political organizations.

Business & Financial Services: Industries in this sector include information (media/telecommunications), finance & insurance, management of companies, administrative & waste, and real estate & rental.

Education & Health: This sector includes private sector educational & health services.

Government & Unclassified: This sector includes public administration and other unclassified industries.

Historically, Davis' economy has been greatly affected by and benefits from UC Davis' presence. UC Davis accounts for nearly 49% of economic activity directly and another 25% indirectly in the community[21]. UC Davis is by far the community's largest employer. Table 2 provides Davis' employment profile, including UC Davis.

[21] ESG Study, Pg 53. Refer to ESG Study for economic impact of other industry sectors

Table 2: **Davis Employment Profile (including UC Davis)** [22]

Employment Sector	2008	% of Total Employment (2008)
Combined Knowledge-Based	2,300	7.7%
<Target Knowledge-Based>	<1,427>	<4.8%>
<Rest of Professional, Scientific, & Technical Services>	<873>	<2.9%>
Agriculture & Natural Resources	367	1.2%
Construction	397	1.3%
Rest of Manufacturing	555	1.9%
Wholesale, Transportation, Utilities	961	3.2%
Retail, Leisure, Hospitality	6,109	20.6%
Business & Financial Services	2,515	8.5%
Education & Health	3,849	13.0%
Government & Unclassified	1,196	4.0%
UC Davis	11,455	38.6%
Total Including UC Davis	**29,704**	**100.0%**

Because the Davis market area economic base is substantially driven by UC Davis activity, it distorts local economic analysis in some areas. This is especially so for private sector business growth, the focus of this study. To address this issue, the City acquired the 1990 – 2008 National Employment Time Series Database (NETS) to analyze local employment absent UC Davis. This action was taken with the following considerations in mind:

- Private sector enterprises generate wealth and contribute property taxes.
- Davis economic development policy prioritizes private sector business growth, specifically knowledge-based industry.
- Private sector business growth can be influenced through City policies and actions to improve business climate, increase demand for business growth, and assure land use policy facilitates business growth.
- City of Davis economic development and land use policies have minimal influence over UC Davis employment growth.

Excluding UC Davis from the analysis illustrates employment changes and relevant accompanying statistics from the 1990 – 2008 timeframe, as shown in Table 3.

[22] National Employment Time Series (NETS) database, 1990 - 2008. 2007 UC Davis employment: ESG Study, Pg 33. Sectors in "< >" represent a subset of the Combined Knowledge-Based employment sector.

Table 3: **Davis Employment Profile (excluding UC Davis)** [23]

Employment Sector	1990	2008	Employment Change (jobs)	% of Total Employment (2008)	% of Employment Growth (1990-2008)
Combined Knowledge-Based	800	2,300	1,500	12.6%	28.4%
<Target Knowledge-Based>	<453>	<1,427>	<974>	<7.8%>	<18.5%>
<Rest of Professional, Scientific & Technical Services>	<347>	<873>	<526>	<4.8%>	<10.0%>
Agriculture & Natural Resources	402	367	-35	2.0%	-0.7%
Construction	471	397	-74	2.2%	-1.4%
Rest of Manufacturing	1,742	555	-1,187	3.0%	-22.5%
Wholesale, Transportation, Utilities	325	961	636	5.3%	12.1%
Retail, Leisure, Hospitality	4,031	6,109	2,078	33.5%	39.4%
Business & Financial Services	1,919	2,515	596	13.8%	11.3%
Education & Health	2,832	3,849	1,017	21.1%	19.3%
Government & Unclassified	452	1,196	744	6.6%	14.1%
Total	**12,974**	**18,249**	**5,275**	**100.0%**	**100.0%**
Annual Growth (jobs)				278	

Davis Employment: 1990 - 2008

Davis has experienced steady employment growth during the 1990 – 2008 timeframe. Since 1990, 5,275 new jobs (278 annually) have been created with increases in all sectors except those related to natural resources, construction and manufacturing. The largest increases occurred in the Combined Knowledge-Based; and Retail, Leisure, and Hospitality sectors with increases of 1,500 and 2,078 jobs, respectively. Of particular note, nearly 28% of employment growth has occurred in the Combined Knowledge-Based sector with over 18% of growth attributable to the more specialized Target Knowledge-Based sector. Knowledge-based business represents 12.6% of total Davis employment excluding UC Davis and 7.7% including UC Davis.

Analyzing historical employment changes over the five most recent years of available data reveals important trends regarding shifts in employment growth and where Davis may expect future growth to occur. Table 4 illustrates employment changes from 2003 to 2008.

[23] National Employment Time Series (NETS) database, 1990 – 2008.

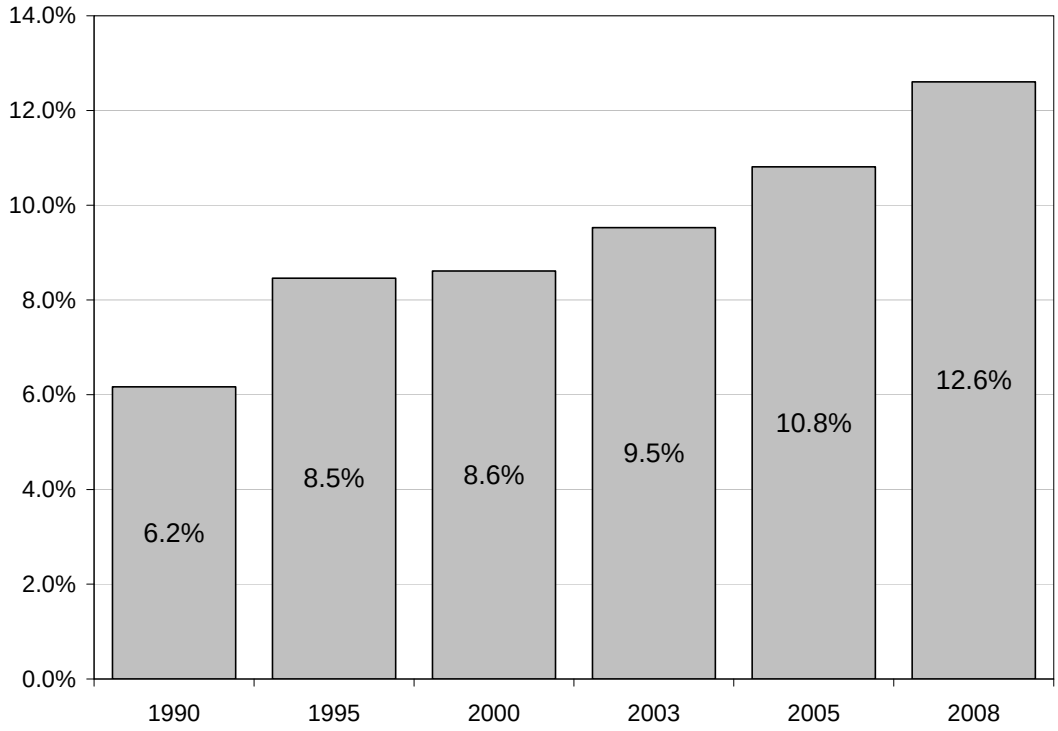
Table 4: Davis Employment Change (2003 – 2008) [24]

Employment Sector	2003	2008	Employment Change (2003 - 2008)	% of Total Change
Combined Knowledge-Based	1,586	2,300	714	44.5%
<Target Knowledge-Based>	<959>	<1,427>	<468>	<29.2%>
<Rest of Professional, Scientific & Technical Services>	<627>	<873>	<246>	<15.3%>
Agriculture, Forestry, Fish & Hunting and Mining	373	367	-6	-0.4%
Construction	350	397	47	2.9%
Rest of Manufacturing	559	555	-4	-0.2%
Wholesale, Transp., Utilities	746	961	215	13.4%
Retail, Leisure, Hospitality	6,133	6,109	-24	-1.5%
Business & Financial Services	2,441	2,515	74	4.6%
Education & Health	3,416	3,849	433	27.0%
Government & Unclassified	1,041	1,196	155	9.7%
Total	**16,645**	**18,249**	**1,604**	**100.0%**
Annual Growth (jobs)				321

Davis' 2003-2008 average employment growth rate (321 jobs/year) exceeds the 1990 – 2008 growth rate (267 jobs/year). Additionally, a significant shift occurred with knowledge-based employment growth representing a much higher growth rate than other sectors. Of the 1,604 jobs created, 714 were generated in the Combined Knowledge-Based sector. This suggests a rapidly growing knowledge-based sector in Davis that will continue to flourish if supportive conditions continue or improve. Figure 1 illustrates knowledge-based industry's increase as a percentage of total employment during the 1990 – 2008 timeframe.

[24] National Employment Time Series (NETS) database, 1990 – 2008, excludes UC Davis.

Figure 1: Davis Combined Knowledge-Based Sector Employment as Percentage of Total Employment, 1990 - 2008[25]



Analyzing the Davis economy through a business establishments lens provides insight into business distribution throughout the Davis economy. Additionally, when cross-referenced with employment figures, a better understanding is gained regarding the average size of businesses in the Davis economy.

Table 5: Davis Business Establishments, 2008

Employment Sector	Business Establishments	% of Total	Avg. Employment
Combined Knowledge-Based	560	19.1%	4.1
<Target Knowledge Based>	*<352>*	<12.0%>	<4.1>
<Rest of Professional, Scientific & Technical Services>	*<208>*	<7.1%>	<4.2>
Agriculture & Natural Resources	54	1.8%	6.8
Construction	159	5.4%	2.5
Rest of Manufacturing	76	2.6%	7.3
Wholesale, Transportation, Utilities	103	3.5%	9.3
Retail, Leisure, Hospitality	828	28.2%	7.4
Business & Financial Services	*704*	*24.0%*	*3.6*
Education & Health	430	14.6%	9.0
Government & Unclassified	24	0.8%	49.8
Total	**2,938**	**100.0%**	**6.2**

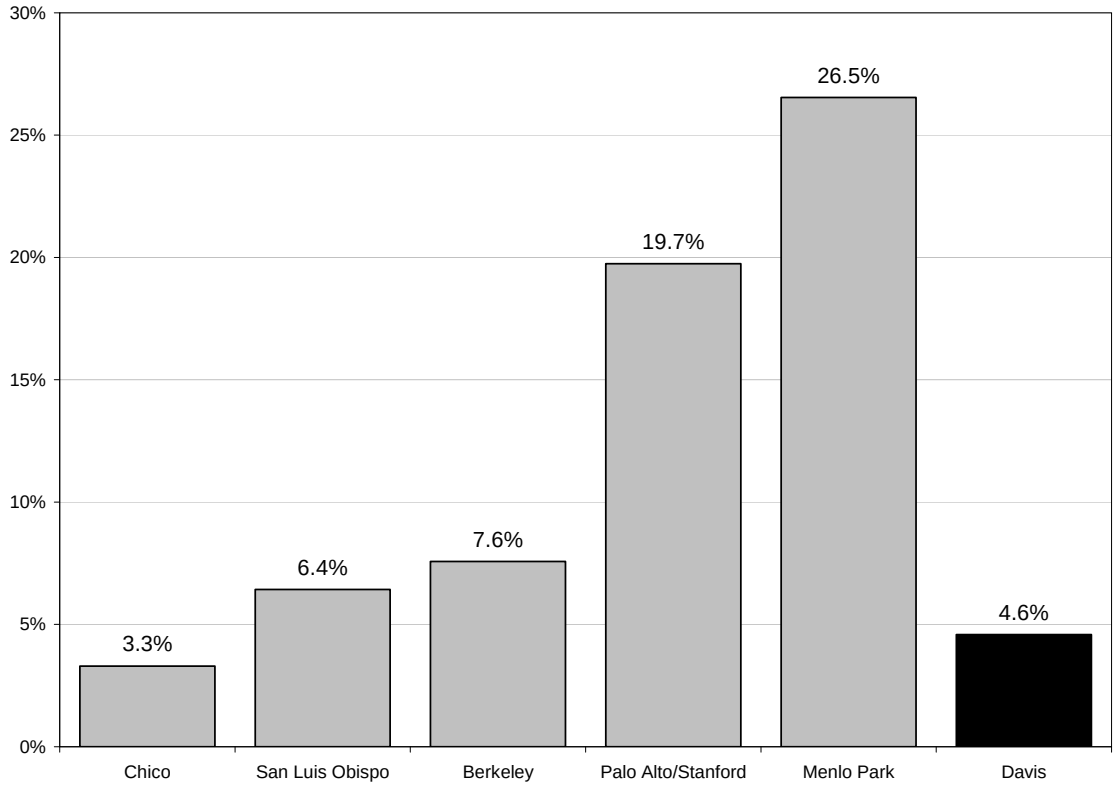
[25] National Employment Time Series (NETS) database, 1990 - 2008. Excludes UC Davis.

A total of 2,938 Davis businesses existed in 2008 averaging 6.2 employees. Most businesses are concentrated in the Retail, Leisure, & Hospitality sector (28%) followed by Business & Financial Services (24%), and Combined Knowledge-Based sectors (19%). The overall low average employment is driven by the large number of sole-proprietorships and businesses of three or fewer employees across several sectors, particularly the Business & Financial Services and Combined Knowledge-Base sector that may not reside in "bricks and mortar" space.

Davis vs. Peer Cities

Economic diversification is a key component of a healthy economy. However, no accepted standard exists reflecting a "balanced economy" of desirable employment distribution across industries, particularly for "university towns". As a result, peer city comparisons can be useful as reference points against local economic development goals. While every community's economic composition is unique, peer cities that have achieved employment diversification success in areas Davis prioritizes for economic development can serve as comparison benchmarks. The ESG study noted Davis competes with similar leading edge universities, high intellectual capital industries, and high quality of life locations throughout the world for knowledge-based economic activity and workforce. Several cities mentioned in the ESG study such as Palo Alto and Berkeley have deeper roots in entrepreneurial culture than Davis. Comparing them with Davis' economic composition provides insight into differences and possible improvement areas. Figure 2 compares Davis employment in knowledge-based industries as a percentage of employment with a sample of peer cities.

Figure 2: Peer City Comparison: Professional, Scientific, & Technical Employment as Percentage of Total Employment, 2008. [26]

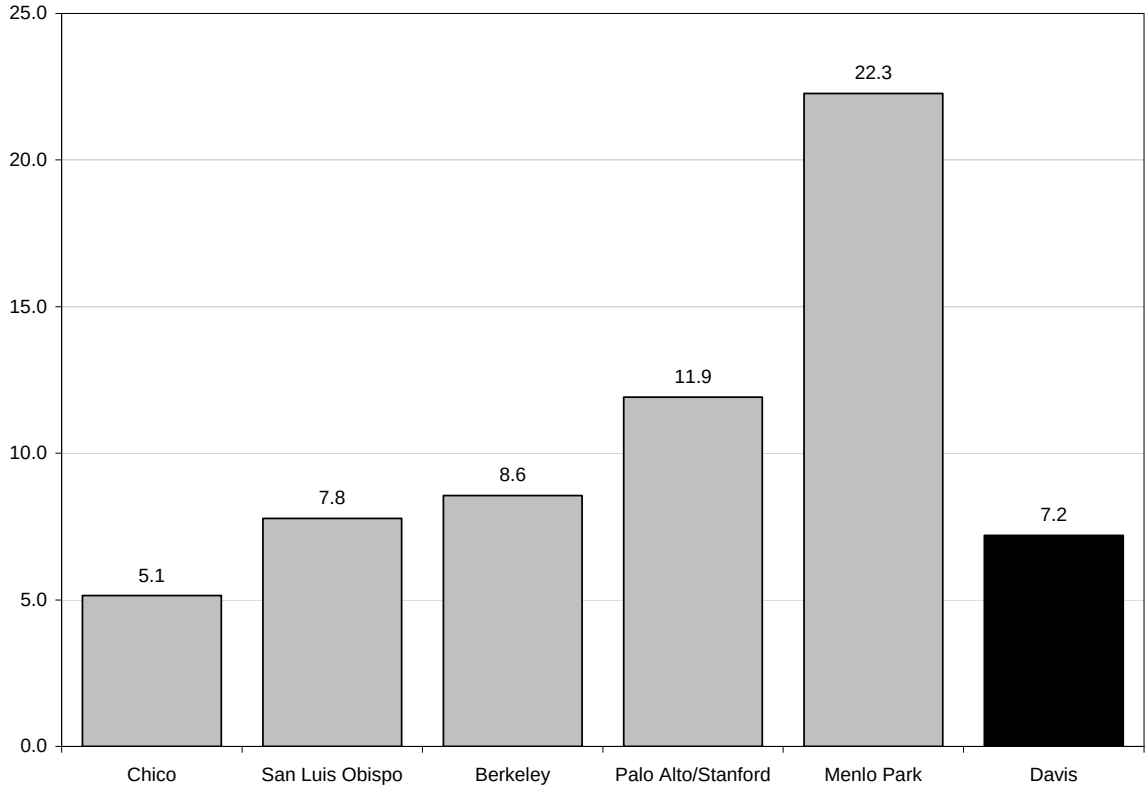


For the purposes of peer city comparisons, the "Professional, Scientific, & Technical" (PST) sector can be loosely used as a proxy for "knowledge-based industries". "Traditional" university cities such as Chico, San Luis Obispo, Berkeley, and Davis have lower percentages of PST employment due in part to the comparatively high percentage of university-related employment. However, Palo Alto/Stanford, a university community with a more established entrepreneurial culture, has a much higher percentage of PST employment. Somewhat predictably, Menlo Park, a Silicon Valley city with a strong innovation culture and ability to leverage the presence of Stanford University, Stanford Research Park, and significant venture capital, also reflects a significantly higher percentage of PST employment. Based on this comparison, Davis underperforms against these peer cities. Bridging the gap between Davis and higher performing peer cities could be an economic development objective for consideration.

It is also useful to compare PST business composition for a better understanding of the role of such businesses in the local economy. Figure 3 illustrates PST business establishments by average PST business size.

[26] State of California. Employment Development Department. Includes university employment for cities with universities. Note: Silicon Valley cities such as Palo Alto and Menlo Park exist within a much larger economic ecosystem in contrast with university cities such as Chico, Davis, and San Luis Obispo which function either as economic centers or represent local economies distinct from their region.

Figure 3: Peer City Comparison: Average Professional, Scientific, & Technical Establishment Size, 2008.[27]



Average PST establishment size profiles mirror average percentage of employment for peer cities. While Davis' PST employment is nearly identical to Chico, its larger establishment size of 7.2 employees suggests Davis' PST employment sector is slightly more developed, which is consistent with Davis' high rate of knowledge-based employment growth in the past five years. It is clear entrepreneurial communities such as Palo Alto/Stanford and Menlo Park have a more highly developed PST sector with larger establishments. Also, the presence of substantial venture capital in Silicon Valley better enables spinoff and startup companies to expand in place.

Local Workforce

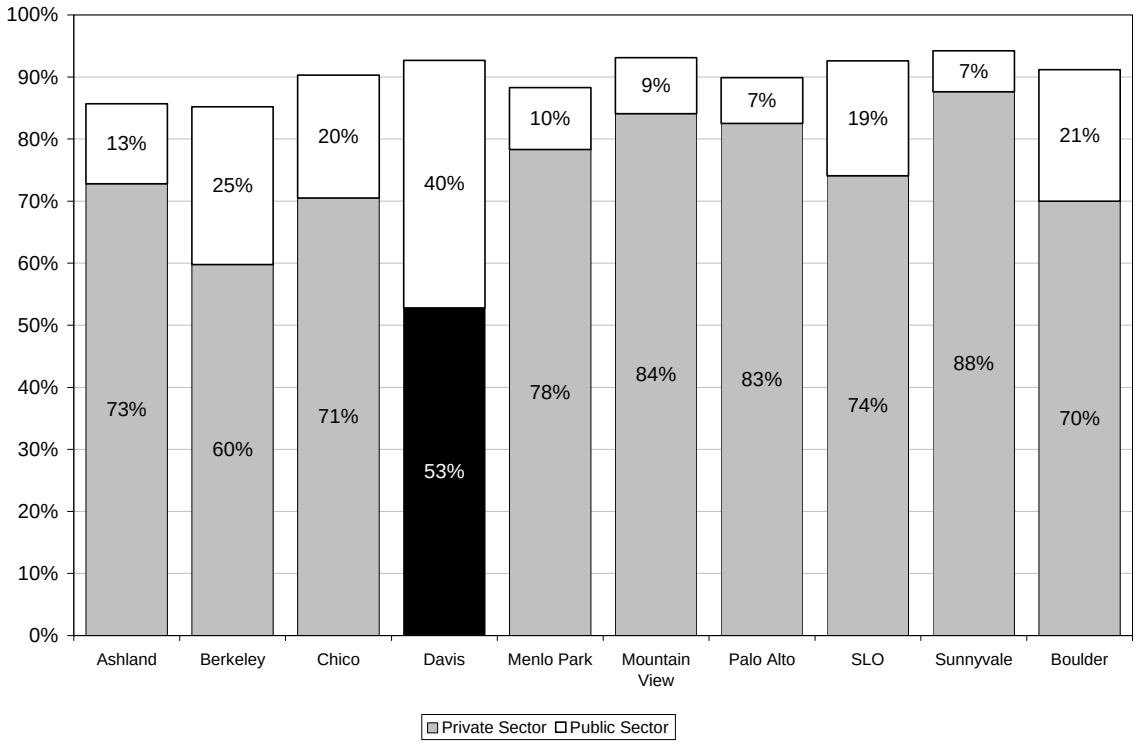
Knowledge-based business growth is to a large extent dependent on local workforce skill sets. Two factors influencing local workforce potential include local workforce quality, and current occupation, the latter reflecting the existing population's ability to "substitute" existing employment elsewhere with new jobs created in Davis.

Occupation profiles of existing residents by public versus private sector shed light on the Davis economy from a different angle. Figure 4 illustrates Davis residents are public sector-employed at a significantly higher rate than peer cities, even when compared

[27] State of California. Employment Development Department. Includes university employment for cities with universities.

with university towns, likely due to proximity to the State Capitol as well as limited local private sector employment opportunities.

Figure 4: Peer City Comparison: Davis Resident Occupation Profile (Public vs. Private) [28]



Ideally, local workforce quality is closely aligned with employer needs. Davis economic development policies and strategies promoting knowledge-based business growth are well matched to the education and skill set of local residents. Education level is important as most knowledge-based industries are dependent on an educated workforce. Table 6 provides educational attainment of Davis residents as well as their current occupations.

Table 6: Davis Educational Attainment[29]

Educational Attainment	% of population
No college	12.3%
Some college, no degree	14.1%
Associate Degree	5.2%
Bachelor's Degree	32.0%
Master's Degree	18.2%
Doctorate or Professional School Degree	18.3%
Associate Degree or Higher	***73.7%***
Bachelor's Degree or Higher	***68.5%***

[28] US Census Bureau. American Community Survey: 2005-2007. <http://factfinder.census.gov>. Peer city comparisons include university employment for all cities, where applicable.
[29] ESG Study, Pg 34.

Table 6 helps verify the match between workforce and employment needs. Given over 62% of residents work outside Davis[30], knowledge-based business growth can create employment opportunities currently requiring a commute outside Davis. For many, this would represent a quality of life improvement. Table 7 distributes occupation across industry sectors for current Davis residents.

Table 7: Occupation Employment of Davis Residents [31]

Occupational Employment of Davis Residents	% of Population
Management, professional, and related occupations	***61.0%***
Service, Sales, and Office	31.1%
Construction and Production	7.4%
Farming, Fishing, and Forestry	0.5%
Total Civilian employed population 16 years and over	**100%**

Tables 6 and 7 support the ESG study conclusions that an exceptional workforce resides within Davis and represents an untapped economic development opportunity. Knowledge-based business growth is compatible with the Davis workforce profile.

Positive Role of UC Davis

As a large public sector institution and employer, UC Davis plays an enormous role in the local and regional economy[32]. This subsection focuses on UC Davis activities likely to translate into business creation wealth created in the local private sector.

Commercialization of intellectual property created by the University of California system is an important revenue source for each university. The ESG Study concluded UC Davis has an historically low rate of technology commercialization relative to other UC campuses[33]. However, UC Davis has made considerable strides in increasing research funding, paying current dividends and likely to change the trajectory of technology commercialization and subsequent new startups. UC Davis was recently ranked tenth internationally as a top university startup community by YouNoodle, a Bay Area-based firm specializing in researching startup companies[34]. Several noteworthy activities and recent actions justify placing UC Davis' historical performance into a future context.

UC Davis Research

The ESG study concluded that while the return on investment from UC Davis activities was low, the research value was high and the volume of inventions, patents, and licensing were also high. According to the study, UC Davis research revenues in FY

[30] City-Data.com. < http://www.city-data.com/city/Davis-California.html>
[31] ESG Study, Pg 34.
[32] Refer to UC Davis Economic Impact Report: <http://www.news.ucdavis.edu/special_reports/economic_impact/>
[33] ESG Study, Pg 46
[34] "Top University Startup Communities". YouNoodle. <http://younoodle.com/topschools.>

2006/2007 totaled $532 million dollars[35]. This nearly doubles the research funding that occurred in FY 1997/1998 and represents 13% of the UC system research total and 27% of UC Davis operating costs. UC Davis ranks 16th among all private and public universities for research & development expenditures[36]. Furthermore, UC Davis research expenditures were four times as large as all venture capital funding for all technology startup firms in the Sacramento area. With robust research occurring on the UC Davis campus, the most important asset, intellectual property, is in place for accelerated commercialization which will likely result in local technology industry growth. Specifically, UC Davis is recognized internationally as a leader in clean technology and biotechnology industries and is thus poised for commercialization in these industries that will drive the future economy. The UC Davis' Energy Institute and Biotechnology programs exemplify the research depth in areas important to the future economy with research programs including[37]:

Energy Institute

- Energy Efficiency Center
  - California Lighting Technology Center
  - Western Cooling Efficiency Center
  - Sustainable Transportation Center
    - Plug-in Hybrid Electric Vehicle Center
  - California Institute of Food and Agriculture
- Renewable Energy Systems Center
  - Wind Energy Center
  - Solar Energy Center
  - Geothermal Energy Center
  - Hydro and Ocean Energy Center
  - Wind and Geothermal Energy Collaboratives
- Bioenergy Center
  - Biomass Collaborative
- Transportation Energy Center
- Center for Energy and Environment

Biotechnology[38]

- Partnership for Plant Genomics Education
- Center for Aids Research
- UC Davis Genome Center
- Cancer Center
- Center for Biophotonics, Science, and Technology

[35] UC Davis recently announced a campus record of $622 million in research revenue for FY 2008/2009 marking the fifth consecutive year research funds have topped a half-billion dollars.
[36] National Science Foundation. Academic Research and Development Expenditures: Fiscal Year 2007. Detailed Statistical Tables. March 2009. <http://www.nsf.gov/statistics/nsf09303/pdf/tab29.pdf>.
[37] UC Davis Energy Institute. <http://energy.ucdavis.edu/home.cfm?id=ENR,28,1933>.
[38] UC Davis Biotechnology Program. <http://www.biotech.ucdavis.edu/learnmore.cfm#atucd>.

- Nanomaterials in the Environment, Agriculture, and Technology Organized Research Unit
- California Institute of Food and Agricultural Research

Center for Entrepreneurship

UC Davis research strengths are aligned with many of today's societal challenges, and is well positioned to contribute solutions benefiting future generations. However, despite prodigious, world-renowned research, UC Davis commercialization lags behind other universities with similarly strong research programs. Solutions to today's challenges depend on the university's ability to move ideas out of the lab and into policy and practice[39].

Translating university science into marketplace solutions is the role of UC Davis' Center for Entrepreneurship. The Center for Entrepreneurship integrates science and business for social benefit, through innovation and entrepreneurship education and outreach. Since its inception, the center has supported a core set of programs and activities in innovation and entrepreneurship, bringing together scientists and engineers with the Graduate School of Management, business community and outside investors[40]. Core educational programs and activities include:

- Business Development Fellows Program
- UC Entrepreneurship Academy
- Green Technology Entrepreneurship Academy
- Food & Health Entrepreneurship Academy
- School of Medicine Business Development Intensive
- Executive Education
- Big Bang! and Little Bang! Business Plan Competitions
- Energy Efficiency Technology Impact Summit
- Innovation Speaker Series

The Center for Entrepreneurship has graduated 377 total participants, held eleven Entrepreneurship Academies and helped launch or support over 24 new companies since 2005. Given this program's success and the recent $2 million gift from the Charles Soderquist estate to spark California entrepreneurship[41], more companies will be produced, creating more local employment opportunities in industries aligned with Davis economic development goals and policies. This can contribute to the growing local innovation and entrepreneurial culture.

Big Bang!/Little Bang! Competitions

The annual Big Bang! and Little Bang! business plan competitions hosted by the UC Davis Graduate School of Management and sponsored by a range of entities including

[39] UC Davis Center for Entrepreneurship. 2008/2009 Annual Report.
[40] Ibid.
[41] Wood, Trina. "Giving: Entrepreneurship Advances through $2 million Gift". UC Davis Magazine Online. Winter 2010. <http://ucdavismagazine.ucdavis.edu/issues/win10/giving.html>.

Sacramento region venture capital firms, legal firms, and regional business organizations have been successful with several startup companies emerging from the competition.

InnovationAccess

UC Davis InnovationAccess provides services connecting research with the marketplace. They are focused specifically on protecting and commercializing intellectual property, and fostering entrepreneurship within the campus community. They evaluate and patent inventions from UC Davis faculty, researchers, and staff, and license those inventions for commercialization in the private sector. Additionally, they help develop strategic research alliances with industry; provide commercialization support for early-stage UC Davis technologies; and support entrepreneurship and UC Davis originated start-up companies[42].

While resources for this important unit have been reduced due to current budget circumstances, InnovationAccess core functions remain and will be poised to facilitate additional technology commercialization when resources stabilize. As evidence of the importance of technology transfer to UC Davis, a blue-ribbon committee has recently been established to recommend specific ways and means by which the university can improve its support of technology transfer and commercialization[43].

UC Davis Leadership

Organizational culture at UC Davis supporting technology commercialization and entrepreneurialism will continue to be critical in forthcoming years. University of California administration sent a strong signal hiring Chancellor Katehi who has stated UC Davis has potential to become a "Top 5" research university in the country and can increase research revenues to $900 million[44]. Katehi brings from the University of Illinois a mindset that translating knowledge into products and services is an important role of a public university and taking ideas to the marketplace leads to economic growth[45]. Regarding her future vision for UC Davis, she envisions it as a place "where there is a lot of creativity, where people feel free to practice new ideas, they feel that the environment is supportive in taking risks, but also where there is a serious commitment to transforming abstract ideas and concepts into products, processes and services that improve quality of life."[46] At the Sacramento Area Regional Technology Alliance (SARTA) Tech Index Luncheon[47], she stated a desire to "create a culture of innovation that extends beyond laboratories," and "bring innovation to within the organization (UC

[42] UC Davis InnovationAccess. <http://www.innovationaccess.ucdavis.edu/home.cfm?id=OVC,23,1729,1735>.
[43] Katehi, Linda. 2010 State of the Campus Address. <http://chancellor.ucdavis.edu/speeches-writings/2010/state_of_campus.html>
[44] "UCD Research Funds Hit New High". Davis Enterprise. 12/11/2009.
[45] Katehi, Linda. "Driving Economic Development: The Role of the Public Research University". NAS STEP/STL Committee. August 28-29, 2008. < http://sites.nationalacademies.org/PGA/stl/ip/index.htm>
[46] Jones, Dave. "Chancellor Charts New Course: Linda Katehi Talks About Future, Budget, and Her Own Life". Dateline UCDavis. 9/18/2009. < http://www.dateline.ucdavis.edu/dl_detail.lasso?id=11851>.
[47] Sacramento Area Regional Technology Alliance Tech Index Luncheon, 2/17/2010.

Davis)." With the indicated direction Chancellor Katehi intends to lead UC Davis, the university has strong prospects of accelerating technology commercialization, resulting in regional economic growth, from which Davis can benefit.

UC Davis Technology "Spin-offs"

A UCD "spinoff" venture is defined as a company founded by UC Davis personnel and has licensed technology patented through the Technology Transfer office (InnovationAccess). However, other spinoffs can occur from UC Davis faculty and students that are not licensed through the University. Spinoff companies are typically small and intended for scalable growth.

Over the past four decades, a number of technology spinoff/start-up companies have been established by UC Davis personnel. Technology companies are generally "scalable" with an objective to grow at a rapid pace. This can provide both direct and indirect benefits in the community where they reside (see Chapter 2). Davis has a vested interest in establishing itself as a preferred location for UC Davis start-ups and spinoffs since campus/spinoff relationships and proximity to campus often remain an important criterion in location decisions. Additionally, Davis companies typically employ a high percentage of local residents, further creating and retaining community wealth. Improving a business climate for capturing spinoffs/start-ups and creating a nurturing environment for them to grow is an important element in Davis' strategy to diversify its economic base and maintain economic health. Table 8 sheds light on UC Davis spinoffs and Davis' role in hosting them[48].

Table 8: UC Davis Technology Spin-offs/Start-Ups Location [49]

Location/Technology Category	# of Companies	% of Companies
Davis	**30**	**62%**
BioTech	*<21>*	*<44%>*
Clean Tech	*<3>*	*<6%>*
High Tech	*<6>*	*<12%>*
Elsewhere	**18**	**38%**
BioTech	*<11>*	*<23%>*
Clean Tech	*<4>*	*<8%>*
High Tech	*<2>*	*<4%>*
Unknown	*<1>*	*<2%>*
Total	**48**	**100%**

[48] Table reflects UC Davis spinoffs/startups and not all Sacramento region technology companies.
[49] Martin Kenney & Donald Patton, 2006 (UC Davis technology Startup Genealogy Chart,Sacramento Region Technology Startup Genealogy Chart).
City of Davis technology company database.
UC Davis Center for Entrepreneurship. <http://entrepreneurship.ucdavis.edu/case.php>.
City of Davis staff research.
"<>" Represents subset of parent category.

Davis has a successful history hosting UC Davis spinoffs. Many factors contribute to Davis as an ideal environment for spinoffs, explored in Chapter 4 in greater detail. However, communities throughout Yolo County as well as the Sacramento region have prioritized technology companies for business growth and thus directly compete with Davis.

YOLO COUNTY ECONOMY and COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDS)

Davis operates within and contributes to the county economy, playing a distinct role in its overall health. UC Davis, the county's largest employer, is the major economic engine for the county. While Yolo County and cities within have unique economic identities, the Yolo County Comprehensive Economic Development Strategy (CEDS) process completed in August 2009 brought together stakeholders from throughout the county producing a report identifying three primary countywide economic development goals, including supporting technology and innovation. The process included countywide data collection; a common vision for economic sustainability; common goals to implement the vision; and programs, and activities to advance the goals. The common goals relating to this study include:

- Goal #2: Business climate and business support
- Goal #3: Support technology and innovation
- Goal #5: Land and infrastructure for future development

REGIONAL ECONOMY & BUSINESS ACTIVITY

Because Davis exists within a regional economy, the local economy will continue to benefit from established partnerships with countywide and regional economic development organizations pursuing strategic opportunities to facilitate Davis business growth. Three regional economic development organizations, the Sacramento Area Commerce and Trade Organization (SACTO), Green Capital Alliance (GCA), the Sacramento Regional Technology Alliance (SARTA), all play important roles in growing the regional economy, with particular emphasis on knowledge-based, clean technology, and biotechnology industries. These relationships will become increasingly important to facilitate knowledge-based business attraction, networking opportunities for local companies, and providing access to resources for regional companies.

