Mace Ranch Innovation Center
Urban Decay Analysis

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I. EXECUTIVE SUMMARY

INTRODUCTION

The purpose of this study is to assess the potential for urban decay resulting from development of the Mace Ranch Innovation Center, located on 212.2 acres immediately east of the City of Davis city limits (the "Project"). This is in support of the CEQA environmental review process for the Project. The site is contiguous to the intersection of Mace Boulevard and Interstate 80, and north of County Road 32A.. The Project's land use plan includes a range of employment-generating uses, including office, research and development, prototyping, light manufacturing, flex space, support retail, and hotel/conferencing. As the Project site is adjacent to but not located within the City of Davis, efforts will need to be pursued to annex the property into the City of Davis.

The Project is one of two major innovation center proposals currently being pursued for development. These two proposals resulted from a City of Davis process to solicit development proposals. The city's intent in fostering innovation parks is to serve the Davis research and technology sectors focused on innovation and create a place for Davis technology companies to continue to grow.

Upon full buildout, the land uses planned for the Project include 1,510,000 square feet of research, office, and R&D space, 884,000 square feet of manufacturing space, 100,000 square feet of ancillary retail space, and 160,000 square feet for a 1600-room hotel/conference center. These uses total 2,654,000 square feet of built space, and are estimated to house 5,882 employees at full buildout. Project development is assumed to occur over an extended time period, with the Project applicant anticipating space availability beginning Fall 2018. Separate economic evaluation of innovation park proposals prepared for the City of Davis projected a range of Project buildout scenarios, ranging from 7 to 17 years if the Project is the only innovation center project developed in Davis, and ranging from 21 to 51 years if the Project is developed in conjunction with other identified or conceptual innovation center projects.

For analytical purposes, this study generally assumes 2035 as the buildout year for the office and industrial land uses, which reflects a 17-year absorption period. This time period is at the high end of the projections prepared for the City of Davis assuming just Mace Ranch is developed but is lower than the assumption in the event other cumulative projects are developed. The 2035 timeframe is also coincident with the timeframe of available long-range economic and demographic projections. While the furthest buildout projections would extend the buildout to 2039 to 2069 for the Project in combination with other known planned projects, it can become speculative to conduct analysis beyond the 2035 time period, since this is the terminal year for available economic and demographic projections. Moreover, from the perspective of urban decay analysis, the assumption of relatively rapid absorption is a conservative assumption, as it may result in more accelerated development and associated accelerated impacts on the existing real estate base.

The City of Davis retained Raney Planning and Management, Inc. to prepare an Environmental Impact Report (EIR) for the Project. ALH Urban & Regional Economics ("ALH Economics") is part of the environmental team responsible for conducting the EIR's urban decay analysis to be incorporated into the EIR. Generally speaking, for the purpose of CEQA, urban decay is characterized by physical deterioration to properties or structures that is so prevalent, substantial, and lasting a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community.

This study estimates the extent to which development of the Project may or may not contribute to urban decay pursuant to potential impacts on existing office and industrial space, existing retailers, and hotels. The key indicator from a CEQA perspective is impacts on the existing physical environment, which in the context of an urban decay analysis includes the commercial real estate base and other germane real estate conditions, as measured by the current baseline. Characteristics of physical deterioration contributing to urban decay include abandoned buildings, boarded doors and windows, parked trucks and long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth.

SUMMARY OF FINDINGS

Key Findings

Highlights of the urban decay analysis for the Mace Ranch Innovation Center (the "Project") are as follows:

- The Project would nearly double the city's existing supply of office and industrial space
- The addition of cumulative office and industrial projects would boost the future supply of new office and industrial space to 6.9 million square feet, more than tripling the existing supply
- Innovation sector businesses are estimated to occupy approximately 25% of the existing Davis office and industrial base
- The Davis office and industrial market is supply constrained and vacancies are generally low
- The office and industrial real estate base in Davis is well maintained and does not exhibit signs of physical deterioration, including the market's scant prolonged vacancies
- Development of the Project is anticipated to result in potential office and industrial vacancies, but this could facilitate internal movement within the market and the potential to attract businesses from other regional locations, such as Woodland and West Sacramento
- Some longer term office or industrial vacancies could result from Project and cumulative project development due to existing tenant relocations to the new projects, but urban decay is not anticipated to result because of successful code enforcement, property owner motivation to maintain property, and market precedent
- Daytime retail demand generated by the Project's employment base is anticipated to more than support the Project's planned retail space by Project buildout
- Cumulative retail projects are anticipated in the aggregate to generate sufficient internal demand to support their planned increments of retail space
- Even if existing retailers experience sales impacts sufficient to induce store closure, numerous market factors such as future household demand and existing retail leakage are anticipated to support retail space backfilling
- The Project's retail space and cumulative projects are not anticipated to cause urban decay
- Following market introduction, the Project's hotel and other cumulative hotels are anticipated to reduce the annual average occupancy among existing hotels
- The resulting existing hotel occupancy is anticipated to be above levels experienced during the Great Recession and thus sustainable as no hotels closed during the Great Recession
- The Project and cumulative project hotels are not anticipated to cause urban decay

In summary, the Mace Ranch Innovation Center, along with identified cumulative projects, is not anticipated to cause or contribute to urban decay in the City of Davis.

Peer Review of Economic Evaluation Study

In December 2014 the City of Davis retained the urban economic and real estate consulting firm BAE Urban Economics (BAE) to prepare a study conducting economic evaluation of the innovation park proposals before the city. ALH Economics conducted a peer review of this study to ascertain the reasonableness of the approach and assumptions regarding economic evaluation of the employment-generating components of the Project. As part of the peer review ALH Economics checked the timeliness and veracity of the underlying data, determined if the conclusions were sound, and assessed if sufficient evidence was provided to support the economic evaluation conclusions. ALH Economics cross checked select data points, conducted independent analysis where warranted, and assessed the veracity of the analysis relative to the needs of the Project's urban decay analysis.

ALH Economics found the BAE study to be a sound document demonstrating strong familiarity with the Davis real estate markets, particularly the industrial market. The study included solid information about recent trends in the Davis industrial market regarding tenant movement, market nuances, and especially land supply trends for business park development. The study included case study analysis of tech related growth in other communities that was informative and instructive, providing a basis for considering the Project's economic development potential, along with other planned development projects, and formulating Project assumptions. As warranted, findings from the BAE study are referred to and relied upon as appropriate in assessing the Project's potential to cause or contribute to urban decay.

Office and Industrial Market Impacts

The Project's planned square footage of office and industrial space would comprise a significant addition to the current base of space in Davis, which currently totals 2.9 million square feet. With 2,394,000 square feet of planned office and industrial space, the Project would nearly double the supply of office and industrial space in Davis. The largest share of the existing Davis office and industrial base comprises office space, with 1.8 million square feet operating at 9.7% vacancy. The next largest share is industrial space with approximately 657,000 square feet operating at 1.6% vacancy, followed by 522,000 square feet of industrial flex space operating at 24.1% vacancy. Leasing activity is relatively modest, with 24 leases comprising 85,000 square feet of office space executed over a recent year period, and five industrial leases comprising close to 13,000 square feet of leased space. There are no apparent signs of urban decay or deterioration among the existing stock.

Office and industrial users in Davis represent a number of different industries, ranging from traditional office tenants such as attorneys, design professionals, and medical professionals, to science and technology- based industries such as bioscience, food science, ag tech, and clean tech. UC Davis is also a significant occupier of leased office and industrial space in Davis. ALH Economics estimates that the type of innovation sector businesses and tenants targeted for the Project and other planned innovation centers currently occupy approximately 760,000 square feet of office and industrial space in Davis. This comprises approximately 25% of the Davis office and industrial base.

In addition to the Project, there are 10 other office and industrial projects planned in the City of Davis. These projects are in various states of planning and development, including some projects on hold. Overall, the projects not on hold total 4.4 million square feet of planned office and industrial space. Thus, with the inclusion of the Project, there is the potential for 6.9 million square feet of office and industrial space that could be added to the Davis market by 2035 or some other future time horizon.

Almost all of this space is targeted to innovation sector tenants similar to the Project, resulting in a very large planned addition to supply.

The BAE economic evaluation prepared for the City of Davis included long-term absorption rate projections for the Project as well as select other innovation sector projects. Four projections were prepared, ranging from a 7- to 17- year absorption period for just the Project to 21 to 51 years for the Project in combination with most of the other cumulative innovation-serving projects. Regardless of absorption scenario, the BAE analysis recognizes that existing regional growth projections are not inclusive of the scale of planned innovation sector growth in Davis. Therefore, BAE prepared alternative growth projections within the envelope of projected regional trends to demonstrate the employment growth trajectory that would be necessary to support the proposed Davis innovation centers.