Sacramento Area Commerce and Trade Organization (SACTO)

The City of Davis partners with several economic development organizations to promote business development. One example is the Sacramento Area Commerce and Trade Organization (SACTO). SACTO's mission is to recruit high-value investment from throughout the U.S. and overseas to the Sacramento region. This results in the investment needed for regional prosperity and global competitiveness. SACTO is the region's business headquarters, leading marketer, and guides regional economic efforts.

When companies outside the region consider establishing a Sacramento presence, SACTO is often the first contact. SACTO assists business "prospects" by facilitating site selection needs including representing key decision makers such as financial, legal, government, regulatory and real estate professionals, delivering proprietary research/data, conducting site searches and site tours, facilitating planning and consultation meetings. SACTO's assistance and services are always conducted privately and confidentially[50].

SACTO has concentrated efforts on attracting high-value, headquarters, and clean energy technology investment to the region. These efforts are bearing fruit and overall activity in knowledge based industry. Since September 2006 178 prospects have approached SACTO about establishing a presence in the Sacramento region. Table 9 summarizes trends in regional business attraction since 2006.

Table 9: SACTO Business Attraction Prospects, 2006 - 2009[51]

Industry	# of Prospects	Technology Industry	% of Activity
Bio Tech	6		
Bio Tech/Medical Manufacturing	3	9	5%
Clean Tech Manufacturing	2	2	1%
Data/Call Center	6	NA	3%
Distribution	29	NA	16%
Energy	24		
Energy Manufacturing	43	67	38%
General Knowledge-Based Industry	2	2	1%
High Tech	11		
High Tech Manufacturing	3	14	8%
Manufacturing	40	NA	22%
Office	2	2	1%
Other	7	NA	4%
Total	**178**	**96**	**100%**[52]

SACTO has successfully recruited eight clean energy companies totaling approximately 815 employees. Including all knowledge-based industries, SACTO has recruited 13 companies and nearly 1,200 employees. Table 10 illustrates where regional business attraction efforts have been most successful.

[50] Sacramento Area Commerce & Trade Organization. <http://www.sacto.org/index.cfm/about_sacto/what_we_do/>.
[51] Sacramento Area Commerce & Trade Organization (SACTO).
[52] Difference due to rounding.

Table 10: SACTO Business Attraction Successful Recruits[53]

Industry	# of Successful Recruits	# of Employees
Clean Tech Manufacturing	1	50
Data/Call Center	1	25
Distribution	2	110
Education	3	130
Energy	7	315
Energy Manufacturing	1	500
High Tech	1	200
Manufacturing	3	630
Other	2	85
Total	**21**	**2,045**

Of the 178 prospects and 21 successful SACTO regional recruits, none located in Davis largely because of the larger size and/or type of facilities needed that were not available locally. Chapter 4 sheds additional light on Davis' competitive strengths and weaknesses regarding regional business attraction efforts.

Sacramento Area Regional Technology Alliance (SARTA)

The Sacramento Area Regional Technology Alliance (SARTA) is a technology-focused non-profit established in 2001 to support entrepreneurial programs, companies and technology investment throughout the nine-county Sacramento region. The City of Davis partners with SARTA as its mission and vision align with Davis policies and objectives to promote technology sector growth. SARTA's major initiatives include:

- Technology Index: Measures the health of the region's technology industry
- CleanStart: This program promotes clean technology industry growth
- MedStart: This program promotes medical technology industry growth
- VentureStart: Cultivates regional entrepreneurialism.

Davis has partnered with SARTA in seeking recognition of the Sacramento region as an "Innovation Zone", or, "iHub" which is intended to encourage collaboration between research institutions, young technology businesses, local governments, venture capitalists and economic development organizations with the common goal of creating jobs. The iHub designation requires a strong connection to at least one UC campus and one of the statewide UC Institutes for Science and Innovation (of which UC Davis belongs). It also requires strong partnerships with a range of organizations within the region. Expected gains from certification include formal recognition of the collaborative partnerships underway in the region; and ability to market the region as a center of innovation and attract private investment. In February, 2010 the SARTA application was awarded one of six iHubs in the state out of twenty-two applications. It is hoped in the

[53] Sacramento Area Commerce & Trade Organization.

long term, financial resources from the State of California will become available to designated I-Hubs.

Green Capital Alliance (GCA)

The Green Capital Alliance (GCA), an initiative of Valley Vision, is a third regional economic development organization focusing on the clean technology (energy) industry. Its focus is to make Sacramento's growing clean technology sector a defining feature of the economy and making the six-county Sacramento region a leader in sustainability. The Green Capital Alliance coordinates employers, academic and research institutions, economic development and community organizations, and local governments behind this shared purpose. Emphasizing results, the GCA has identified eight primary Focus Areas necessary to achieve clean technology business growth in the Sacramento region. They include:

- Research and Development
- Workforce Development
- Tracking Progress
- Regional Sustainability
- Business Attraction and Regional Marketing
- Entrepreneur and Startup Support
- Business Retention and Expansion
- State and Federal Advocacy

UC Davis, Los Rios Community College District, and Sacramento State University are developing training programs for clean technology employment. Davis is active in the GCA's efforts to establish a regional funding mechanism to implement energy saving building improvements in response to AB 811 (Levine-D) passed in July 2008.

SACTO Economic Profile Report

Despite the current economic downturn, the Sacramento Area Commerce and Trade Organization (SACTO) expects job growth in the region to more than double the national pace over the next ten years. This is attributed to diversification and strengthening of the economic base from one of primarily government employment to private sector employment. Shifts in employment are occurring in expanding industries such as high technology, life sciences and health care, and clean energy technology. According to SACTO, clean energy industries are being heavily invested in the Sacramento region. Increasingly, national and international firms are choosing the Sacramento region as their base of operations for the U.S.[54] The report highlights two industries particularly relevant to Davis: clean energy and biotechnology.

[54] Sacramento Area Commerce and Trade Organization. 2008/2009 Economic Profile Report.

Report on Clean Energy Technology

Many economists believe the nation's future economy will be driven by clean technology. While experts believe the clean energy industry will not concentrate in a single metropolitan area (e.g. high tech in Silicon Valley), Fortune magazine recently ranked Sacramento as the tenth best place for "clean tech" employment[55]. Additionally, according to a report released by Next 10 and Collaborative Economics, nonpartisan organizations, the Sacramento region led the state with the highest "green job" growth at 87% between 1995 and 2008[56].

Consistent with these trends, the SACTO Economic Profile concludes the region is seeing a new wave of technology companies moving due to unique competitive advantages. These advantages include strong educational and research institutions, location of the State Capital, proximity to the San Francisco Bay Area, an emerging venture capital network, premier sites and facilities, and a qualified technical workforce. Additionally, the report concludes Sacramento Region has emerged as a national hub for renewable energy research and development. The area hosts over 100 "green" firms and organizations, most with their headquarters in the region. Some characteristics making the region fertile grounds for this industry cluster include[57]:

1. Several excellent universities and community colleges are located within the Sacramento Region.
2. The headquarters for several research, promotion, and support organizations in the region including the California Fuel Cell Partnership, the Green Capital Alliance, and the Renewable Energy Institute International (REII).
3. As the capital of California, the region is where many cutting-edge decisions are made, dramatically affecting the landscape of the industry.
4. The Sacramento Region has 3 of the top 10 most progressive utility companies in the U.S. as community providers of natural gas and electricity: Pacific Gas and Electric Company (PG&E), the Sacramento Municipal Utility District (SMUD), and Roseville Electric.

Report on Biotechnology

According to the SACTO Economic Profile report, Sacramento region biotechnology and life sciences sectors are growing. There are currently over 100 biotechnology and medical device companies with over 15,000 workers. Enabled by regional advantages such as world class institutions, skilled workforce, world-class institutions, and available zoned land, the region is poised for additional growth.

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[55] Fisher, Anne. "15 Best Places for Green Jobs". Money. 10/26/2009. <*http://money.cnn.com/2009/10/26/news/economy/green.jobs.fortune/index.htm?postversion=2009102605>.*

[56] Turner, Melanie. "Sacramento Leads State in Green Job Growth". Sacramento Business Journal. 12/9/2009. <http://sacramento.bizjournals.com/sacramento/stories/2009/12/07/daily35.html>.

[57] Sacramento Area Commerce and Trade Organization. 2008/2009 Economic Profile Report.

UC Davis is one of the premier research universities in the world in life sciences. They conduct fundamental research in fields ranging from genetics and biology to agricultural and environmental sciences and from food and nutrition to veterinary and human medicine. UC Davis has connections with most area biotech companies. Because of UC Davis activities in these research areas, it has acted as a magnet for life sciences firms looking for proximity to Northern California research institutes along with reasonable business costs and a high quality of life. According to the SACTO report, this is expected to continue and even increase in the near future.

The UC Davis Cancer Center received National Cancer Institute status, making it one of only two Northern California health research institutions with this designation. In addition, UC Davis hosts the Center for Biophotonics Science and Technology, employing the science of using light to understand the inner workings of cells and tissues in living organisms. The center collaborates with private and public research institutions for uses from healthcare to bio-defense. UC Davis is the lead educational institution in a 10-campus national effort in this science.

The SACTO report concludes the biotechnology industry holds great potential for future growth and discovery. The Sacramento region, anchored by the research activities occurring at UC Davis, is well positioned to continue growth in this sector. This builds upon the foundation of existing successes including firms in industries ranging from pharmaceuticals to medical device research and development and manufacturing.

CONCLUSIONS

When including UC Davis employment, Davis' economic profile illustrates room for diversification. The Davis economy is dominated by public sector employment, due to over 11,000 UC Davis jobs, and ranks well behind peer cities known for entrepreneurial cultures, including those with research universities such as Berkeley and Palo Alto. However, Davis has seen steady private sector employment growth. Knowledge-based business growth has steadily increased its percentage of total employment during the 1990 – 2008 time period. Excluding UC Davis employment, knowledge-based industry represents 12.6% of total Davis employment versus 6.2% in 1990. Much of this historical growth occurred within the Interland and Mace Ranch business parks. Thus, high quality land availability is an important component to facilitating future growth. Davis' available land supply and projections for business growth are discussed in Chapter 5 and Chapter 6, respectively, informing the community regarding the compatibility between land supply and future business growth.

Several factors suit Davis as a community well-positioned to take advantage of expected growth in private knowledge-based sectors, specifically clean technology and biotechnology:

- UC Davis research revenues have increased substantially over the past ten years, including $622 million in FY 2008/2009, ranking 16th among all public and private universities in the nation.

- With an unprecedented emphasis on commercializing technology, increased spinoff/startup companies from UC Davis should be expected, of which Davis has historically been successful at hosting and retaining.
- Davis' local workforce is well qualified for growth in knowledge-based industries.
- Economic development partnerships with neighboring jurisdictions and regional economic development organizations such as SACTO and SARTA will raise Davis' profile as a strategic location for technology-oriented companies.
- The Davis community offers the quality of life, and educational, cultural, and recreational opportunities attractive to knowledge-based companies and well-educated, skilled employees.
- Davis offers important location advantages including:
    - Geographic proximity to the Bay Area and State Capitol
    - Proximity to major transportation hubs such as I-80, I-5, CA-99, CA-113, Sacramento International Airport, Port of Sacramento, and major rail corridors.
    - Proximity to recreational attractions such as Lake Tahoe, Sierra Nevada, Pacific coast, and Napa/Sonoma Wine Country.

Given historical and recent trends, Davis can continue to enjoy growth in the knowledge-based sector, particularly those in targeted industries such as bioscience and clean technologies if conditions are in place to ensure such growth can occur. These conditions include an economic development policy framework prioritizing growth in these industries, a supportive business climate, and land available to accommodate such growth.

CHAPTER 4

DAVIS BUSINESS CLIMATE

INTRODUCTION

The ESG study concluded that Davis is well positioned for economic growth, particularly in "high-intellectual capital", or knowledge-based industries, and innovation industries. References to these industry sectors have been made throughout this study. Innovation companies create higher paying/quality jobs, local wealth, spinoff companies, and improve the entrepreneurial and business climate. Even in declining economies, innovation companies capitalize on rapidly growing markets, new and emerging industry sectors, and value-added products/services that increase productivity/efficiency or provide other benefits for consumers, businesses, or government. Innovation companies are important to a community due to a focus on *scalable* company growth, which creates greater revenue and employment. They sell products and services to large national and global markets, and come in many sizes and industry sectors contributing to economic diversification. They are innovators, and contribute to the community in many other ways as well.

Starting and growing a company takes considerable time and effort. As a result, innovation companies are often elusive. Their time to participate in traditional retail and service-oriented business organizations is limited. Given Davis' economic development policies and strategies prioritize supporting innovation companies, understanding their needs is critical. An inability to create a supportive entrepreneurial business climate, catering to their wide ranging needs, will result in innovation companies locating where those needs are met.

With this understanding, considerable effort was extended to interview Davis innovation and knowledge-based companies, as well as economic consultants, commercial brokers, developers, property owners, academics, local/regional business organizations, and UC Davis to better understand Davis' business climate and prospects for future growth in knowledge-based industries. While Chapter 5 will provide a quantitative analysis of Davis knowledge-based business growth, interviews with those most capable of qualitatively informing the study – "key informants" – strengthened the analysis. By providing qualitative feedback, their unique perspective on Davis' business climate, recommendations for city actions, as well as prospects for future business growth helps define strategic action moving forward.

Local business community outreach extended beyond interviews. Limited outreach to innovation companies *not* located in Davis was conducted as they too offer insight into Davis' competitiveness as a location for innovation companies. Additionally, on a periodic basis, the Davis Business and Economic Development Commission (BEDC) was updated regarding the project's status and progress. Table 11 provides a general overview of the outreach process to date.

Table 11: BPLS Process

Outreach Activity	Date	Topic
BEDC	January 2009	• Big Picture Issues • Key Questions Study will Answer • Project Schedule
BEDC	February 2009	• Overview of Existing Inventory • Project Milestones
BEDC	March 2009	• Overview of Cannery Park Business Park Viability Study Conclusions • Overview of Existing Economic Development Policies & Strategies
Davis Business Community	March – October 2009	Interviews
BEDC	June 2009	Powerpoint Presentation: • Process • Background • Policy Context • Basis of Need • Demand • Existing Inventory • Business Community Outreach • Key Study Questions • Preliminary Findings
BEDC	July 2009	Supplemental Economic Analysis Discussion
UC Davis Spin-offs/Innovation Companies Not Located in Davis	September – October 2009	Surveys, Telephone Interviews
BEDC	August	• Supplemental Questions for Study to Answer • Framework for Final Report
BEDC	September 2009 – February 2010	Oral Updates
BEDC	March 2010	Summary Findings Presentation
BEDC	April 2010	Discussion of Business Park Land Strategy

OUTREACH INTERVIEWS

Knowledge-based, and particularly innovation industries are dynamic and grow or decline rapidly independent of employment modeling projections. Outreach interviews with “key informants”, each with substantial knowledge in respective fields, provided insight into which industries are poised for growth and Davis’ prospects for accommodating them.

City staff conducted thirty-nine interviews for this study averaging nearly two hours each. Interviewees fell into one of the following main categories: Innovation/knowledge-based companies, business and entrepreneurial organizations, economic consultants, academics, and property owners/developers/commercial real estate brokers, and UC Davis administration management. Table 12 summarizes the interviews.

Table 12: Outreach Interviews

Interview Categories	# of Interviews	Total Interview Attendees
Innovation/Knowledge-Based Companies	16	23
Business & Entrepreneurial Organizations	5	17
Economic Consultants	4	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	12	14
UC Davis Administration Management	1	8
Total	**39**	**67**

Interviews followed a basic script tailored to each interview category to best capture interviewee's expertise. This format was purposefully selected to engage interviewees in thoughtful conversation and resulted in a richness and depth of response not possible through other formats. Additionally, minor script refinements occurred throughout the interview process as assumptions regarding relevant discussion topics evolved. Extensive notes were taken during the interviews facilitating thematic comment consolidation. Due to this interview and summary format, results should be interpreted differently than those from a formal survey.

Interviewees were assured confidentiality and encouraged to speak candidly about areas of importance to them. The overall interview foci were to understand why companies established or located their business in Davis, opinions regarding the adequacy and quality of Davis built space, thoughts on prospects for future knowledge-based business growth in Davis, opinions on the need for a business park or additional land for business park-type uses, and overall impressions of the Davis business climate. They were also asked what immediate actions should be taken to support businesses and improve the perception of the business climate. Conversations resulted in considerable overlap and thematic patterns.

Primary Themes

The overriding conclusion from the interviews was key informants were enthusiastic regarding Davis' ability to create, grow, and attract innovation companies and knowledge-based business growth. While specific points varied, key insights were gained as to necessary conditions to accommodate business growth. Primary themes are listed in order of frequency raised (in parentheses) and categorized as a Davis strength, opportunity area, or weakness.

Themes expanded below are limited to those raised at least 15 times. In general, secondary themes raised less than 15 times were "smaller picture" issues or subsets of broader themes raised more frequently. On occasion, issues raised beneath that threshold are highlighted when considered uniquely informative.

1. *Strength: Davis' Economic Niche is in Bioscience, Clean Technology, High Technology, and other Knowledge-Based Industries*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	11	16
Business & Entrepreneurial Organizations	4	5
Economic Consultants	4	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	9	12
UC Davis Administration Management	1	1
Total	**30**	**39**

Davis has long been a desirable location for bioscience and life science businesses. Close proximity to the prodigious research on the UC Davis campus and the Yolo County agricultural industry create an ideal climate for companies to call Davis home. That this theme was most frequently raised by interviewees is predictable and supported by recent employment growth. The ESG study and previous chapters of this study highlighted that Davis' non-retail business sector is largely driven by these industries. Interviews confirmed this should be a focus area for expansion as a critical mass of companies is emerging. Many companies in these industries benefit from relationships with UC Davis faculty/researchers due to the close proximity with the UC Davis campus and their reliance on a workforce produced by UC Davis.

> *"Davis is one of three obvious places in North America for biotech. Davis competes against The Research Park Triangle (North Carolina) and San Diego for bioscience companies. It should be on everyone's list for ag-bio science. It could be recognized as the place for ag-bio science."*
>
> -Davis Innovation Company

> *"Nobody has staked the claim on Energy/Bioscience sectors"*
>
> -Regional Entrepreneurial Organization

> *"The city should embrace what it is – the intellectual capital of the region. UCD research strengths, social values = alignment of stars "*
>
> -Davis Developer

> *"North Carolina Research Park is a competitor to Davis"*
>
> -Davis Innovation Company

2. *Strength: Proximity to UC Davis is an Asset*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	12	16
Business & Entrepreneurial Organizations	3	5
Economic Consultants	3	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	7	12
UC Davis Administration Management	1	1
Total	**27**	**39**

Overwhelmingly, interviewees considered UC Davis an enormous asset to the Davis community for its contributions in helping create current and future Davis innovation companies as well as research activity creating/facilitating relationships. As the regional economic engine, interviewees emphasized UC Davis research is aligned with fields expected to drive the future economy. Frequently commented was the City of Davis should strengthen relationships with UC Davis and explore partnerships to ensure innovation industry growth can occur in Davis. Another frequent statement was if the City pursues a dedicated business park, it will need a strong anchor, of which a natural fit could be cutting edge UC Davis research in biotechnology and clean technology.

> "*I'm bullish on UCD. UC Davis' research is aligned with emerging industries. Some of the most important research for the future is being done at UC Davis. If UC decides to commercialize at a greater rate, there will be increased demand for space."*
>
> -Economic Consultant

> *"Every Venture Capitalist has positive feelings about UCD."*
>
> -Regional Entrepreneurial Organization

> *"Proximity to UCD allows us to enhance not just maintain networks"*
>
> -Davis Innovation Company

3. *Opportunity: Davis Needs a Business Park or Could Benefit from Additional Business Park Land*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	12	16
Business & Entrepreneurial Organizations	3	5
Economic Consultants	2	4
Academics	0	1
Property Owners/Developers/Commercial Real Estate Brokers	9	12
UC Davis Administration Management	1	1
Total	**27**	**39**

General consensus from most interviewees was Davis needs or could benefit from additional business park land/built space. Some respondents did not feel adequately informed to answer the question or did not have a strong opinion. Few stated Davis did not need a business park or additional business park land to accommodate future growth.

Most innovation/knowledge-based businesses are content with their existing location and are focused on daily operations. Transitioning from that reference point to long term land/built space needs was sometimes challenging. When asked about their company's future plans, the reality of needing a larger space for their company's expected growth prompted thinking about Davis' existing inventory and to what extent it can meet their needs. Additionally, many companies expressed interest in growing their industry within the Davis economy. In those contexts, the need for additional business park-type land and built space to accommodate growth became more apparent to them.

> *"A business park would send the signal that the city is serious and provide confidence that space needs will be accommodated. (Davis should) present an image as a solid, forward-looking city to inspire developers to invest capital in the kind of space end users like me want to operate."*
>
> -Davis Innovation Company

> *"Provide the right environment and lightning will strike."*
>
> -Davis Innovation Company

> *"Davis can definitely use more land for business park uses."*
>
> -Davis Innovation Company

From the developer/property owner category, opinions were based on larger picture perspectives. There was agreement Davis business growth will occur and additional land for business park-type uses will be necessary.

"You have to plan for business growth"

-Davis Developer

"A worthwhile reservoir of developable property is needed. The City needs a declaration to move itself to a new era of leadership in industrial development and move forward in an aggressive manner. Then, there would be a number of investors who would be interested in developing the ConAgra property."

-Davis Site Selector

"Business park? A qualified yes. It sends the signal that Davis is innovation-friendly."

-Regional Entrepreneurial Organization

4. *Strength: Davis Quality of Life is an Asset*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	14	16
Business & Entrepreneurial Organizations	0	5
Economic Consultants	2	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	6	12
UC Davis Administration Management	0	1
Total	**23**	**39**

A variety of factors influence where a company chooses to establish itself including company development stage, access to financial and intellectual capital, space availability/quality, and quality of life. For many Davis innovation and knowledge-based companies, quality of life contributes to its attractiveness as a business location. Frequently cited were the community's intellectual climate, cultural amenities, bicycle infrastructure, and schools. Many companies use Davis' quality of life as a recruiting tool, especially for management level talent. This asset can be leveraged for future business growth.

"If we grow, we will look at Davis first – there's a fit with personal, lifestyle, & company values."

-Sacramento Region Innovation Company

"Davis quality of life contributes to high employee retention. Davis has good schools, collaborative environment with UC Davis, employees can bike to work, and it is a forward looking, green community."

-Davis Innovation Company

5. *Weakness: Housing Costs are an Issue*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	12	16
Business & Entrepreneurial Organizations	2	5
Economic Consultants	2	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	5	12
UC Davis Administration Management	1	1
Total	**23**	**39**

Predictably, an unscripted but frequently raised issue was Davis housing costs. Often, high quality of life is naturally accompanied by comparatively high housing costs, especially in California. A pattern of frustration emerged among innovation/knowledge-based companies at Davis housing costs, particularly for non-management employees. Several companies stated even their scientists – high paying positions - are buying homes in Elk Grove and Natomas when they would prefer to own a Davis home. This issue is posing employee recruitment and retention challenges for local companies.

Also noted was Davis lacks the kind of executive housing necessary to attract innovation companies and top level executive talent to run them. The housing affordability issue is a familiar issue and frequently raised throughout the Davis community; the business community is no exception. Two viewpoints emerged from this topic with interviewees. First, if Davis creates a profitable business climate, the housing will take care of itself. The alternative viewpoint is Davis housing costs are too high; are an obstacle to creating, retaining, and growing new companies; and Davis should seek to address this problem.

"High costs are a sign that people want to live here. It's a 'red herring'. If you make this a profitable place to be, the housing will take care of itself."

-UC Davis Academic

"Cost of living is an Issue"

-Davis Innovation Company

6. *Strength: Davis Has Untapped Potential for Innovation/Knowledge-Based Business Growth*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	6	16
Business & Entrepreneurial Organizations	3	5
Economic Consultants	3	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	7	12
UC Davis Administration Management	1	1
Total	**21**	**39**

Frequently cited was Davis' untapped potential for business growth. Confidence exists among interviewees that Davis has potential for much more business growth than has occurred historically; a sense that the trajectory for future business growth can look considerably different than in the past if the Davis community encourages it.

> *"Davis could 'clean everybody's clock' if it wanted to open up to business."*
>
> -Davis Developer

> "*Davis is sitting on tremendous potential for impact and a worthwhile reservoir of developable property is needed. Davis is sitting on a potential similar to Stanford, Berkeley, and Caltech. DTL is the tip of the iceberg of what can be accomplished"*
>
> -Davis Site Selector

> *"Davis is reaching a critical mass: There is a group of businesses of different sizes, doing different things, that they all benefit from"*
>
> -Economic Consultant

> "*The ingredients are there to cultivate the innovation sector"*
>
> **-**Davis Innovation Company

> ***"****The critical mass is happening now."*
>
> -Davis Knowledge-Based Company

7. *Weakness: Land Availability & Ownership of Existing Land Affects Demand*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	7	16
Business & Entrepreneurial Organizations	3	5
Economic Consultants	3	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	6	12
UC Davis Administration Management	0	1
Total	**20**	**39**

A corollary to Davis' untapped potential, it was also acknowledged the demand for future business growth cannot be accurately measured without understanding the implications of land availability and land ownership. A critical factor is vacant land available within Davis is controlled by a small number of owners. Theoretically, land may be available and zoned for business park-type uses. However, land ownership transfer opportunities must be present for Davis to capitalize on potential business growth opportunities. If a landowner's vision for the property deviates from the zoning, is content waiting to develop until the market ripens, or overvalues the property, business opportunities may be lost. These opportunity costs invariably affect any model projecting future business growth for Davis as they are historically based.

Some innovation/knowledge-based companies did express an interest in acquiring or did acquired land to develop and expressed frustration with the available land supply. This sentiment was reinforced by those in the economic consultants, developers, and real estate broker categories.

> *"It is less a question of historical absorption rates than it is about how Davis positions itself for the future."*
>
> -Davis Commercial Broker

> *"There is not enough product here. Nothing is for sale. Property is held by a few owners."*
>
> *"Davis supply is insufficient. Nothing is deliverable."*
>
> *"A business park will be viable in 2-3 years. Get entitlements now and construction can start in 2-3 years."*
>
> -Davis Site Selector

> *"Lack of sites (for sale) is affecting business attraction. What's left is in relatively few hands who won't let it go."*
>
> -Economic Consultant

"Lack of land & space affects ability to market companies to come to Davis"

-Economic Consultant

"It was difficult finding a parcel to build. We would have preferred an arterial location."

-Davis Knowledge-Based Company

8. *Opportunity: Perceptions of Davis as Business-Friendly Vary*

Davis is not Business-Friendly

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	4	16
Business & Entrepreneurial Organizations	2	5
Economic Consultants	3	4
Academics	0	1
Property Owners/Developers/Commercial Real Estate Brokers	9	12
UC Davis Administration Management	1	1
Total	**19**	**39**

A regional and to some extent local perception exists that Davis is not a business-friendly environment. Generally, the Davis entitlements process is perceived to be a significant barrier to business development. The perceived difficulty and uncertainty regarding development entitlements deters innovation/knowledge-based business growth. However, this complex subject is more appropriately separated into two areas: entitlements for development projects within the city and entitlements required for development outside the city limits.

Commercial development entitlements within the city limits are recognized by interviewees as fairly straightforward when the use is zoning-compliant. Typically, a zoning-compliant development application requires a final planned development and design review. Both are handled at the Planning Commission level. Projects requiring rezoning follow a lengthier process including at least two public hearings. Windows of opportunity for development projects are often narrow and developers are wary of lengthy entitlements process. The uncertainty, length of time, and costs associated with rezoning a property for business park uses in Davis is considered a deterrent for business growth.

An even greater perceived deterrent to business growth, according to development-focused interviewees, is the difficulty obtaining development entitlements for properties outside the city limits. Given agricultural or open space land annexation requires a citywide Measure J vote (now Measure R), and the narrow window of opportunity for commercial development projects, concern was expressed that despite Davis'

competitive attributes for attracting business growth in knowledge-based industries, it is not well-positioned due to process obstacles related to entitling land.

"Industries that can be attracted don't want to deal with process"

-Davis Developer

"Davis is a tough place to do business because of the unknown and lack of surety in the entitlements process"

-Regional Business Organization

"Increase speed of process. Provide surety of process. We have commitments to tenants."

-Davis Developer

"Developers don't want risk or delays. Davis represents uncertainty and risk."

-Davis Developer

Davis is Business Friendly/Perceptions are Improving

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	10	16
Business & Entrepreneurial Organizations	1	5
Economic Consultants	1	4
Academics	0	1
Property Owners/Developers/Commercial Real Estate Brokers	5	12
UC Davis Administration Management	0	1
Total	**17**	**39**

The counterintuitive conclusion that Davis is both business-friendly *and* unfriendly is attributable to the wide range of interviewees, varied opinions, and a contrast between perceptions versus personal experience. A consensus emerged with Davis innovation companies that the local business climate is good. That is, the actual experience of companies recently navigating the entitlements and/or building permit processes has been positive. When a commercial project is submitted to the city in compliance of zoning requirements, the process is typically quick and seamless. This is an area many interviewees recommended the city more actively market. That is, the perception versus reality of Davis as a business-friendly place.

"The perception that Davis is 'very difficult' was based on hearsay and did not reflect our experience"

-Davis Innovation Company

"We had a good experience with our entitlements"

-Davis Innovation Company

"*Davis has a perception as bad for business, but it's not reality"*

-Davis Developer

9. *Opportunity: Davis Should Incentivize Business with Enterprise Zones/Financial Incentives/Loans/Reduced Taxes, etc.*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	7	16
Business & Entrepreneurial Organizations	2	5
Economic Consultants	2	4
Academics	0	1
Property Owners/Developers/Commercial Real Estate Brokers	6	12
UC Davis Administration Management	0	1
Total	**17**	**39**

Most interviewees recognized Davis exists in a competitive regional environment. Many Sacramento region cities focus economic development efforts on attracting innovation companies. Competitive advantages offered by Sacramento region and Solano county cities include lucrative economic development packages, enterprise zones, favorable tax structures, or loan programs. One Davis innovation company was offered an attractive economic development package in Solano County but due to company priorities and location advantages, remained in Davis.

The City of Davis does not currently offer incentives, loan programs, or economic development packages to attract innovation/knowledge-based companies. The community's demographic profile also excludes it from qualifying for an Enterprise Zone designation. The absence of incentives is perceived by some interviewees to put Davis at a competitive disadvantage in attracting and retaining innovation companies and/or capturing UC Davis spinoffs. Interviewees stated it would be advantageous for Davis to financially assist innovation companies or reduce development costs.

10. *Weakness: Laboratory/Wet Lab Space Needed*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	8	16
Business & Entrepreneurial Organizations	1	5
Economic Consultants	2	4
Academics	1	1
Property Owners/Developers/Commercial	4	12

Real Estate Brokers		
UC Davis Administration Management	0	1
Total	**16**	**39**

UC Davis research strengths in biotechnology and life sciences currently and will continue to produce scientists and spinoff companies needing laboratory and/or wet lab space. However, laboratory space is a niche commercial space commodity and expensive to construct. Cost-sensitive start-ups and smaller companies need low cost lab space. Investors want funds spent on higher company priorities, not tenant improvements. Additionally, investors expect startups to grow. They are resistant to fund wet lab equipment that will be vacated when the company outgrows the space.

Recently, Davis lost a promising innovation company to a regional city because wet lab space meeting their needs was unavailable locally. Complicating matters, building owners are reluctant to invest in laboratory space without a signed long-term lease. Small biotechnology startups represent a substantial risk of both dissolution or, alternatively, outgrowing the space. Building owners are then left with a less marketable space.

Branches of larger companies or subsidiaries of larger well established companies have more resources to self fund laboratory/wet lab space. In one local case, an innovation company installed portable, modular lab equipment that can be relocated when the company outgrows the current space. Local biotechnology companies are often contacted with inquiries to sublease lab space. Due to a variety of factors including liability, concerns regarding intellectual property, etc., most are unable to do so.

Given the industries in which Davis encourages growth, consensus emerged among those with an opinion that the issue of laboratory/wet lab space is one that needs to be addressed. Recommendations seemed focused on establishing a bioscience incubator in which start-up companies are able to grow at low cost to the point where venture capital will provide enough resources to lease larger lab space or enable the company to invest in its own lab equipment.

“We couldn’t find 3,000 square feet of lab space in Davis.”

-Sacramento Region Innovation Company

“There is a lack of suitable lab space.”

-Davis Innovation Company

“We have been approached by several professors interested in leasing lab space to start a business.”

-Davis Innovation Company

"Wet lab space is needed, but is a huge investment"

-Economic Consultant

11. *Opportunity: Small/Medium Sized Spec Space Available When Companies Need it is Critical to Retaining Existing Companies and Attracting New Companies*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	10	16
Business & Entrepreneurial Organizations	0	5
Economic Consultants	2	4
Academics	0	1
Property Owners/Developers/Commercial Real Estate Brokers	4	12
UC Davis Administration Management	0	1
Total	**16**	**39**

Space immediately available for growing businesses to move into is critical for business retention and attraction. This resonated most with local innovation companies when conversation focused on their future plans. Several innovation companies regretted not leasing more space, particularly science-related companies with laboratory needs. Importantly, several prominent knowledge-based companies intend to grow in the near term and stated their space needs cannot currently be accommodated in Davis. Other companies felt the available space selection in Davis was inadequate.

"We're locked in with no place to grow. We're in X[58] square feet and will need X square feet more. Quality of space matters when you become venture backed. Nothing meets our size needs."

-Davis Innovation Company

"Within 4 years, we'll have 30-35 employees. We'll eat up this space quickly."

-Davis Innovation Company

"There aren't many spaces downtown that can accommodate 50 employees."

-Davis Innovation Company

"Not enough available space downtown. There are a lot of really small spaces. I didn't feel there were a lot of choices."

-Davis Innovation Company

[58] Square footage suppressed for confidentiality.

> *"Finding space that is relatively easy for people to come in and set up shop is important."*
>
> -Davis Innovation Company

In contrast, one local innovation company was able to expand because a flexible spec building was available when needed.

> *"I don't know what we would have done if this building wasn't available."*
>
> -Davis Innovation Company

Davis is home to many innovation companies intending to grow, some very rapidly. Very few are in the position to construct their own buildings and those who do have build-to-suit ownership aspirations, are faced with a vacant land supply generally unavailable for sale. Thus, Davis' ability to accommodate future growth and retain existing companies will be dependent on move-in ready space when it is needed.

> "*Buildings must be flexible enough to make changes to the space. (Companies like ours) need simple, rectangular interior space to customize & play around with*."
>
> -Davis Innovation Company

> *"There is not enough supply, particularly with quality buildings available."*
>
> -Davis Innovation Company

The issue of peripheral development and its effect on the downtown office market was raised in two focus group meetings. A concern was expressed that peripheral development has unfair advantages in the entitlements process as well as development costs at the expense of downtown office development opportunities.