ALH Economics believes it is possible that some existing innovation sector businesses may seek to relocate to the Project or other cumulative projects targeting innovation businesses. Such relocations could result in vacancies in the existing office and industrial base. The amount of space that could be vacated is unknown, but the 760,000 square feet currently occupied by existing innovation sector tenants is likely most at risk. Through an illustrative analysis, ALH Economics posits that 313,300 square feet could become vacant. It is likely that other existing Davis tenants seeking expansion or new tenants could find the vacated space attractive. This type of growth, however, is limited pursuant to future growth projections, with only 1,617 new jobs other than innovation sector jobs projected by 2035. Based on various assumptions, ALH Economics estimates that these jobs could generate demand for 161,725 square feet of vacated innovation sector space. Again, this is an illustrative figure, but in general, this illustrative analysis suggests that there could be potential for vacancies to prevail among the existing office and industrial base as a result of the innovation park development. This holds true whether it is development of the Project alone or the Project and cumulative projects. Since the amount of space currently occupied by existing innovation sector businesses comprises a fixed amount, the amount of future supply is not anticipated to have a strong impact on the quantity of the space that could become vacant, aside from the expectation that some vacancies could result. Yet additional demand fueled by the increasing supply of larger existing increments could be generated by tenant relocations out of Woodland or West Sacramento, but the level of such demand is indeterminate, such that the potential for some vacancy following Project or cumulative project development could occur.

Retail Market Impacts

The Mace Ranch Innovation Center plans 100,000 square feet of ancillary retail space, intended to serve the retail shopping needs of Project occupants. The existing retail base in Davis totals 2.2 million square feet; thus the Project's planned increment comprises a minor addition to the supply. The existing inventory of commercial retail space is performing well, operating at 3.4% vacancy. Retail vacancies fill quickly and the existing retail inventory appears well-maintained with no visible signs of urban decay or deterioration.

ALH Economics prepared analysis of projected employee demand for retail, the results of which indicated that at buildout, Project employees are anticipated to generate sufficient workday demand to support a greater volume of retail space than planned for the Project, equivalent to approximately 82% of the estimated employee demand. This allows for a portion of employee demand near the work location to be satisfied at other retail outlets in Davis while still generating sufficient demand to support the planned Project retail space. However, assuming the Project retail is built by the end of Phase 2, there will not be sufficient employee-generated demand to support the full amount of retail

space. Other sources of demand such as retail demand generated by new household growth and recaptured retail sales leakage are anticipated to support this increment of space until such time as sufficient employee-based demand is generated sometime during the Phase 4 of development.

In addition to Project-generated demand, there will be demand for retail space in Davis based upon anticipated household growth. New households by 2035 are estimated to annually support the equivalent of 260,000 square feet of retail space. Not all this demand will be expressed for Davis retailers since Davis does not have a strong base of regional-serving retailers and some component of shopper demand is satisfied through internet-based shopping. Yet, this finding suggests that demand could be generated for the Project's retail space from other sources. In addition, Davis is characterized by existing retail sales leakage, such that even if Project employees did not sufficiently support the Project's retail space, or if the retail space were built ahead of Project demand, yet other opportunities could exist to generate support for the Project's retail space.

There are six additional developments planned in Davis with retail components, totaling approximately 287,000 square feet of planned retail space. Some of these projects are employment-based projects while others are primarily residential projects. Analysis of the potential for each project's planned uses to generate sufficient demand to support the planned retail components indicated that more than sufficient demand would be generated internally to support these cumulative projects in aggregate.

On the basis of these findings, the analysis concludes that existing competitive retailers are not likely to close as a result of the Project or cumulative project development. Any shifts in the market that do occur would more likely be the result of market forces not associated with the Project, such as dwindling demand due to inferior service or poor product quality. If closures do occur pursuant to Project impacts, however, several market fundamentals strongly suggest that the closed retail spaces would not experience long-term vacancy. These market fundamentals include a strong retail market operating at an extremely low vacancy rate, generally positive net retail absorption, and demonstrated retail leakage in a number of retail sales categories.

Hotel Market Impacts

The Mace Ranch Innovation Center plans a 150-room hotel. There are 11 existing hotels in Davis with a total of 733 rooms. These hotels represent four classes of hotel, including economy, midscale, upper midscale, and upscale. All of the existing hotels appear to be in good general repair, with attractive physical conditions and no signs of urban decay or deterioration, such as litter, graffiti, weeds or rubbish. Average annual occupancy rates of the hotels vary with economic conditions, with occupancy ranging from a low of 49.8% in 2009 at the peak of the Great Recession to 66.2% in 2014.

ALH Economics projected future demand for hotel rooms and assessed the Project's impact on future occupancy to identify if there could be negative impacts on occupancy sufficient to cause existing hotels to close. Demand was projected out at two rates, consistent with the reallocated employment growth rates prepared by BAE for Yolo County and the City of Davis. This analysis effectively accommodates hotel rooms demand associated with expansion of the city's economic base. The results indicate that in 2027, when the Project's hotel is assumed to be added to supply, occupancy is projected to range from 65.3% to 69.4%, which is generally equivalent to the current baseline rates. Thus, the addition of the Project hotel is not anticipated to result in negative impacts on the existing hotel base contributing to potential hotel closure.

In addition to the Project there are other cumulative hotels planned. These include the development of an Embassy Suites Hotel with 132 rooms replacing the existing 45-room University Park Inn and Suites Hotel and a planned 200-room hotel at the Davis Innovation Center. Together, these two planned hotels in association with the Project are anticipated to add 437 hotel rooms to the Davis market. A supply and demand analysis assuming the addition of all these hotel rooms indicates that once the two innovation center hotels are added to the market in a cumulative 2035 timeframe, annual average occupancy is projected to drop to 54.8% to 60.2% and increase thereafter. While these rates are low, they are higher than the average occupancy rates that prevailed in the market during the Great Recession. This was a time when the existing hotels were sustained in the 50% occupancy range for four years, during which time no hotels are known to have closed. Thus, market precedence suggests that reduced occupancy in the range of 50% is sustainable for a limited period of time without resulting in existing hotel closure. Therefore, the study concludes that the Project and cumulative projects may result in reduced occupancy among existing hotels, but that the existing hotels are not anticipated to be impacted to the point that hotel closure is a potential risk.

URBAN DECAY CONCLUSIONS

The study findings suggest that the existing office, industrial, retail, or hotel spaces in the City of Davis are not anticipated to experience significant adverse physical impacts related to economic and social changes and/or effects leading to urban decay or deterioration following the addition of the planned Mace Ranch Innovation Center or cumulative projects. The existing office and industrial base is anticipated to experience negative impacts in the form of increased vacancy, associated with the potential for some existing tenants to relocate to the new innovation center projects. Limited demand could result in some of these spaces remaining vacant for prolonged periods. However, regardless of the amount of prospective vacancy, municipal code enforcement suggests existing City of Davis measures to avoid the onset of deterioration or decay are effective (see Municipal Code discussion in Chapter VI). Moreover, many of the office and industrial properties in Davis are owned by major institutional and private real estate companies. These are the types of companies with the financial wherewithal to withstand prolonged vacancy and fund the maintenance necessary for upkeep even during times of vacancy. Further, the scant examples of long-term office and industrial vacancy in Davis indicate that properties are well-maintained and do not exhibit visible signs of decay. This information, along with property owner incentives, suggests the potential for other properties to be well maintained during periods of prolonged vacancy. ALH Economics therefore concludes that the office and industrial components of the Project and cumulative projects are not anticipated to lead to urban decay, despite the anticipated expectation of some prolonged existing office and industrial base vacancies.

Further, existing retail spaces are not anticipated to become vacant as a result of the Project or cumulative Projects. However, if spaces do become vacant due to Project impacts, they are anticipated to be backfilled quickly and thus not be characterized by chronic vacancy. In like manner, no existing hotels are anticipated to close due to Project or cumulative project impacts. There may be short periods of reduced occupancy but the existing hotels have the demonstrated ability to continue operations during periods of reduced occupancy. Thus, ALH Economics concludes that the Project and cumulative project planned retail spaces and hotels will not cause or contribute to urban decay.

II. INTRODUCTION

STUDY BACKGROUND

In 2010 the City of Davis established an Innovation Park Task Force to explore peripheral sites for future business park development to accommodate medium-scale businesses. These peripheral opportunity sites focused on Mace Ranch/I-80 and the Northwest quadrant as initial site options.[1] Ultimately, in May 2014, the City of Davis issued a Request for Expressions of Interest (RFEI) from parties interested in developing Innovation Centers that will serve the Davis research and technology sectors focused on innovation and create a place for Davis technology companies to continue to grow. Two significant proposals were received by the city, one of which is named the Mace Ranch Innovation Center ("Project").

The proposed Project, located east of Davis at the northeast corner of the intersection of Mace Boulevard and 2nd Street, will allow for various types of uses, primarily related to research and development in a high-tech office environment. Some of the Project's primary uses are planned to include office, research and development, prototyping, light manufacturing, flex space, support retail, and hotel/conference space.

Following submission of the Project proposal, the City of Davis retained the services of Raney Management and Planning, Inc. to prepare an Environmental Impact Report for the Project. To support this effort and comply with the California Environmental Quality Act ("CEQA"), ALH Urban & Regional Economics ("ALH Economics") was asked to analyze the potential for the Project to cause or contribute to urban decay. The initial impetus for urban decay analysis within the context of environmental review stems from the decision by the Fifth District Court of Appeal in *Bakersfield Citizens for Local Control v. The City of Bakersfield,* which was a case pertaining to the environmental review of planned Walmart and other associated retail development in the City of Bakersfield. This court decision suggested that in some circumstances, CEQA may require a lead agency to consider and analyze the potential for the introduction of planned retailers to result in adverse physical impacts on the environment by causing a chain reaction of store closures and long-term vacancies, otherwise referred to as a condition of "urban decay." Consequently, urban decay analyses are often prepared for retail development, or the retail components of large-scale mixed use projects. Some environmental impact reports also conservatively extend the urban decay analysis to other land uses, including hotel, office, and industrial land uses. Such is the case for this current analysis for the Mace Ranch Innovation Center, which includes multiple land uses in addition to retail.

The CEQA threshold for impact is to cause the potential for urban decay resulting from significant adverse physical impacts related to economic and social changes and/or effects.[2] Therefore, for the purpose of this analysis, urban decay is defined as extended long-term business vacancies, directly or indirectly resulting in physical deterioration to properties or structures that is so prevalent, substantial, and long lasting that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. Physical deterioration includes abandoned buildings, boarded doors and windows, parked trucks and long-term unauthorized use of the

[1] http://city-council.cityofdavis.org/on-going-committees/innovation-park-task-force.
[2] CEQA Guidelines Section 15064(e), 15064(f)(6), 15131, and 15182.

properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth.

This study analyzes the potential impact of the Project's planned office, industrial, retail, and hotel components on the physical environment as represented by the respective real estate bases. The key indicator from a CEQA perspective is impacts on the existing physical environment, which in the context of an urban decay analysis includes existing stores and commercial and other germane real estate conditions, as measured by the current baseline.

The Notice of Preparation (NOP) for the EIR was published November 6, 2014. The market conditions were most recently assessed visually in January and February 2015. Other data included in the report were the most recently available at the time of the NOP or thereafter.

PROJECT DESCRIPTION

The Project site comprises 212 acres located ±2.5 miles east of Downtown Davis, adjoining the eastern border of the City, and within the unincorporated area of Yolo County. The site is at the northeast corner of the intersection of Mace Boulevard and 2nd Street, bordered to the west by Mace Boulevard, and across the street from existing commercial uses, as well as multifamily and single-family homes (see Exhibit 1). The Union Pacific Railroad, Interstate-80 and various automotive dealerships are located to the south, and agricultural lands protected by a permanent conservation easement surround the Project site to the north and east. As the Project site is adjacent to but not located within the City of Davis, efforts will need to be pursued to annex the property into the City of Davis.

The Project's development plans include the following type and quantity of land uses:

- 1,510,000 square feet of research, office, and R&D space;
- 884,000 square feet of manufacturing space;
- 100,00 square feet of ancillary retail space; and
- 160,000 square feet sufficient for a 150-rooom hotel/conference center

These uses total 2,654,000 square feet of built space (see Exhibit 2). The Project is anticipated to be developed in four phases, the timing of which would be dependent upon market demand. However, the applicant anticipates that some office and industrial space will be available by fall 2018. The Project's anticipated phasing includes the following acreages and square feet of building area:

- Phase 1, 48 acres including 540,000 square feet, comprising 400,000 square feet of research/manufacturing space to meet expansion needs of Schilling Robotics and 140,000 square feet of research/office/R&D space and possibly a 40,000-square-foot portion of the ancillary retail space
- Phase 2, 29 acres, with a total of 700,000 square feet of building area, including research/office/R&D space, the proposed hotel/conference center, and ancillary retail
- Phase 3, 49 acres, including 700,000 square feet of research/office/R&D and manufacturing uses
- Phase 4, 86 acres, including approximately 714,000 square feet of manufacturing and research/office/R&D uses

This phasing plan indicates the ancillary retail space and hotel space are anticipated to be built out by the end of Phase 2.

The businesses occupying the Project's real estate are estimated to employ 5,882 people at full buildout. The basis of this employment estimate is an innovation park report prepared for the City of Davis in December 2014 (see Exhibit 2). This report, prepared by BAE Urban Economics (BAE), an urban and real estate economics consulting firm, is titled "Economic Evaluation of Innovation Park Proposals." The purpose of this report was to support the environmental review for the two innovation park proposals received by the City of Davis pursuant to the May 2014 RFEI. Accordingly, this BAE study is a key resource to the corollary urban decay analysis of the Project.

STUDY TASKS

ALH Economics engaged in numerous tasks to complete this assignment assessing the prospective urban decay impact of the Project. One of the chief tasks included peer review analysis of the above-referenced BAE study, including an assessment of its approach and methodology in evaluating the Project development potential as well as determination of its appropriateness as a resource document informing the Project's environmental review process, including this urban decay analysis.

Inclusive of the BAE report peer review, the general tasks engaged in by ALH Economics to assess the Project's urban decay implications are as follows:

- Conduct site and field reconnaissance
- Peer review the December 2014 BAE study "Economic Evaluation of Innovation Park Proposals"
- Assess existing conditions of relevant City of Davis commercial and industrial real estate
- Estimate internally-generated retail demand and other components of Davis retail demand
- Assess Project impacts by land use
- Identify and assess cumulative project impacts by land use
- Identify urban decay implications of the planned Project components

The findings pertaining to these tasks are reviewed and summarized in this report, with analytical findings presented in the exhibits in Appendices A and B.

PEER REVIEW SUMMARY

ALH Economics conducted a peer review of the December 2014 BAE study "Economic Evaluation of Innovation Park Proposals." The purpose of the peer review was to ascertain the reasonableness of the approach and assumptions regarding economic evaluation of the employment-generating components of the Project. As part of the peer review ALH Economics checked the timeliness and veracity of the underlying data, determined if the conclusions were sound, and assessed if sufficient evidence was provided to support the economic evaluation conclusions. ALH Economics cross checked select data points, conducted independent analysis where warranted, and assessed the veracity of the analysis relative to the needs of the Project's urban decay analysis.

The BAE analysis took into account four prospective real estate development projects targeted to serve the innovation sector. These included the Project as defined above, and the following three projects:

- Davis Innovation Center, another potential innovation park on 207.75 acres planning a total of 3.0 million square feet of tech office and lab space; 680,000 square feet of R&D, assembly, and flex space; 120,000 square feet of ancillary retail space; and a 200-room hotel. This project is located immediately west of the city of Davis city limits, on currently unincorporated land partially bordered by State Route 113 and Covell Boulevard, and would require annexation into the City of Davis to be subject to Davis governance.
- Nishi Gateway, a 47-acre parcel near Richards Boulevard and Interstate 80 with the potential for 352,950 square feet of research, office, and R&D space, 47,950 square feet of ancillary retail space, 650 residential units, and a hotel.
- Mace Triangle, a 17-acre parcel of land south of Mace Ranch Innovation Center also on currently unincorporated land, with the potential for 45,901 square feet of research, office, and R&D space and 25,155 square feet of retail space. The City of Davis has included this site within the overall project boundaries for the Mace Ranch Innovation Center for the purposes of annexation due to its location between the existing city boundaries and the Mace Ranch Innovation Center site. No new or expanded development is proposed for this parcel at this time; however, the BAE study includes an analysis of potential additional growth under the proposed Preliminary Planned Development (PPD). Additional urban development in the future would be subject to further City of Davis review in connection with discretionary entitlements.

ALH Economics found the BAE study to be a sound document demonstrating strong familiarity with the Davis real estate markets, particularly the industrial market. The study included solid information about recent trends in the Davis industrial market regarding tenant movement, market nuances, and especially land supply trends for business park development. The study included case study analysis of tech related growth in other communities that was informative and instructive, providing a basis for considering the Project's economic development potential, along with other planned development projects, and formulating Project assumptions.