> *"Cheap space on the periphery adversely impacts downtown. The most frightening things for downtown are places with big anchors that draw from downtown. Cost of development in downtown is an issue."*
>
> -Davis Business Organization
> Focus Group Attendee(s)

12. *Strength: Davis Workforce is Highly Skilled*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	8	16
Business & Entrepreneurial Organizations	0	5
Economic Consultants	2	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	5	12
UC Davis Administration Management	0	1
Total	**16**	**39**

Local innovation/knowledge-based companies rely heavily upon the Davis workforce and the skill sets produced by UC Davis graduates. Interviews confirmed Davis' high quality workforce. Given many Davis residents commute to jobs outside Davis, focusing on innovation/knowledge-based business sector growth represents an opportunity to substitute local employment for jobs elsewhere. That is, if jobs in these industries are grown in Davis, more opportunities will be created to live *and* work in Davis contributing to a better quality of life for Davis residents.

"Workforce employee pool is a key factor we stayed in Davis."

-Davis Innovation Company

"The existing Davis workforce is willing to work in town if the opportunity exists"

-Economic Consultant

"A Davis strength is its overeducated workforce, particularly spouses."

-UC Davis Academic

While Davis workforce qualifications impress in aggregate, specific deficiencies exist including entrepreneurial talent, business management, and software engineering. UC Davis' Graduate School of Management and Center for Entrepreneurship are making progress in some areas. However, the level of seasoned entrepreneurs and management talent with start-up company experience is limited in Davis. Some high tech companies have expressed disappointment with local software engineering talent. Local companies have recruited from outside the area for talent.

"Davis lacks experienced business managers"

-UC Davis Academic

"(High tech) Talent out of Davis is a problem"

-Davis Innovation Company

13. *Weakness: Davis Lease Costs are an Issue*

Interview Categories	# of Occurrences	# of Interviews
Innovation/Knowledge-Based Companies	6	16
Business & Entrepreneurial Organizations	1	5
Economic Consultants	1	4
Academics	1	1
Property Owners/Developers/Commercial Real Estate Brokers	3	12
UC Davis Administration Management	0	1
Total	**12**	**39**

A wide range of interviewees noted Davis lease costs are an issue. That is, lease costs are either too expensive or available space quality is misaligned with lease rates. The concept of *value* – the quality of space vs. the lease rate – factors importantly in location decisions and was a thread in several conversations. This highlights the tension created between local policies and strategies to attract UC Davis spinoffs and their ability and/or willingness to locate here.

In general, spinoff/start-up companies are cost-sensitive. Most often, minimal resources are available due to an entrepreneur starting a company from savings, friends, family, and/or "angel" investors. Investors expect capital to be expended on growing the business. Expending funds on high lease rates is difficult to justify, particularly if more affordable space is available in neighboring communities. Comparatively high lease rates are considered a significant deterrent in Davis' competitiveness to host UC Davis spinoffs. It was widely recognized that if Davis can create an environment to capture startups initially and meet their needs, particularly at the earliest stages, their likelihood of staying increases.

A potential solution offered by some interviewees included establishing a business incubator aimed at new startups. A business incubator provides low cost space with shared maintenance costs, administrative services, utilities, and professional services. A new trend in the region is to serve business startups with a "virtual" incubator where business services and support are provided to startup businesses in varied locations.

Davis lease costs issue results in two perspectives. First, existing Davis building owners rely upon a tight office market to leverage capital for downtown mixed-use/office development. Thus, some concern exists from local business organization representatives that peripheral business park-type development adversely affects downtown and reduces the incentive for downtown office redevelopment. Conversely, an absence of competition for business park-type space on the city's periphery, may result in the Davis market becoming too expensive for spinoff/startup companies and reduce market pressure for downtown building owners to modernize and upgrade their

buildings. The effect of additional business park-type development on downtown is explored in greater detail in Addendum 2.

> *"We needed a building to fit a certain image: not high end, not bargain basement."*
>
> -Davis Innovation Company

> *"Quality of space matters when you become venture backed."*
>
> -Davis Innovation Company

> *"We needed a 'professional' appearing space – an executive image due to clients"*
>
> -Davis Innovation Company

> *"We could afford $2,500 plus triple net. Unfortunately, we couldn't find it in Davis."*
>
> -Sacramento Region Innovation Company

> *"We outgrew downtown and its ability to project the image we wanted."*
>
> -Davis Knowledge-Based Company

Secondary Themes

A wide range of issues beyond those addressed above were raised by interviewees and are summarized by Table 13.

Table 13: Outreach Interviews Secondary Themes

Theme Category	Theme	# of Occurrences
Strength	Davis is a Good Location from a Transportation Access Perspective	13
Weakness	UC Davis Tech Transfer is Inefficient	13
Opportunity	Traffic, Vehicle Circulation, Parking are Important Issues in the Business Park Land Discussion	12
Strength	Smaller, Medium-sized Employers are Davis' Niche (0-100 employees)	12
Opportunity	2nd & Mace is an Ideal Location for Future Business Park	10
Opportunity	Davis should Improve Marketing Efforts and Create an Available Land Database	10
Threat	Innovation Companies are Going to Sacramento Regional Competitors	9
Opportunity	Economic Diversity is Important	8
Weakness	Davis Technology Infrastructure is Lacking	8
Opportunity	Large Parcel Sizes Needed for Large Company Attraction Opportunities	8
Opportunity	Mixed Use Business Park Concept is a Good Idea	7
Opportunity	Develop Downtown/Improvements to Downtown Space are Needed	7
NA	Research & Development Space Lacking in Region	7

Theme Category	Theme	# of Occurrences
Opportunity	Incubator is Needed	7
Weakness	Davis is not a Player in the Regional Market for Flex, Office, Industrial Space	4
NA	Building/Space Ownership Opportunities are Unimportant	4
Opportunity	High Value Manufacturing is Only Manufacturing Fit for Davis	3
Weakness	No Visual Signals Davis is Business Friendly	3
Opportunity	Building/Space Ownership Opportunities are Important	3
Opportunity	Company Branch Offices Likely to Come to Davis	3
Opportunity	Need Conference Center/Business Quality Hotel	2
Strength	Space is not a Key Issue	2

IMMEDIATE RECOMMENDED ACTIONS TO SUPPORT BUSINESS GROWTH

Equally important to accommodating future business growth is ensuring Davis represents a favorable business climate. Interviewees were asked what Davis should do immediately to encourage business growth. Insightful thoughts were provided on what Davis can do immediately to improve the business climate and promote business growth, particularly in knowledge-based industries. While specific recommendations varied, consistent themes emerged allowing grouping of comments. Interviewees made the following recommendations, in order of frequency raised:

1. Improve and Streamline Entitlements/Permitting Process

Interviewees ranging from innovation companies, to developers, to commercial brokers stated that improving the speed and predictability of land use entitlements and building permits would contribute to encouraging business growth.

"Fast-tracking would help if we want to develop a project in the future."

-Davis Innovation Company

"Increase the speed of the process."

-Davis Developer

"Streamline the process."

-Davis Commercial Broker

2. *Establish Housing Objectives Consistent with Business Growth*

Interviewees recognized the relationship between Davis as a desirable place to live and a desirable place for business. However, many feel the cost of housing is a serious issue for business, particularly in competing for talent. A general theme existed that Davis needs to reconcile the land use tension created by economic development goals and Davis' housing supply.

"Davis will have to grapple with economic development and housing. The housing supply constrains economic development capacity. Davis should get community consensus on this issue, then you can go out and do some stuff."

-Economic Consultant

"Groups need to talk about what they want, not just condemn."

-Davis Developer

"Davis needs a 20-year vision, allocation process for permits, and predictable timing for housing."

-Davis Developer

3. Partner/Coordinate with UC Davis

Interviewees universally acknowledged the advantage of having UC Davis as the Davis and Sacramento region economic engine. Many interviewees felt better coordination and/or engagement with UC Davis will be necessary to elevate Davis as an emerging center for knowledge-based business growth.

"Really partner with UC, don't just talk. Start a small working group. Get the right people at the table. Keep the process out of high-level administrators. Go with people actually working on things."

-Economic Consultant

"An economic development steering committee with UC Davis should meet monthly to coordinate efforts. A joint strategic mission between UC Davis and the City of Davis should be established in pursuit of common goals."

-Davis Innovation Company

4. Address Infrastructure

A key question regarding future business growth is the state of Davis' infrastructure. Two issues surfaced regarding infrastructure requirements for accommodating business growth. Citywide, state of the art telecommunications infrastructure was considered critical for future business growth, particularly knowledge-based industries.

"Davis needs reliable, full connectivity."

-Davis Innovation Company

"Davis needs fiber optics citywide. It's a good long-term investment."

-Davis Innovation Company

Some interviewees thought conceptually about a business park today and what necessary infrastructure-related actions were needed to accelerate that type of project, recognizing "shovel ready sites" are critical for success in future business growth. Infrastructure typically rose to the top of the priority list and costs associated with constructing roads, wet/dry utilities, and telecommunications.

"Davis should investigate industrial bond financing and determine feasibility of creating research & development resources."

-Davis Site Selector

5. Business Retention & Outreach

Retaining existing businesses is a primary tenet of economic development equally if not more important than business creation and attraction. Responsiveness to existing businesses and their needs is critically important for economic development. Davis innovation companies stated outreach visits with local businesses, understanding their needs, and being responsive to business community needs reinforces positive relationships between the City and businesses. They recommended the City continue outreach visits and establishing relationships with local businesses.

"Stay in tune with your businesses."

-Davis Innovation Company

"Make an excuse to go out and talk to businesses. Put a face to the City of Davis."

-Davis Innovation Company

"Focus on retention of existing businesses. Start with who's already here. Find out their needs/concerns to facilitate their growth. Return on outreach is greater than other economic development activities."

-Economic Consultant

6. *Improve/Advertise Business-Friendly Image*

Consolidated into a single theme was a recommendation from interviewees for Davis to both improve its businesses-friendly image in response to contrary perceptions within certain business community spheres, as well as advertise Davis as a business-friendly location.

"Improve customer service, be business friendly on all levels."

-Davis Commercial Broker

"Convey the message the City of Davis cares about business."

-Davis Innovation Company

"Advertise successes."

-Davis Developer

"Have an attitude of, 'We're open for business.'"

-Davis Developer

7. Encourage Entrepreneurialism

Entrepreneurialism is a cultural construct resulting from successful creation and growth of local companies. Entrepreneurialism is best facilitated through networking opportunities for creative, innovative minds as well as access to talented employees and financial capital. Many communities strive to create entrepreneurial cultures yet no model exists ensuring success. Successful entrepreneurial climates evolve organically as opposed to a formula. Many interviewees emphasized this yet recognized that while the private sector must lead these efforts, seeds can be planted to facilitate networking; a role the City can play in helping connect people with each other.

"The network needs to be better activated. Understand what businesses need."

-UC Davis Academic

"*Private sector-led networking is needed."*

-Davis Innovation Company

"Find a way to help businesses to connect to other businesses and the university."

-Davis Innovation Company

"Create an entrepreneurial climate."

-Davis Innovation Company

8. Take Action

Many interviewees felt Davis should focus on creating small, tangible successes through partnerships, particularly with UC Davis. Small successes could then lead to larger successes, leading to more experience and better preparedness for responding to business opportunities and/or development of a business park. Whether partnering to create additional wet lab space or establishing a business incubator, the important theme was to do something tangible, establishing a track record of success.

"Get successes, confidence builders. Don't swing for the fences early."

-Economic Consultant

"*Davis needs a wet lab incubator for little companies to start-up."*

-Davis Innovation Company

9. Reevaluate/Refine Economic Development Goals

Outreach interviews gave key informants the opportunity to express their thoughts regarding economic development policy and how it applies to future business growth.

"Create conditions for business success. Create policy that favors small businesses."

-Davis Commercial Broker

"Determine a strategy. Make sure it works for the kinds of businesses in Davis and also actively market beyond typical Davis companies."

-Economic Consultan*t*

"Go out and find proxy communities such as Stanford/Palo Alto to emulate."

-Davis Innovation Company

10. Reduce City Fees

Among interviewees with an opinion most did not consider City of Davis entitlements and permitting fees excessively burdensome. However, sensitivity exists, particularly in today's economic climate, to fees otherwise overlooked. An underlying theme also exists that reducing regulatory costs is business-friendly and makes Davis more attractive to do business.

"Fiscal/tax incentives are helpful these days."

-Davis Innovation Company

"Reduce Costs."

-Davis Commercial Broker

"Whatever can be done to negotiate fees to reduce the pain is appreciated."

-Davis Innovation Company

Address Housing Costs

Less prevalent though mentioned a number of times is the need for the City to address housing costs. While related to Point #2, interviewees did not make direct connections to land use policy and the extent to which it influences housing affordability; their concern was isolated to housing costs. Most recognized the City of Davis' limited ability to directly affect housing costs, but it still was raised frequently enough to warrant attention in this study. The underlying theme centered on high housing costs make competing for top talent, particularly outside California, difficult for Davis innovation companies.

"Help lower the costs of housing."

-Davis Innovation Company

"Housing affordability. Our scientists are buying in Natomas & Elk Grove."

-Davis Innovation Company

12. Other Recommendations

Additional recommendations and suggestions resulted from interviewees in response to a question asking what Davis should do now to promote business growth. Recommendations ranged from: increasing the number and quality of hotel rooms in Davis; to constructing a huge solar array; to improving downtown parking; to proactively informing innovation companies of changes in local and state regulatory environments that may affect them.

OUTREACH TO INNOVATION COMPANIES *OUTSIDE* DAVIS

Outreach interviews to the local business community revealed a wealth of information with respect to Davis' strengths, weaknesses, opportunities, and actions to be taken for continued business growth in innovation and knowledge-based sectors. Additionally, limited outreach was conducted to UC Davis innovation spinoffs/startups from the past 10-15 years still in existence, located elsewhere in the Sacramento region.

Interviews with Davis innovation companies informed the study with respect to factors involved in company location decisions. This study tested those thoughts against companies that Davis aims to host, but who ultimately located in another community. After filtering the original list, 18 UC Davis spinoff companies *not* located in Davis still exist and contact attempts were made. Of the 18, seven were successfully contacted either by telephone or e-mail.

Companies make location decisions independently with their unique circumstances driving the decision. Results from this outreach are not intended for broad generalizations but rather to provide insight into specific factors involved in their location decision, the extent to which they considered Davis (if at all), and whether they would consider locating in Davis in the future. Seven examples cited here shed light into their thought processes.

Company #1: Biotechnology Company

This company is founded by a Bay Area business executive and UC Davis researchers and is currently located on the Bay Area peninsula. It is technically a "virtual" company with the headquarters in the CEO's home, with space leased for research and development in the Bay Area.

The company CEO lives in the Bay Area and has an established network of colleagues and investors. Retaining that network was a high priority. Given the Bay Area is a hub for biotechnology, bringing researchers from Davis to the Bay Area was not a difficult proposition. This company had no compelling reason to locate in Davis given its origin.

Company #2: Biotechnology Company

The CEO stated California is the best place for this company due to soil and climate. However, most company functions were pulled from the Sacramento region due to regulations and the cost of doing business in California, specifically the cost of irrigation water. There was also criticism of entrenched politics within the California Agricultural Commission complicating regulations and preventing innovation from occurring in California. The company does, however, retain a research and development presence in the Sacramento region that recently located in Davis.

Company #3: Biotechnology Company

This biotechnology company is an early stage company occupying approximately 1200 square feet in the Sacramento region with three employees. The availability of wet lab space, proximity to board and company advisors, and advisors at UC Davis were considered factors driving their current location decision. This company considered locating in a variety of cities from the Sacramento region to Fairfield. Davis was among those considered. This company expects to grow and states the Bay Area will become more appealing as there are more experienced managers with biotech experience than in the Sacramento region.

Company #4: Clean Technology Company

This mid-stage energy company is located in 14,000 square feet in the Sacramento region with over 30 employees. The four factors driving their location decision was affordable land/lease costs, good transportation access, close proximity to their employee's residences, and access to a highly qualified pool of employees. They considered both Davis and West Sacramento prior to choosing their current location.

Davis was eliminated from consideration due to uncompetitive lease rates and a lack of highly trained high tech employees. They did state, however, at some point in the future, the company will expand or relocate and will consider Davis.

Company #5: High Technology Company

This early stage high-tech company is located in approximately 1500 square feet in the Sacramento region with eight employees. Their current location was chosen due to affordable land/lease costs, low costs of utilities & other infrastructure, and proximity to aircraft operators at McClellan Park. Davis was considered but excluded due to inadequate space availability to meet their needs, the high cost of Davis housing, and a long commute for employees in Sacramento. As of October 2009 the company was actively looking for space and tried looking in Davis but couldn't find anything that fit their needs.

Company #6: Clean Technology Company

This clean energy company started in 3,000 square feet of research & development and office space in the Sacramento region. They are now accelerating manufacturing production, and needed affordable manufacturing space. According to the company CEO, manufacturing space is 1/3 the cost of space in Davis and was the major factor in their decision.

Company #7: High Technology Company

This early stage high technology company has 4-5 employees in approximately 600 square feet. Factors leading to their current location decision included affordable land/lease costs, low cost of utilities and/or other infrastructure, close proximity to management and employee residences, and affordable housing costs in the community. This company considered locating near the UCD medical center, elsewhere in the Sacramento region, and West Sacramento before settling on their current location. Davis was considered but excluded because of uncompetitive lease rates. The company representative expects the company to grow and may "possibly" consider Davis, but not likely due to high lease rates and a client network clustered in a particular Sacramento subarea. The company CEO stated an incubator within Davis specifically for UC Davis startups with below market rents, with shared conference rooms, internet access, and basic amenities would have been attractive when they were first starting.

Clean Technology Attraction Conclusions

Based on conversations and surveys with UC Davis spinoffs not located in Davis, there are real and perceived barriers to locating in Davis. As noted in Chapter 3 and evidenced by Company #6, clean technology companies are involved in activities requiring larger scale manufacturing facilities such as photovoltaic panels, electric cars, or wind turbines. Davis is notably deficient in manufacturing-ready space. However, manufacturing is typically a cost-sensitive use particularly for venture-backed companies. The ESG study concluded Davis was unlikely to see additional manufacturing space, in the absence of local policies and incentives to prioritize it. It is

likely attraction of high-value manufacturing will be restricted to well-established companies in a position to fund a development project for manufacturing-related uses in Davis. This could be a strategic niche for Davis.

UC Davis spinoff/start-up companies and venture backed companies do not appear to fit the Davis manufacturing market niche. While Davis may be able to initially attract clean energy start-ups for research and development activities, company retention for manufacturing may become problematic. This complicates clean technology/energy company recruitment and attraction due to a general preference for co-locating research and development activities with manufacturing in early company development phases when products are still developing.

Davis policies prioritize a desire to attract clean technology companies. However, in the absence of incentive packages or clear strategy addressing manufacturing space market obstacles, Davis is competitively disadvantaged to neighboring communities due to inadequate availability of manufacturing space and minimal available land for development.

BUSINESS GROWTH CONDITIONS

As evidenced from business outreach interviews, business needs vary in accordance with development stage. That is, start-up/spinoff companies needs differ from a mature, profitable company just as a scalable company's needs differ from a slow-growing professional office. Understanding the subtleties of business needs is important to match public sector action/decision-making with business community needs. Business outreach interviews with knowledge-based companies addressed some of these needs at various development stages, summarized in Table 14. They provide insight into what decision-makers and the community should consider regarding how to best accommodate the needs of knowledge-based business.

Table 14: Knowledge-Based Business Needs

Company Development Stage	Needs
Startup/Spinoff Companies	• Small, affordable space • Cost sharing for maintenance, human resources, utilities, • Space available immediately for growth • Easy angel investor access • Unconcerned about built space's effect on company image
Venture Capital-Backed Companies	• Higher quality space • Available space to expand when company reaches next investment round • Becoming more concerned about company image • A greater desire to be located by complementary users
Mature, Growing, Profitable Companies	• Land for purchase & build-to-suit development • Premium quality buildings • Location important: o Complementary users o Freeway access
Knowledge-Based Support Companies (i.e. support services)	• Typically more interested in land/building ownership (unless branch of larger company)
All Companies	• Streamlined, predictable use/entitlements process

SWOT ANALYSIS

Quantitative and qualitative analysis of the local economy confirms Davis represents a dynamic business and regulatory environment. Table 15 summarizes the key strengths, weaknesses, opportunities, and threats (SWOTs) for Davis to address regarding a preferred economic future.

Table 15: SWOT Analysis

Strengths	Weaknesses
• Davis has untapped potential for business growth, particularly knowledge-based industries such as biotechnology, clean technology, and high technology industries • Proximity to UC Davis is an asset • Davis quality of life is a business attraction asset • Davis can be business-friendly: zoning compliant commercial development applications are processed rapidly • Davis has an excellent, highly skilled workforce • Davis' intellectual climate is an asset	• Davis is not perceived as "business friendly", particularly with respect to land entitlements process. These are perceived to be unpredictable and time consuming – a deterrent to future business growth • Housing costs have been raised as an issue • Davis is deficient in readily available wet lab space of all sizes • The remaining land supply is inadequate • Ownership of existing land presents little opportunity for purchase. Idle, vacant land affects ability to facilitate business growth • Davis lease costs are an issue for start-up companies and other cost-sensitive users • Davis has a shortage of experienced business/executive managers
Opportunities	**Threats**
• Davis can benefit from additional business park land • Davis should actively market itself for business attraction purposes and advertise its successes. • Demand for knowledge-based employment may be greater than econometric employment projections suggest	• Innovation companies are going to Sacramento region competitors • Neighboring communities are poised to welcome businesses that may prefer to be in Davis • Neighboring communities advertise proximity to UC Davis as business attraction strengths

CONCLUSIONS

Interviewees believe Davis is poised for substantial knowledge-based business growth due to an emerging critical mass in several sectors; UC Davis, whose research activities are better known and regarded internationally than regionally, are in alignment with growth areas expected in the future national economy; and a high quality of life as a business attraction asset. Contrasting Davis' advantages are significant obstacles that must be addressed. These include: a perception of a business-unfriendly climate exacerbated by unpredictable entitlements & permitting processes, high housing costs, inadequate availability of wet lab space, inadequate land supply, and lack of entrepreneurial & management talent.

This study's key informants offered several recommendations to address these issues. These include partnering with UC Davis with a focus on results, particularly starting with small successes; establishing a business incubator to help startup companies and UC Davis spinoffs in the early formative years; pre-entitling land for business park-type development where build-to-suit deals can be made (i.e. "shovel-ready" sites), and ensuring high value space, including wet lab space, is available when needed.

CHAPTER 5

BUSINESS GROWTH PROJECTIONS AND ECONOMIC IMPACT ANALYSIS

INTRODUCTION

Long-term decisions influencing Davis' economic future are informed by assumptions of future business growth. Because employment growth is a business success indicator (particularly in knowledge-based industry), employment change becomes a primary indicator by which economic development is measured.

Chapter 3 provided a contextual overview of Davis' employment profile. Of particular interest were historical and recent trends in employment growth concluding a high percentage of local employment growth has occurred in knowledge-based industries. Chapter 4 analyzed the Davis business climate, shedding light on the local business community's thoughts of Davis' potential for business growth. Interviewees spanned a wide spectrum of representatives. Their insight and *consensus* regarding Davis' substantial potential for business growth should be carefully considered.

Projected business growth will be accompanied by community-wide economic benefits. The Center for Strategic Economic Development (CSER) conducted an economic impact analysis for two employment growth projections as well as an impact analysis of a hypothetical 100 acre (66 net acres) business park, expanding upon the ESG Study efforts.

EMPLOYMENT GROWTH PROJECTIONS & LAND NEEDS

This study explored five employment growth projection methodologies for the 2010 – 2035 timeframe. While projection results vary, they can be used to frame Davis' economic future. Due to this study's emphasis on private sector business growth, all methodologies exclude UC Davis employment growth.

Employment figures for all methodologies are grouped into two major categories. The first category is Office & Industrial, which is most typically associated with business park-type development. The second category, Other Commercial, includes all other employment growth. Employment is then converted to building square footage using industry-appropriate employment densities. Building square footage is converted to acreage using .26 and .35 floor-area ratio (FAR) assumptions[59]:

- .26 floor area ratio (FAR): Represents the ten-year historical development intensity for business park-type uses in Davis and typically reflects single-story development.

[59] Floor-area ratio represents the proportion of building size to property size. For example a 1,000 square foot building on a 1,000 square foot parcel with have an FAR of 1.0. Assumptions defined in greater detail in Chapter 6.

- .35 floor area ratio (FAR): Represents a realistic higher development intensity to maximize remaining available land and typically represents two-story development, though occasionally a higher intensity single-story development.

Econometric Employment Projections and Resulting Built Space & Land Needs

Econometric employment modeling (i.e. one reflecting statistical relationships) is considered the most statistically valid of the five employment projection scenarios presented in this study. Two econometric employment projections maintaining local employment sector-level relationships with the Sacramento-Solano region were conducted by the Center for Strategic Economic Research (CSER).[60]

1. "Business As Usual" Employment Growth and Land Needs

This scenario assumes similar employment trends and relationships between the local and regional economies will continue through 2035 as summarized in Tables 16 and 17.

Table 16: "Business as Usual" Employment Scenario (2010 – 2035)

Employment Sector	2008	2035	Employment Change (2010 - 2035)	% Sector Change	% of Total Employment Change	% of Total Employment (2035)
Combined Knowledge-Based	2,300	1,775	-525	-22.8%	-14.3%	8.1%
Target Knowledge-Based	*<1,427>*	*<1,389>*	*<-38>*	<-2.7%>	<-1.0%>	<6.3%>
Rest of Professional, Scientific, & Technical Services	*<873>*	*<386>*	*<-487>*	<-55.8%>	<-13.3%>	<1.8%>
Agriculture & Natural Resources	367	335	-32	-8.6%	-0.9%	1.5%
Construction	397	413	16	3.9%	0.4%	1.9%
Rest of Manufacturing	555	873	318	57.3%	8.7%	4.0%
Wholesale, Transportation, Utilities	961	885	-76	-7.9%	-2.1%	4.0%
Retail, Leisure, Hospitality	6,109	6,831	722	11.8%	19.7%	31.2%
Business & Financial Services	2,515	2,409	-106	-4.2%	-2.9%	11.0%
Education & Health	3,849	5,846	1,997	51.9%	54.5%	26.7%
Government & Unclassified	1,196	2,547	1,351	112.9%	36.9%	11.6%
Total	**18,249**	**21,914**	**3,665**	**20.1%**	**100.0%**	**100.0%**
Annual Growth (jobs)			147			

Table 17: "Business as Usual" Built Space Needs by Built Space Type (2010 – 2035)

Building Type	Net New Employment	Square Feet	Acres (.26 F.A.R)	Acres (.35 F.A.R)
Retail	613	153,147	13.5	10.0
Office	1,418	460,905	40.7	30.2
Industrial	393	314,528	27.8	20.6
Public & Unclassified	1,241	403,375	35.6	26.5
Total	**3,665**	**1,331,955**	**117.6**	**87.4**

[60] See Appendix for employment projection methodology.

2. "Higher Targeted Growth" Employment Growth and Land Needs

This scenario accounts for different patterns in the Combined Knowledge-Based employment sector. Specifically, this scenario assumes that for this sector Davis will capture a greater share of regional growth than the "Business as Usual" scenario (based on the demonstrated ability of these local sectors to capture regional growth).

The two main employment growth scenarios with subsequent built space and land needs are summarized in Tables 18 and 19.

Table 18: "Higher Targeted Growth" Employment Scenario (2010 – 2035)

Employment Sector	2008	2035	Employment Change (2010 - 2035)	% Sector Change	% of Total Employment Change	% of Total Employment (2035)
Combined Knowledge-Based	2,300	3,157	857	37.2%	16.9%	13.5%
<Target Knowledge-Based>	*<1,427>*	*<2,233>*	*<806>*	<56.5%>	<15.9%>	<9.6%>
<Rest of Professional, Scientific, & Technical Services>	<873>	<924>	<51>	<5.8%>	<1.0%>	<4.0%>
Agriculture & Natural Resources	367	335	-32	-8.6%	-0.6%	1.4%
Construction	397	413	16	3.9%	0.3%	1.8%
Rest of Manufacturing	555	873	318	57.3%	6.3%	3.7%
Wholesale, Transportation, Utilities	961	885	-76	-7.9%	-1.5%	3.8%
Retail, Leisure, Hospitality	6,109	6,836	727	11.9%	14.4%	29.3%
Business & Financial Services	2,515	2,412	-103	-4.1%	-2.0%	10.4%
Education & Health	3,849	5,847	1,998	51.9%	39.5%	25.1%
Government & Unclassified	1,196	2,547	1,351	113.0%	26.7%	10.9%
Total	**18,249**	**23,306**	**5,057**	**27.7%**	**100.0%**	**100.0%**
Annual Growth (jobs)			202			

Table 19: "Higher Targeted Growth" Built Space Needs by Built Space Type (2010 – 2035)

Building Type	Net New Employment	Square Feet	Acres (.26 F.A.R)	Acres (.35 F.A.R)
Retail	617	154,329	13.6	10.1
Office	2,757	895,966	79.1	58.8
Industrial	441	352,945	31.2	23.2
Public & Unclassified	1,242	403,585	35.6	26.5
Total	**5,057**	**1,806,825**	**159.5**	**118.5**

Estimates show that by 2035, jobs in Davis could grow from 18,249 to between approximately 22,000 and 23,000 jobs based on "Business as Usual" and "Higher Targeted Growth" scenario projections. Both scenarios show the City's largest employment sectors will continue to be Retail, Leisure, & Hospitality and Educational & Health Services. These two sectors are followed by the Government & Unclassified sectors in Business as Usual scenario and the Combined Knowledge-Based Sector in the "Higher Targeted Growth" scenario. Analysis of these two scenarios by CSER follows[61]:

Tables 16 through 19 also show the Davis economy could experience growth between about 20 percent and 28 percent through 2035, reflecting a net job increase in

[61] See full report in Appendix for more details.

"Business as Usual" and "Higher Targeted Growth" scenarios between approximately 3,700 and 5,100 jobs, respectively. Specifically, the "Business as Usual" scenario demonstrates that if the local economy behaves as it has in the past, Davis could expect a net gain of 3,665 jobs between 2008 and 2035 with a corresponding growth rate of 20.1 percent. The largest gains in this scenario are expected within the Educational & Health Services; Government & Unclassified; and Retail, Leisure & Hospitality sectors while the strongest growth is reflected in the Government & Unclassified; Manufacturing; and Educational & Health Services sectors. Losses are anticipated in four sectors, offsetting employment growth in the other sectors of the economy.

As reflected in the "Higher Targeted Growth" scenario, overall local employment growth could be notably more robust if the City is able to continue to benefit from its competitive assets and capture a significant amount of regional growth in knowledge-based sectors, as reflected in the "Higher Targeted Growth" scenario. This scenario shows a net increase of 5,057 jobs with a related 27.7 percent rate of growth. The greatest employment increases are projected in the Educational & Health Services; Government & Unclassified and Combined Knowledge-Based sectors (a notable difference from "Business as Usual" scenario) with the highest growth rates concentrated in the same sectors as the "Business as Usual" scenario. With strong growth projected in the Combined Knowledge-Based sector, "Higher Targeted Growth" scenario employment losses are confined to only three sectors: Agriculture & Natural Resources; Wholesale, Transportation, & Utilities; and Business & Financial Services.

The greatest contrast between the two scenarios resides within the Combined Knowledge-Based sector. The analysis conducted by the Center for Strategic Economic Research projects a ***decrease of 525 jobs*** in knowledge-based employment in the "Business as Usual" scenario – a counterintuitive conclusion. This occurs because the this scenario strictly applies historical Davis-Sacramento/Solano regional employment relationships and regional employment is projected to experience significant losses in the Professional, Scientific, & Technical Services sector during the next 25 years according to Moody's Economy.com, from which this analysis is derived. Thus, Davis' employment change projections could be substantially affected by regional projections. The "Higher Targeted Growth" scenario assumes a higher proportion of regional employment growth captured in the Combined Knowledge-Based sector during the 1990 – 2008 timeframe occurs through 2035, resulting in a net increase of 857 jobs[62]. Under the "Business as Usual" scenario, Combined Knowledge-Based sector employment ***declines*** as a percentage of total employment from 12.6% in 2008 to 8.1% in 2035. In the "Higher Targeted Growth" scenario, Combined Knowledge-Based sector employment ***increases*** as a percentage of total employment to 13.5% in 2035.

Both the "Business as Usual" and "Higher Targeted Growth" scenarios project substantial increases in Education & Health and Government sector employment at approximately 2,000 and 1,350 jobs, respectively. Education & Health increases are

[62] See Appendix for employment projection methodology.

projected to occur at a much higher than historical average (52% vs. 36% from 1990 – 2008), while Government employment, is projected for large gains at *lower* than historical averages (113% vs. 165% from 1990 – 2008). The Retail, Leisure, and Hospitality sector is projected to gain approximately 725 jobs; however, this occurs at a lower than historical rate (~12% vs. 51% from 1990 – 2008).

As shown in Tables 17 and 19, converting employment projections to built space needs reveals the vast majority of future business growth will occur in office and industrial uses, accounting for 58% and 69% of future business growth in "Business as Usual" and "Higher Targeted Growth" scenarios, respectively.

Alternative Employment Projections and Resulting Built Space & Land Needs

Alternate methods for projecting employment growth and land demand have been used in past studies, including the ESG study. This study explores three supplemental approaches to projecting Davis employment growth.

3. SACOG Employment Projections and Land Needs[63]

As a component of the Blueprint Project, the Sacramento Area Council of Governments (SACOG) conducted employment projections for the Sacramento Region for the 2005 – 2035 timeframe. SACOG employed *land constrained* econometric employment modeling for Davis which assumed no expansion of the Davis city boundary. Employment was categorized by *building type/major use* (i.e. retail, office, industrial, public). Since projections were completed in 2005, some employment growth is assumed to have occurred within the 2005 – 2009 timeframe, but remains in the projections.

SACOG's employment analysis for the regional Blueprint was completed in 2005 and projects 5,110 new jobs, excluding UC Davis. Of these jobs, 3,146, or 61%, are projected to be in "Office" or "Industrial" building types. Overall, SACOG employment projections exceed the Business as Usual scenario and are roughly equal to the Higher Targeted Growth employment scenarios, however, with a much higher percentage of employment growth assigned to building types associated with business park-type uses (71% Office & Industrial vs. 29% Other Commercial)[64].

Land needs for SACOG employment projections yielded 157.8 acres at .26 F.A.R and 117.2 acres at .35 F.A.R.[65].

4. Historical Employment Growth and Land Needs

The Historical Growth employment scenario represents a linear projection applying past rates of historical employment growth from 1990 – 2008 to the 2010 – 2035

[63] SACOG Data Center. February, 2008. Excludes UC Davis employment growth.
[64] Sector-level employment figures unavailable from SACOG.
[65] Employment figures apply industry-appropriate employment densities to convert to square footage and acreage conversion assumptions of .26 and .35 F.A.R. established. See Chapter 6 – Existing Vacant Land Inventory and Land Adequacy for more detail.

timeframe. While this approach has less statistical validity than the econometric model utilized in the Business as Usual and Higher Targeted Growth scenarios, it offers insight into future growth potential if historical employment growth is applied as a baseline assumption. This is similar to the approach used in the ESG Study. Under this assumption, Davis would gain 8,050 additional jobs (excluding UC Davis), 1,974 occurring in the Combined Knowledge-Based sector, representing an 86% sector increase and nearly 25% of total employment growth. If this scenario materialized, the Combined Knowledge-Based sector's percentage of total employment would increase from 12.6% to 16.3% as illustrated in Table 20.

Table 20: Historical Employment Growth Employment Projections (2010 – 2035)

Employment Sector	Employment Change (2010 - 2035)	Square Feet	Acres (.26 F.A.R)	Acres (.35 F.A.R)	Total Jobs	% of total (2035)
Combined Knowledge Based	1,974	679,572	60.0	44.6	4,274	16.3%
Target Knowledge Based	1,282	454,638	40.1	29.8	2,709	10.3%
Rest of Scientific, Prof., & Tech	*692*	224,934	*19.9*	*14.8*	1,565	6.0%
Agriculture & Natural Resources	-46	-36,842	-3.3	-2.4	321	1.2%
Construction	-97	-31,645	-2.8	-2.1	300	1.1%
Manufacturing	-453	-362,400	-32.0	-23.8	102	0.4%
Wholesale, Transportation, Utilities	837	496,974	43.9	32.6	1,798	6.8%
Retail, Leisure, Hospitality	2,734	582,237	51.4	38.2	8,843	33.6%
Business & Financial Services	784	254,868	22.5	16.7	3,299	12.5%
Education & Health	1,338	434,901	38.4	28.5	5,187	19.7%
Government & Unclassified	979	318,158	28.1	20.9	2,175	8.3%
Total	**8,050**	**2,335,824**	**206.2**	**153.2**	**26,299**	**100%**

The Historical Employment Growth and Land Needs scenario takes historical employment growth rates across all sectors and applies them to year 2035[66]. In this scenario, 206.2 acres are needed under recent historical development intensities of .26 F.A.R. and 153.2 acres if a higher .35 F.A.R. future average development intensity assumption is applied.

5. Land Absorption-Based Employment Growth and Land Needs

This scenario applies a demonstrated 10-year (1999 – 2008) historical land demand analysis using the following assumptions:

- 8.6 acres/year based on absorption of vacant land with Business Park, Office, and Industrial land use designations
- .26 FAR development intensity
- Employment projections are calculated assuming 333 square feet per employee,

[66] Annual 1990 – 2008 average employment growth rate of 322 net new jobs applied to year 2035. Employment figures use industry-appropriate employment densities to convert to square footage and acreage conversion assumptions of .26 and .35 F.A.R. representing "typical" and "higher" intensity development, respectively, are applied. See Chapter 6 for more detail.

similar to projections in the ESG Study[67].

Because this scenario was based on land absorption of Business Park, Office, and Industrial land use designations, it reflects only potential employment growth within those land use categories, not all employment growth across all industry sectors and land use designations and so does not allow for a direct comparison to the other projections. As a result, employment growth is assumed to occur in sectors similar to those that have occurred from FY 1998/99 and 2007/08, per the ESG Study. Additionally, since detailed employment categories are unavailable for this approach, 333 square feet per employee is assumed (consistent with the ESG Study).

Based on the above assumptions, Davis could expect 7,312 new jobs requiring 215.0 acres[68]. If the historical development rate assumption is reduced to a more modest average of 5.0 acres/year, employment growth within the aforementioned land use designations is reduced to 4,251 employees on 125.0 acres.

Table 21: Alternative Employment Projections, Built Space, & Land Needs by Built Space Type (2010 – 2035)

Methodology	Building Type	Employment Change (2010 - 2035)	Square Footage	Acres (.26 F.A.R)	Acres (.35 F.A.R)
SACOG Employment Projections	Office & Industrial	3,146	1,278,068	112.8	83.8
	Other Commercial	1,964	508,845	44.9	33.4
	Total	**5,110**	**1,786,913**	**157.8**	**117.2**
Historical Employment Growth	Office & Industrial	3,885	1,050,166	92.7	68.9
	Other Commercial	4,165	1,285,658	113.5	84.3
	Total	**8,050**	**2,335,824**	**206.2**	**153.2**
Land Absorption-Based	**Business Park, Office, & Industrial land use**	**7,312**	**2,435,004**	**215.0**	**N/A**

[67] City of Davis, Community Development Department. 10-year 8.6 acre annual historical development rate applied to the 2010 – 2035 timeframe.

[68] Land Absorption scenario is derived from the actual 10-year historical development average development intensity of .26 F.A.R.

ECONOMIC IMPACT ANALYSIS

Future business growth will be accompanied by local economic benefits. The Center for Strategic Economic Research conducted an economic impact analysis of the two econometric employment projections (Business as Usual, Higher Targeted Growth) as well as a hypothetical 100 acre (66 net acres) business park.

Economic Impacts of Employment Projections

With continued business growth, various economic outcomes will be realized in the City of Davis economy. In addition to an increase in jobs, the local economy could see corresponding gains in output (market value of goods produced and services provided) and employee compensation (value of wages and benefits) as well as a boost in state and local tax generation[69]. If Davis were to experience the "Business as Usual" scenario employment growth through 2035 (nearly 3,700 jobs), the economy would see a corresponding gain of about $406 million of output, $183 million of employee compensation, and $14 million of revenue from state and local taxes. With a greater level of employment growth concentrated in the high value knowledge-based sectors, Higher Targeted Growth scenario presents notably larger economic outcomes (associated with the net gain of nearly 5,100 jobs) at approximately $586 million of output, $252 million of compensation, and $19 million of state and local taxes.

Economic Impacts of Business Park Scenario

The ESG study explored the viability of a business park at the ConAgra property and concluded a business park viable if the site is entitled to permit a wide range of uses[70]. Buildout was projected at 16 years. The site was considered infeasible if restricted to high technology uses only due to a projected 39 year buildout[71]. Using the ESG study as a foundation, CSER expanded this analysis to understand in greater detail the economic impact of a new 100-acre business park (66 net acres) within the existing city limits. Conceivably, this could represent the ConAgra property but the analysis conclusions are not location-dependent. For the purposes of this study, the business park economic impact analysis scenario excluded certain employment sectors considered less compatible with a dedicated business park such as Agriculture; Construction; Education & Health; and Wholesale, Transportation & Utilities. Remaining employment sectors were applied to the scenario, proportional to their current representation in the Davis economy. It is important to note that this analysis is conducted independent of "Business as Usual" and "Higher Targeted Growth" employment projections. Table 8 illustrates employment distribution for this analysis:

[69] See Appendix for economic impact methodology.
[70] ESG Study, Pg 65.
[71] ESG Study, Pg 71.

Table 22: New Business Park Employment Assumptions

Sector	Total Employment	Total %
Combined Knowledge-Based	1,360	52.6%
<Targeted Knowledge-Based>	<844>	<32.6%>
<Rest of Professional, Scientific, & Technical Services>	<516>	<20.0%>
Manufacturing	328	12.7%
Retail, Leisure, Hospitality	258	10.0%
Business & Financial Services	251	9.7%
Government & Unclassified	388	15.0%
Total	**2,586**	**100%**

A new business park containing about 2,600 jobs in selected sectors (many of which are high value) could directly generate economic outcomes equaling nearly $445 million of output, $138 million of employee compensation, and $19 million of state and local tax revenue.

Table 23 illustrates economic outcomes associated with the projected employment growth in each of the "Business as Usual" and "Higher Targeted Growth" employment scenarios as well as a new dedicated business park.

Table 23: Economic Impact Analysis Results[72]

	Employment Projection Scenario		Independent Scenario
Outcome	Business as Usual	Higher Targeted Growth	New Business Park
Jobs	3,665	5,057	2,586
Output	~$406,000,000	~$586,000,000	~$445,000,000
Employee Compensation	~$183,000,000	~$252,000,000	~$138,000,000
State & Local Tax Generation	~$14,000,000	~$19,000,000	~$19,000,000
Approximate City Share	*<~$1,300,000>*	*<~$1,700,000>*	*<~$2,300,000>*
Land Demand Range (acres)	87.4 - 117.6	118.5 - 159.5	100 (66 net)

Substantial economic benefits result from all scenarios analyzed. City analysis of State & Local Tax Generation outcome in Table 23 suggests over the 25-year period, Davis could expect approximately $1.3 million in revenue to the City for the "Business as Usual" scenario and $1.7 million for the "Higher Targeted Growth" scenario. A dedicated business park could yield approximately $2.3 million in local revenue.

[72] "Approximate City Share" is a rough analysis conducted by the City of Davis Finance Department to reflect the approximate amount of tax revenue for the City.

The potential impact from a "New Business Park" scenario illustrates economic benefits from a dedicated business park are greater than for the "Business as Usual scenario. However, it should be noted that all employment projection scenarios assume employment on the ConAgra property, so the "New Business Park" analysis and employment projection scenarios are not mutually exclusive. However, from a local revenue generation standpoint, the "New Business Park" analysis suggests Davis may be better served focusing economic development efforts toward a new business park and/or related industries over the type of employment growth assumed in the "Business as Usual" and "Higher Targeted Growth" scenarios – if market conditions permit - given the greater projected per capita return on investment.

ALTERNATIVE FUTURES

Previous sections of this study provided a range of employment projections (both econometric and alternative), the economic impacts of two econometric projections, and a sense of Davis' business growth strengths and weaknesses. Three "Alternative Futures" are presented for community consideration, representing plausible economic futures. Two are based on the econometric employment projections (Alternative Future #1: "Business as Usual", Alternative Future #2: "Higher Targeted Growth"). A third alternative, "Goal-Based Economic Development", has two variations. Alternative #3 represents a goal-based future focused on increasing knowledge-based employment as a percentage of Davis' total employment from the current 12.6% to 17.5%.

Alternative Future #1: "Business as Usual" Scenario

In this scenario, Davis grows in accordance with "Business as Usual" employment projections. This would reflect a *loss of employment* in the Combined Knowledge-Based sector accompanied by large employment increases in Retail, Leisure, & Hospitality; Education & Health; and Government sectors. Table 24 summarizes employment change in the Combined Knowledge-Based sector with total employment growth projections under this alternative future.

Table 24: Alternative Future #1 Employment Growth

Methodology	Employment Category	Employment Change (2010 - 2035)
Alternative Future #1 Business as Usual	Combined Knowledge-Based	-525
	Other	4,190
	Total	**3,665**

Alternative Future #2: "Higher Targeted" Growth Scenario

In this scenario, Davis grows in accordance with "Higher Targeted Growth" employment projections. This would reflect increases in the Combined Knowledge-Based sector accompanied by the same employment increases in Retail, Leisure, & Hospitality; Education & Health; and Government sectors as in Alternative Future #1. Table 25 summarizes employment change in the Combined Knowledge-Based sector with total employment growth projections under this alternative future.

Table 25: Alternative Future #2 Employment Growth

Methodology	Employment Category	Employment Change (2010 - 2035)
Alternative Future #2 Higher Targeted Growth	Combined Knowledge-Based	857
	Other	4,201
	Total	**5,057**

Alternative Future #3: Goal-Based Economic Development

In this scenario, using the "Higher Targeted Growth" scenario as the baseline, Davis pursues business growth to increase employment diversification in the Davis economy by increasing the Combined Knowledge-Based sector's percentage of total employment approximately five percent from 12.6% to 17.5% by 2035. This Alternative Future would require proactive, strategic actions to support knowledge-based industry. Two approaches can be taken within this scenario.

In Alternative Future #3-A, all projected employment growth from the "Higher Targeted Growth" Scenario is assumed to occur *in addition* to Combined Knowledge-Based sector employment growth necessary to reach 17.5% of total 2035 employment. Alternative Future #3-A results in 6,175 new jobs, of which 1,975 occur in the Combined Knowledge-Based sector as evidenced in Table 26.

Table 26: Alternative Future #3-A Employment Growth

Methodology	Employment Category	Employment Change (2010 - 2035)
Alternative Future #3-A: Increased Knowledge-Based Employment + Projected employment Growth in Other Sectors	Combined Knowledge-Based	1,975
	Other	4,201
	Total	**6,175**

In Alternative Future #3-B, Combined Knowledge-Based sector employment growth is assumed to replace employment in Retail, Leisure, & Hospitality; Education & Health; and Government & Unclassified sectors. Table 10 illustrates projected Combined Knowledge-Based sector employment change. Alternative Future #3-B retains the 5,059 jobs projected in the econometric "Higher Targeted Growth" scenario but *replaces* employment growth in Retail, Leisure, & Hospitality; Education & Health; and

Government & Unclassified sectors with Combined Knowledge-Based employment growth to achieve the 17.5% goal[73]. This scenario results in approximately 1,779 Combined Knowledge-Based jobs.

Table 27: Alternative Future #3-B Employment Growth

Methodology	Employment Category	Employment Change (2010 - 2035)
Alternative Future #3-B: Combined Knowledge-Based Employment Substitution	Combined Knowledge-Based	1,779
	Other	3,280
	Total	**5,059**

Table 28 shows employment growth by building type/major use with accompanying built space and land needs required to achieve Alternative Futures #1 through #3B.

Table 28: Employment, Built Space, and Land Needs by Building Type/Major Use for Alternative Futures #1 - #3B

Methodology	Building Type/Major Use	Employment Change (2010 - 2035)	Square Footage	Acres (.26 F.A.R)	Acres (.35 F.A.R)
Business as Usual (Alternative Future #1)	Office & Ind.	1,811	775,433	68.5	50.9
	Other Comm.	1,854	556,522	49.1	36.5
	Total	**3,665**	**1,331,955**	**117.6**	**87.4**
Higher Targeted Growth (Alternative Future #2)	Office & Ind.	3,198	1,248,911	110.3	81.9
	Other Comm.	1,859	557,914	49.3	36.6
	Total	**5,057**	**1,806,825**	**159.5**	**118.5**
Goal-Based Economic Development: (Alternative Future #3-A)	Office & Ind.	4,316	1,658,166	146.4	108.8
	Other Comm.	1,859	557,914	49.3	36.6
	Total	**6,175**	**2,216,080**	**195.7**	**145.4**
Goal-Based Economic Development: (Alternative Future #3-B)	Office & Ind.	3,814	1,448,850	127.9	95.0
	Other Comm.	1,245	381,327	33.7	25.0
	Total	**5,059**	**1,830,177**	**161.6**	**120.0**

Alternative Futures #1 through #3-B result in a need for between 117.6 and 195.7 acres. Office and Industrial uses, those most consistent with business park-type development represent the vast majority of future built space needs for all scenarios, ranging from 68.5 to 127.9 acres.

CONCLUSIONS

The purpose of this chapter was to:

- Examine potential employment business growth defined by increases in employment
- Better understand Davis' potential alternative economic futures
- Define the economic benefit of two alternative economic futures as well as a hypothetical 100 acre (66 net acres) business park.

[73] For Alternative Future #3-B, a shift of approximately 235 Combined Knowledge-Based jobs = 1% shift in percentage of total employment

This chapter also shows that under the five employment growth projections (including econometric projections) presented:

- Davis can expect substantial business growth over the 2010- 2035 timeframe, with the vast majority of growth occurring in office and industrial uses.
- Econometric economic modeling projections reveal total employment growth of 3,665 jobs for the Business as Usual scenario with 5,057 additional jobs occurring in the Higher Targeted Growth scenario.
- Alternative projections suggest employment growth ranging from 5,110 to 8,050 jobs, with higher percentages occurring in office and industrial uses.
- Total employment growth ranges between 20% and 44%, depending on scenario.
- Between 48% and 63% of projected employment growth occurs in office and industrial building types/major uses, depending on scenario.

Three Alternative Futures are presented for community consideration of Davis' economic future. Two are based on the econometric employment projections (Business as Usual, Higher Targeted Growth) and a third with two variations, Goal-Based Economic Development, is a goal-based scenario focusing on increasing knowledge-based employment as a percentage of Davis' total employment from the current 12.6% to 17.5%.

Despite the current economy, Davis' long term economic future appears favorable. The extent to which the community acts to support business growth will dictate the magnitude of community benefit received. This chapter presented several employment projection methodologies, demonstrated the economic benefits of two employment projections and a hypothetical business park, and presented three Alternative Futures for community consideration.

CHAPTER 6

EXISTING VACANT LAND INVENTORY AND LAND ADEQUACY

INTRODUCTION

This chapter analyzes Davis' existing land and built space inventory and the extent to which it can accommodate projected business growth. Chapter 2 identified existing city policy supporting business growth, particularly in knowledge-based industries. It also demonstrated the value Davis knowledge-based companies contribute to the local economy through an economic multipliers analysis. Established policy sets encouraging knowledge-based business creation, growth, retention, and attraction in Davis as a priority.

Chapter 5 provided business growth projections for the 2010 – 2035 timeframe, employing various methodologies including econometric employment projections, linear employment growth projections, SACOG employment projections, and land absorption-based projections. These provide the background context under which the adequacy of Davis' existing land inventory can be analyzed.

While employment projections provide some insight into the volume of employment growth Davis might expect given historical trends, a critical information gap exists if land capacity is unknown. An important factor in accommodating future business growth is the amount of land and/or built space available to accommodate new or expanding businesses. At the most basic level, additional built space and/or land is necessary to accommodate business growth.

DEFINITION OF TERMS

Common land use and built space terminology should be established so terms have consistent meaning across contexts. For this study, two important sets of terms exist: land-related and building-related.

Land Use Terms and Definitions:

The General Plan Growth Management section is the city's blueprint for guiding land development as well as the location for specific land use terminology. Land use designations clearly describe the development vision for each land use designation. Four designations related to business park-type development are relevant for this study: Business Park, University-Related Research Park, Office, and Industrial. Additionally, the General Plan includes several key areas of consideration for each land use designation, of which this study focuses on three: Intent, Allowable Uses, and Policies[74].

[74] While this study heavily references the General Plan, some areas may be abbreviated.

Business Park:

Intent: "To provide locations for administrative, professional, government and medical offices, and non-polluting science, technology, light manufacturing, and ancillary warehouse facilities in pleasant, pedestrian-oriented mixed-use environments featuring freeway and airport access, a variety of amenities, and high-quality architectural and landscape design."

"A 'Business Park' is a hybrid of industrial and office parks which contains multiple uses and activities such as traditional industrial uses (such as warehouse/distribution, light manufacturing, and research and development activities) as well as other types of land uses including headquarter offices, recreational facilities, health clubs, day care centers, incubator spaces for emerging companies, and secondary residential uses"[75]

Allowable Uses:

1. "Offices, light industry, research and development, light manufacturing and warehousing (as an ancillary use), provided they meet City standards regarding pollution, health and safety. Limited food establishments tailored to serve business park employee needs subject to conditional use review
2. Residential uses to the extent that they are secondary and do not conflict with the primary use of the area"

Policies: "Business Parks should include sophisticated land planning, high quality architectural and landscape design, building flexibility, a variety of amenities, and environmental controls."

Example locations of the Business Park land use designation include Faraday Avenue, the Interland Business Park on Drew Avenue, Spafford Drive, and the Research Park Drive area South of Richards Boulevard.

University-Related Research Park:

Intent: "To provide sites for high-tech and science companies to conduct research and development activities, such as product development, engineering, sales and administration, as well as ancillary light manufacturing and wholesale uses. A URRP primarily involves collaborative research and shared laboratories with educational institutions. In this regard, it is the desire of the City of Davis to advance technology employment activities, and the transfer of technology between the university, colleges and businesses in the Research Park, which arise from the synergies created by the proximity of the URRP to UC Davis".

"The research park shall be compatible and on a scale consistent with Davis as a small university town. The research park shall be characterized by superior site planning, architectural and landscape architectural design; traffic management; and

[75] In this context the term "Business Park" is described as a vision for a business park as a single entity. However, it functions as a land use category and is applied to specific parcels.

environmental controls. In order to achieve this goal, planned development zoning and design guidelines shall be utilized. It is the intent that the URRP utilize the existing support services within the community rather than developing its own support services."

Allowable Uses: "Offices and research and development uses (including but not limited to biotechnology) with limited amounts of ancillary light manufacturing, assembly, warehousing and distribution. Minor amounts of light manufacturing assembly with limits on the sizes of such facilities. Minor amounts of retail, restaurant and other services which do not compete with the downtown and neighborhood shopping centers with limits on the sizes of such facilities and designed to support the tenants of the park. Related amenities and open spaces serving the research park may also be allowed. The types and amounts of allowable uses shall be addressed in zoning regulations."

Policies: "University-Related Research Parks should include sophisticated land use planning, high quality architectural and landscape design, building flexibility, a variety of amenities and environmental controls."

This land use category has not been applied to any parcels in Davis.

Office:

Intent: "To provide locations for small administrative, professional and medical offices in centrally located areas near the downtown and/or residential neighborhoods. Residential uses would be conditionally allowable."

Allowable Uses:

1. "Administrative, professional and medical offices.
2. Residential uses to the extent that they are secondary and do not conflict with the primary use of the area."

Policies: (no specific policies associated with the "Office" land use category)

Example locations of the Office land use designation include Fermi Avenue, Kennedy Place, Green Meadows office complex on Picasso Avenue, and medical office complexes on West Covell Blvd in West Davis.

Industrial:

Intent: "To provide areas for basic industries, manufacturing and employment in Davis, with adequate separation from incompatible uses and appropriate environmental controls."

Allowable Uses: "Manufacturing, warehousing and distribution, research and development, commercial recreation, open space areas for buffering, transportation and employee recreation."

Policies: (no specific policies associated with the "Industrial" land use category)

Example locations of the Industrial land use designation include the ConAgra property, PG&E site, and the industrial area bounded by Second Street, Fifth Street, Pole Line Road, and Pena Drive.

Built Space Terms and Definitions:

Terminology regarding built space differs considerably from General Plan land use designations in two significant areas:

1. Built space refers to *buildings* as opposed to *land.*
2. The General Plan does not address building types.

Since the General Plan does not supply building type definitions, commercial real estate industry-accepted terminology is used. The following built space definitions were excerpted from the ESG study:

Office: Includes all types of office space, from single story small tenant space to large high rise buildings.

Industrial: Includes smaller scale local service space to very large scale manufacturing or other process facilities, and is typically in single story buildings that accommodate specialized machinery and high capacity utilities. General industrial space describes a very wide range of real estate products, from smaller scale local service space to very large scale manufacturing or other process facilities. As a very general description, general industrial is typically a single story building with large open areas to accommodate processing of materials, high interior clear ceilings, dock-high truck access and loading, space for improvements such as specialized machinery and storage, and specialized high capacity utilities such as electrical or gas lines. Because industrial space typically has lower employment densities than office or flex space, it tends to have much lower parking ratios.

Flex: Has many characteristics of both office space and industrial space, and can serve both office functions and some traditional industrial functions (labs, testing, prototype design, limited assembly and manufacturing, receiving and shipping). Flex space is typically a single story building with interior clear ceilings at least 18 feet high, able to accommodate roll-up doors or other means of truck access and loading, and some portion of the space adapted for non-office functions, or capable of being configured in this way. Because employment densities in flex can be similar to those of office space, it tends to have parking ratios close to or the same as those in office space. High quality flex space is a comparatively new product designed primarily for suburban or other less dense locations. It is easy and quick to build, can be designed to be both attractive and low cost, and can be configured to be easily modified to fit the changing needs of even individual users. It can also easily be sold and structured as owner-occupied space, and as condominiums*. Flex space is very closely connected to tech industries and high intellectual capital firms.*

EXISTING COMMERCIAL DEVELOPMENT

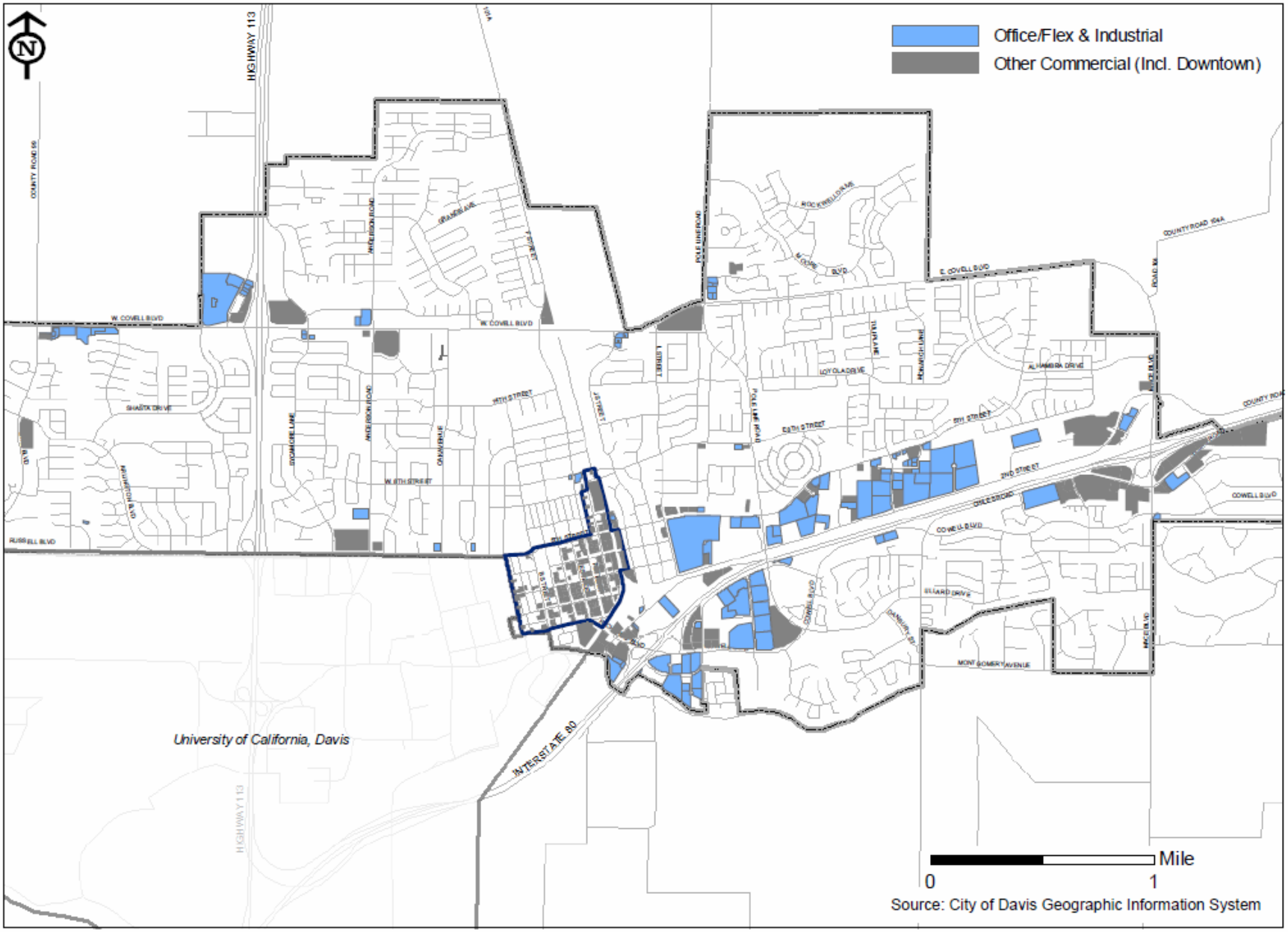
Understanding Davis' existing commercial development helps place into context remaining available land. Whereas the ESG Study provided existing and recent historical development for office, flex, and industrial uses, this study expands the existing commercial inventory by including all Davis commercial development Table 29 summarizes Davis existing commercial development.

Table 29: Existing Commercial Development

Building Type	Square Footage	Acreage
Office/Flex	2,610,815	214.4
Industrial	150,199	39.9
Retail	1,480,214	133.7
General Commercial	683,147	96.0
Total	**4,924,375**	**484.0**

Davis' total built space for the four major categories total over 4.92 million square feet on 484.0 acres. Office/Flex & Industrial space – space most typically associated with "business park-type" uses - totals 2,761,014 square feet on 254.3 acres. Figure 5 illustrates the spatial distribution of office, flex, and industrial space in Davis.

Figure 5: Existing Commercial Development



FACTORS AFFECTING REMAINING VACANT LAND

Undeveloped vacant land is important for accommodating future business growth. Business creation, attraction, and growth are dependent on available physical space to operate, including vacant land available for building construction. No accepted standard exists regarding how much land inventory a community should have available to support business growth, either in total acreage or percentage of land available. Davis' current General Plan was to guide land use development through January, 2010. Thus, the 25-year timeframe used for this study is appropriate for assessing the Davis land supply in support of a future General Plan update. Figure 6 illustrates Davis existing land inventory contrasted with existing commercial development.

Inclusion Criteria

Available land for development is dependent on assumptions and criteria for inclusion. The ESG study completed in August 2008 identified vacant land availability and historical development rates, informing the business park feasibility analysis for the ConAgra property. The ESG study limited the "existing inventory" to undeveloped land with a Business Park, Office, or Industrial General Plan land use designation. Criteria for site inclusion in this study's inventory differ somewhat and include:

Consistent with ESG Study:

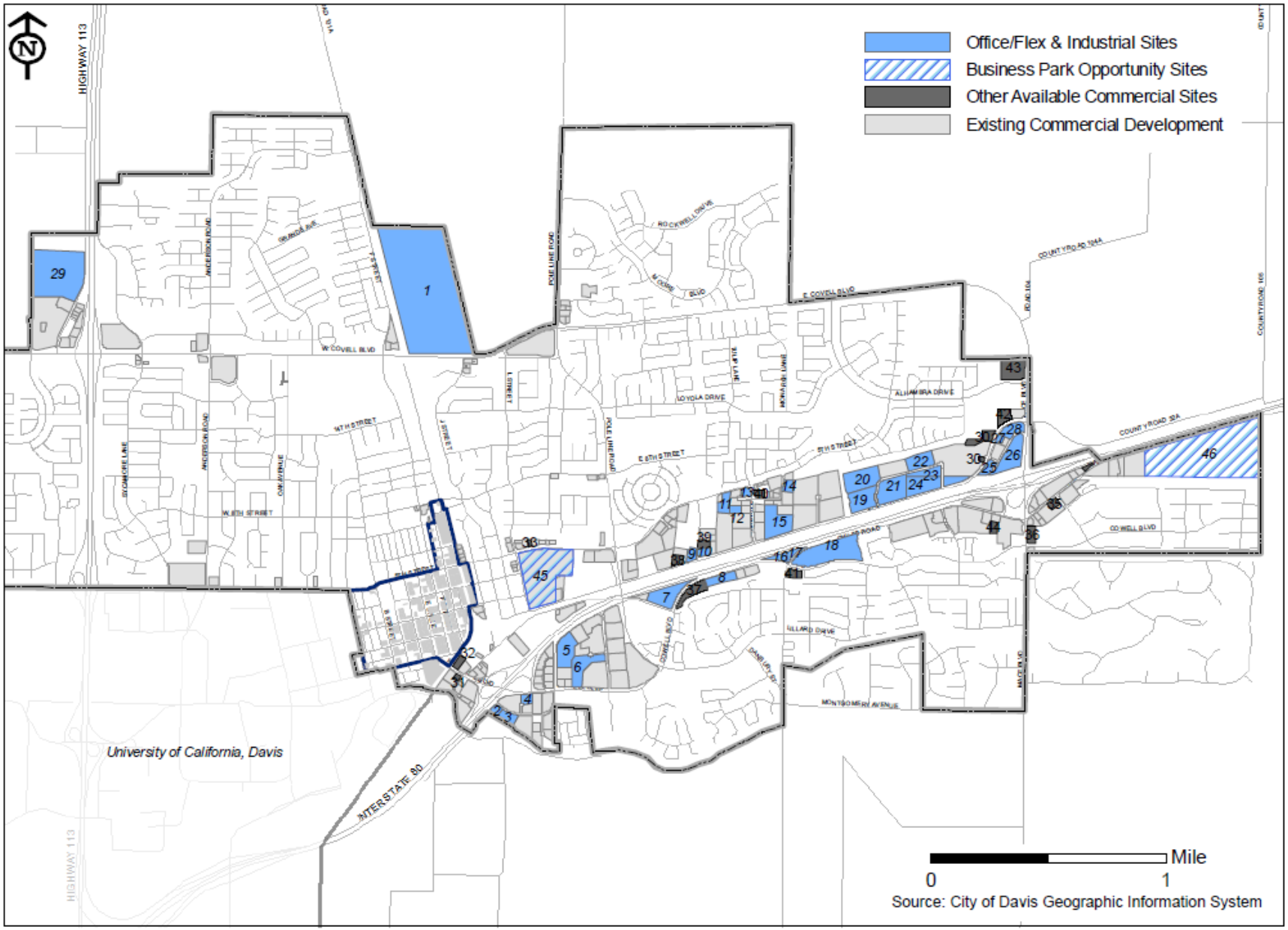
- Sites within city limits
- All undeveloped "Existing Sites"[76]

New to this Study:

- Available land inventory is expanded to include *all vacant sites* appropriate for business growth. Land inventory is separated into two primary categories[77]:
    a. Sites suitable for office/flex & industrial building types
    b. Other commercial sites suitable for business growth
- Vacant sites with development applications in-process were placed into the Available Land inventory.
- Qualitative Analysis of Additional Land Supply Factors:
    - Potential effect of current economic recession on a healthy commercial space "equilibrium"
    - Potential effect of UC Davis migration of some private leased space to campus to existing vacant space built space
    - Status of UC Davis research park south of I-80.
    - Housing Element Update potential conflict sites
    - Remaining available land for sale and associated land market dynamics
    - Downtown development potential

[76] See ESG Study for more details.
[77] Two potential "business park opportunity sites" (PG&E site & Department of Forestry site) within the City boundary are also identified, though not formally included in Davis' vacant land inventory.

Figure 6: Vacant Commercial Land



While measuring total available land is important, equally important is how well available land accommodates *business growth.* To address this issue, the following attributes of vacant parcels were also considered:

- Site Size Category (small, medium, large, very large)
- Development capacity (square footage)
- Employment capacity (# of employees)
- Site quality (Class A, B, C, or D)

Site Size Category

Available land sites were placed into size categories, defined as small (<4 acres), medium (4.0 – 15.0 acres), large (15.1 – 50 acres), and very large (>50 acres) sites. Larger sites offer greater development potential, design flexibility, and potential pool of users. In contrast, while small sites have unique advantages for specific user groups, they are more restrictive in overall development potential, more likely to face design constraints, and have a more restricted pool of users.

Development Capacity

Available sites were analyzed for development capacity - the ability to accommodate a building - expressed in square footage. Each parcel's development potential is affected by size (acreage), shape, and development intensity allowed (FAR). Existing zoning for the vast majority of remaining sites restricts maximum development intensity to either .35 or .50 FAR. That is, the building floor area may occupy no more than the equivalent of 35% to 50% of the land site. According to the ESG study, ten-year historical development of office, flex, and industrial buildings has been .26 FAR.

Assumptions regarding future development intensity assumptions (FAR) substantially affect future business growth accommodations. This study employs a development intensity range of between .26 and .35 FAR to reflect realistic future development intensity assumptions. The range's low end reflects a "typical" recent historical development intensity of .26 FAR. The range's higher end, .35 FAR, represents a realistic "higher intensity" 25-year average with the following considerations in mind:

- Assumption that .26 FAR trend may continue in the short term (0-10 years) resulting from market preferences.
- Accommodates assumption of higher intensity development occurring later in the 25-year timeframe.
- Represents a mix of single and two-story buildings
- Appropriately reflects Davis' flex/office market niche
- Represents compatibility with existing scale of Davis built environment

This assumption is broadly applied to all sites and may be inappropriate in some circumstances, while other opportunities may justify a higher FAR. Table 30 provides a development intensity differences from local examples. The greatest distinction between

a building at .26 FAR versus .35 FAR is the former typically reflects a single-story building and the latter often reflects a two-story building[78].