The BAE analysis included a range of absorption projections for the Project's office and industrial space. These included 7 to17 years if the Project is the only innovation center project developed in Davis and 21 to 51 years if the Project is developed in conjunction with other identified or conceptual innovation center projects.[3] Given the Project's anticipated office and industrial space availability beginning fall 2018, this would extend Project buildout to 2025 to 2035 for the Project alone or 2039 to 2069 for the Project in combination with other known planned projects. Annual office and industrial absorption for the Project was estimated by BAE to range from 140,000 to 350,000 square feet of space, depending upon the degree of market acceptance and associated City of Davis economic development efforts.

Select additional BAE analyses relevant to the Project's planned retail space, hotel rooms, and housing demand were benchmarked to 2035. This year also corresponds with the terminal year for long-term economic and demographic projections prepared by SACOG, the Sacramento Council of Governments. SACOG is an association of local governments in the Sacramento Region that provides transportation planning and funding for the region, serves as a forum for the study and resolution of regional issues, and prepares long-range economic and demographic projections.[4]

Real estate economic consulting firms all employ their own methodologies and approaches to analyzing real estate issues. Accordingly, ALH Economics identified a few areas in the BAE study where the analysis might have been approached differently or with slightly different underlying assumptions.

[3] BAE study, page 26.
[4] BAE study, page 49.

However, these differences were not deemed to be material to the BAE analysis or innovation park conclusions. Accordingly, findings from the BAE study are referred to and relied upon as appropriate in assessing the Project's potential to cause or contribute to urban decay.

PROJECT BUILDOUT ASSUMPTION

As noted, BAE developed multiple absorption scenarios for the Project, reflecting assumptions associated with the Project comprising the only planned innovation center or the Project developed in association with other innovation center projects. To minimize complication, this urban decay study generally assumes 2035 as the buildout year for the office and industrial land uses, which reflects a 17-year absorption period. This is the buildout year assumed for the Project with and without the addition of other cumulative projects. This time period is at the high end of the projections prepared by BAE for just the Project, but, is also coincident with the timeframe of available long-range economic and demographic projections. While the furthest buildout projections would extend the buildout to 2039 to 2069 for the Project in combination with other known planned projects, it can become speculative to conduct analysis beyond the 2035 time period, since this is the terminal year for available economic and demographic projections. Moreover, from the perspective of urban decay analysis, the assumption of relatively rapid absorption in the cumulative scenario is a conservative assumption, as it may result in more accelerated development and associated accelerated impacts on the existing real estate base.

STUDY RESOURCES AND REPORT ORGANIZATION

Study Resources

The urban decay analysis relied upon a number of key resources. These resources are all identified in the sources and notes to the exhibits developed to support the analysis. These resources are as follows:

- *City of Davis resources*. These include representatives from the City's Community Development, Economic Development, and Code Compliance (Police Department) functions; city documents such as the City of Davis Geographic Information System, "Vacant Commercial Land"; City of Davis "Map of Major Current and Potential Projects -For General Information Only -October 2014"' City of Davis City Council, "Del Rio Live-Work, 2751 Del Rio Place, City Council August 26, 2014"; the City of Davis Innovation Park Task Force web site, including the May 2014 Request for Expressions of Interest – Davis Innovation Center; and "Business Park Land Strategy Technical Report," City of Davis Economic Development Division, October 27, 2010.

- *Other governmental resources*. These sources include the U.S. Census Bureau, American Community Survey; US Census TIGER/Line® Shapefiles; the United States Bureau of Labor Statistics, Consumer Price Index; United States Census Bureau, County Business Patterns; the U.S. Census, U.S. Economic Census; State of California Board of Equalization; and Sacramento Area Council of Governments.

- *Third party resources*. These sources include BAE Urban Economics; Raney Planning and Management, Inc.; ArcGIS; CB Richard Ellis; CoStar; Nielson, a national resource for demographic estimates and projections; Retail Maxim, a retail industry performance resource;

Local commercial real estate brokers; Smith Travel Research; International Council of Shopping Centers; GoogleMaps; and hotel websites.

All of these resources are identified as warranted in the text and/or the series of exhibits found in Appendices A and B that document the study analysis.

Report Organization

This report includes six chapters, as follows:

I. Executive Summary
II. Introduction
III. Office and Industrial Development Impacts
IV. Retail Space Analysis
V. Hotel Analysis
VI. Urban Decay Implications

This report is subject to the appended Assumptions and General Limiting Conditions.

III. OFFICE AND INDUSTRIAL DEVELOPMENT IMPACTS

CONTEXT FOR MACE RANCH INNOVATION CENTER OFFICE AND INDUSTRIAL SPACE

The Mace Ranch Innovation Center plans 1,510,000 square feet of research, office, and R&D space and 884,000 square feet of manufacturing space. This is a combined total of 2,394,000 square feet of office and industrial space. Based upon Project documents, the estimated number of employees to be accommodated by this space at buildout totals 5,882 (See Exhibit 2).

The Project's office and industrial space would be developed against a backdrop of an existing combined base of 2.9 million square feet of space in Davis. The Project's space is anticipated to be targeted to research and technology sectors focused on innovation while the existing base serves a wider range of tenants, only a portion of which are innovation type tenants in buildings designed to meet their particular space needs.

The BAE study focused on assessing the prospective appeal for new innovation center space in Davis and associated absorption of this space. A range of absorption assumptions were developed based upon historical land absorption trends in Davis and case study analysis of science and technology parks in other communities deemed relevant to Davis.

In contrast to the BAE study, an urban decay analysis must look at a Project's impacts on existing conditions, in this context the existing office and industrial base. Thus this chapter examines information about the existing office and industrial base in Davis, including estimates of the share of the base that could experience vacancy impacts if existing innovation center tenants relocate to the Project. Because an urban decay analysis must also look at cumulative impacts, this chapter closes with analysis pertaining to the projected impact of other planned office and industrial projects known to the City of Davis in addition to the Project on the City of Davis existing base of office and industrial space.

EXISTING DAVIS OFFICE AND INDUSTRIAL BASE

The Project's planned square footage of office and industrial space would comprise a significant addition to the current base of office and industrial space in Davis. Exhibits 1, 2 and 3 include information about the size and performance of the existing office, industrial, and flex industrial bases in Davis, which include a mix of traditional office, R&D office, warehouse, manufacturing, lab, and other industrial space. These estimates were prepared by Costar, a commercial real estate information company.

As summarized below in Table 1, of the three major classifications of real estate, the office base has the largest increment, at approximately 1.8 million square feet. This is followed by the industrial base at approximately 657,000 square feet, and then the industrial flex base at nearly 522,000 square feet. These three inventories total 2.9 million square feet. Thus, development of the Project would nearly double the supply of office and industrial space in Davis.

Table 1. Davis Office and Industrial Inventory
Fourth Quarter 2014

Type of Space	No. of Buildings	Square Feet	Vacancy Rate
Office	189	1,752,394	9.7%
Industrial	26	656,967	1.6%
Flex Industrial	23	521,595	24.1%
Total	238	2,930,956	10.4%

Sources: Exhibits 3, 4, and 5.

Office Base

The Davis market includes several nodes each of office and industrial space. The office nodes comprise Downtown Davis, the Green Meadows Office Park at Pole Line Road and Covell Boulevard, a scattering of office buildings east and west of State Route 113 off Covell Road, the Interland/University Research Park southwest of Pole Line Road and Interstate 80, and offices interspersed with industrial development north of Interstate 80 between 2nd and 5th streets, mostly east of Pole Line Road. Excepting the office spaces located in the industrial areas, the Davis office market includes mostly smaller tenants, including many with a professional and personal services orientation, including medical services. These users include financial advisors, attorneys, architects, engineers, and other design professionals, various medical professionals, and insurance brokers, among others. UC Davis is also a dominant office space user, with insufficient space available on campus to meet all of the university's office needs. Office users in Davis' industrial areas represent a range of industries such as bioscience, food science, ag tech, and clean tech. Office tenants in these areas tend to occupy much larger spaces than elsewhere in the City of Davis, with many also occupying more industrial space, thus blending office and industrial real estate.

Market performance data prepared by Costar indicate that the Davis office market is operating at a 9.7% vacancy (See Exhibit 3). This is compared to the regional average of 14.2 percent.[5] The Davis office vacancy rate is generally considered a healthy office market vacancy rate, allowing for some movement but not resulting in an oversupply of space. In recent years, the Davis office vacancy rate peaked at 12.0% at the end of 2009, associated with the Great Recession. Vacancy has been lower ever since, indicating the presence of a stable office market. This stability, however, is characterized by movement within the market. According to Costar, in the January 2014 – January 2015 time period there were 24 office leases executed in Davis, for a total of approximately 85,000 square feet. The largest lease transaction was 18,568 square feet, while the average was 3,538. Examination of this lease transaction data indicates that 74% of the leased space was located in the more industrialized areas of Davis; this includes the cited largest lease transaction. Regardless of office space location, fieldwork conducted by ALH Economics in January and February 2015 indicated that the Davis office inventory is well-maintained and is generally characterized by good physical conditions. There are no apparent signs of urban decay or deterioration among the existing stock, although ALH Economics did note one small medical services building in the sector off Covell Boulevard that appears slightly run down.

[5] http://www.colliers-sacramento.com/MarketReports/OfficeReport.pdf

Industrial Base

Industrial space in Davis is located mostly north of Interstate 80 between 2nd and 5th streets, primarily east of Pole Line Road. The University Research Park southwest of Interstate 80 and Pole Line Road also includes a mixture of industrial and office users. There is also a small pocket of older industrial space near Downtown Davis off Richards Boulevard. This area is dominated by auto-related industrial users, but includes other industrial users as well. According to Costar, the Davis industrial base totals almost 1.2 million square feet of space. Industrial users span a wide range, including auto-related users, storage facilities, bioscience, ag tech, clean tech, and components/materials manufacturers. Some of the larger industrial users include FMC Schilling Robotics, a supplier of advanced robotic intervention products, primarily for the subsea oil and gas industry, and DMG/Mori Seiki, who established a Digital Technology Laboratory in Davis, with the mission to develop advanced software for new products. Again, UC Davis comprises a significant user of industrial space in Davis. As of 4th quarter 2014 industrial space vacancy ranged from a low of 1.6% for the estimated 657,000 square feet of industrial space and 24.1% for the estimated 522,000 square feet of industrial flex space. These compare to the overall regional market of 10.1% for warehouse and industrial flex space.[6] As a partial explanation for the relatively high flex industrial vacancy rate, BAE suggested the explanation that this was measuring a temporary gap in the market due to the relocation of AgraQuest and Nunhems, purchased by Bayer CropScience, to West Sacramento and imminent but not yet completed backfilling of the space by expansion of existing Davis tenant Marrone Bio Innovations.[7] However, this high vacancy rate has prevailed for several years, thus ALH Economics believes other market fundamentals are responsible, such as a mismatch between landlord expectations and market willingness to pay. Yet, even with this high vacancy rate, Davis' existing industrial space appears to be in good physical condition, with no obvious signs of urban decay or deterioration. Thus, the existing industrial vacancy rate does not appear to be hindering the maintenance and physical condition of Davis' industrial stock.

In general the Davis industrial market was not as dynamic as the office market during 2014. According to Costar, there a were total of five industrial leases executed over a recent one year period, comprising a total of just under 13,000 square feet. This, and the preceding office market lease information is summarized and presented in Table 2.

Table 2. Davis Office and Industrial Lease Transactions
January 2014 - January 2015

Type of Space	Number of Leases	Total Sq. Ft.	Largest Space Sq. Ft.	Average Sq. Ft.
Office	24	84,904	18,568	3,538
Industrial & Flex Ind.	5	12,761	4,020	2,552

Sources: CoStar; and ALH Urban & Regional Economics.

Commercial real estate brokers active in Davis, reports such as the BAE report and other City of Davis documents, and examination of lease availabilities generated by CoStar, suggest that Davis has a lack of suitable leasing opportunities for large space users over 10,000 square feet. This lack of large

[6] http://www.colliers-sacramento.com/MarketReports/IndustrialReport.pdf
[7] City of Davis Economic Evaluation of Innovation Park Proposals, December 19, 2014, prepared by BAE Urban Economics, page 12.

space availability is seen as one impetus for development of the Project and other innovation centers, to enable Davis to attract and serve the needs of businesses requiring larger amounts of office and/or industrial space. Further, the BAE analysis documents cases of businesses expanding to or locating in other nearby markets also due to the lack of available space or developable land in Davis. This includes the relocation of AgraQuest, a former Davis-based firm, following its acquisition by Bayer CropScience. About 75,000 square feet of industrial space in Davis became vacant after Bayer CropScience relocated AgraQuest to West Sacramento, in association with an overall acquisition strategy. BAE also cites other ag tech businesses that chose to expand by more than 130,000 square feet combined in the nearby community of Woodland, which BAE suggests comprised missed opportunities for Davis given the lack of available space.[8]

INNOVATION PARK ABSORPTION AND EMPLOYMENT PROJECTIONS

A large portion of the research and analysis conducted by BAE focused on identifying projected long-term absorption rates for the Project as well as the other planned office and industrial projects included in the BAE study. As noted earlier, these other projects include the Davis Innovation Center, Nishi Gateway, and the more conceptual Mace Triangle, with a collective total across all four projects of approximately 6.5 million square feet of office and industrial space. BAE identified four innovation park absorption scenarios. These scenarios were based on historical land absorption trends in Davis and case study analysis of science and technology parks in other communities deemed relevant to Davis. This is in contrast to most demand and absorption projections for office and industrial uses that are more traditionally derived from employment projections. While the BAE scenarios include consideration of Davis land absorption trends, which are ultimately employment-driven, the scenarios are not based on current employment projections in place for Davis or Yolo County.

In summary, the four innovation park absorption scenarios prepared by BAE comprised the following:[9]

1) Absorption of 8.6 acres per year of office and business park land based upon historic land absorption patterns in Davis, resulting in an approximate 25-year absorption period for the Project alone, or 51 years for the four projects included in the BAE analysis;
2) Assuming entitlement and development of just one innovation park, absorption of 140,000 square feet per year, based on a range noted at case study science and technology parks profiled by BAE. At this rate BAE indicates the Project could require 17 years to absorb.
3) Assuming entitlement and development of the three identified projects, a slightly accelerated absorption rate of 150,000 square feet per year, recognizing that multiple project development would result in increased flexibility to accommodate the widest possible range of users. This absorption estimate results in a 49-year combined absorption period.
4) Upper end absorption of 350,000 square feet per year based upon the more robust case study findings. At this rate, absorption for the Project if developed as the only innovation park would require 7 years, or 21 years in combination with the other projects identified by BAE.

BAE notes that innovation park growth pursuant to the projected absorption levels could involve levels of employment growth in excess of the growth levels forecasted for Davis by SACOG. Toward this end, BAE prepared alternative growth projections for Yolo County and Davis involving the re-allocation of regional growth throughout the SACOG region, which includes El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba Counties. BAE's analysis suggested several trends could help

[8] BAE study, page 12.
[9] BAE study, pages 25 and 26.

support the potential for this reallocated growth, including leveraging research activity that is conducted at UC Davis and maturation of innovation ecosystem trends in Davis, including tenants new to the market or expanding due to investment and planned growth.

In the revised employment projection, BAE kept the 2035 regional projection intact, for combined office/industrial employment and total employment, but reallocated growth from other regional jurisdictions to Davis increasing the Davis growth projection in office/industrial employment, and correspondingly increasing office/industrial employment in Yolo County as well. ALH Economics prepared a summary of BAE's reallocated employment analysis, which is presented in Exhibit 6. As this exhibit indicates, the BAE adjustments result in an increase of 8,095 in combined office and industrial employment in Davis between 2008 and 2035. Pursuant to the SACOG estimated increase of 2,230, the BAE adjusted increase exceeds the SACOG projection by 5,865. This results in an estimated 4.5% annual increase in demand in Davis, versus 1.83% based on SACOG's projections. Because some of the reallocated employment in Davis is assumed to be redirected from other Yolo County locations, the reallocated increase in Yolo County office and industrial employment over this time period is lower, at 5,153. BAE's re-allocated analysis assumes that all other employment growth in Davis and Yolo County between 2008 and 2035 is consistent with the SACOG employment projections, which total 1,617 in Davis and 20,117 in Yolo County.

CURRENT KNOWLEDGE-BASED OR INNOVATION SECTOR OCCUPANCY

The Project and other innovation parks are conceptualized by the City of Davis as components of an economic development strategy, to substantially alter the city's employment growth trajectory in the coming decades.[10] The focus of the innovation parks is to leverage research activity that is conducted at UC Davis, particularly related to the rapid introduction of technology into all facets of life. As cited by BAE, the Brookings Institution indicates that the types of firms attracted to innovation centers include "high-value, research-oriented sectors such as applied sciences (from life and material sciences to energy technology to nanotechnology) and the burgeoning app economy."[11]

This strategy has been under consideration by the City of Davis for a number of years, and was discussed in a 2010 study prepared by the City of Davis Community Development and Sustainability Department. This study is "Business Park Land Strategy Technical Report," dated October 27, 2010 (hereinafter referred to as " Business Park Land Strategy"). The Business Park Land Strategy employed a sectoral analysis to employment in Davis, wherein "targeted knowledge based" sectors were deemed most relevant to growth in the Davis economy. These targeted knowledge-based sectors included a subset of the manufacturing and professional, scientific & technical NAICS codes 33 and 54. The Business Park Land Strategy also indicated these knowledge-based sectors were interchangeable with "innovation company."[12] As such, ALH Economics considers the study findings regarding targeted knowledge businesses and employment to be most relevant to the analysis of the current City of Davis innovation park proposals.