Table 30: Sample Commercial Development Intensity

Address	Square Footage	FAR	Distinguishing Characteristics	Picture
2440 W. Covell Blvd	10,425	.26	• Single story • Medical office building • Shallow setbacks	
1909 Galileo	16,814	.26	• Single Story • Office building	
201 Cousteau	75,000	.27	• Two story • Substantial landscaping reduces development intensity • Substantial parking	
2925 Spafford	4,746	.34	• One story + loft • Office Building	

[78] Certain industrial activities generate lower parking demand (such as manufacturing) which can result in a single-story building with a higher F.A.R since less site area must be dedicated to parking.

2850 Spafford	6,922	.35	• Two story • Office building	
260 Cousteau	99,399	.37	• Two story • Flex building	
3805 Faraday	70,000	.39	• Partial two story • Flex building	

Employment Capacity

Employment is a key business growth indicator. Thus, available sites were analyzed for employment accommodation abilities. Employment densities differ within office, flex, industrial, retail, and other commercial building types. Therefore, because this study groups several of these building types together and assigning building types to specific sites is speculative in nature, this study assumes a 333 square feet per employee (3.0 employees/1000 sf) employment density for all sites[79].

Site Quality

Future business growth is dependent on a continuous, adequate supply of suitable sites of varying sizes. Though a parcel may be vacant and zoned for a particular use, the site may be unacceptable from a developer's or end user's viewpoint. Because this study focuses on business park-type development and the vast majority of remaining

[79] This assumption maintains consistency with the ESG Study (Pg 70).

land is Office/Flex & Industrial, only available Office/Flex & Industrial sites were analyzed for quality assessment. Evaluation "classes" were established with highest quality sites earning a "Class A" designation while "Class D" sites are considered challenged for future development. Evaluation categories included[80]:

- Site-specific Characteristics including:
  - Size
  - Configuration (shape)
  - Opportunity for business expansion via parcel assemblage with adjacent parcels
- Location & Access including:
  - Location (whether on a primary or secondary arterial)
  - Freeway access
  - Distance to transportation and/or amenities such as downtown, shopping center, transit stop, Amtrak station
  - Distance to UC Davis
  - Visibility from freeway or main arterial road
- Other issues including:
  - Parcel zoning & process for development entitlements
  - Proximity to/compatibility with surrounding uses
  - Parcel ownership

Table 31 summarizes the general attributes typically characteristic of a parcel by evaluation class.

Table 31: Evaluation Classes

"Class A" Sites:

Category	***Typical Characteristics***
Site Characteristics	Size: Medium (4-15 acres), Large (15 – 50 acres), or Very Large (>50 acres) Shape: Shape & depth definitely does not affect development potential Expandability: One or more adjacent vacant parcels for site assemblage and/or future business expansion
Location/ Access	Easy freeway access, on major arterial (or equivalent), high visibility
Surrounding Uses	Surrounding uses either are or are likely to be similar or compatible
Strengths/Challenges	Other site strengths/challenges contributing to "Class A" designation

[80] Evaluation categories not rigidly applied nor equally weighted. Evaluation was conducted at a holistic level.

"Class B" Sites:

Category	***Typical Characteristics***
Site Characteristics	Size: Medium (4-15 acres), Large (15 – 50 acres), or Very Large (>50 acres) Shape: Shape & depth unlikely to affect development potential Expandability: May not have adjacent vacant parcels for expandability
Location/Access	Less convenient freeway access, on minor arterial, compromised visibility
Surrounding Uses	Character of surrounding uses may or are likely to differ somewhat
Strengths/Challenges	Other site strengths/challenges contributing to "Class B" designation

"Class C" Sites:

Category	***Typical Characteristics***
Site Characteristics	Size: Small (<4 acres) or Medium (4-15 acres) Shape: Shape & depth may affect development potential Expandability: Minimal or no expansion or parcel assemblage opportunity
Location/Access	Less convenient freeway access, on minor arterial, compromised visibility
Surrounding Uses	Character of surrounding uses may or are likely to differ somewhat
Strengths/Challenges	Other site strengths/challenges contributing to "Class C" designation

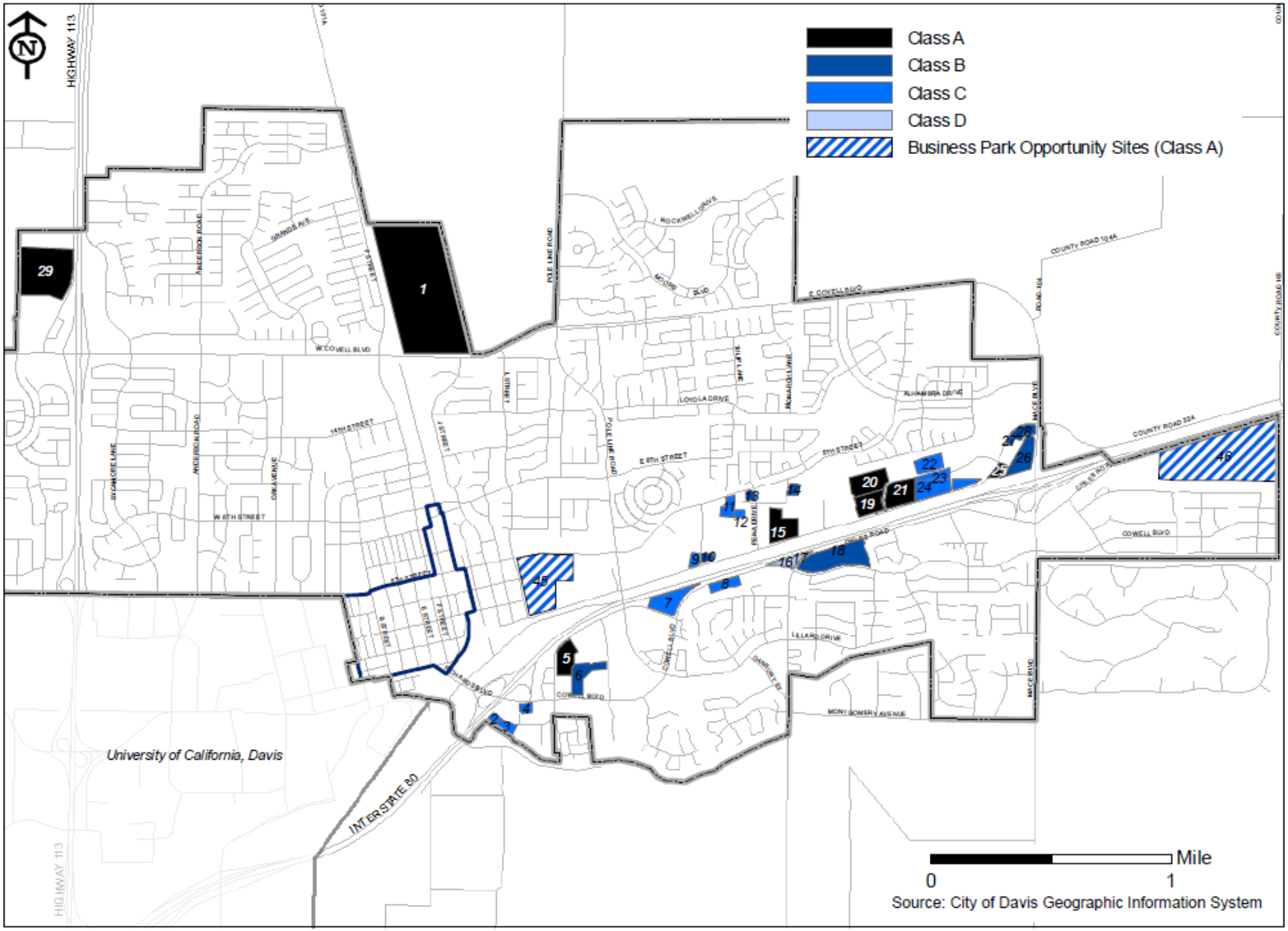
"Class D" Sites:

Category	***Typical Characteristics***
Site Characteristics	Size: Generally small or very small (<4 acres) Shape: Shape & depth may affect development potential Expandability: No expansion or parcel assemblage opportunity
Location/Access	Inconvenient freeway access, not on major/minor arterial, no freeway or arterial visibility
Surrounding Uses	Character of surrounding uses differ or differ significantly
Strengths/Challenges	Other site strengths/challenges contributing to "Class D" designation

Figure 7 illustrates the spatial distribution of sites according to site quality[81].

[81] See Appendix for site-specific details.

Figure 7: Vacant Office/Flex & Industrial Land by Evaluation Class



AVAILABLE LAND

Davis' available land supply is greatly influenced by the criteria used for including sites in the inventory. Due to this study's focus on land suitable for knowledge-based business growth, two of the more important variables, site size and site quality, are disaggregated for Office/Flex & Industrial sites to provide greater insight into Davis' available land supply. "Other Commercial" sites, typically represent sites zoned for service commercial, retail, or other general commercial uses. Due to their nearly universal small size (<3.5 acres), they are presented in aggregate. Table 32 illustrates Davis' land supply by size.

Table 32: Vacant Commercial Land

			Development Potential (square feet)		Employees	
Remaining Office/Flex & Industrial Sites	**# of sites**	**Total net acres** (where applicable)	**@ .26 F.A.R**	**@ .35 F.A.R**	**@ .26 F.A.R (333 sf/empl.)**	**@ .35 F.A.R (333 sf/empl.)**
# of Small Sites	17	29.7	336,710	453,264	1,011	1,361
# of Medium Sites	9	62.7	709,549	955,162	2,131	2,868
# of Large Sites	2	44.1	504,378	566,125	1,515	1,700
# of Very Large Sites	1	66.0	747,490	1,006,236	2,245	3,022
Total Office/Flex & Industrial	**29**	**202.4**	**2,298,127**	**2,980,786**	**6,901**	**8,951**
Other Commercial Sites	15	25.5	313,185	401,865	940	1,207
Total Inventory	**44**	**227.9**	**2,611,312**	**3,382,651**	**7,841**	**10,158**

A total of 44 vacant sites (227.9 acres) within the Davis city boundary are suitable for business growth. Twenty-nine of these are suitable for Office/Flex & Industrial development. However, 17 of the 29 Office/Flex & Industrial sites are less than four acres, leaving 12 vacant sites for medium or larger users (>135 employees). Davis has one very large site (ConAgra, 66 net acres) suitable as a "dedicated business park".

Site quality plays a significant role in the ability for the available land supply to facilitate future business growth. High quality sites are necessary for business attraction purposes and to competitively position Davis against neighboring and regional communities. Table 13 illustrates the extent to which site quality affects land availability. This table ranks the sites according to criteria associated with most desirable sites (e.g. size, configuration, proximity to freeway, etc.). Class A sites are the most desirable with Class D sites presenting size, configuration and/or location limitations. Of the 44 vacant sites available, less than half (16 sites) are ranked as Class A or Class B sites (note: two "Business Park Opportunity Sites" - PG&E and Department of Forestry Site - are not included in this inventory).

Table 33: Vacant Commercial Land by Evaluation Class

			Development Potential (square feet)		Employees	
Remaining Office/Flex & Industrial Sites	**# of sites**	**Total net acres** (where applicable)	**@ .26 F.A.R**	**@ .35 F.A.R**	**@ .26 F.A.R (333 sf/empl.)**	**@ .35 F.A.R (333 sf/empl.)**
Class A Sites						
Small (<4 acres)	1	1.6	17,894	24,089	54	72
Medium (4.1-15 acres)	5	36.3	411,459	553,887	1,236	1,663
Large (15.1-50 acres)	1	28.3	326,000	326,000	979	979
Very Large (>50 acres)	1	66.0	747,490	1,006,236	2,245	3,022
Class A Total	**8**	**132.2**	**1,502,843**	**1,910,212**	**4,513**	**5,736**
Class B Sites						
Small	6	10.8	122,430	164,809	368	495
Medium	1	6.7	75,428	101,538	227	305
Large	1	15.8	178,378	240,125	536	721
Very Large	0	0.0	NA	NA	NA	NA
Class B Total	**8**	**33.2**	**376,236**	**506,472**	**1,130**	**1,521**
Class C Sites						
Small	8	15.3	172,942	232,806	519	699
Medium	3	19.7	222,661	299,736	669	900
Large	0	0.0	NA	NA	NA	NA
Very Large	0	0.0	NA	NA	NA	NA
Class C Total	**11**	**34.9**	**395,603**	**532,543**	**1,188**	**1,599**
Class D Sites						
Small	2	2.1	23,444	31,559	70	95
Medium	0	0.0	NA	NA	NA	NA
Large	0	0.0	NA	NA	NA	NA
Very Large	0	0.0	NA	NA	NA	NA
Class D Total	**2**	**2.1**	**23,444**	**31,559**	**70**	**95**
Total Office/Flex & Industrial	**29**	**202.4**	**2,298,127**	**2,980,786**	**6,901**	**8,951**
Other Commercial Sites	15	25.5	313,185	401,865	940	1,207
Total Inventory	**44**	**227.9**	**2,611,312**	**3,382,651**	**7,841**	**10,158**

Davis has 16 Class A and Class B Office/Flex & Industrial sites totaling 165.4 acres. The remaining 28 sites totaling 62.5 acres are Class C, Class D, and “Other Commercial” sites.

Table 34 analyzes a scenario where the ConAgra property is rezoned for other uses and eliminates Class C and Class D Sites. That is, prime remaining sites for accommodating business growth.

Table 34: Vacant Commercial Land without ConAgra Property and without Class C and Class D Sites

			Development Potential (square feet)		Employees	
Office/Flex & Industrial Sites	**# of sites**	**Total net acres** (where applicable)	**@ .26 F.A.R**	**@ .35 F.A.R**	**@ .26 F.A.R (333 sf/empl.)**	**@ .35 F.A.R (333 sf/empl.)**
Office/Flex & Industrial Sites	**29**	**202.4**	**2,298,127**	**2,980,786**	**6,901**	**8,951**
-ConAgra	-1	-66.0	-747,490	-1,006,236	-2,245	-3,022
-Class C Sites	-11	-34.9	-395,603	- 532,543	-1,188	-1,599
-Class D Sites	-2	-2.1	-23,444	-31,559	- 70	-95
New Total	***15***	***99.4***	***1,131,590***	***1,410,448***	***3,398***	***4,235***
+ Other Commercial Sites	+15	+25.5	+313,185	+401,865	+940	+1,207
Adjusted Total Inventory	**30**	**124.9**	**1,444,775**	**1,812,313**	**4,338**	**5,442**

With a few minor assumption changes, total land availability drops from 227.9 acres and 7,825 employees to 124.9 acres and 4,338 employees at recent development intensities. Office/Flex & Industrial land availability is reduced from 202.4 acres and 6,901 employees to 99.4 acres and 3,398 employees. Employing these assumptions can directly affect conclusions regarding Davis' land supply adequacy in the following section.

LAND ADEQUACY

The employment growth projections displayed a distribution of employment growth across all sectors. However, employment growth distribution does not match the distribution of Davis' remaining vacant land supply. That is, there is no correlation between the type of employment growth projected with the zoning of the remaining vacant land supply. For the purposes of determining total land adequacy, this study assigns total employment growth to total remaining vacant land irrespective of zoning of remaining vacant land. Figure 8 illustrates the extent to which Davis' land supply can support future business growth based on the above assumption[82].

[82] At .26 FAR development intensity

Figure 8: Davis Land Supply Adequacy, 2010 – 2035 (All Employment Projections) [83]

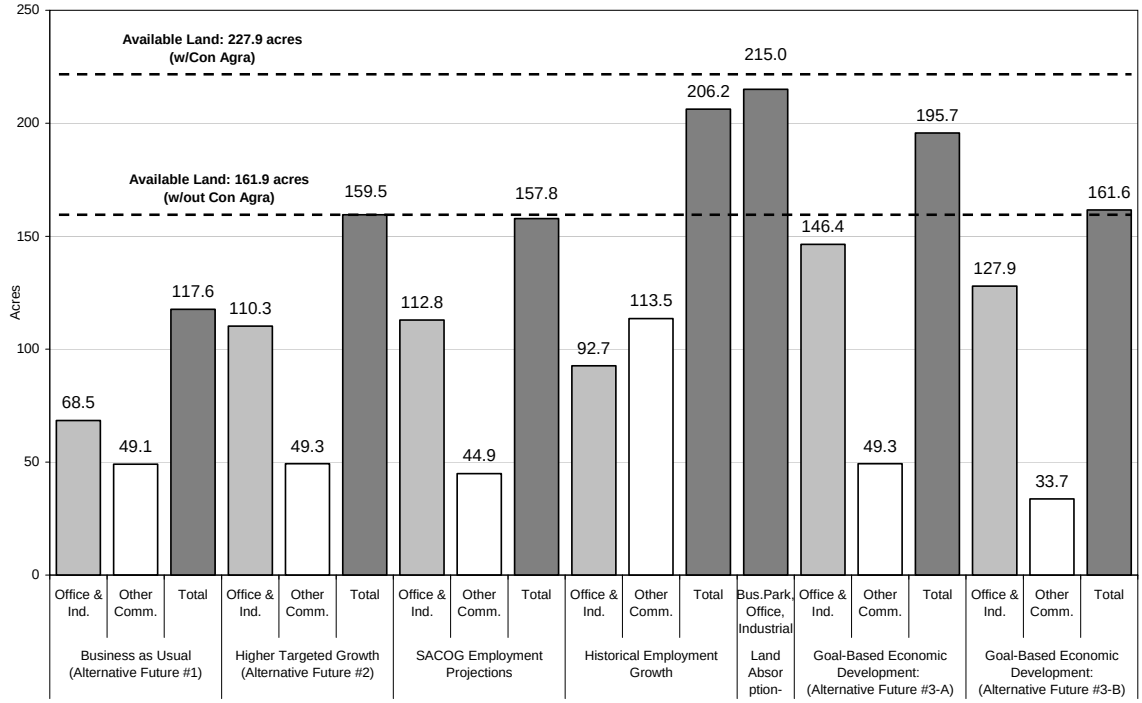


Figure 8 suggests Davis' total vacant land supply is theoretically sufficient under alternate growth scenarios examined in this study if the ConAgra property is retained for business growth purposes. If the ConAgra property is rezoned either entirely or primarily for other uses, Davis' ability to accommodate business growth is significantly compromised. Additionally, if Housing Element Conflict Sites[84] are developed for residential uses, land supply is further reduced. Davis should carefully balance community priorities and plan for both business growth and other community needs (e.g. housing). A role of this study is to help identify tradeoffs resulting from land use decisions in advance rather than when development applications are in process.

ADDITIONAL LAND SUPPLY FACTORS

Important and often unquantifiable or speculative factors also affect land supply adequacy. These include total available land, site quality, site sizes, practical development potential of specific sites due to size and configuration, demand for business growth, land ownership, available land marketed for sale, and policy/process factors. Additionally, several external factors not accountable in a basic demand/supply analysis have potential to affect the land supply.

[83] Goal-Based Economic Development (Alternative Futures #3-A & #3-B) do not reflect employment projections but rather economic development objectives accompanied by necessary land needs. See pages 87-88 for an explanation of these scenarios.

[84] Nonresidential sites considered suitable for residential uses in Housing Element Update process.

Land Supply Factors Potentially Increasing Inventory:

Economic Recession and Vacant Space Equilibrium

The current economic recession has affected many communities, Davis included. Businesses and companies are downsizing, and demand for office and flex space is down overall in Davis. Due to the economic recession's severity and duration, vacancy rates were assessed to analyze whether the Davis office/flex, industrial, retail, and general commercial space markets were in equilibrium: the market state at which tenants and landlords have equal negotiating leverage[85]. This term is defined as the market state at which tenants and landlords have equal negotiating leverage, generally 10% for office and industrial buildings and 6% - 7% for retail buildings[86]. Under this assumption, the combined vacancy rate for all vacant space at equilibrium should be 8.9% in Davis. The increment beyond equilibrium, if any, must be reabsorbed by business growth and is explored in this chapter.

Vacancy rates are fluid, vary frequently, and subject to marketing behaviors of building owners. It is recognized not all building owners actively list their spaces through means used by this study to collect data: a commercial listing service (Loopnet), local newspaper advertisements, and electronic media. However, equally possible is some listings may be nearing contract or secured tenants but were not removed. Due to these factors, vacancy rates are provided as a reference point and only represent a snapshot in time.

Table 35, below, illustrates that despite the economic downturn, Davis vacancy rates reside below equilibrium, overall. General Commercial building types are the only category above equilibrium as of 2/10/2010, in large part due to high vacancy rates in Davis' auto sales district.

UC Davis Migration from Private Space to Campus

UC Davis leases private office and lab space within the city limits when a short term need exists; facilities cannot be constructed on campus quickly enough to meet a need; or when funding to construct facilities is not available. In 2009, UC Davis occupied 368,697 square feet of private space in Davis. UC Davis has confirmed certain functions occupying a total of 62,263 square feet of private space will migrate back to campus from 2009 through 2011. Some of this migration has already occurred and is factored into Table 35. The net total of UC Davis' migration is 35,596 square feet, roughly equivalent to 3.1 acres and 100 employees and 110 employees[87].

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[85] Loopnet: 2/10/10; Davis Enterprise Classified Ads: 2/10/10, 2/11/10, 2/12/10, 2/14/10; Craigslist: 2/10/10, 2/14/10.

[86] Jim Gray, NAIBT. 9/29/09. [86] Perry, Philip M. "How to Negotiate a Better Lease". AreaDevelopment Online. Oct/Nov. 2009. <http://www.areadevelopment.com/AssetManagement/Oct09/negotiate-better-commercial-lease-rates02.shtml>.

[87] As of 2/10/2010.

Table 35: Existing Vacancies & Excess Built Space (2/10/10)[88]

Current Vacancies			
Building Type	**Total Inventory (sf)**	**Square Feet Available**	**Vacancy Rate**
Office/Flex	2,610,815	224,488	8.6%
Industrial	150,199	0	0.0%
Retail	1,480,214	73,321	5.0%
General Commercial	683,147	77,921	11.4%
Total	**4,924,375**	**375,730**	**7.6%**
Vacant Space @ Equilibrium	4,924,375	439,625	8.9%
Excess Built Space	**NA**	**-63,895**	**NA**
Forthcoming vacancies from UC Davis migration to campus	**NA**	**35,596**	
Total Excess Built Space	**NA**	**-28,299**	**NA**

On balance, despite the economic recession and UC Davis' migration trend toward campus, the Davis commercial real estate market has performed fairly well. Though vacancy rates have likely increased due to the recession, it may reflect a market correction bringing the real estate market closer to equilibrium, where lease rates are likely to increase only at the rate of inflation. In contrast, it may suggest that in a recovered economy where vacancy rates may drop below equilibrium, Davis' built space is undersupplied. Because the Davis commercial vacancy rate exists below equilibrium on balance, this study concludes a built space surplus does not exist.

Status of UC Davis Research Park

UC Davis administration has confirmed the business park south of I-80 is no longer being pursued due to an absence of private development partners able to finance and construct the project and necessary infrastructure and access improvements. Thus, the project is not assumed to have an impact on Davis as a land supply factor.

Downtown Potential as Future Employment Center

Given downtown's role as Davis' commercial and cultural center it is reasonable to assume additional office and retail development will occur downtown within the 2010 – 2035 timeframe. The 2000 General Plan Environmental Impact Report (EIR) assumed over 480,000 square feet of net new commercial development downtown, much of which is yet to materialize. However, because this study focuses on available land supply and given downtown's absence of vacant sites and current processes affecting downtown redevelopment, quantifying downtown's commercial development capacity is highly speculative. Therefore, *for the purposes of this study, all new commercial*

[88] Loopnet: 2/10/10; Davis Enterprise: 2/10/10, 2/11/10, 2/12/10, 2/14/10; Craigslist: 2/10/10, 2/14/10. UC Davis Capital Resource Management Division, Real Estate Services.
Assumptions: Retail Equilibrium = 6.5%; Office/Flex, Industrial, General Commercial Equilibrium = 10%.

development is assumed to occur on currently vacant land outside downtown. However, Addendum 2 explores in more detail the potential role of downtown as a future employment center. Interviews for this study confirmed that small businesses desired the amenities provided by a downtown location if suitable lease space was available.

Land Supply Factors Potentially Reducing Inventory

Individual Site Characteristics

Even with 44 vacant commercial sites totaling nearly 228 acres, individual site characteristics and specific site uses can affect maximum development potential, it should be noted that maximum feasible development could be lower than assumed in this study.

Housing Element Update Potential Conflict Sites

In November 2008, the City concluded Steering Committee work for the General Plan Housing Element update. The updated focused on two basic housing objectives:

1. The City's Regional Housing Needs Allocation (RHNA) from the Sacramento Area Council of Government (SACOG), in compliance with State Housing law; and
2. The one percent growth cap adopted by City Council to meet local housing need.

This process resulted in a list of 36 sites deemed suitable for accommodating internal housing needs through 2013. Sites were ranked based on fifteen important evaluation factors and received "green", "yellow", or "red" light designations reflecting their relative appropriateness for housing development.

Several sites in the final Housing Element list are zoned for Office/Flex & Industrial uses. These present potential land supply conflicts for both types of uses. If conflict sites are developed for housing, they are effectively removed from the inventory for business park-type uses and vice versa. Table 36 identifies the conflict sites.

Table 36: Housing Element Update Potential Conflict Sites

						Development Potential (square feet)		Employees				
ID	Parcel #	Name	Address	Street Name	Site Category	@ .26 FAR	@ .35 FAR	@ .26 FAR	@ .35 FAR	Parcel Size (net acres)	Size Category:	Eval. Class
1	035 970 37	ConAgra Property	1111	E. Covell Blvd	Office/Flex & Industrial	747,490	1,006,236	2,245	3,022	66.0	Very Large	A
7	069 020 81	Oakshade NW of Cowell Blvd.	2601	Research Park Dr	Office/Flex & Industrial	75,882	102,148	228	307	6.7	Medium	C
8	069 390 05	Seiber Property	2750	Cowell Blvd	Office/Flex & Industrial	36,468	49,092	110	147	3.2	Small	C
11	071 404 04	2726 E. 5th Street, E. of Konditorei	2726	5th Street	Office/Flex & Industrial	29,673	39,945	89	120	2.6	Small	C
18	069 020 89	Willow Creek Light Industrial Site	3500	Chiles Rd	Office/Flex & Industrial	178,378	240,125	536	721	15.8	Large	B
36	068 021 01	NE Corner of Mace & Cowell	480	Mace Blvd	Other Commercial	20,386	27,443	61	82	1.8	NA	NA
37	069 020 81	Oakshade SE of Cowell Blvd	2601	Research Park Dr	Other Commercial	38,507	51,836	116	156	3.4	NA	NA
41	069 020 89	Willowcreek Neighborhood Commercial Site	3400	Chiles Rd	Other Commercial	19,254	25,918	58	78	1.7	NA	NA
Total Office/Flex & Industrial Conflict Sites						1,067,891	1,437,545	3,207	4,317	94.3		
Total Other Commercial Conflict Sites						78,147	105,197	235	316	6.9		
TOTAL						**1,146,038**	**1,542,742**	**3,442**	**4,633**	**101.2**		

Eight sites totaling 101.2 acres are considered potentially appropriate for both housing and commercial development[89]. Collectively, these sites can accommodate from 1,146,038 to 1,542,742 square feet of building space and from 3,442 to 4,633 employees. Figure 9, below, illustrates site locations.

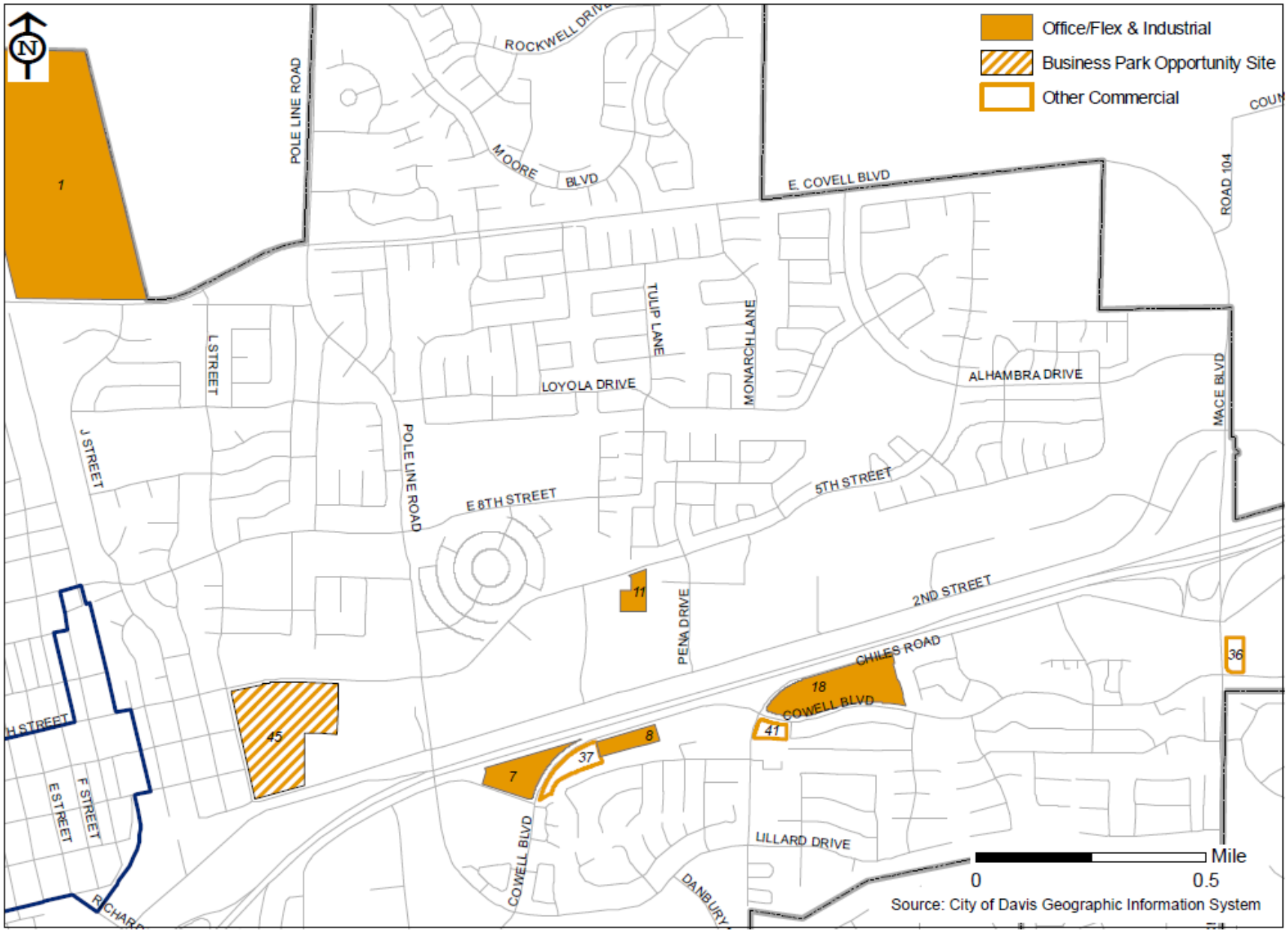
The scenario in Table 37 illustrates potential tension between community development priorities for housing and economic development goals. That is, it assesses remaining land available for business growth if Housing Element Conflict sites are rezoned for residential uses. Davis' land supply is reduced from 227.5 total acres to 126.3 acres.

Table 37: Existing Inventory without ConAgra and without Housing Element Conflict Sites[90]

	Land Availability (acres)	
Factor	**All Inventory**	**Office/Flex & Industrial Inventory**
Starting Inventory	**227.5**	**202.4**
-ConAgra	-66.0	-66.0
-Remaining Housing Element Conflict Sites Developed for Housing	-35.2	-28.3
Remaining Inventory	**126.3**	**108.1**

[89] PG&E Site excluded since it is excluded from the base vacant commercial land inventory.
[90] "Remaining Housing Element Conflict Sites Developed for Housing" = All Housing Element sites with ConAgra property separately itemized.

Figure 9: Housing Element Update Potential Conflict Sites



Land Supply Factors Affecting Business Growth

Remaining Available Land for Sale and Land Market Dynamics

An important component to business growth is not only the vacant land theoretically available for growth, but also land actively marketed for sale so build-to-suit development can quickly materialize when business attraction prospects approach the City or current property owners. The state of Davis' land supply is accurately reflected by the amount of land actively marketed for sale. If land supply is adequate, sites in a variety of sizes and locations will be available for purchase or lease. If land is undersupplied, very few opportunities are available for ownership transfer and/or build-to-suit development to facilitate business growth. This results in many business prospects approaching owners of properties not marketed for sale, increasing the property's perceived value. This influences the owner to retain the property. Thus, existing property owners may influence the rate at which future business growth can occur in Davis. Table 38 illustrates properties formally on the market in contrast with total available land.

Table 38: Remaining Available Land Marketed for Purchase[91]

Site Category	# of Sites	Total Acres	Total Inventory	% Available
Office/Flex & Industrial	4	8.8	202.4	4.3%
Other Commercial Sites (Retail)	1	2.8	25.5	11.0%
Total	**5**	**11.6**	**227.9**	**5.1%**

No accepted "equilibrium" standard exists quantifying the amount or percentage of land that *should* be actively marketed for sale within a community. Of Davis' 44 total vacant commercial sites, five sites totaling 11.6 acres are actively marketed for sale. This suggests a very limited market for business attraction prospects seeking ownership and build-to-suit opportunities. Qualitative evidence supporting this conclusion is supported by City staff experience and explored in greater detail in Chapter 4. The absence of larger size sites readily available for purchase has limited business attraction success in Davis.

[91] Loopnet: 2-25-10.

Factors Affecting Site Delivery

Facilitating future business growth, particularly in knowledge-based industries, requires maintaining a *steady supply* of high quality building sites in a variety of sizes and ownership opportunities. Lack of action to maintain a sufficient space inventory will result in missed opportunities and loss of businesses, employment growth, and other economic benefits to other communities. Unquantifiable factors affect Davis' land supply today with a business community consensus that a significant contrast exists between the available land supply and land *deliverable* for business growth. That is, a deficiency of suitable sites for sale to develop exists now.

Future business growth will depend on the ability to develop existing vacant land. While most existing available sites included in this study are compatible with their assumed uses, not all sites are developable with a smooth regulatory process. This issue particularly applies to larger sites requiring an environmental impact report (EIR); conditional use permits; opportunity sites requiring general plan amendments/rezones; and lastly, external sites for annexation, if the City chooses to pursue that route.

A streamlined, predictable development application process was voiced as the single most important action the city could take to facilitate business growth. Historically, Davis has relied upon Planned Development zoning to tailor specific uses to their respective parcel(s). Entitlements processes requiring General Plan amendments, rezoning, or conditional use permits are often lengthy and unpredictable for developers whose projects facilitate business growth. A corollary to drawbacks associated with Planned Development zoning is the absence of a standard Business Park or Office zone. Standardized business park zoning ensures process predictability and reduces project completion time. These two issues complement ESG Study conclusions regarding the ConAgra property that entitlements with highly restrictive, discretionary, and unclear regulatory controls will limit capture/absorption of business park market opportunities and will negatively impact business growth. This applies universally to the Davis market.