Based upon detailed sectoral employment analysis, the Business Park Land Strategy estimated that innovation-based employment in Davis in 2008 totaled 1,427.[13] At the time, this level of employment totaled 4.8% of total employment including UC Davis and 7.8% excluding UC Davis. In a later section

[10] BAE study, page i.
[11] Ibid, page 4.
[12] "Business Park and Land Strategy, Technical Report," City of Davis, Community Development and Sustainability Department, Economic Development Division, October 27, 2010, page 25.
[13] Ibid, page 27.

of the Business Park Land Strategy, estimates are provided regarding the amount of square feet required to meet the space needs of projected target knowledge based employment, or innovation employment. While the employment growth figure is based on earlier analysis, and not consistent with the preceding BAE reallocations, the projection is useful in that it is based upon an estimate of 355 square feet of space per worker.[14] If one assumes this figure is applicable to the estimated 2008 base of innovation employees, this equates to innovation employees occupying 506,585 square feet of the 2008 office and industrial base in Davis. Because this finding is relevant to 2008, it warrants considering whether or not a revised estimate of this real estate increment is necessary to reflect interim changes in the economy and composition of the Davis employment and real estate base.

In general, employment in Davis has remained relatively flat since 2008. This finding is pursuant to ALH Economics evaluation of estimated Davis employment reported by the U.S. Census Bureau, American Community Survey. This finding is also consistent with Davis's reputation as a slow growth community. However, the BAE report indicates that rapid growth in Davis' knowledge-based industries between 1999 and 2008 appeared to continue after 2008.[15] One such growth example included the completion of a 225,000-square-foot manufacturing plant for DMG/Mori Seiki in 2012.[16] In addition, Expression Systems, which provides media formulations to the insect cell culture markets, relocated to Davis in 2012 to occupy a 27,000-square-foot lab/warehouse facility.[17] Expression Systems also comprised new construction, thus expanding the base of occupied innovation sector space. The BAE report cites other economic activities associated with innovation businesses, including investments and projections for future space needs, but these two examples are the most relevant to Davis' occupied inventory. Adding these two expansions to the 2008 innovation-based space estimate results in a total estimate of at least 758,850 square feet of space in Davis currently meeting the needs of innovation sector businesses. This comprises approximately 25% of the combined Davis office and industrial base.

CUMULATIVE OFFICE AND INDUSTRIAL PROJECTS

In addition to the Project, there are 10 other office and industrial projects planned in the City of Davis. These projects are identified in Exhibit 7, which includes some projects on indefinite hold or even with expired approvals. Several of these projects have already been referenced, including: Davis Innovation Center, a similar innovation park to the Project; Nishi Gateway, located near Downtown Davis; and assumptions for development of Mace Triangle, located adjacent to the Mace Ranch Innovation Center. These projects include a planned total of 4.1 million square feet of office and industrial space in addition to the Project's 2,394,000 square feet. All three of these projects have the potential to be competitive with the Project, as well as the potential to be completed within the same timeframe as the Project, i.e., by 2035. Some of these projects include other planned uses, similar to the Project, including retail space, hotel space, and in the case of the Nishi Gateway project, 650 apartment and condominium units.

There are yet other office and industrial projects in Davis in various stages of planned development. One such project is a 16-unit live-work project with building permits likely to be pulled soon. This project is anticipated to be completed in 2015 or 2016, with the potential to add 7,280 square feet of office space to the market. This is a very nominal amount of space, and is not the type of project that

[14] In Table 20 of the Business Park Land Strategy (page 83), 454,638 square feet of square are estimated for 1,282 employees, resulting in a per employee estimate of 355 square feet.
[15] BAE, page 10.
[16] Ibid.
[17] Ibid.

could be competitive with an innovation center because it is based on the live work concept, with business owners living on the premises.

Another planned office project comprises 225,000 square feet of office and R&D space on Chiles Road, between Mace Boulevard and the Richards Boulevard/Downtown Davis off ramp on the south side of Interstate 80. This is identified on Exhibit 7 as the Panattoni project. This project is in the planning stages and could potentially begin construction as early as 2016. Accordingly, ALH Economics assumes this project could be completed by 2018. Current information suggests this project could be seeking to attract tenants similar to the innovation parks.

The Cannery is a large mixed-use development project in Davis that has just recently started construction. This project comprises mostly a residential community, with approximately 550 planned homes, but is also planned to include 56,000 square feet of office/flex space. The development timing of this space is unknown, but ALH Economics anticipates there is a high likelihood that this space would be constructed by 2035, the assumed buildout year for the Project. Given its location in an area of the City of Davis that has more traditional office users, despite relative proximity to the Project, ALH Economics does not anticipate that this space would compete for innovation sector businesses.

There are yet four other planned projects included on Exhibit 7. These projects are relatively small, with office/industrial components ranging from approximately 15,000 to 45,000 square feet, and all have been put on hold.

It is imperative that urban decay analysis for environmental review purposes take into consideration development of cumulative projects in addition to the project under study. Toward this end, the planned projects identified in Exhibit 7 total approximately 4.5 million square feet of additional office and industrial space with the potential to be added to the Davis inventory. As noted, some of these projects are on hold and thus are not reasonably foreseeable. Excluding these projects reduces the planned supply of cumulative projects to 4.4 million square feet.

Inclusive of the Project, therefore, the potential amount of office and industrial space that could be added to the Davis market by 2035 or some other future time horizon if build out occurs after 2035 totals close to 6.9 million square feet. This amount of space is equal to 2.3 times the size of the existing office and industrial base in Davis. Of this amount of space, ALH Economics anticipates that almost all, or up to 99%, could comprise competitive space for innovation sector businesses. By any standard, this is an extremely large planned addition to supply.

PROJECT AND CUMULATIVE PROJECTS OFFICE AND INDUSTRIAL IMPACTS CONCLUSION

Relevant Existing Office and Industrial Real Estate Base

The purpose of an urban decay analysis is not to conduct a market study to determine the degree to which demand for a planned project does or does not exist, but rather to assess what impact the planned project could have on the existing real estate base ***assuming*** it is built. The same applies to analysis under the cumulative project scenario. Sometimes demand analysis is a component of the urban decay analysis, to assess the degree to which future demand may provide overall market support and thus offset any negative impacts that might be attributable to the project and cumulative projects under study, but not always.

In this case, the BAE analysis recognizes that existing employment projections are insufficient to provide a basis for estimating demand for the Project or the cumulative projects. Instead, BAE looked to past trends and extrapolated from the experience of other science and technology parks to prepare absorption projections for the Project and most of the cumulative projects (the BAE analysis did not include the Panattoni project nor two of the other cumulative projects – Del Rio Live/Work and The Cannery). For the planned innovation park projects to be successful, BAE's analysis indicates that regional forecasts would need to alter, with projected employment shifted from other regional locations, and that economic development efforts would be required. Toward this end, BAE also reviewed different trends present in Davis suggestive of the potential for the further development and maturation of a local innovation ecosystem, which could drive demand for innovation parks. This included leveraging research activity that is conducted at UC Davis and highlighting other recent trends in Davis, including tenants new to the market or expanding due to investment and planned growth.

ALH Economics found the BAE analysis to be sound, but an urban decay analysis needs to look at what potential impacts could happen to the existing real estate base if the Project and cumulative projects are developed as planned. Toward this end, ALH Economics estimated above that approximately 760,000 square feet of the existing real estate base in Davis comprises space that currently meets the needs of innovation sector businesses, comprising 25% of the combined office and industrial base.

Prospective Market Shifts due to Project and Cumulative Project Impacts

ALH Economics believes it is possible that some existing innovation sector businesses may seek to relocate to the Project or other cumulative projects targeting innovation businesses upon availability or sometime thereafter. Information included in the BAE study suggests that this would indeed be the case relative to at least one known existing Davis office and industrial tenant. This tenant is Schilling Robotics, a locally-grown business acquired by FMC in 2012 that manufactures robotic arms for underwater remotely operated vehicles. Schilling Robotics currently occupies 120,000 square feet on a 5.0-acre site in Mace Ranch in Davis, and has expressed an interest in relocating to a 30.0-acre site at the Project. BAE reports that an initial phase of construction pursuant to this relocation could involve an approximately 200,000-square-foot facility with possible expansion to 300,000 to 400,000 square feet.[18] Relocation of Schilling Robotics to the Project would enable Davis to retain a key industrial tenant, fuel the demand for new innovation center space, and make a large increment of existing space available for other market users. This could enable another existing Davis business in need of expansion space to grow while remaining in Davis.

Unlike Schilling Robotics, some existing tenants could be motivated to remain in their existing space because of the customization of their space to meet their specific needs, such as Expression Systems and DMG/Mori Seiki, both of which recently moved into build to suit space.[19] Yet other tenants may be more mobile, and thus if they can afford the higher lease rates that would prevail at the innovation centers because of the newer construction, amenity, and infrastructure costs, they may comprise a risk for relocation. Such relocations could result in vacancies in the existing office and industrial base in addition to the Schilling Robotics space.

[18] BAE study, page 11.

[19] These are presented as illustrative examples, and not predictions of particular tenants that would not choose to relocate

Given the long time horizon associated with Project buildout, there is no knowing how many tenants and the associated amount of additional existing space that could be at risk of potential innovation type space relocation. In all likelihood it would be confined to the city's existing innovation sector tenants, as these are the type of tenants to which the innovation parks will be targeted. As noted, these tenants excluding the newer construction for Expression Systems and DMB/Mori Seiki are estimated to currently occupy about 506,600 square feet of the existing Davis office and industrial base. Already the expectation is that Schilling Robotics would vacate 120,000 square feet, leaving another 386,600 square feet of innovation tenant space. If tenants comprising one-half this remaining balance were to relocate, this would result in 313,300 square feet becoming vacant (i.e., 120,000 square feet for Schilling Robotics and ½ the 386,800-square-foot balance). This 313,300-square-foot increment of space comprises 11% of the city's total existing office and industrial base. However, there could be yet other space at risk of becoming vacant, which may or may not be related to innovation park impacts.

Notably, UC Davis is a major tenant of leased office and industrial space in Davis, including many properties in the more industrial areas of the City. Examples of UC Davis offices in leased space include UC Davis Center for Mind and Brain, UC Davis Design and Construction Management, UC Davis Agriculture and Natural Resources, UC Davis California Lighting Technology Center, UC Davis Development and Alumni Relations, UC Davis Advancement, and UC Davis Extension – Forensic Science Graduate School. As of November 2013, news reports indicate that UC Davis leased 292,500 square feet of office and lab space in the City of Davis.[20] If this figure is still valid, this comprises 10.0% of the existing inventory. At least one commercial real estate broker active in Davis anecdotally reports this percentage is higher. The portion of UC Davis space that comprises innovation tenant space is not known, but there is likely to be some overlap given the nature of some of UC Davis' above-cited operations. Thus, to the extent UC Davis needs for leased space contract or UC Davis offices relocate to the Project or other innovation parks, this could result in yet further increases in existing innovation tenant space at risk of becoming vacant attributable to the Project and cumulative projects. Alternatively, however, UC Davis could require yet more leased space in the City of Davis, especially as the University strives to implement its 2020 Initiative, which is designed to facilitate undergraduate growth by 20% between 2013 and 2020 and coordinated growth of a similar magnitude in most other aspects of the University's operations.[21]

Illustrative Project and Cumulative Project Vacancy Impacts

It is likely that as the existing Davis office and industrial space ages and newer properties become available, the vacated space could be available at a substantially lower rental rate. Therefore, other existing Davis tenants seeking expansion or price sensitive new tenants could find the vacated space attractive. However, absent the innovation sector employment growth, it is possible that future employment growth in Davis could be limited. For example, the reallocated BAE employment projections presented in Exhibit 6 reflect the addition of 1,617 new jobs in Davis between 2008 and 2035 in addition to the projected office and industrial jobs. Because employment in Davis has been relatively flat since 2008, ALH Economics considers that projection relevant for the period corresponding with the present time to 2035. These new jobs include a range of sectors, such as retail and food (among sectors reflected in SACOG's employment projections), which do not require office or industrial space. An illustrative analysis of how these growth projections could translate into demand for potentially vacated existing innovation tenant space is presented in Table 3. This table

[20] Sacramento Business Journal, "Davis leaders look to grow a business park," November 8, 2013. See http://www.bizjournals.com/sacramento/print-edition/2013/11/08/davis-leaders-look-grow-research-park.html?page=all

[21] See http://chancellor.ucdavis.edu/initiatives/2020_Initiative/2020_Implementation_Plan_Year_1.pdf

illustratively assumes the following: two-thirds of the new jobs could require office or industrial space; office/industrial space could be required at a density of 300 square feet per employee; and one-half the resulting office demand could choose to locate in vacated innovation tenant space.

As shown in Table 3, this results in an illustrative estimate of demand for 161,725 square feet of existing, former innovation sector space by 2035.

Table 3. Illustrative Existing Innovation Type Space Vacancy in 2035

Supply and Demand Characteristic	Figure
Prospective increase in existing innovation type space vacancy	313,300
New jobs by 2035 exclusive of innovation sector employment growth (1)	1,617
Illustrative percent of new jobs requiring office/industrial space	x 67%
New jobs requiring office/industrial space	1,078
Square feet of office/industrial space per job (2)	x 300
Square feet of office/industrial demand	323,450
Illustrative percent of demand locating in vacated innovation sector space	x 50%
Square feet of demand for vacated innovation sector space	161,725
Illustrative remaining vacancy in existing innovation type space (3)	151,575

Source: ALH Urban & Regional Economics.
(1) See Exhibit 6.
(2) Generalized figure, comprising an approximate average for office and industrial space.
(3) Comprises "Prospective increase in existing innovation type space" less "Square feet of demand for vacated innovation sector space."

Based on the illustrative 313,300 square feet increase in vacancy due to relocated innovation sector businesses, this would leave a balance of 151,575 square feet of vacant space, or 5.2% of Davis' existing office and industrial base. If buildout of the Project and cumulative projects occurs beyond the 2035 time period, as is projected by BAE, then the quantity of potentially vacated space would decline, as well as the impact on the vacancy rate. This would be due to further increases in employment and subsequent demand for associated office and industrial space. Thus, a more prolonged absorption period would be advantageous to the prospect of vacancy impacts.

While not reflected in the demand estimates, other market factors could also contribute to a lesser amount of vacant office and industrial space pursuant to innovation center development. These include tenant relocations from other cities once the existing Davis office and industrial supply constraints are lessened. For example, after the supply of competitive space increases, businesses located within the region in places like Woodland or West Sacramento could find Davis an attractive business location. Thus, instead of losing businesses to these cities, the availability of supply with less market stratification could enhance the attraction of Davis as a business location.

Vacancy Impact Conclusion

As stated, the preceding figures regarding prospective vacancy and new demand separate from innovation center absorption are purely illustrative. The figures could be higher if UC Davis also vacates some innovation tenant space, or lower if UC Davis ultimately absorbs yet more of the vacated space. However, ALH Economics believes the illustrative analysis suggests the likelihood that some existing office and industrial space in Davis could experience increased vacancy as a result of the innovation park development. This holds true whether it is development of the Project alone or the Project and cumulative projects. Since the amount of space currently occupied by existing innovation sector businesses comprises a fixed amount, however, the volume of future supply of innovation center space is not anticipated to have a strong impact on the quantity of the space that could become vacant. The implications of this finding on urban decay effecting the existing office and industrial base are discussed in Chapter VI. Urban Decay Implications.

IV. RETAIL SPACE ANALYSIS

CONTEXT FOR MACE RANCH INNOVATION CENTER RETAIL SPACE

The Mace Ranch Innovation Center plans 100,000 square feet of ancillary retail space, intended to serve the needs of Project occupants. This includes the occupants at anticipated buildout of 1,510,000 square feet of research, office, and R&D space; 884,000 square feet of manufacturing space; a 150-room hotel; and even the ancillary retail space itself. As estimated earlier, employment anticipated at the Mace Ranch Innovation Center at buildout totals 5,882. This on-site retail will be an important asset to Project employees, with proposed permitted uses including but not limited to food and beverage, restaurant, dry cleaners, fitness center or gym.[22].

The Project site is located near a relatively retail rich area. The Second Street Crossing shopping center is particularly proximate, across Mace Boulevard from the Project's perimeter. This approximately 172,000-square-foot shopping center offers Davis's sub-regional shopping opportunities, and is anchored by Target and TJ Maxx. There is also the El Macero neighborhood shopping center just southwest of the Project site, on the other side of Interstate 80, which is anchored by a Nugget market and includes other neighborhood-serving tenants. Thus, if employee shopping needs are not met by retailers in the Project's planned retail space they can readily shop at other nearby retail centers, enabling their workday retail sales to be captured by Davis retailers.