CONCLUSIONS

The ability of Davis' 44 existing internal sites to accommodate future business growth is dependent on site inclusion assumptions and other land supply factors. Maintaining an adequate supply of high-quality sites facilitates business growth and buffers against losing business to neighboring or Sacramento region communities. Prime Class A and Class B sites are most suitable for business attraction and local business growth purposes while, broadly speaking, Class C sites may be more attractive for local business growth opportunities.

Davis may prefer to intensify development on remaining land to maximize business growth. This study analyzed the existing inventory of .26 and .35 FAR representing the 10-year historical intensity and maximum currently allowable under some zoning circumstances, respectively. The latter represents a roughly doubling of historical development intensities *for all sites in the inventory*. While applied broadly to all sites,

this higher intensity development may not be appropriate on some sites while other sites may represent opportunities for even higher intensity development, representing a mix of development intensities. Importantly, the potential for higher intensity commercial development may be subject to market conditions or require policy incentives should that emerge as a community priority.

Davis has a small number of larger sites that could accommodate a dedicated business park. One site, the ConAgra property, was recently proposed as a primarily mixed-used residential project. Given much of Davis' future business growth capability relies on this site, should a similar proposal be submitted in the future and approved for this property, the ability to accommodate future business growth will be compromised. Substitute locations, potentially outside the city boundary, would likely be necessary at some point if future business growth is desired. Two larger internal "Business Park Opportunity Sites" – the PG&E site and Department of Forestry Site– present opportunities for a dedicated business park but also present significant development challenges and are subject to community land use priorities. Moreover, the PG&E site may be considered more appropriate as a residential mixed-use project, serving as a downtown extension while the Department of Forestry site is a state-owned property.

The Housing Element Update presents possible inventory conflicts as eight sites totaling 101.2 acres and currently zoned for commercial uses were considered appropriate for housing development. Residential development of these sites will effectively remove them from the commercial inventory and reduce Davis' business growth opportunities.

This chapter analyzed all existing internal sites considered suitable for future business park-type development. Davis' land supply adequacy is subject to factors that are not easily quantified. Thus, the market's perspective of the land supply may contrast significantly from the total acreage calculated in this study's inventory. This chapter raises these issues in addition to the quantified inventory to allow for better community understanding of Davis' commercial land supply and its capability to accommodate business growth.

CHAPTER 7

CONCLUSIONS AND NEXT STEPS

The current economic recession is a challenging environment in which to discuss business growth. Businesses are struggling, unemployment rates are at record highs, and economic recovery still seems distant for many businesses and the community as well. However, economic recovery will occur and Davis can capitalize on competitive strengths, changing the trajectory of the local economy particularly in industries widely recognized as driving the future economy. Davis' advantages relative to neighboring communities can be leveraged to strengthen its competitive position, particularly in high-paying knowledge-based industries that neighboring and regional communities highly prize, such as biotechnology and clean technology. Supporting this objective, this study focused on primary topics related to assuring business opportunity for a 25-year timeframe. In summary, key topics addressed include:

- Current economic development policies support business growth, particularly knowledge-based industry
- Economic value of business growth, with an emphasis on knowledge-based industry
- The nature of Davis economy from both current and historical perspectives
- Davis business community perception of the local business climate, prospects for future growth, and necessary conditions to facilitate it
- Employment growth projections
- Economic Impact analysis of two alternative futures as well as a hypothetical 100 acre (66 net acres) business park.
- Davis existing land supply and the extent to which it can accommodate future business growth

The study's purpose evolved from considering the tradeoffs of a specific land use decision regarding the ConAgra property to one focusing on priorities for Davis' economic future. The evolution included a shift from a focus on historical land absorption and tradeoffs surrounding a specific land use decision for the ConAgra property analysis to a more thorough analysis of the economic value, conditions necessary to facilitate, business growth projections, and land supply. Thus, this study emphasizes Davis' economic future as much as it does land use and supply. With the BPLS set in this context, the following five conclusions can be drawn:

1. Davis economic development policies supporting knowledge-based business growth
2. Knowledge-based business provides substantial economic value
3. Davis is poised for additional growth in knowledge-based industries
4. Davis' land supply to accommodate future business growth is limited

5. Davis needs to proactively facilitate future knowledge-based business growth to achieve desired goals

Davis is in a position to chart a desired economic growth path. Thus, the timing is appropriate for Davis to consider preparing for a desired economic future. Econometric employment growth projections reveal substantial employment growth using conservative assumptions. However, questions for community consideration include:

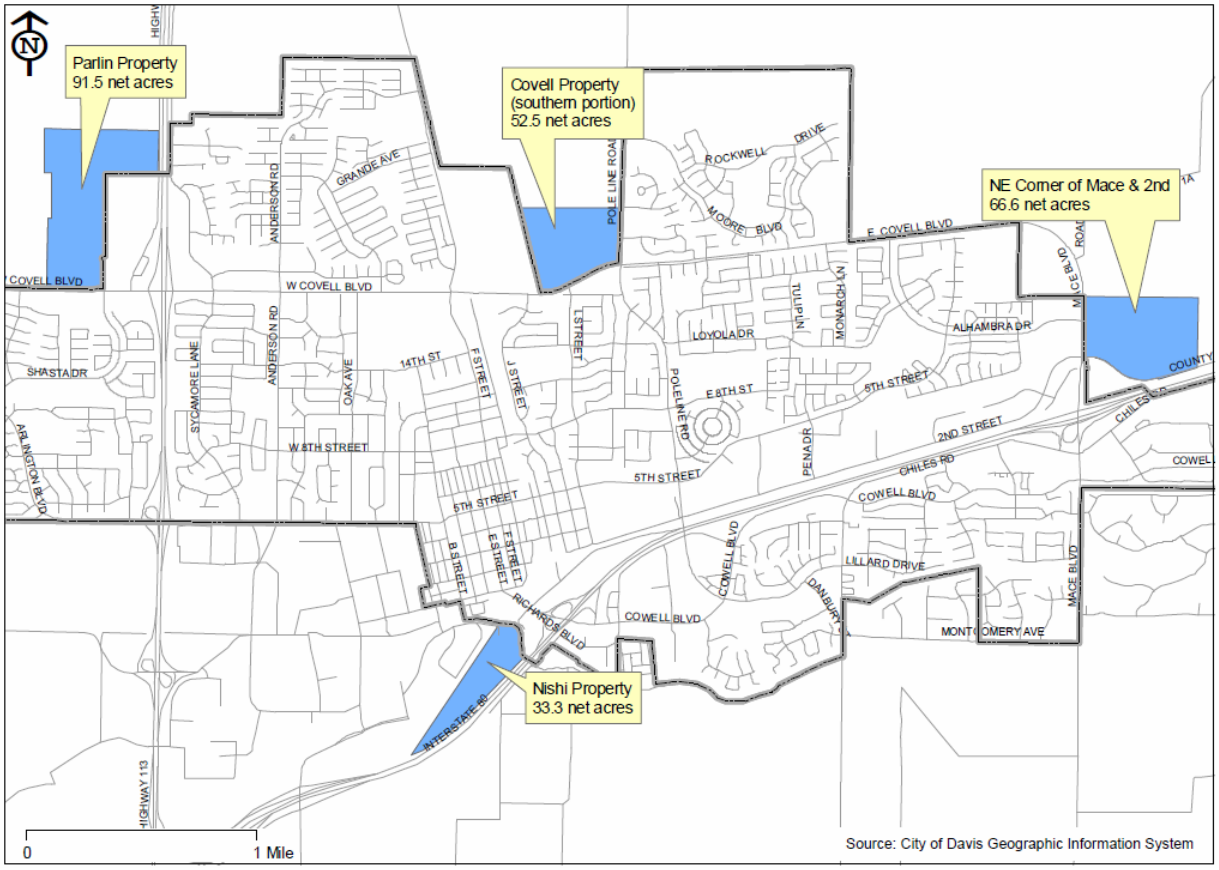
- How much and what type of business growth should the community pursue?
- How much and what type of land is necessary to support desired business growth?
- What actions should the City take to support and encourage desired business growth?
- What actions should be taken to maximize the benefits from the current land supply?

Community priorities in response to these questions necessarily lead to questions regarding Davis' available land supply including:

- How should the ConAgra site develop?
- How should Housing Element Conflict Sites develop?
- If the PG&E site is redeveloped, how should it be developed?

Tension exists between Davis' quantified available land inventory and deliverability of land to facilitate business growth. If Davis desires to continue expanding the business sector, it is likely at some point within the 2010- 2035 timeframe annexing additional land contiguous to the City boundary will need exploration. Retaining the ConAgra property and preparing it for business park development would extend the time necessary before external sites need consideration. Figure 10 illustrates potential external sites considered appropriate for business park locations. External business sites have not been analyzed for development potential, suitability, compatibility, potential impacts, or property owner interest.

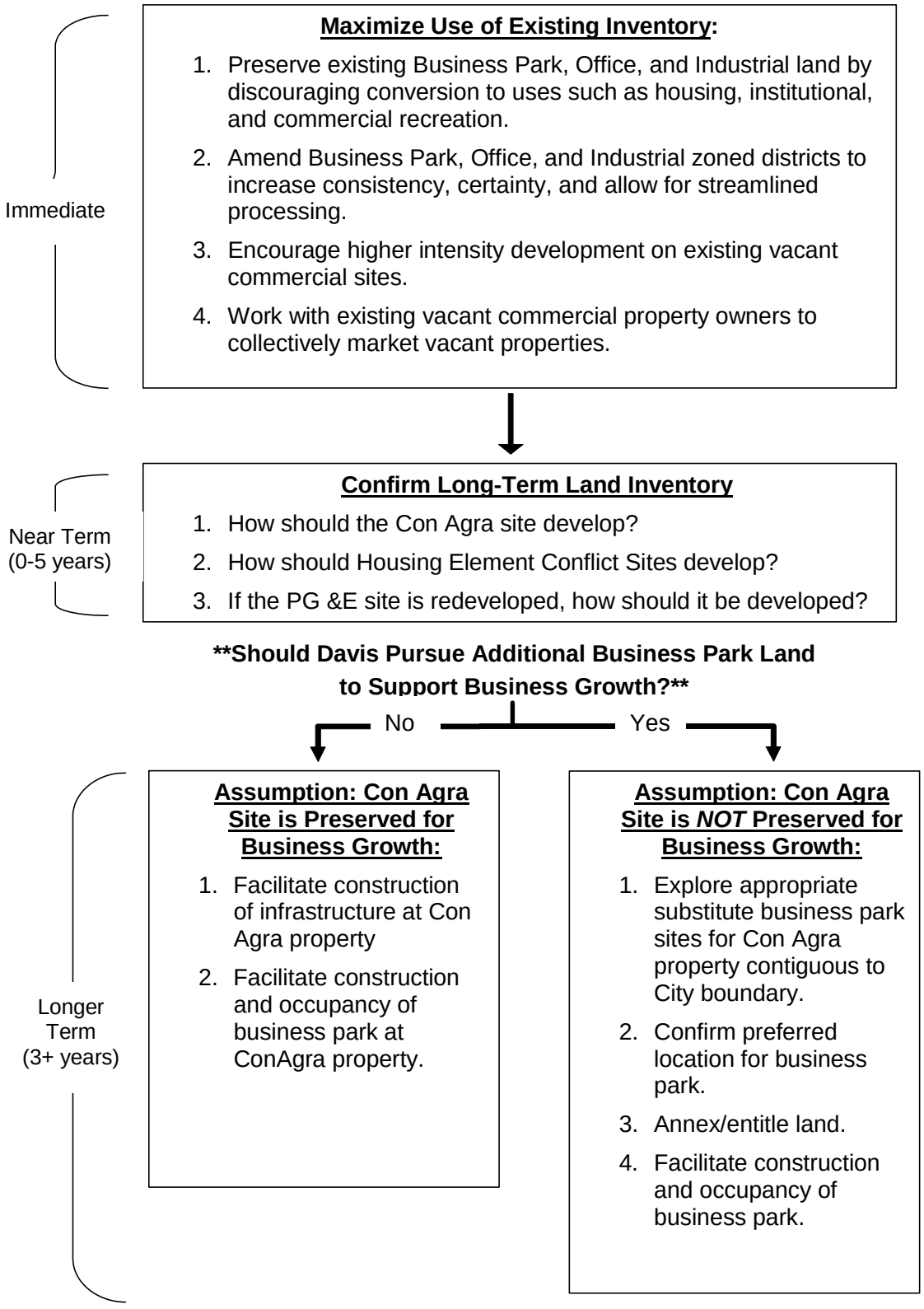
Figure 10: Potential External Business Park Locations



When community priorities for existing vacant land are established, it may then be appropriate to explore the subject of whether Davis should pursue additional commercial land to support business growth. Figure 11 illustrates a framework for near and long-term land decision making to guide the community through important issues regarding Davis' economic future.

Private sector business growth is an important factor of local economic health and prosperity. This study analyzed several components of the Davis economy and identified opportunities as well as constraints to future business growth. The community and decision-makers will find this study a useful resource to guide future economic development initiatives and land use decisions.

Figure 11: Framework for Business Park, Office, and Industrial Land Decision Making



ADDENDUM 1

INFRASTRUCTURE CAPACITY AND GENERALIZED IMPACTS ANALYSIS

INTRODUCTION

The main body of this study focused on projected business growth in Davis. Future business growth over a 25-year timeframe logically raises questions regarding the extent to which existing and planned infrastructure can accommodate such growth. This chapter takes a "macro level" view of key infrastructure-related issues that could apply to future business growth. This chapter relies on conclusions drawn from the 2000 General Plan and macro-level analysis conducted by the Public Works Department as primary information sources. The 2000 General Plan made assumptions regarding anticipated development through 2010 with the existing land supply at the time serving as the basis of comparison with this study.

2000 GENERAL PLAN BUILDOUT ASSUMPTIONS

A considerable amount of commercial growth for the 2000 – 2010 timeframe was assumed in the General Plan that has yet to materialize. Additionally, given this study maintains consistency with the adopted General Plan's land use map (Alternative 2: Reduced Buildout) to a certain extent, impacts and infrastructure analyzed in the General Plan can be applied to this study. For reference, Table 39 illustrates buildout assumptions in contrast with actual development during the 2000 – 2010 timeframe.

Table 39: General Plan Commercial Buildout vs. Actual Built Space, 2000 – 2010

Existing Built Space	General Plan Buildout Assumptions, 2010 (sf)	Actual Conditions (sf)
Existing Commercial Development, 2000	4,276,000	4,276,000
Commercial Development, 2000 - 2010	4,030,000	1,086,181
Total Commercial Development, 2010	**8,306,000**	**5,362,181**
Difference Between Assumed & Actual Commercial Development, 2000 - 2010		**2,943,819**

4,030,000 square feet of commercial development was analyzed in the 2000 General Plan in contrast with 1,086,181 square feet actually developed since that time. Theoretically, 2,943,819 of additional commercial development was analyzed under the 2000 General Plan EIR. Table 40 contrasts projected business growth from the lowest growth (Business as Usual) and highest growth (Historical Employment Growth) scenarios with the undeveloped commercial development assumed in the current General Plan EIR.

Table 40: Future Business Growth vs. General Plan Assumed but Undeveloped Commercial Development

Business Growth Projections, 2010 - 2035		
Building Type	**Low (sf)**	**High (sf)**
Retail	153,147	729,605
Office	460,905	1,273,487
Industrial	314,528	(223,321)
Public & Unclassified	403,375	556,053
Total	**1,331,955**	**2,335,824**
Net Remaining from General Plan, 2000 - 2010		**2,943,819**
Difference Between Net Remaining General Plan and Future Business Growth, 2010 - 205	*1,611,864*	*607,995*

Table 40 illustrates business growth projections for this study fall within the volume of commercial development assumed in the General Plan's Reduced Buildout scenario. However, given time has passed since the conclusion of the General Plan EIR, this study revisits specific infrastructure structure-related topics potentially implicated by future business growth.

WATER

The extent to which the current water system can accommodate future business growth is important to consider. Certain business activities, such as biotechnology industries, restaurants, and breweries place unique demands on the Davis water system. Since specific water intensive users cannot be anticipated, this can create uncertainty in evaluating water infrastructure impacts and capacity. For the purposes of this study, business growth projections identified in Chapter 5 and summarized in Table 40, above, are assumed. Public Works evaluated impacts from low and high business growth scenarios on the City's water supply, with special focus on growth assumed in the biotechnology industry (an industry with comparatively high water consumption in some circumstances).

City Water System

Public Works makes assumptions regarding water supply adequacy based on peak daily and peak hour demand. In general, a one percent annual increase in water consumption has been assumed for the water supply system. The City's Public Works Department has identified the City's water supply as adequate for the business growth projections presented in this study as well as anticipated residential growth. The Surface Water Project, a subject of considerable community discussion, is being pursued to improve the water quality delivered to customers and to assist with meeting more stringent wastewater discharge regulations. The intended purpose is to substitute surface water for well water as the city's base supply to improve quality and reliability rather than to increase capacity. Wells would be used to meet peak hourly demands, and provide redundancy in the water supply. The conjunctive use system (two water sources used in conjunction) would provide customers surface water a majority of the time, blended water (well and surface water) occasionally, and pure well water rarely.

Some commercial uses, such as breweries and certain biotechnology activities are very high-volume users. Public Works has cautioned that growth in "high-volume" users beyond that projected in this study could pose water supply challenges for the City. Should economic development efforts focus substantially toward high-volume users in biotechnology industries and result in greater than projected business growth, additional analysis will need to be conducted to determine the effect on the water supply infrastructure.

The city has been proactive on water conservation. It will continue its conservation activities to meet new regulations, such as the recent State Senate bill's provision for 20% conservation by the year 2020 (SB-7, Steinberg).

Wastewater Treatment Capacity

The Public Works Department has confirmed wastewater treatment plant adequacy. The sanitary sewer system is considered adequate to support the buildout of the 2000 General Plan as well as business growth projections presented in this study. A topic of community discussion has focused on upgrading the wastewater treatment plant in compliance with increasingly stringent wastewater quality standards. This wastewater treatment plant upgrade is necessary independent of future commercial or residential growth. However, the size of infrastructure constructed for tertiary water treatment could affect Davis' ability to accommodate future business (and residential) growth. The potential benefits, drawbacks, and costs of a treatment facility that meets today's needs versus one capable of meeting future economic development objectives must be considered.

TRANSPORTATION

Circulation impacts resulting from future business growth have been analyzed in the 2000 General Plan EIR. The Public Works Department has confirmed circulation impacts resulting from future business growth within Davis' existing boundaries are consistent with the 2000 General Plan.

In general, circulation impacts are likely to occur at intersections resulting in increased delays. Based on remaining land availability, circulation impacts are most likely to occur at Second Street & Mace Blvd. If the ConAgra parcel is developed as a business park, traffic impacts are likely to occur on Covell Blvd as well as the Covell Blvd and J Street intersection. The General Plan has made statements of overriding considerations with respect to circulation impacts within the City boundary, including the ConAgra parcel. However, should the ConAgra property be developed as a business park, a traffic circulation study will likely be conducted to analyze the project-specific impacts.

If an external site is considered for business park development, additional analysis will need to be conducted including traffic impacts and transportation accessibility, depending on location.

RESIDENTIAL GROWTH

Future business growth can potentially generate demand for local housing. This study conducted a cursory analysis to understand at a general level the extent to which future business development could induce residential demand. The Internal Housing Needs Analysis conducted by Bay Area Economics in 2003 provides guidance regarding assumptions for housing demand generated by new employment[92]:

- 47% of Davis workers live locally
- 1.31 workers per household

These assumptions enable calculating the extent to which new employment's demand for housing, as evidenced in Table 41, which describes two inventory capacity scenarios (with and without ConAgra property) derived from Chapter 6 and the five employment scenarios presented in Chapter 5.

Table 41: Business Growth and Demand for Residential Development, 2010 – 2035

Description	Employment Growth	Housing Need (units)	Housing Supply (through 2035)	Housing Supply Surplus (units)
Inventory Capacity				
Existing Inventory (with Con Agra property)	7,834	4,834	7,500.00	2,666
Existing Inventory (without Con Agra property)	5,591	3,450	7,500.00	4,050
Employment Scenarios				
Business as Usual (Alternative Future #1)	3,665	2,261	7,500.00	5,922
Higher Targeted Growth (Alternative Future #2)	5,057	3,120	7,500.00	4,380
SACOG Employment Projections	4,218	2,603	7,500.00	4,897
Historical Employment Growth	8,050	4,967	7,500.00	2,533
Goal-Based Economic Development: Increased Knowledge-Based Employment + Projected Employment Growth in Other Sectors (Alternative Future #3-A)	6,175	3,810	7,500.00	3,690
Goal-Based Economic Development: Combined Knowledge-Based Employment Substitution (Alternative Future #3-B)	5,059	3,121	7,500.00	4,379

Davis' one percent residential growth guideline[93], translates to approximately 300 units per year and approximately 7,500 units over the 2010 – 2035 timeframe. This is used as a baseline for future housing supply. Table 41illustrates employment growth scenarios generate the need for between 2,261 and 4,967 additional residential units. For the purposes of this study, Davis' future housing supply can be considered sufficient to accommodate future business growth generated by the five employment scenarios, assuming housing is constructed consistent with the one percent guideline.

[92] 2000 Census.
[93] City Council Resolution #08-019.

CONCLUSIONS

This chapter considered possible infrastructure-related issues that could arise resulting from increased business growth in Davis. The Public Works Department has concluded the facilities that exist and have been planned are sufficient to develop within the existing General Plan boundary for both commercial and residential uses. Potential exceptions to this conclusion could include a higher than expected development rate of high-volume users such as certain biotechnology activities and/or pursuing economic objectives that would result in greater business growth. Annexation of any external sites for a business park, for example, will need further analysis to determine the full extent of impacts to Davis' infrastructure.

ADDENDUM 2

ROLE OF DOWNTOWN

INTRODUCTION

Downtown Davis is an active, thriving district widely accepted as the cultural and commercial heart of the community. Comprised of wide ranging businesses, arts and entertainment venues, public spaces, and residential neighborhoods, Downtown represents a central gathering place contributing greatly to Davis' unique identity and high quality of life. As a major commercial district, Downtown's economic health is a community priority, reflected in local land use and economic development policies. During the BPLS process, the topic of Downtown's potential role in Davis' future economy as an expanded employment center, particularly for office-related, knowledge-based industries was raised.

Though the Downtown was not the focus of this study, background information about the nature of the Downtown office market, and policy considerations regarding Downtown's role in Davis' economic future for the community and decision-makers are provided.

It is reasonable to conclude some Downtown redevelopment will occur in the 2010-2035 increasing the supply of office and retail space for business growth. However, an absence of Downtown vacant land creates uncertainty in quantifying 25-year net new redevelopment assumptions, *for the purposes of this study all new development related to economic growth is assumed to occur on vacant land outside the Downtown.*

KEY DOWNTOWN OFFICE DEVELOPMENT ISSUES

During the BPLS process, the subject of peripheral (outside Downtown) office development for business park-type uses and its effect on the Downtown office market was raised. Opportunities for redevelopment with office components were considered an issue of concern justifying exploration within the study. Representatives of local business organizations asked that the following perspectives and/or perceptions be addressed:

- Peripheral business park development was originally intended for research & development and light industrial manufacturing, but has been occupied by small offices and other uses that might otherwise be appropriate for Downtown.
- Due to lower construction and process costs, peripheral office development competes with the Downtown office market. This creates challenges for Downtown tenant retention and leverage for Downtown mixed-use/office redevelopment capital financing.

- Downtown is Davis' commercial center and should be prioritized over peripheral development for mixed-use/office development.

DOWNTOWN OFFICE MARKET

Downtown Davis represents a unique office market resulting from its location, building variety, and surrounding mix of uses. Office space is represented by an eclectic mix of residential conversions, stand-alone office buildings, and small mixed-use projects. Downtown office spaces are generally smaller than elsewhere in the city. Downtown has few large office spaces capable of accommodating more than 20 employees. Due to constrained size, the Downtown office market caters to smaller start-up companies and professional offices. Peripheral office and/or business park-type development is better suited to activities requiring larger, specialized spaces in buildings easily adaptable to suit tenant needs; a growing need identified in this study. However, overlap does exist between office markets Downtown and outside Downtown.

Chapter 4 offered insight into Downtown office space by current Davis businesses. Some businesses previously located Downtown relocated elsewhere due to an absence of available large office spaces, space quality, and a desire for ownership opportunities. Downtown office space quality, excepting some newer mixed-use buildings, was considered below expectations by several interviewees. In one case, existing available Downtown office space did not meet the desired company image. In contrast, other businesses preferred a "quirky", unique space combined with a strong desire for a Downtown location. Thus, the Downtown office market suited their needs. A conclusion drawn is that though substantial advantages accompany a Downtown location the current available office space inventory does not always meet a business's needs; represent an exceptional value; or provide the quality of space desired and available elsewhere in Davis.

An analysis of vacancy rates both Downtown and outside Downtown can illuminate the comparison between the Downtown office market and elsewhere in Davis. Tables 42 and 43 identify the contrast between Downtown vacancies and lease rates against those outside Downtown.

Table 42: Vacancy Rates Downtown vs. Outside Downtown[94]

Building Type	Downtown	Outside Downtown	Total
Office/Flex & Industrial	10.4%	8.3%	7.4%
Retail	5.1%	4.9%	7.2%

[94] Loopnet: 2/10/10, Davis Enterprise: 2/10/10, 2/11/10, 2/12/10, 2/14/10, Craigslist: 2/10/10, 2/14/10.

Table 43: Average Lease Rates[95]

Building Type	Downtown	Outside Downtown
Office/Flex & Industrial	$1.86	$1.95
Retail	$2.03	$2.10

February 2010 Downtown office space from advertised listings reflected an approximately 10.4% vacancy rate in contrast with 8.3% for office/flex space outside Downtown. The Downtown office market hovers near the ten percent "equilibrium" noted in Chapter 6.

Fulfilling citywide economic development objectives may necessitate, to a certain extent, competition from office development outside Downtown to create market conditions that motivate building owners to upgrade Downtown office space. Conversely, if excessive competition suppresses lease rates in the market, Downtown vacancy rates could increase. Low lease rates could also adversely affect redevelopment that could add new Downtown office space by limiting the ability to finance these projects.

On average, Davis retail and office lease rates are fairly uniform throughout the City at approximately $2.00 s/f. However, the average may mask the lease range among all listings and may contradict anecdotal experience. It also does not disprove peripheral office development may suppress lease rates overall. However, it does suggest peripheral office development's effect on Downtown office space is slight given the Downtown's market is nearly in equilbrium, even in the current economic recession.

Business outreach interviews revealed that despite some overlap, Downtown and peripheral office markets generally serve different niches. Davis office users usually locate according to professional needs and personal location preferences rather than a heavy influence derived from geographic competition. However, it is possible the economic recession has shifted this behavior somewhat, quantification of which is beyond the scope of this study.

EXISTING POLICY

Existing policy in the General Plan, Core Area Specific Plan, and 2006 – 2010 Economic Development Strategic Goals emphasize the importance of continuing to enhance the vitality of the Downtown.

Downtown policy references are located throughout the General Plan and Core Area Specific Plan (CASP). Sections III and IV, Visions and Community Form, respectively, speak most directly to this study's key issues. While detailed discussion of all possible policies affecting Downtown's role in accommodating business growth is beyond this study's scope, relevant excerpts are explored.

[95] Loopnet: 2/10/10, Davis Enterprise: 2/10/10, 2/11/10, 2/12/10, 2/14/10, Craigslist: 2/10/10, 2/14/10.

The General Plan Business & Economic Development chapter identifies the Core Area (Downtown) as a focus of future economic development efforts:

Goal ED1: Maintain and enhance the Core Area as a vibrant, healthy Downtown that serves as the city's social, cultural and entertainment center and primary, but not exclusive, retail and business district.

Policy ED 1.1: Increase attractions and amenities that bring people to the core, including local shopping, services, modest tourism, specialty retail, restaurants, festivals/special events, farmers' market and entertainment.

Policy ED 1.2: Promote Downtown Davis as a place to shop.

The 2006 – 2010 Economic Development Strategic Goals expresses the City's goals and policies for supporting a diverse and vital economy. A Downtown economic development goal is to "enhance the core area as a vibrant, healthy Downtown that serves as the city's social, cultural and entertainment center and important/core retail and business district."

General Plan 2010 Core Area Buildout

The General Plan makes assumptions regarding expected Downtown buildout through 2010, summarized in Table 44.

Table 44: Core Area Buildout, 2010 (square feet)[96]

	Neighborhood Retail	General Commercial	Office/Business Park	Industrial	Total
Existing Uses, 1998	48,000	516,000	459,000	0	1,023,000
General Plan New Development Assumed, 2010	48,000	833,000	625,000	0	1,506,000
Difference	0	317,000	166,000	0	483,000
	Retail	**General Commercial**	**Office**	**Industrial**	**Total**
Actual Built Space, 2010	532,634	131,682	414,243	10,055	1,088,614
Difference, assumed development versus actual development					417,386

Overall, Downtown has not experienced the amount of redevelopment projected in the General Plan EIR. The General Plan EIR assumed 483,000 square feet of net new commercial development Downtown (a 47% increase), 166,000 square feet of which was assumed to be office space (36% increase). To date 65,614 net new commercial square feet has actually developed. The remaining 417,386 square feet of commercial

[96] Square footage variances among categories attributable to methodological differences. Total square footage is assumed roughly accurate.
Sources:
Existing Uses, 1998: General Plan.
Buildout Projections, 2010: General Plan.
Actual Built Space, 2010: Community Development Department built space database.

development could support approximately 1,250 new employees who could regularly contribute to Downtown activity, the local economy, and fabric of the Davis community[97]. Based on the General Plan's 2010 Core Area buildout projections, a reasonable interpretation can be made that Downtown employment growth envisioned for the 2000 – 2010 time period has yet to materialize. However, this interpretation applies citywide as the General Plan projected a nearly doubling of commercial space for the 2000 – 2010 time period[98].

The CASP (adopted in 1996) states as its purpose for the Downtown to function as the City's social, cultural, retail center, and professional and administrative office district. However, this is based on office-related policies for the Downtown are referenced in both the CASP and the current General Plan. CASP policies identify emphasis areas but do not speak specifically to Downtown as a major future employment center. However, because the General Plan EIR assumed nearly 500,000 square feet of net new Downtown development, it would be accompanied by new employment.

FRAMING DOWNTOWN'S FUTURE ROLE

Downtown's role as an office employment center can be placed in the context of its ability to accommodate projected growth. Table 45 illustrates total built space required citywide based on econometric employment projections versus existing Downtown development.[99].

Table 45: Total Built Space Needs vs. Existing Downtown Built Space (square feet)

Scenario	Office Space	Other Commercial	Total
Existing Downtown Built Space	*414,243*	*674,371*	*1,088,614*
Business Growth Scenario	**Net New Office Space**	**Net New Other Commercial**	**Net New Total**
Business as Usual (Alternative Future #1)	**460,905**	871,050	1,331,955
Higher Targeted Growth (Alternative Future #2)	**895,966**	843,995	1,739,961

Projected citywide office space growth reveals, a projected need of 460,905 net new square feet under the Business as Usual scenario and 895,966 net new square feet of office space under the Higher Targeted Growth scenario. These represent more than a doubling of the 414,243 square feet of total Downtown office space inventory. It is reasonable to assume some amount of this projected growth would be accommodated in the core. However, the complexity of Downtown redevelopment and an absence of

[97] Total square footage of assumed vs. actual buildout (417,386 square feet) divided by employment density of approximately 333 square feet per employee.
[98] See Table 39 on page 121.
[99] Square footages derived from employment densities for four building types: Office, Retail, Industrial, and Public. Because downtown represents an office and retail market, those building types were isolated for this analysis.

vacant land Downtown presents challenges for Downtown's ability to accommodate a substantial amount of future office development. That said, given potential land use tradeoffs facing Davis regarding future business growth, Downtown could conceivably play a greater role as an employment center through redevelopment.

CONCLUSIONS

This section of the report addresses the role of Downtown in accommodating future office development and business growth. Though this study has assumed that new development would occur on vacant parcels outside the Downtown, it does not imply that business growth and increased development is not desired or unlikely to occur in the Downtown. In contrast, over the 25 year study time horizon it is likely that Downtown core area sites will redevelop, providing more office and commercial space and increased employment. However, due to the complexity of site specific issues related to redevelopment, assessing the amount or degree of development which will occur is beyond the scope of this study. It is recognized that any substantial amount of new office development Downtown will add to the city's available space inventory, particularly for smaller businesses drawn to the greater amenities, transit opportunities and proximity to UC Davis. This additional Downtown space will expand the City's ability to meet business growth needs proportionate to the space provided.

The primary focus of this study has been to assess how remaining vacant business park/light industrial zoned land in the city can accommodate future business growth. In particular, how future development of the 100 acre ConAgra parcel affects the overall available land supply. Analysis of factors affecting desire for and rate of Downtown redevelopment, and obstacles impeding attainment of such goals are not the focus of this study. However, the following points relevant to Downtown redevelopment should be acknowledged/considered when taking actions in support of business growth:

- The importance of the Downtown as the City's primary commercial center;
- Confirm that new business growth/office development is desired; will likely occur as a result of redevelopment; and will enhance vitality of Downtown business climate;
- The amount of new office development projected to occur in the core area in the 2002-2010 General Plan and Core Area Specific Plan has not yet occurred (417,386 sq. ft.);
- A wide range of building types will be needed to accommodate future business growth Downtown is best suited to meet the needs of smaller users;
- Increased development Downtown will increase City's ability to accommodate business growth;
- Businesses seek space that meets their hierarchy of needs: price, lease terms, size, quality, location, amenities etc.

- Increased development outside the Downtown doesn't preclude redevelopment of Downtown core, and could encourage renovation/upgrade of existing Downtown office space;
- Increased knowledge/innovation business growth within the city as a whole can benefit Downtown by increasing demand for services, products and entertainment only available Downtown.
- Concerns have been raised by Downtown business and property owners that large increases in lower priced office space (with parking) outside the Downtown core will increase competition, leading to increased Downtown vacancy rates;
- Concerns have been raised by Downtown developers/owners that development process for vacant sites is easier than for smaller redevelopment sites Downtown, putting Downtown redevelopment projects at a competitive disadvantage;
- City should examine means to remove barriers and provide incentives to accomplished desired redevelopment projects Downtown.
- City should establish greater conditional use restrictions on private recreation and small office uses in Light Industrial and Business Park land.

ADDENDUM 3

ROLE OF DAVIS IN THE AGRICULTURAL ECONOMY

INTRODUCTION

Davis is an urbanized area residing within a largely rural, agricultural county. Much of Davis' history, character, and identity have been shaped by its proximity to and relationship with the surrounding agricultural area. Davis' growth paralleled that of UC Davis, which was originally established to teach students the latest in agricultural methods and technology[100]. UC Davis has retained a focus on agricultural research as it has grown. From productive farmlands to riparian creeks and streams within its vicinity, Davis' connection to agriculture is ingrained in the community value system and exemplified by land use policies placing a high value on preserving surrounding Yolo county agricultural land.

Davis is both culturally and economically connected to the surrounding Yolo county agricultural landscape. A culinary culture for locally grown foods has been growing for decades with many Davis households, businesses and organizations demonstrating support and creating a local market for locally sourced food. These include local grocery stores, restaurants, the Davis Farmer's Market, Slow Food Yolo, "A Taste of Yolo", and the Davis School District. Additionally, UC Davis researchers and Davis biotechnology companies conduct agricultural research on Yolo County agricultural land benefiting agricultural practices locally and internationally.

Community awareness of the benefits of organic and locally grown food is growing throughout the country with subsequent demand increasing in Davis, Yolo County, and the broader Sacramento region. However, many obstacles face local and regional farmers affecting market growth for sale of local food and subsequent agricultural economic growth. Given the growing importance of locally grown food within the Davis community and broader Sacramento region, this chapter explores key issues facing agricultural economic growth and Davis' role therein.

BACKGROUND[101]

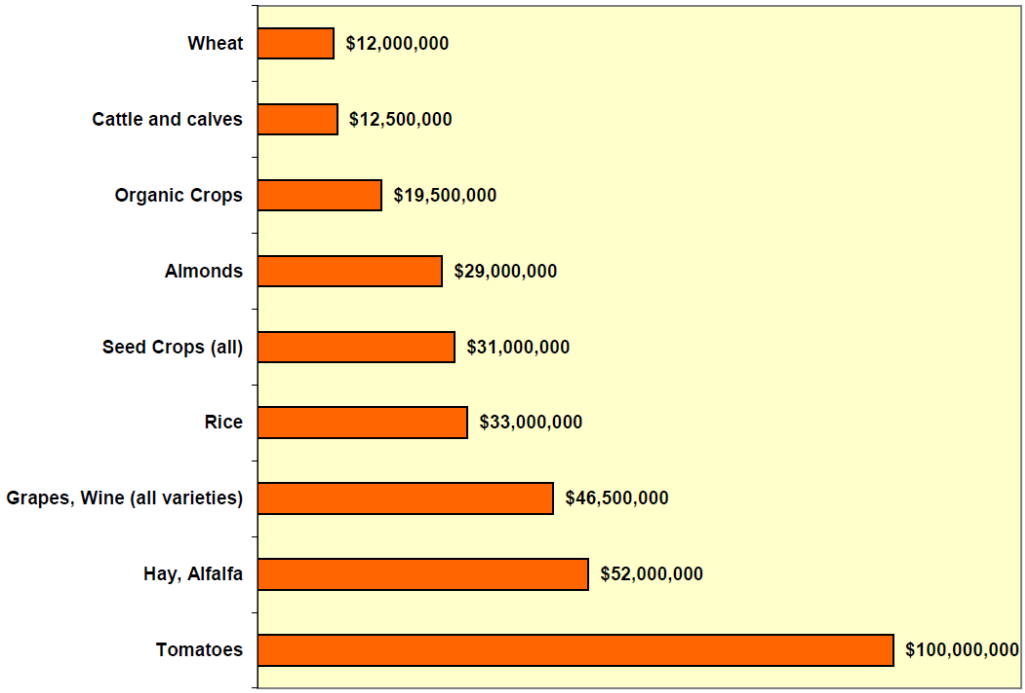
Yolo County is located in the rich agricultural regions of California's Central Valley and Sacramento River Delta. Agricultural viability and small city and rural quality of life are important to residents of the County. The unincorporated area of Yolo County has exceptionally productive soils, an excellent growing climate and adequate water supplies which support its large and diverse agricultural industry. Leading crops are tomatoes; seed crops; rice, wheat and other grains; wine grapes; and fruit and nut crops. The agriculture and biotechnology programs of UC Davis and the UC

[100] University of California, Davis. " A Brief History of UC Davis". University of California, Davis 2008 Annual Report. < http://annualreport.ucdavis.edu/2008/history.html>
[101] Yolo County. Comprehensive Economic Development Strategy (CEDS). August, 2009. Pg 32.

Cooperative Extension; the growing cluster of biotechnology firms; seed industry research and production facilities; and large and small food processors; are other unique assets that support agriculture. Traditional commercial production, specialty and organic agricultural production, progressive and innovative farming techniques and newly emerging agricultural and food technologies are all represented in the County's agricultural and food processing industries.
The County is seeking to attract the following:

- Additional wine and wine grape production
- New biotechnology and seed technology enterprises
- Expanding the nursery industry
- Increasing high value specialty crops, particularly organic production, processing and marketing
- Attracting additional food processing and marketing enterprises
- Pursuing production of alfalfa and rice straw products
- Attracting or facilitating additional tourist-oriented businesses appropriate to a rural county. Figure 12 illustrates the range of crops grown in Yolo County as well as their average value.

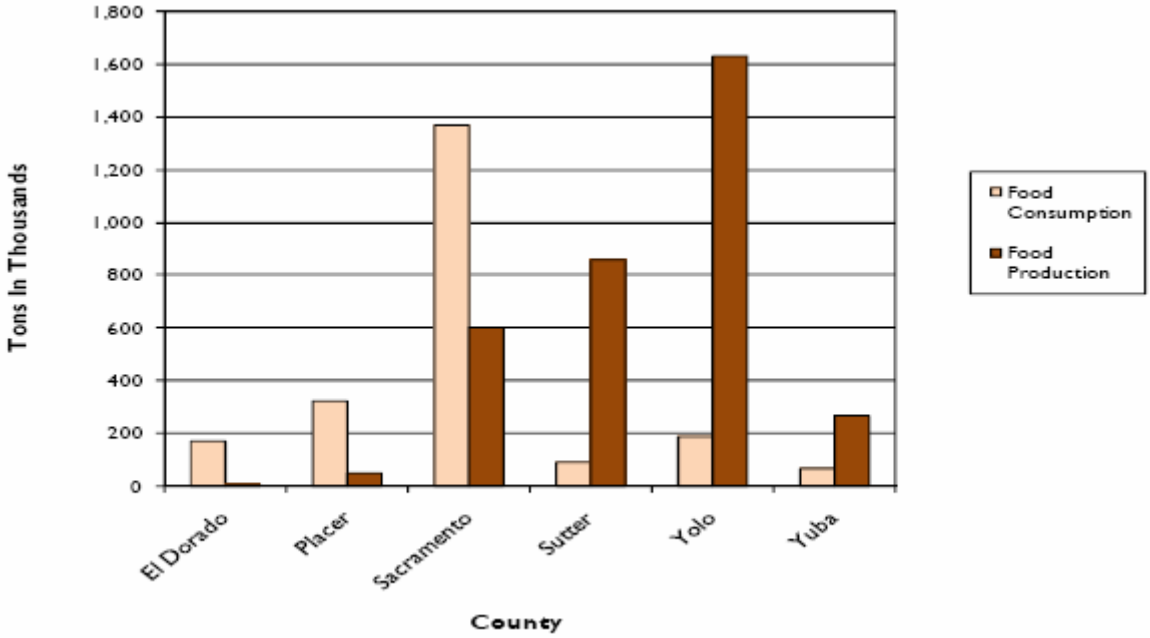
Figure 12: Annual Agricultural Crop Value by Commodity, 2007[102]



[102] Yolo County. Comprehensive Economic Development Strategy (CEDS). Pg 23. August, 2009.

Yolo County is the highest food producer in the six-county Sacramento Area Council of Governments (SACOG) region. Figure 13 compares food consumption versus production for Yolo and other regional counties.

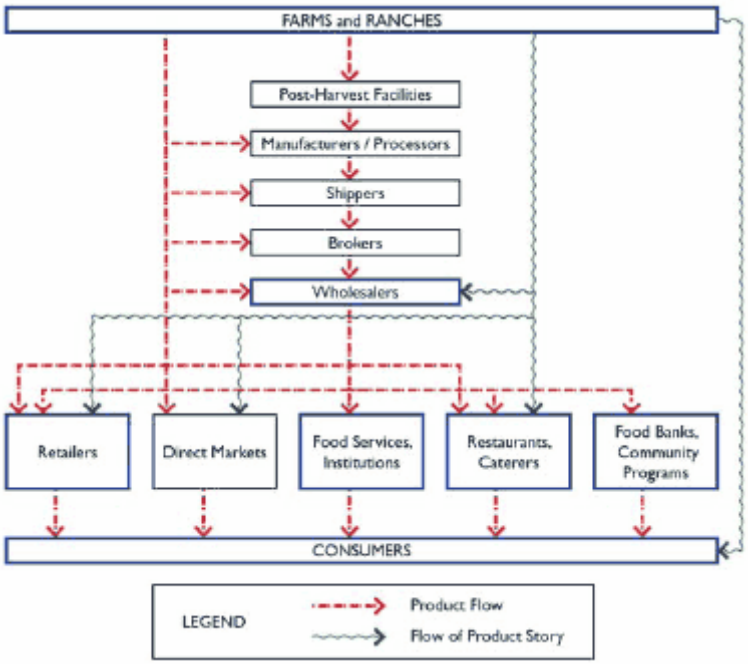
Figure 13: Regional Food Consumption vs. Production, 2008[103]



The graph illustrates Yolo County produces considerably more food than any other county and vastly exceeds consumption by Yolo residents. In contrast, Sacramento County consumption considerably exceeds production due in part to its highly urbanized geography. Overall, regional food production exceeds consumption. However, a substantial number of crops including rice, tomatoes, and meat products such as pork are either exported out of the region entirely or transported out for processing, only to return as finished products. While the national food distribution model is very efficient at making food accessible to the masses, regional efficiency improvements can be made from which local/regionally grown food can benefit. Given most regional agriculture is conducted on a large scale, Figure 14 illustrates how the food distribution system is oriented toward large-scale food production and the ease with which food exportation occurs.

[103] Loss-Adjusted Food Availability, USDA/Economic Research Service, data last updated March 15, 2008; SACOG and California Department of Finance (DOF) Demographic Unit E-5 City/County Population and Housing Estimates, Jan. 1, 2008; County Agriculture Commissioners, 2006. <http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment>.

Figure 14: Food Supply & Delivery Chain[104]



KEY ISSUES FACING LOCAL AGRICULTURAL ECONOMY

A wide range of issues face Yolo County and the Sacramento region affecting agricultural economic growth. SACOG's Rural-Urban Connections Study (RUCS), which commenced in 2008, analyzed barriers to agricultural economic growth. Considering Yolo County produces 1,600 tons of food production annually – twice as much as Sutter County, the next highest producing county in the Sacramento region – conclusions drawn from the RUCS study largely apply to Yolo County. Additionally, the Yolo-Solano Jobs Forum held on January 25, 2010 hosted by the United States Department of Agriculture (USDA) solicited opinions from attendees regarding the state of the rural economy and opportunities for strengthening the agricultural economy. Several RUCS and Yolo-Solano Jobs Forum themes overlap, reflecting a general consensus regarding important issues facing agricultural economic development:

Consumer demand for locally-grown agricultural products is increasing but the food supply chain is not set up for local distribution

Over the last several years a growing interest among consumers has emerged in their source of food. What originally began as a demand for "organic" food has evolved into demand for locally-grown food as well, due in part to:

[104] Sacramento Area Council of Governments. "Sacramento Region Local Market Assessment – RUCS Wiki". Rural-Urban Connections Study. January, 2010. <http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment>.

- An increasing appreciation for local food as part of the region's heritage.
- Concerns regarding food and safety
- Preferences regarding taste and freshness
- Increasing awareness of the transportation sector's contribution to greenhouse gases.

While demand for locally sourced food is growing through farmer's markets, Community Supported Agriculture boxes (CSAs), agritourism, restaurants, schools, and other institutions, the regional food distribution system can benefit from efficiency improvements aimed at moving food from producer to consumer within the region. The system is geared towards larger scale commercial operations and larger scale food movement. Additionally, increased grocer and wholesale consolidation has resulted in fewer outlets focusing on selling locally produced goods. Figure 14 illustrated the food supply chain and the difficulty for small farmers to find an entry point with the exception of farmer's markets as described below.

Small, independent farmers have difficulty accessing local food markets

Currently, few avenues are available for smaller, independent farmers to bring their produce to market. Farmers can provide consumer-to-farm (u-pick) access, sell/deliver direct to consumers (or through a cooperative), rely on regional farmer's markets, or sell directly to institutions such as school districts. Smaller farmers have difficulty penetrating local food markets and supply chains in part because they are not able to produce the volume required by larger grocery chains, wholesalers, and restaurants. However, from the retailer's perspective, processing multiple invoices from an unpredictable, intermittent, local food supplier is a deterrent to carrying these products when a more reliable food supply can provided by a food wholesaler with a single invoice[105].

Food processing capability is declining, affecting local supply of "value-added" products.

Both the RUCS and the Yolo-Solano jobs forum identified the decline in regional food processing capability as hindering future agricultural economic growth. Given the current food supply chain's emphasis on crop exportation, food is trucked outside the SACOG region for processing and then shipped to other regions or returned to the region as final products. Also, due to large-scale agricultural practices, existing processing facilities are not configured to process smaller market "value-added" products within the region for local consumption. Additionally, the SACOG region consumes far more meat products such as pork, beef, and poultry than it produces. The absence of processing facilities limits market growth in these commodities.

[105] Sacramento Area Council of Governments. "Sacramento Region Local Market Assessment – RUCS Wiki". Rural-Urban Connections Study. January, 2010. <http://www.sacog.org/rucs/wiki/index.php/Sacramento_Region_Local_Market_Assessment>.

Regulatory obstacles prevent agricultural economic growth

Regulatory constraints have been identified as an obstacle affecting agricultural economic growth. For example, farmer's markets can be hampered by local permitting requirements and associated fees. Additionally, cooking demos are not allowed at some farmer's markets, limiting consumer education about the uses of seasonal produce with which they might be unfamiliar. Also, county environmental health regulations in some areas make it difficult to sell value-added products like pies, limiting expansion of ready-to-eat products at farmer's markets.

The agritourism[106] industry has noted regulations within the region prevent local farms from selling value-added products like nuts and pies. Seeking special event and conditional use permits for agritourism venues can be expensive and time consuming. Additionally, some regional agritourism operators felt permitting fees are excessive creating an unnecessary deterrent to economic growth.

Some issues are being addressed with Assembly Bill 2168 (Jones) amending the California Food and Agricultural Code allowing California farmers to directly sell what they produce. However, overall, a perception among the agricultural community is the regulatory environment has not kept pace with the growing demand for locally-grown food and the most efficient means of reaching consumers.

Cold storage is undersupplied

Cold storage has many useful applications within a local agricultural economy. Because of its preservation capabilities, it allows local produce to be harvested when ripe and remain on market shelves longer. An undersupply of cold storage has been identified as a deficiency in the local/regional food distribution network. Additional local cold storage can help local farmers penetrate retail markets currently beyond reach by allowing products to remain fresh longer, reducing the urgency to "bring to market" and possibly reducing the number of farm-to-storage distribution trips required, reducing overhead costs. Additionally, meat processing and accompanying cold storage facilities can help Yolo County and regional ranchers bring their products to currently elusive local markets.

DAVIS' ROLE IN THE AGRICULTURAL ECONOMY

While some key issues facing the local & regional agricultural economy are beyond Davis' ability to directly influence, Davis does play a unique role in agricultural economic development. Davis' role is best framed by summarizing its historical and likely future agricultural economy contributions:

UC Davis biotechnology research has significantly benefited the local agricultural economy, particularly in seed development, strawberries, and tomatoes that is expected to continue

[106] "Agritourism" reflects a form of tourism in which tourists visit or board at farms or in rural villages and experience farming at close hand.

The beneficial impacts of UC Davis biotechnology research are evident in Yolo county and Central Valley fields. In the plant sciences alone, UC Davis has developed artichokes that can be grown in a wide range of climates, disease-resistant strawberries with a longer shelf-life, tomato varieties capable of surviving machine harvesting, and rice that generates higher yields and resists disease[107]. Additionally, the Robert Mondavi Institute for Food & Wine "will be the global innovator in university-based wine and food sciences research, education, and outreach"[108] increasing demand and awareness for locally grown food by establishing research centers including the Advanced Materials, Methods & Processing Working Group; the Center for Wine Economics; and the UC Davis Olive Center.

Davis is an ideal location with the workforce and intellectual capital biotechnology startups are looking for.

Davis hosts a wide range of biotechnology companies whose existence is attributable directly to UC Davis or proximity to surrounding agricultural fields, and Davis' highly skilled workforce. As more biotechnology companies seek a Davis location to research, develop, and commercialize agricultural products, the agricultural economy will benefit through increased agricultural productivity, improved pest control, and crop loss reduction among others. Davis' ability to accommodate future growth in the biotechnology sector will be dependent on continued business climate improvement and ensuring the Davis built space market meets the biotechnology companies' needs, including adequate flexible and lab space, reasonable utility rates and permitting fees, and streamlined entitlement processes as discussed in Chapter 4.

Davis will continue to serve as a market for locally grown food and value-added food products

Davis has historically placed itself at the forefront of the organic and current local food movement. Davis residents have embraced farm-to-consumer food networks, become active in the Slow Food movement, and select restaurants feature locally grown food products. The Davis Farmer's Market recently celebrated its 34th anniversary and was recently voted America's Favorite Farmer's Market by the American Farmland Trust and the Davis Food Co-op regularly carries fresh, local produce. Additionally, the Davis Joint Unified School District launched a farmer's market salad bar in 2001, raising awareness among Davis young children the value of locally grown food. With this foundation set for local food education and awareness Davis will continue to serve as a strong market for locally produced food, particularly if/when food distribution channels improve.

[107] Van Deynz, Allen. 100 Years of Breeding: UC Davis Plant Breeding Program. UC Davis Seed Biology Program. <http://sbc.ucdavis.edu/old_files/57360.pdf>
[108] UC Davis Robert Mondavi Institute for Wine and Food Science. <http://robertmondaviinstitute.ucdavis.edu/our-vision>

Davis could potentially serve as a location for value-added processing facilities and cold storage facilities.

Local food producers identified cold storage facilities are undersupplied which creates barriers to local food markets. Given the large number of smaller scale locally selling Yolo County farms (71 according to SACOG) and potential local retail market, Davis may be well located as a potential site for either value-added processing facilities and/or cold storage facilities catering to local farmer access; for example, a processing co-operative capable of producing many products from a variety of crops. Such a facility would ideally be located in an industrial area on the edge of town, facilitating seamless farm-to-market transportation access.

CONCLUSIONS

Davis' primary contributions to the surrounding agricultural economy are reflected in research and development of biotechnology innovations; a local culture supporting organic and local food production; a strong market and culinary culture for locally grown foods; education and awareness in promoting local agriculture; and land use policies limiting encroachment on productive agricultural fields. However, challenges exist for local farmers, particularly smaller-scale food producers, to penetrate local food markets. As a result, a potentially large market for locally-grown food products enabling Yolo County agricultural products to remain within the county is underserved. This chapter addressed macro-level issues facing Yolo County's agricultural economic growth, factors influencing those issues, and areas where Davis can support agricultural economic development.

APPENDIX

CHAPTER 3

Davis Employment 1990 - 2008

Employment Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Combined Knowledge-Based	800	929	966	1,146	1,199	1,202	1,251	1,256	1,285	1,339	1,338	1,399	1,615	1,586	1,718	1,826	1,918	2,062	2,300
Target Knowledge-Based	453	542	564	673	719	718	745	708	693	744	772	844	953	959	1,033	1,184	1,185	1,318	1,427
Pharmaceutical and Medicine Manufacturing	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	4	4	57	57
Semiconductor and Other Electronic Component Manufacturing	3	3	3	3	3	3	3	3	3	3	3	5	5	7	7	6	7	7	7
Computer Systems Design and Related	34	35	63	94	113	122	171	174	190	196	201	233	224	224	165	163	167	164	151
Technical Consulting Services	295	340	372	437	462	457	463	481	448	485	492	532	601	596	708	815	826	845	874
Scientific Research and Development	121	164	126	139	141	136	108	50	52	60	76	72	121	130	151	196	181	245	338
Rest of Professional, Scientific & Technical Services	347	387	402	473	480	484	506	548	592	595	566	555	662	627	685	642	733	744	873
Agriculture & Natural Resources	402	467	467	455	386	407	418	589	592	410	389	372	375	373	372	375	381	366	367
Construction	471	453	453	505	465	401	428	415	418	406	404	415	426	350	372	410	418	395	397
Rest of Manufacturing	1,742	1,590	1,600	1,567	1,556	1,601	1,635	1,607	1,617	1,655	1,640	682	541	559	570	570	670	709	555
Wholesale, Transportation, Utilities	325	311	302	503	503	534	531	581	636	634	629	743	712	746	773	968	947	937	961
Wholesale Trade	173	159	150	163	167	195	192	234	266	262	254	370	346	374	375	396	375	388	399
Utilities	28	28	28	183	180	180	156	157	157	157	157	157	140	140	137	306	306	303	304
Transportation & Warehousing	124	124	124	157	156	159	183	190	213	215	218	216	226	232	261	266	266	246	258
Retail, Leisure, Hospitality	4,031	4,177	4,169	4,510	4,608	4,847	4,991	5,184	5,154	5,327	5,505	5,749	6,113	6,133	5,694	5,687	6,032	6,147	6,109
Retail Trade	1,696	1,717	1,729	1,889	1,910	1,957	1,863	1,883	1,951	2,246	2,226	2,364	2,459	2,490	2,426	2,408	2,484	2,574	2,574
Arts- Entertainment & Recreation	573	585	573	567	593	604	607	643	657	656	690	729	799	804	532	472	447	430	433
Accomodation & Food Services	1,144	1,281	1,251	1,437	1,454	1,588	1,829	1,944	1,788	1,724	1,809	1,889	1,919	1,901	1,861	1,899	2,092	2,141	2,059
Other Services	618	594	616	617	651	698	692	714	758	701	780	767	936	938	875	908	1,009	1,002	1,043
Business & Financial Services	1,919	1,788	1,814	1,826	1,814	1,855	1,921	1,941	2,009	1,987	2,024	2,207	2,324	2,441	2,392	2,345	2,409	2,455	2,515
Information	333	332	435	360	254	309	389	372	365	402	378	360	457	475	500	430	353	366	354
Finance & Insurance	402	388	393	414	425	413	415	416	421	420	418	427	418	450	444	446	443	451	459
Management of Companies	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	3	71	71	71
Administrative & Waste Services	267	308	272	304	316	312	321	310	328	313	385	381	421	512	575	621	689	679	719
Real Estate & Rental	917	760	714	748	819	821	796	843	895	852	843	1,038	1,027	1,001	870	845	853	888	912
Education & Health	2,832	2,943	3,051	2,831	3,064	3,058	3,054	3,261	2,856	2,848	2,894	2,937	3,332	3,416	3,621	3,645	3,652	3,907	3,849
Educational Services	1,197	1,207	1,225	771	785	896	905	883	875	913	861	883	906	848	790	855	805	828	752
Health & Social Services	1,635	1,736	1,826	2,060	2,279	2,162	2,149	2,378	1,981	1,935	2,033	2,054	2,426	2,568	2,831	2,790	2,847	3,079	3,097
Government & Unclassified	452	220	220	297	305	306	283	362	442	444	712	693	1,090	1,041	1,083	1,069	1,120	1,138	1,196
Government & non NAICs	452	220	220	293	299	300	277	356	436	438	706	684	1,075	1,030	1,076	1,062	1,110	1,120	1,190
Unclassified	0	0	0	4	6	6	6	6	6	6	6	9	15	11	7	7	10	18	6
Total	**12,974**	**12,878**	**13,042**	**13,640**	**13,900**	**14,211**	**14,512**	**15,196**	**15,009**	**15,050**	**15,535**	**15,197**	**16,528**	**16,645**	**16,595**	**16,895**	**17,547**	**18,116**	**18,249**

CHAPTER 5

- Historical Employment Growth Projections Assumptions: Used average annual growth rate from 1990 – 2008 and applied to 25-year timeframe (2010 – 2035), excepting manufacturing sector:
    - Manufacturing sector job loss was distorted by a single event – Hunt-Wesson cannery closure. For Manufacturing sector, average annual employment change (loss) from 2001-2008 was used instead as it was considered more representative of what would occur in the future.
- New Business Park Scenario Assumptions: The New Business Park scenario was conceived as a location to promote knowledge-based industry. The ESG Study concluded a business park restricted to only technology uses was considered infeasible due to excessive build-out time. Thus, the following employment assumptions were made:
    - The following two-digit NAICS employment sectors were excluded from the New Business Park Analysis:
        - Wholesale, Transportation & Utilities
        - Education & Health
    - Ancillary uses (Retail, Leisure, Hospitality sector) comprised ten percent of New Business Park employment, per the ESG Study.
    - Remaining two-digit NAICS employment sectors reflecting Davis' current economic profile were proportionally scaled, completing the employment assumptions of 2,586 jobs per the ESG Study.
    -

CHAPTER 6

Existing Inventory Summary

ID	APN	Property Name	Address	Street	Site Category	Develop-ment Potential (low) (sf)	Em-ploy-ees (low)	Develop-ment Potential (high) (sf)	Em-ploy-ees (high)	Net Acres	Site Size	Housing Element Conflict Site?	Site Class	Site Highlights
1	035 970 37	ConAgra Property	1111	E. Covell Blvd	Office/Flex & Industrial	747,490	2,245	1,006,236	3,022	66.0	Very Large	Yes (Office/Flex & Industrial)	A	• Very large parcel. Limited access.
2	069 060 31	1002 Research Park Drive	1002	Research Park Dr	Office/Flex & Industrial	12,458	37	16,771	50	1.1	Small	No	C	• Close proximity to downtown, UCD. • Small, hidden parcel. • UC Davis ownership may pose development constraints.
3	069 060 36	1036 Research Park Drive	1036	Research Park Dr	Office/Flex & Industrial	26,615	80	35,828	108	2.4	Small	No	C	• Close proximity to downtown, UCD. • Small, hidden parcel. • UC Davis ownership may pose development constraints.
4	069 060 32	1510 Newton Ct	1510	Newton Ct	Office/Flex & Industrial	13,477	40	18,143	54	1.2	Small	No	C	• Close proximity to downtown, UCD. • Small, hidden parcel. • UC Davis ownership may pose development constraints.
5	069 290 01	Interland	1660/ 1680	Research Park Dr	Office/Flex & Industrial	70,672	212	95,135	286	6.2	Medium	No	A	• Good freeway access. • Close to amenities.
6	069 300 58	Kaiser	1851	Cowell Rd	Office/Flex & Industrial	75,428	227	101,538	305	6.7	Medium	No	B	• Large size. • Good location. • Parcel somewhat landlocked with limited access options.
7	069 020 81	Oakshade NW of Cowell Blvd	2601	Research Park Dr	Office/Flex & Industrial	75,882	228	102,148	307	6.7	Medium	Yes (Office/Flex & Industrial)	C	• Large size. • Shape does not significantly affect design. • Isolated site surrounded by arterial and freeway. • Same parcel as Site #9. Parcel subdivision required.

ID	APN	Property Name	Address	Street	Site Category	Development Potential (low) (sf)	Employees (low)	Development Potential (high) (sf)	Employees (high)	Net Acres	Site Size	Housing Element Conflict Site?	Site Class	Site Highlights
8	069 390 05	Seiber Property	2750	Cowell Blvd	Office/Flex & Industrial	36,468	110	49,092	147	3.2	Small	Yes (Office/Flex & Industrial)	C	• Arterial frontage. • Good visibility. • Backs to residential. • Long, narrow site may pose design challenges. • Access problematic.
9	071 405 07	Dowling Property west	603	Cantrill Dr	Office/Flex & Industrial	13,591	41	18,295	55	1.2	Small	No	C	• Prominent corner location. • Easy downtown/freeway access. • Surrounding uses differ significantly.
10	071 404 09	Dowling Property east	602	Cantrill Dr	Office/Flex & Industrial	11,326	34	15,246	46	1.0	Small	No	B	• Prominent corner location. • Easy downtown/freeway access. • Surrounding uses differ somewhat. • Stand alone site.
11	071 404 04	2726 E. 5th Street, E. of Konditorei	2726	5th Street	Office/Flex & Industrial	29,673	89	39,945	120	2.6	Small	Yes (Office/Flex & Industrial)	C	• Isolated site with limited street frontage. • Irregular shape may pose design constraints.
12	071 404 13	Vacant Portion of 2720 Del Rio	2720	Del Rio Place	Office/Flex & Industrial	9,514	29	12,807	38	0.8	Small	No	C	• Hidden site requiring access from existing developed parcel to the north. • Parcel subdivision required.
13	071 404 01	5th & Pena	2751	Del Rio Place	Office/Flex & Industrial	11,326	34	15,246	46	1.0	Small	No	B	• Arterial corner location. • "Entryway"-type site.
14	071 403 02	Park Place	2932	Spafford St	Office/Flex & Industrial	14,723	44	19,820	60	1.3	Small	No	B	• Regular shaped parcel close to amenities. • Small parcel somewhat hidden. • Approved application on site.
15	071 403 10	Calgene Vacant Property	3031	2nd Street	Office/Flex & Industrial	89,472	269	120,443	362	7.9	Medium	No	A	• Good size, with 2nd Street frontage. • Parcel subdivision required.
16	069 020 46	2950 Chiles Rd	2950	Chiles Rd	Office/Flex & Industrial	13,817	41	18,600	56	1.2	Small	No	D	• Utilities, city easement, old ROW, irregular shape reduce development potential.
17	069 020 89	3300 Chiles Rd	3300	Chiles Rd	Office/Flex & Industrial	9,627	29	12,959	39	0.9	Small	No	D	• Utilities, city easement, old ROW, irregular shape reduce development potential. • Part of Site #18.

ID	APN	Property Name	Address	Street	Site Category	Develop-ment Potential (low) (sf)	Em-ploy-ees (low)	Develop-ment Potential (high) (sf)	Em-ploy-ees (high)	Net Acres	Site Size	Housing Element Conflict Site?	Site Class	Site Highlights
18	069 020 89	Willow Creek Light Industrial Site	3500	Chiles Rd	Office/Flex & Industrial	178,378	536	240,125	721	15.8	Large	Yes (Office/Flex & Industrial)	B	• 2nd largest site with very good bicycle access. • Character of surrounding uses differ. • Part of Site #17.
19	071 411 06	3601 Faraday Ave	3601	Faraday Ave	Office/Flex & Industrial	69,426	208	93,458	281	6.1	Medium	No	A	• Arterial frontage. • Visible corner. • Prime site.
20	071 411 05	Davis Technolog y Park	3703	Faraday Ave	Office/Flex & Industrial	91,058	273	122,578	368	8.0	Medium	No	A	• Direct access to bicycle overcrossing and path. • Minimal street frontage. • Approved 103,000 sf flex building project.
21	071 412 01	3808 Faraday Ave	3808	Faraday Ave	Office/Flex & Industrial	90,831	273	122,273	367	8.0	Medium	No	A	• Arterial frontage. • Visible corner location. • Prime site.
22	071 411 07	3907 Faraday Ave	3907	Faraday Ave	Office/Flex & Industrial	52,098	156	70,132	211	4.6	Medium	No	C	• Adjacent to DTL. • Monitoring wells on site can affect developability. • Access not as good as other Faraday sites. • "B' site if not for monitoring wells.
23	071 411 07	3707s Faraday Ave	3907s	Faraday Ave	Office/Flex & Industrial	31,145	94	41,927	126	2.8	Small	No	C	• Site contamination. • Site impacted by future road realignment. • Irregular shape.
24	071 412 03	Frontier Fertilizer	4400	2nd Street	Office/Flex & Industrial	94,682	284	127,457	383	8.4	Medium	No	C	• Good location. • Nice size parcel. • Site contamination. • Future road alignment affects developability. • "A" site if not for challenges.
25	071 423 01	Second Street Plaza	4510	2nd Street	Office/Flex & Industrial	17,894	54	24,089	72	1.6	Small	No	A	• Good location. • Small site poses some design challenges. • Approved retail/office project on site.
26	071 425 01	Anderson Farm	4600	Fermi Pl	Office/Flex & Industrial	45,076	135	60,679	182	4.0	Small	No	B	• Somewhat hidden. • Existing development must be demolished.

ID	APN	Property Name	Address	Street	Site Category	Develop-ment Potential (low) (sf)	Em-ploy-ees (low)	Develop-ment Potential (high) (sf)	Em-ploy-ees (high)	Net Acres	Site Size	Housing Element Conflict Site?	Site Class	Site Highlights
27	071 424 03	Shimada Parcel Split	4629	Fermi Pl	Office/Flex & Industrial	6,795	20	9,148	27	0.6	Small	No	B	• Arterial frontage. • Site improvements complete. • Site is "shovel ready". • Very small parcel.
28	071 424 04	4647-4652 Fermi Pl	4647-4652	Fermi Pl	Office/Flex & Industrial	33,184	100	44,671	134	2.9	Small	No	B	• Visible location. • Small, irregular shape may affect development potential.
29	036 060 29	Hospital, north	2100	John Jones Rd	Office/Flex & Industrial	326,000	979	326,000	979	28.30	Large	No	A	• Large, regular shaped site suitable for medical-related office uses. • Good accessibility
30	071 422 22	Target/Second Street Crossing	4625	2nd Street	Other Commercial	57,000	171	57,000	171	2.8	NA	No	NA	NA
31	070 270 13		979	Olive Dr	Other Commercial	4,304	13	5,793	17	0.4	NA	No	NA	NA
32	070 260 22		1021	Olive Dr	Other Commercial	13,477	40	18,143	54	1.2	NA	No	NA	NA
33	070 550 05		1411	5th Street	Other Commercial	3,058	9	4,116	12	0.3	NA	No	NA	NA
34	068 050 03		5067	Chiles Rd	Other Commercial	4,757	14	6,403	19	1.0	NA	No	NA	NA
35	068 010 09		4920	Chiles Rd	Other Commercial	11,326	34	15,246	46	.4	NA	No	NA	NA
36	068 021 01		480	Mace Blvd	Other Commercial	20,386	61	27,443	82	1.80	NA	Yes (Other Commercial)	NA	NA
37	069 020 81	Oakshade SE of Cowell Blvd	2601	Research Park Dr	Other Commercial	38,507	116	51,836	156	3.4	NA	Yes (Other Commercial)	NA	NA
38	071 405 08	Contech Warehouse Empty Parcel	2525	2nd Street	Other Commercial	14,157	43	19,058	57	1.3	NA	No	NA	NA
39	071 404 08		614	Cantrill Dr	Other Commercial	12,798	38	17,228	52	1.1	NA	No	NA	NA

ID	APN	Property Name	Address	Street	Site Category	Develop-ment Potential (low) (sf)	Em-ploy-ees (low)	Develop-ment Potential (high) (sf)	Em-ploy-ees (high)	Net Acres	Site Size	Housing Element Conflict Site?	Site Class	Site Highlights
40	071 406 09	2801 Spafford St	2801	Spafford St	Other Commercial	8,834	27	11,892	36	0.8	NA	No	NA	NA
41	069 020 89	Willowcreek Neighborhood Commercial Site	3400	Chiles Rd	Other Commercial	19,254	58	25,918	78	1.7	NA	Yes (Other Commercial)	NA	NA
42	071 100 49	Vacant Portion of Church Property fronting 2nd Street		2nd Street	Other Commercial	24,916	75	33,541	101	2.2	NA	No	NA	NA
43	071 100 17	Alhambra Center	4699	Alhambra Dr	Other Commercial	69,652	209	93,763	282	6.2	NA	No	NA	NA
44	069 070 36	4601 Cowell Rd	4601	Cowell Rd	Other Commercial	10,759	32	14,484	43	1.0	NA	No	NA	NA
45	070 550 99	PG&E Service Center Site	316	L Street	Business Park Opportunity Site	193,668	582	260,707	783	25.8	Large	Yes (Business Park Opportunity Site)	NA	NA
46	068 050 08	DOF Site	5950	Chiles Rd	Business Park Opportunity Site	445,096	1,337	599,168	1,799	59.0	NA	No	NA	NA
Office/Flex & Industrial Total						**2,298,127**	**6,901**	**2,980,786**	**8,951**	**202.4**				
Other Commercial Total						**313,185**	**940**	**401,865**	**1,207**	**25.5**				
Opportunity Sites Total						**638,764**	**1,918**	**859,874**	**2,582**	**84.8**				
Total						**3,250,076**	**9,760**	**4,242,525**	**12,740**	**312.7**				

BUSINESS PARK LAND STRATEGY
SITE EVALUATION

Site ID**:**
Property Name:

Address:

Evaluation Area	**Class Rating Scale*:**
Overall Site Rating	
Site Characteristics	
Location/Access	

*****Evaluation scale: A-D
A = better; D = challenged

SITE CHARACTERISTICS:

- Parcel Size (net acres, where applicable)**:**
- Parcel Category (small, med, large, very large)**:**
- Parcel Configuration (regular/irregular)**:** *r*
- Expansion capacity (yes/no)**:**
- Max allowable F.A.R*:*
- Development Potential (.26 F.A.R - .50 F.A.R) (s.f):
- Employees (.26 F.A.R - .50 F.A.R*.):*

LOCATION/ACCESS

- Arterial Visibility (none, minimal, some, good)**:**
- Freeway Visibility (none, minimal, some, good)**:**
- On arterial (yes/no)**:**
- Freeway access (mi)**:**
- Maneuvers from Freeway (#)**:**
- Distance to Amenities:
    - Nearest Shopping Center (mi)**:**
    - Downtown (mi)**:**
    - UCD (mi)**:**
- Distance to Yolobus (mi)**:** Route(s) Serving**:**
- Distance to Unitrans (mi)**:** Route(s) Serving**:**
- Distance to Train Station (mi)**:**

SITE HIGHLIGHTS:

GENERAL INFORMATION:

- APN*:*
- Neighborhood:
- Property Status: *y*
- Study Status (BP/O/I or Opportunity Site):
- Land Use Designation:
- Zoning:
- Base Zoning/Sub Area:
- Measure J (yes/no)**:**
- Rezone required for (uses)**:**
- General Plan Amendment (yes/no)**:**
- Proximity to Residential (ft)**:**

Character of Surrounding Uses (similar, uses differ somewhat, uses differ significantly)

Analysis of the Value of Economic Development and Potential Employment Growth in the City of Davis

February 26, 2010

Prepared for:
City of Davis Economic Development Department
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Analysis of the Value of Economic Development and Potential Employment Growth in the City of Davis

Key Concepts

- Employment supported by establishments within the City of Davis (excluding the University of California campus) grew by close to 22 percent between 1998 and 2008, reaching a total of 18,249 jobs.

- Business growth and development, the key goals of economic development can be beneficial to a local community. For the City of Davis in particular, focusing on knowledge-based sectors, among others, while remaining sensitive to economic diversification can align growth and development with community values, competitive assets, and regional opportunities.

- The economic impacts associated with growing certain types of service-related and light manufacturing knowledge-based sectors in Davis demonstrate that for every 10 jobs added, the local economy could benefit from between 3 and 20 additional jobs, $1.7 and $10.2 million of output, $504,000 and $2.4 million of employee compensation, and $180,000 and $682,000 of state and local taxes (values in 2008 dollars).

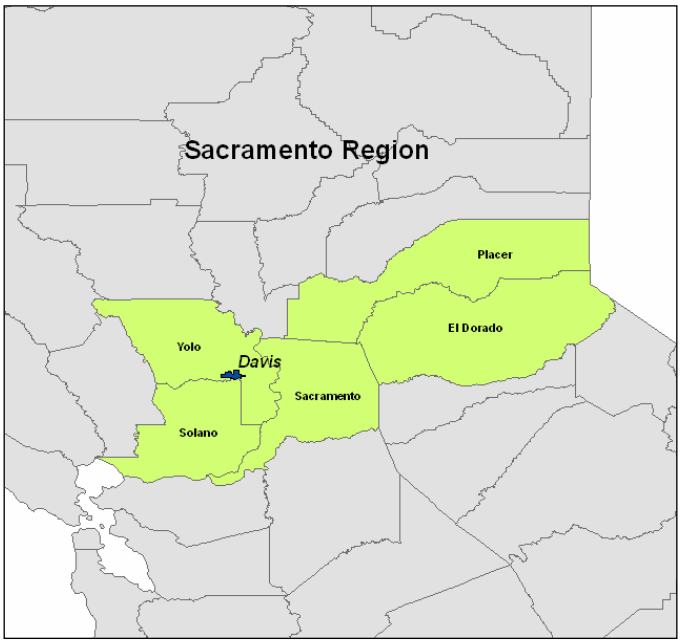
- With projected growth ranging from approximately 20 percent to 28 percent, the City of Davis economy could grow to support a total of between 21,914 and 23,306 jobs by 2035. This reflects an annual average increase of between 136 and 187 jobs in the 2008 to 2035 time period.

- The addition of between about 3,700 and 5,100 net new jobs projected through 2035 could generate economic outcomes ranging from $406 million to $586 million of output, $183 million to $252 million of employee compensation, and $14 million to $19 million of revenue from state and local taxes (values in 2008 dollars).

- The commercial space required to house the new jobs projected through 2035 could demand between approximately 87 and 160 acres of land.

- Simply inserting a new 100-acre (66 net acres) business park at full buildout directly into the current economy, irrespective of growth projections, could add nearly 2,600 jobs, generating close to $445 million of output, $138 million of employee compensation, and $19 million of state and local taxes (values in 2008 dollars).

Introduction



The health and performance of the City of Davis economy relies to a large extent on behavior in the broader Sacramento region economy (which includes El Dorado, Placer, Sacramento, Solano, and Yolo Counties). In 2008, 18,249 jobs were supported by the more than 2,900 public and private sector establishments within the City of Davis boundaries (excluding the University of California campus), about 1.8 percent of the region's total employment of more than 1 million (notably lower than the 2.6 percent share of the region's population). Similar to the region, the largest sectors in the Davis economy include Retail Trade, Health Care & Social Assistance; Accommodation & Food Service; and Government. Over the past 10 years, Davis employment increased by close to 22 percent, slightly above the region's growth rate of 20 percent. Between 2008 and 2035, regional employment is forecast to grow by nearly 18 percent and if the strong historical relationships between local and regional growth hold true, Davis could continue to see significant economic growth over the next three decades. Noting this, the City of Davis commissioned the Center for Strategic Economic Research (CSER) to provide a high level analysis of potential future employment growth in the local economy and the related economic outcomes and land demand.

Value of Local Economic Development

Effective economic development programs can help create the climate that shapes the future economy by aligning resources with community values, competitive assets, and regional opportunities. At the most basic level, economic development programs focus on the interconnected goals of growth and development within the local economy. Growth, a quantitative change, in isolation can either signal an improvement or deterioration in the local economy depending on the context. For example, growth may be concentrated in low-paying jobs and, while there is economic growth, incomes on a per capita basis may fall and overall quality of life may decline. For that reason, growth must be closely aligned with the concept of development within local economic development programs. Development, a qualitative change, emphasizes improvements in welfare and quality of life, concepts which are often ignored or inconsistent with

outcomes if growth is the sole focus. The broader process of economic development occurs when growth and development are consistent. For instance, growth may bring higher-paying jobs that push up incomes or close income gaps in addition to building critical physical and social infrastructure that benefit the community and overall quality of life. Taken together, growth and development are the foundational elements of local economic development programs, which are generally organized around the objectives of creating and maintaining employment, expanding the tax base, and improving quality of life. These core objectives tend to cut across multiple business and community interests, but each program must be customized to accommodate specific trade-offs based on the local context. A classic example is the aspiration to create jobs for local residents and avoid out-migration versus the desire to curb community growth and simply benefit from economic growth in other parts of the larger region. It is important to note that accomplishing the objectives of economic development do not necessarily depend on an increase in population—the core objectives can be achieved by attracting, expanding, retaining, and creating companies that increase local welfare and are aligned with the local labor market.

Businesses are the most tangible component of a local economy. Local businesses directly generate economic benefits and also sustain additional economic activity through linked suppliers of goods and services and employee spending within the local economy. By producing goods and providing services, a typical business supports full- and part-time jobs and related compensation (e.g. salaries and benefits), creates economic output (market value of goods and services), and generates tax revenues (e.g. sales and property taxes) all within the local economy. Local businesses also create what is known as *indirect* benefits in the local economy through supplier relationships for purchases of required goods and services. For example, Company A requires office supplies that it purchases locally from Company B. Company B's response to the demand from Company A creates additional economic benefits in the form of jobs, output, and tax revenues. The workers, in turn, generate *induced* benefits through consumption activities in the local economy. Those workers commuting into the area for jobs within local businesses often spend money locally during the work day through purchases such as food and gas. Workers who live in the area typically divert a large share of their paychecks to the local economy, spending on items such as housing, groceries, and personal services. This spending activity creates demands on local companies, which then respond by creating jobs, output, and tax revenue. If indirect and induced activities occur within the local economy, instead of leaking out to surrounding areas, the economic benefits of a local business are maximized. Even with recognized retail and business-to-business sales leakages, businesses within the City of Davis still create notable direct, indirect, and induced benefits. When the local economy grows (through attraction and expansion of businesses), the dynamic response of direct, indirect, and induced activities create a wide range of economic benefits. Conversely, if the local economy contracts (through business closures, reductions, and relocations) there is also a wide-ranging response throughout the local economy as indirect and induced activities are also affected.

All local public and private sector establishments can be classified into sectors which are either base or local-serving. Each responds to different growth dynamics and produce different levels of economic benefits. Base sectors are typically described by the following characteristics: they bring net new wealth into an economy; they generally produce goods and services for export; and they face few geographical constraints, allowing them to operate anywhere that they deem attractive (examples include manufacturing, information service, and wholesale trade firms). On the other hand, local-serving sectors normally move wealth around a local area, produce goods and services for local consumption, and are strategically located to serve a local market (residents or base sectors). Base sectors are generally active drivers of economic development while local-serving sectors typically respond to economic and demographic growth trends. Since they tend to generate much greater economic benefits (mainly due to output and compensation levels) and bring net new wealth into the community, businesses within base sectors are often viewed as high value in economic development terms. It is important to note that both base and local-serving sectors are important to a local economy (residents and businesses rely on local-serving sectors while base sectors drive economic growth) and, in order to meet the core objectives of economic development, sector diversity is essential. Moreover, a diversified economy with both base and local-serving sectors helps reduce vulnerability to a single sector or small group of sectors and expand the local economy. It is important to highlight that diversification does not diminish the benefits of focusing on niche clusters—a local economy can have multiple niches or specializations while still creating stability through other key base and local-serving sectors.

Economic restructuring has spurred a focus on the dynamics of a knowledge-driven economy and the potential for a community to present a competitive advantage in fostering and growing businesses in knowledge-based sectors, many of which can be considered base sectors. Due to the high value activities of many knowledge-based sectors, a clustering of businesses tends to support further innovation, wealth creation, and locational advantages. The City of Davis is uniquely positioned to benefit from knowledge-based economic development. The presence of the University of California, Davis, a strong local and regional workforce, proximity to the San Francisco Bay Area, and a desirable quality of life are all competitive assets for attracting and growing knowledge-based sectors. In fact, the City's Economic Development Strategic Goals 2006-2010 emphasizes growth and development in these sectors, which are consistent with the City's values and identity. Successful economic development efforts focused on knowledge-based industries typically include strategies that create a business climate and quality of life that attracts and retains companies and workers; promote the transfer of research into marketable products and services; deploy new products and services in other sectors of the economy; support entrepreneurship and start-up businesses; build certainty into the regulatory process; create linkages between companies and support organizations (e.g. capital, networking, and advocacy); and facilitate the development of appropriate facilities. Knowledge-based sectors, particularly activities like biotechnology, clean energy, and high-technology electronics, span across a number of different major industries like Professional & Business Services, Manufacturing, and Information. Each activity makes a unique contribution to

a local economy based on the specific economic structure, inter-industry relationships, and employee spending patterns. The City of Davis Community Development Department selected five prototypes for knowledge-based industries which include three service-based activities and two light manufacturing activities. These prototypes are summarized below along with estimates of the full range of annual economic impacts based on IMPLAN model calculations, a widely-used economic input-output system (values are presented in 2008 dollars). While these five prototypes represent examples of what is targeted in the Economic Development Strategic Goals, there are many more activities associated with knowledge-based sector opportunities in the City of Davis.

Scientific Research & Development Services (e.g. research and experimental development in life sciences, engineering, and physical sciences)

Accounting for local economic structure and leakages, every 10 jobs support:
- ✓ An additional 4 jobs through indirect and induced activities
- ✓ A total of $1.7 million of output
- ✓ A total of $680,000 in employee compensation (salaries and benefits)
- ✓ A total of $180,000 in state and local taxes

Life Sciences & Medical Device Manufacturing (e.g. diagnostic substances, pharmaceutical preparations, and botanicals)

Accounting for local economic structure and leakages, every 10 jobs support:
- ✓ An additional 20 jobs through indirect and induced activities
- ✓ A total of $10.2 million of output
- ✓ A total of $2.4 million in employee compensation (salaries and benefits)
- ✓ A total of $682,000 in state and local taxes

Clean Energy Component Manufacturing (e.g. solar cells, thin film, and fuel cells)

Accounting for local economic structure and leakages, every 10 jobs support:
- ✓ An additional 3 jobs through indirect and induced activities
- ✓ A total of $4.2 million of output
- ✓ A total of $916,000 in employee compensation (salaries and benefits)
- ✓ A total of $305,000 in state and local taxes

Technical Consulting Services (e.g. environmental consulting, utilities management consulting, and agricultural consulting)

Accounting for local economic structure and leakages, every 10 jobs support:
- ✓ An additional 3 jobs through indirect and induced activities
- ✓ A total of $1.9 million of output
- ✓ A total of $504,000 in employee compensation (salaries and benefits)
- ✓ A total of $198,000 in state and local taxes

Computer System Design Services (e.g. computer programming, systems integration, and processing facilities management)

Accounting for local economic structure and leakages, every 10 jobs support:

- ✓ An additional 4 jobs through indirect and induced activities
- ✓ A total of $1.9 million of output
- ✓ A total of $616,000 in employee compensation (salaries and benefits)
- ✓ A total of $208,000 in state and local taxes

These impact levels can be boosted if the City is able to internalize a greater share of the indirect and induced activities.

Overall, growth and development, the key goals of economic development can be beneficial to a local community. Success in creating and maintaining employment, expanding the tax base, and improving quality of life generates a number of positive outcomes including economic stability, employment opportunities for residents, increased standard of living, positive perceptions of the business climate, productive use of property, and tax revenue for services and infrastructure. For the City of Davis in particular, focusing on knowledge-based sectors while remaining sensitive to economic diversification can align growth and development with community values, competitive assets, and regional opportunities.

Employment Growth Projections

As the larger region is expected to see employment growth close to 18 percent over the next three decades with a net gain of over 178,000 jobs, the City of Davis is presented with the opportunity to experience strong employment growth, greater than the region as it has done in the past. CSER developed two separate employment growth projection scenarios for the City of Davis economy. Scenario 1, *Business As Usual*, assumes similar employment trends, internal dynamics, and relationships between the local and regional economies will continue through 2035. Scenario 2, *Higher Targeted Growth*, accounts for different patterns in those knowledge-based activities where the City is emphasizing targeted growth—the five sector prototypes as well as other professional, scientific, and technical services. Specifically, this scenario assumes that, for the targeted knowledge-based activities, the City will capture a greater share of regional growth than in Scenario 1 (based on the demonstrated ability of these local sectors to capture regional growth) and experience the additional annualized indirect and induced effects throughout the economy resulting from the incremental growth. The two main employment scenarios are summarized in Figure 1 on the next page. Estimates for 2008 show that public and private sector establishments in the City of Davis supported over 18,000 jobs (excluding the University of California campus)—by 2035, the City of Davis could see between approximately 22,000 and 23,000 jobs based on Scenario 1 and 2 projections. Both Scenarios 1 and 2 show that the City's largest sectors will continue to be Retail, Leisure, & Hospitality and Educational & Health Services. These two sectors are followed by the Government & Unclassified sectors in

Scenario 1 and the Combined Knowledge-Based sector (an aggregate of the five prototypes and other professional, scientific, and technical services) in Scenario 2.

FIGURE 1
SCENARIO EMPLOYMENT, 2035

Sector	*2008*	*Scenario 1: Business As Usual*	*Scenario 2: Higher Tgtd. Growth*
Agriculture & Natural Resources	367	335	335
Construction	397	413	413
Manufacturing	555	873	873
Wholesale, Transport., & Utilities	961	885	885
Retail, Leisure, & Hospitality	6,109	6,831	6,836
Business & Financial Svcs.	2,515	2,409	2,412
Educational & Health Svcs.	3,849	5,846	5,847
Government & Unclassified	1,196	2,547	2,547
Combined Knowledge-Based	2,300	1,775	3,157
Targeted Knowledge-Based	*1,427*	*1,389*	*2,233*
Other Prof. Sci., & Tech. Svcs.	*873*	*386*	*924*
Total	**18,249**	**21,914**	**23,306**

Center for Strategic Economic Research, February 2010
Data Source: CSER estimates and projections based on National Employment Time Series Database and Moody's Economy.com information

Figure 2, on the following page, shows that the Davis economy could experience growth between about 20 percent and 28 percent through 2035, reflecting a net job increase in Scenarios 1 and 2 between approximately 3,700 and 5,100 jobs. This equates to an annual average increase of between 136 and 187 jobs in the 27-year time period. Specifically, Scenario 1 demonstrates that if the local economy behaves as it has in the past, Davis could expect a net gain of 3,665 jobs between 2008 and 2035 with a corresponding growth rate of 20.1 percent. The largest absolute gains in this scenario are expected within the Educational & Health Services; Government & Unclassified; and Retail, Leisure & Hospitality sectors while the strongest rates of growth are reflected in the Government & Unclassified; Manufacturing; and Educational & Health Services sectors. Job losses are anticipated in four sectors, moderating employment growth in the other sectors of the economy.

Overall growth in the local economy could be notably more robust, however, if the City is able to continue to benefit from its competitive assets and capture a significant amount of regional growth in the knowledge-based sectors emphasized in the Economic Development Strategic Goals, as reflected in Scenario 2. This scenario shows a net increase of 5,057 jobs with a related 27.7 percent rate of growth. The greatest employment increases are projected in the Educational & Health Services; Government & Unclassified; and Combined Knowledge-Based sectors (a notable difference from Scenario 1) with the highest growth rates concentrated in the same sectors as Scenario 1. With strong growth projected in the Combined Knowledge-Based sector, Scenario 2 employment losses are confined to only three sectors.

FIGURE 2
SCENARIO EMPLOYMENT GROWTH, 2008-2035

		Scenario 1: Business As Usual		*Scenario 2: Higher Tgtd. Growth*	
Sector	*2008 Employment*	*Absolute Change*	*Percent Change*	*Absolute Change*	*Percent Change*
Agriculture & Natural Resources	367	-32	-8.6%	-32	-8.6%
Construction	397	16	3.9%	16	3.9%
Manufacturing	555	318	57.3%	318	57.3%
Wholesale, Transport., & Utilities	961	-76	-7.9%	-76	-7.9%
Retail, Leisure, & Hospitality	6,109	722	11.8%	727	11.9%
Business & Financial Svcs.	2,515	-106	-4.2%	-103	-4.1%
Educational & Health Svcs.	3,849	1,997	51.9%	1,998	51.9%
Government & Unclassified	1,196	1,351	112.9%	1,351	113.0%
Combined Knowledge-Based	2,300	-525	-22.8%	857	37.2%
Targeted Knowledge-Based	*1,427*	*-38*	*-2.7%*	*806*	*56.5%*
Other Prof. Sci., & Tech. Svcs.	*873*	*-487*	*-55.8%*	*51*	*5.8%*
Total	**18,249**	**3,665**	**20.1%**	**5,057**	**27.7%**

Center for Strategic Economic Research, February 2010
Data Source: CSER estimates and projections based on National Employment Time Series Database and Moody's Economy.com information

Economic Outcomes and Land Demand

With continued business growth, various economic outcomes will be realized in the City of Davis economy. In addition to an increase in jobs, the local economy could see corresponding gains in output (market value of goods produced and services provided) and employee compensation (value of wages and benefits) as well as a boost in state and local tax generation (revenue to support services and infrastructure). Figure 3 on the next page illustrates the economic outcomes associated with the projected employment growth in the two scenarios between 2008 and 2035. If Davis were to experience Scenario 1 employment growth through 2035 (close to 3,700 jobs), the economy would see a corresponding gain of about $406 million of output, $183 million of employee compensation, and $14 million of revenue from state and local taxes (values in 2008 dollars). With a greater level of employment growth concentrated in the high value knowledge-based sectors, Scenario 2 presents notably larger economic outcomes over the projection period (associated with the net gain of nearly 5,100 jobs) at approximately $586 million of output, $252 million of compensation, and $19 million of state and local taxes (values in 2008 dollars).

FIGURE 3
SCENARIO ECONOMIC OUTCOMES
AND LAND DEMAND, 2008-2035
(VALUES IN 2008 DOLLARS)

Outcome	*Scenario 1: Business As Usual*	*Scenario 2: Higher Tgtd. Growth*
Jobs	3,665	5,057
Output	$406,085,172	$586,194,969
Employee Compensation	$182,713,845	$252,251,329
State & Local Tax Generation	$14,469,465	$19,475,704
Land Demand Range (Acres)	87.4 - 117.6	118.5 - 159.5

Center for Strategic Economic Research, February 2010
Data Source: CSER estimates and projections based on National Employment Time Series Database, Moody's Economy.com, IMPLAN 2007 Coefficients, and City of Davis information
Note: Land demand based on 250 square feet per employee for retail buildings; 325 square feet per employee for office and public buildings; 800 square feet per employee for industrial buildings, and floor area ratios of 0.26 and 0.35.

As the economy grows, establishments will require additional space to house new jobs and produce goods and provide services. Figure 3 above also shows the potential land demand in acres for the three scenarios based on City of Davis Community Development Department staff estimates that incorporated square feet per employee values by building type (e.g. retail, office, and industrial) and varying floor area ratios (amount of land on the site covered by the total building area). The demand for land resulting from the projected employment growth during the 2008 to 2035 period ranges from approximately 87 acres to 160 acres with Scenario 1 toward the low end and Scenario 2 at the high end. These differences not only reflect the projected job growth, but also the mix of types of commercial space and varying levels of development intensity. While not directly part of this project, it is important to consider whether most of this demand could be absorbed in existing space within the current City boundaries or if, after viable existing space is developed and occupied, additional land would be needed to accommodate the growth.

Economic Contributions of a New Business Park

A separate analysis focusing on a specific development opportunity in the City of Davis was extracted directly from the *Business Park Viability Study* prepared by ESG in 2008. This analysis of the potential economic contributions of a new business park uses the employment estimates in the Basic Business Park/No Residential development scenario from the ESG study with a sector employment mix provided by the City of Davis Community Development Department staff. Figure 4 on the next page shows the potential economic outcomes associated with the total jobs potentially supported by the business park at buildout. ESG's Basic Business Park/No Residential development scenario suggests that a new business park of 100 acres (66 net acres) could contain

2,586 jobs at buildout (16 years at the time of the study). The City's Community Development Department staff's assessment shows jobs in five main sectors, heavily weighted toward the Combined Knowledge-Based sector. If the new business park were inserted directly into the current economy at full buildout potential, irrespective of the growth projections in the broader economy (e.g. employment Scenarios 1 and 2 presented in this report), it could directly generate economic outcomes equaling nearly $445 million of output, $138 million of employee compensation, and $19 million of state and local tax revenue in addition to the roughly 2,600 jobs housed in the park (values in 2008 dollars). It is important to note that the new business park information is a distinct analysis of one specific development at buildout and is not intended to be directly comparable to the other sections of the report covering the employment growth projections.

FIGURE 4
NEW BUSINESS PARK ECONOMIC OUTCOMES AND LAND DEMAND, AT BUILDOUT
(VALUES IN 2008 DOLLARS)

Outcome	*Value*
Jobs	2,586
Agriculture & Natural Resources	0
Construction	0
Manufacturing	328
Wholesale, Transport., & Utilities	0
Retail, Leisure, & Hospitality	258
Business & Financial Svcs.	251
Educational & Health Svcs.	0
Government & Unclassified	388
Combined Knowledge-Based	1,360
Targeted Knowledge-Based	*844*
Other Prof. Sci., & Tech. Svcs.	*516*
Output	$444,842,229
Employee Compensation	$137,633,678
State & Local Tax Generation	$18,845,106
Land Demand Range (Acres)	100 (66 net)

Center for Strategic Economic Research, February 2010
Data Source: CSER estimates based on IMPLAN 2007 Coefficients, ESG, and City of Davis information
Note: ESG assumptions for the new business park include 2,586 jobs, 862,000 square feet of total building area, 90 percent office/flex and 10 percent ancillary support, 66 net developable acres, 0.30 floor area ratio, and 3 employees per 1,000 square feet

Research Methodology and Sources

Introduction

In order to create an employment time series with industry sector detail for the City of Davis, CSER acquired the sub-set of the National Employment Time Series (NETS) database for Yolo County. The NETS database was developed by Walls & Associates using the Dunn & Bradstreet (D&B) business database for each year from 1990 to the most current update, 2008. D&B records provide specific company level information including establishment employment levels, industry sector classification, and physical location. CSER used a four-step process to create the City of Davis data set. First, all records outside the City of Davis boundaries were removed using city and eight-digit zip code filtering. Second, records were spot checked to ensure that known large companies in the City of Davis were accounted for. CSER discovered that three large companies were not included (Rabbit Semiconductor, Schilling Robotics, and Davis Ace Hardware) and added those records based on information from another business database, ReferenceUSA, and the Sacramento Region Business Journal series of Book of Lists and High Tech Direct profiles. Third, another spot check was performed to identify erroneous records—questionable records were researched further to confirm inclusion. Fourth, records were aggregated by industry sector based on four-digit North American Industry Classification System (NAICS) codes. Many records reflected NAICS codes that changed in various years as a result of D&B information. To create a consistent time series where noise due to invalid classifications was reduced, CSER confirmed the correct industry classification for the largest 20 companies and kept the 2008 classification for the remaining records. These four steps also allowed CSER to remove all University of California, Davis-related establishments from the data set. In the end, a data set with annual four-digit NAICS employment from 1990 to 2008 for the City of Davis was available for analysis. Roughly 2,900 establishments are accounted for in the data set. It is important to note that CSER believes this data set provides a reasonable accounting of the Davis economy, but since no other comprehensive detailed data sets are available for the City and the NETS database is based on D&B-generated business records, the accuracy cannot be fully verified.

Regional four-digit NAICS employment information was obtained from Moody's Economy.com for the Sacramento-Arden Arcade-Roseville Metropolitan Statistical Area (MSA—El Dorado, Placer, Sacramento, and Yolo Counties) and the Vallejo-Fairfield MSA (Solano County). The two MSA databases were aggregated to create the Sacramento region data set for analysis. The Moody's Economy.com data includes annual historical employment from 1970 to 2008 as well as projections for 2009 to 2039. The historical data are created using official government-provided estimates of employment by industry. Moody's Economy.com projections are developed using a proprietary econometric model and are highly-regarded by researchers throughout the country, including CSER.

Value of Local Economic Development

The general discussion of the value of local economic development was developed based on CSER professional knowledge in the fields of economic development and regional economics. This professional knowledge is founded on the work conducted over the 30-year history of the organization, active participation in economic development through the longstanding partnership with the Sacramento Area Commerce and Trade Organization (SACTO), involvement in the International Economic Development Council and California Association for Local Economic Development, and reading of academic textbooks (e.g. Local Economic Development Analysis and Practice by Blair and Understanding Local Economic Development by Malizia and Feser) and journals (e.g. Economic Development Quarterly and Applied Research in Economic Development).

The estimates of economic impacts for the knowledge-based sector prototypes were completed using the IMPLAN input-output model, calibrated specifically for the City of Davis using the 2007 data parameters (the most current coefficients available at the time of analysis). This model is widely used for economic and fiscal analysis to quantify the full range of economic impacts including direct, indirect, and induced benefits. Direct benefits consist of economic activity related exclusively within the defined knowledge-based sector prototype. This includes all expenditures made by establishments and all employees who work directly for the establishments. Indirect benefits define the creation of additional economic activity that results from linked firms, suppliers of goods and services, and provision of operating inputs. Induced benefits measure the consumption expenditures of direct and indirect sector employees. Examples of induced benefits include employees' expenditures on items such as retail purchases, housing, medical services, banking, and insurance. By defining the study area boundaries, the City of Davis, the model captures inter-industry and spending relationships only within the defined economy. CSER used the model's regional purchasing coefficients, which account for proportional spending patterns within the study area, to further account for indirect and induced activity leakages outside the City of Davis economy (e.g. suppliers of goods and services located outside the City and shopping trips outside Davis). The knowledge-based prototypes were translated into NAICS (with consideration given to whether the activity has existed in the City's economy in the past) and then to IMPLAN specific codes for model analysis using the standard NAICS-IMPLAN crosswalk (a bridge between unique IMPLAN codes and corresponding NAICS codes)—Scientific Research & Development Services was classified as NAICS 5417; Life Sciences & Medical Device Manufacturing as NAICS 3254; Clean Energy Component Manufacturing as NAICS 3344; Technical Consulting Services as the aggregate of NAICS 5416 and 5419; and Computer System Design Services as NAICS 5415. The model was then used to quantify the impact of 10 jobs for each prototype.

Employment Growth Projections

The employment projections for Scenarios 1 and 2, *Business As Usual* and *Higher Targeted Growth*, used historical NETS and Moody's Economy.com for Davis and the Sacramento region, respectively, and Moody's Economy.com projections for the region. Analysis was completed at the aggregated two-digit NAICS level except for the sectors related to the five knowledge-based sector prototypes which were removed from the two-digit aggregates and accounted for separately. Scenario 1 uses employment best fit trend line analysis for Davis and the region from 1990 to 2008 (y = m1x1 + m2x2 + ... + b) and assumes trend relationship between the local and regional economies continues through 2035. Scenario 2 builds on the Scenario 1 estimates for all sectors except the five knowledge-based sector prototypes. For the knowledge-based sector prototypes, Scenario 2 assumes the average proportion of regional employment growth captured in each of the five prototypes at the local level from 1991 to 2008 (davis08 – davis91 / region08 – region91) continues through 2035. In addition, for the incremental growth in the five prototypes above Scenario 1, the annual average indirect and induced impacts distributed to all industry sectors was calculated using the IMPLAN model and applied through the projection period based on the assumption that an inter-industry response could occur with growth above the historical employment trend. Furthermore, the City's Community Development Department staff believes that the Professional, Scientific, & Technical Services sector overall represents knowledge-based activities that fit the City's values and identity and are reflected in strategic goals; therefore, for the residual of this sector (after the related prototypes are excluded), Scenario 2 also assumes the average proportion of regional employment growth captured in this local sector from 1991 to 2008 continues through 2035. **It is important to note that both scenarios reflect mathematical calculations based on the stated assumptions about future conditions. The projections are developed simply to provide varying estimates of future employment levels for economic outcome and land demand discussions and are not meant to incorporate judgments about the likelihood of the projection results or embedded assumptions.**

Economic Outcomes and Land Demand

Estimates of economic outcomes associated with the two employment growth projection scenarios were derived using the IMPLAN model parameters. New job projections at the two-digit NAICS and assigned knowledge-based sector codes were applied to IMPLAN model data on output per employee and compensation per employee as well as state and local tax generation related exclusively to the direct economic activity. The output measure accounts for total revenues including all sources of income or the market value of production generated by an industry for a given time period. This is the best overall measure of business and economic activity because it is the measure most firms use to determine current activity levels. Employee Compensation includes wages, salaries, benefits, and all other employer contributions. This measure shows how the employment levels convert to financial and fiscal potential. Tax generation estimates are limited to sources of state and local revenue (federal is excluded). Residents and business benefit from the use of these taxes for both local and broader statewise

services and infrastructure (e.g. public safety, schools, parks, and freeways). While it is clear that there are tax impacts resulting from economic growth, this information should only be viewed as a rough estimate of tax generation and not specific allocation. California's recent fiscal restructuring creates a limitation to this analysis since the model is restricted in accounting for this behavior and determining how much of the tax impact will be allocated to different government sources.

Information for the land demand analysis was generated by the City of Davis Community Development Department staff. CSER provided guidance on likely type of space for certain economic activities (e.g. retail, office, and industrial) as well as possible square foot per employee assumptions based on the models used in the Sacramento Area Council of Government's Sacramento Region Blueprint Land Use and Transportation Study (250 square feet per employee for retail, 325 square feet per employee for office/public, and 800 square feet per employee for industrial). Community Development Department staff provided land demand in acres based on varying floor area ratios (0.26 and 0.35) for Scenarios 1 and 2.

Economic Contributions of a New Business Park

Information for the analysis of the potential economic contributions of a new business park was extracted directly from the 2008 ESG *Business Park Viability Study* under the direction of the City of Davis Community Development Department staff to use the buildout job estimates from the Basic Business Park/No Residential scenario in the report. City staff also provided internally-developed assumptions of the mix of jobs potentially housed in the new business park, based in-part on the City's 2008 economic structure, to allow CSER to break the total job estimate down into specific economic activities. Per City staff, key assumptions embedded in the report scenario for the new business park include 2,586 jobs, 862,000 square feet of total building area, 90 percent office/flex and 10 percent ancillary support, 100 acres of land demand (66 net), 0.30 floor area ratio, and 3 employees per 1,000 square feet. Estimates of economic outcomes associated with the new business park were calculated in a similar way as the employment growth projection scenarios. (A broader economic impact analysis for this scenario was not undertaken since supportable growth values could not be assessed independent of expected behavior in the rest of the economy.) It is important to note that this analysis focuses on employment potential for one specific development at buildout (16 years at the time of the ESG study) and does not necessarily account for the broader City of Davis economy like the other sections of the report. Therefore, the new business park information is not intended to be directly comparable to the other sections of the report covering the employment growth projections.

About CSER

The Center for Strategic Economic Research (CSER) is an economic research and consulting group specializing in applied research and strategy development in the regional economics and economic development fields. The organization has been

engaged in economic research activities for over 30 years, originally as a research institute affiliated with California State University, Sacramento, known as the Real Estate and Land Use Institute (RELUI), and later as the Sacramento Regional Research Institute (SRRI) in conjunction with the Sacramento Area Commerce and Trade Organization (SACTO). Currently, the organization is structured as an independent research center affiliated with SACTO. CSER provides a wide range of customized economic and demographic research projects through its consulting practice and supports the Sacramento Region's economic development efforts. CSER's extensive knowledge of regional economics and economic development, combined with a rigorous and strategic approach to research, have generated a wide range of experience conducting projects such as market and feasibility analyses; economic and tax impact studies; economic development strategies; industry and workforce studies; and economic and demographic profiles. Through its longstanding relationship with SACTO, CSER produces signature economic reports and acts as the economic research team for the economic development corporation, providing data and analysis for company prospects, local cities and counties, and regional marketing efforts. Businesses, government entities, educational institutions, and non-profit organizations throughout the country have benefitted from CSER's highly-respected research services. CSER focuses on providing its clients with credible and objective research to help them make informed and strategic decisions.

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