The BAE study included analysis of the potential demand for the Mace Ranch Innovation Center ancillary retail space. Those findings generally concluded that there would be more than sufficient internal demand to support the Project's ancillary retail space by buildout. However, the BAE study suggested that it would be reasonable for the City of Davis to establish phasing controls for the retail space to ensure that the new retail space being developed (at the Project and other planned projects, such as Davis Innovation Center) does not outpace the increase in employee demand for daytime retail, dining, and services, and therefore not divert sales from existing Davis retail establishments.[23]

In a check for reasonableness, ALH Economics conducted a separate analysis of employment-generated demand for the Project's retail space. The ALH Economics analytical approach is similar to the BAE analysis, but with some minor refinements. The ALH Economics analysis is based upon build-out of all planned Project components. Because an urban decay analysis must also look at cumulative impacts, there is additional analysis pertaining to future demand for retail in Davis and other planned retail projects. This study chapter closes with an assessment of the Project's potential impact on existing retailers and hence the existing retail base.

EMPLOYMENT-GENERATED RETAIL DEMAND

Approach to Estimating Employee Retail Demand

The analysis of employment-generated retail demand relied heavily on a key retail industry resource, the International Council of Shopping Centers (ICSC). The ICSC periodically publishes a survey of

[22] "Notice of Scoping Meeting and Preparation of a Draft Environmental Impact Report for the Mace Ranch Innovation Center Project, " November 6, 2014, Davis California, page 5.
[23] BAE study, page 35.

office worker retail spending. The survey estimates daytime retail spending by workers near their work location, including by workers in urban locations versus suburban locations, and then also locations with ample retail offerings and without. Inflation-adjusted results of this survey, last administered in 2011, are presented in Exhibit 8. This exhibit indicates that office workers on a national average basis spend approximately $7,000 per year in suburban locations and a higher $12,300 per year in suburban locations with ample retail offerings. Of this spending, approximately 20% is spent on restaurant sales. These types of sales are likely to occur close to the place of work, as they typically include daytime lunch expenditures as well as after hour drinks or dining. Other expenditures can be made near work, but primarily include expenditures made during the work day before or after work.

ALH Economics estimated daytime Project retail spending near the work location on an annual basis. Estimates were generated for the three categories summarized on Exhibit 8 - restaurants and fast food, groceries, and all other. The "all other" category includes a range of retail purchases, such as personal care shops, office supplies, department stores, drug stores, electronics, clothing, etc. For this analysis, ALH Economics assumed spending consistent with the suburban location for all sales, or $7,033 per office worker. This figure was selected because Davis does not have a strong base of region-serving retail, and thus is not considered an ample retail setting.

Because office workers tend to earn more than some types of workers and less than others, ALH Economics assumed a proportional rate of spending for other Project workers. These proportional rates are based on the proportion of average wages in other industries, such as industrial and retail, to office. The wages used for this analysis are generalized averages for Yolo County, based upon analysis of County Business Patterns for the County (see Exhibit B-2). As summarized in Exhibit 9, these wages are $50,000 for office workers, $53,000 for industrial workers, $27,000 for retail workers, and $17,820 for hotel workers. Thus, the industrial, retail, and hotel wages are 106%, 54% and 34% of the average office wages, respectively. Thus, average annual Project employee-retail spending is estimated at $7,000 for office workers, $7,500 for industrial workers, $3,800 for retail workers, and $2,300 for hotel workers (all figures rounded to the nearest $100). These estimates, and the composition of the estimates relative to spending on restaurants/fast food, groceries, and other spending are presented in Exhibit 9.

ALH Economics converted the worker retail spending estimates to supportable square feet of retail space. These estimates are based on the estimated worker-based retail spending, the number of workers associated with each of the employment-generating Project land uses, generalized retail sales figures, and a 5% vacancy adjustment. ALH Economics refers to an industry resource to develop per square foot sales estimates. This resource, Retail Maxim, prepares an annual publication that culls reports for numerous retailers and publishes their annual retail sales on a per square foot basis. This type of information for a range of retailers or type of retailers is presented in Exhibit B-3 annually from 2010 through 2012. The figures are then averaged and presented in 2014 dollars as a generalized estimate of sales per square foot for key retail categories. The resulting sales per square foot range from a low of $283 per square foot for general merchandise stores to a high of $579 per square foot for food and beverage stores (e.g., grocery stores). The per square foot sales figures selected for employee-generated demand analysis include $495 for restaurants, $590 for groceries, and an overall $300 average for other retail sales.

Project Employee Supportable Retail Findings

Supportable Square Feet. The results of the employee-generated retail demand analysis for the Project, documented in Exhibit 10, suggest that at buildout, the Project's employees have the potential to support 121,700 square feet of retail space near their work location. On a per employee basis, this

level of retail support is generally equivalent to 22 square feet per office worker, 23 square feet per industrial worker, 12 square feet per retail worker, and 5 square feet per hotel worker (see Exhibit 11). The overall average is 22 square feet across all workers.

The 121,700 square feet of retail space supportable by the Project's employment base compares to the Project's planned 100,000 square feet. This amount of planned Project square footage is equivalent to approximately 82% of the estimated employee demand. At buildout, this allows for a portion of employee demand to be satisfied at other retail outlets in Davis near the work location while still generating sufficient demand to support the planned Project retail space. Alternatively, looked at another way, the demand estimate suggests that by the time the Project is 82% built out there could be a sufficient quantity of employees to support the amount of retail space planned at the Project.

Short-term Deficit in Employee-Generated Demand. Because the retail space is anticipated to be built by the end of Phase 2, this employee-based retail supportability analysis suggests that the space may be built ahead of a sufficient amount of employee demand, at least until a greater amount of the office and industrial space is developed. Based on the anticipated phasing of the Project, ALH Economics estimates that approximately 40% of the planned office and industrial space could be completed by the end of Phase 2, along with the retail and the hotel. Pursuant to the on-site employment retail demand estimates included in Exhibit 10, this equates to about 40% of the demand generated by office and industrial workers and all the demand generated by retail and hotel workers. The corresponding estimate of supportable retail space is about 54,000 square feet, or just more than half the planned retail increment. This finding seems to validate the earlier referenced BAE study suggestion that it would be reasonable for the City of Davis to establish phasing controls for the retail space to ensure that development of the new retail space does not outpace the increase in employee demand for daytime retail, dining, and services, and therefore not divert sales from existing Davis retail establishments. However, BAE further indicated that phasing controls would not be necessary if "it can be shown that excess demand from other sources within the City of Davis justify new retail development beyond that supported by new employee expenditures (e.g., existing retail leakage)."[24]

As noted, the Project's planned retail space is anticipated to more than meet the Project's employee retail demands by buildout. Therefore, the findings suggest that during Phase 3 and part of Phase 4 there could be a time period during which successful operation of the Project's retail space could be dependent upon other sources of demand. This need would be reduced if part of the Project's retail space was dedicated to a fitness facility. As documented in Exhibit 8, the employee demand estimate is based upon demand for restaurants, food stores, and a range of other retail purchases, including personal care shops. However, the employee retail demand estimate does not include demand for fitness facilities, which the Project's NOP indicated could be a use for the ancillary retail space. Inclusion of such a facility would therefore reduce the amount of more traditional retail space needed to be supported by Project employees, and thus reduce the amount of space not fully supported by employees during Phase 3 and part of Phase 4.

As noted by BAE, phasing controls to avoid Project retail development ahead of Project-generated demand are suggested unless other sources of demand can be shown to provide additional support. Retail leakage was cited as one means of such support. In addition, ALH Economics believes that demand generated by household growth will also provide opportunity for new retail demand. This does not mean that only new households would generate demand for Project retail, but that as the whole volume of retail demand increases there could be the potential for sales to occur at Project

[24] BAE study page 35.

retailers without diverting sales away from existing retailers located elsewhere in the City of Davis. The following sections of this report include analysis regarding these potential sources of retail demand.

RETAIL DEMAND FROM HOUSEHOLD GROWTH

In addition to Project employees, future household growth in Davis may also generate demand for the Project's retail space, depending upon the type and identity of retail tenants. Alternatively, if any retail sales are displaced because of Project-related retail sales impacts, some increment of new household demand may be available to offset these impacts.

Approach to Estimating Residential Retail Demand

ALH Economics prepared a retail demand analysis for household growth in Davis. This analysis takes into consideration projected growth between 2015 and 2035, average household income, the percent of household income spent on retail goods, and prospective spending in the retail categories used by the State of California Board of Equalization (BOE), which collects and reports business counts and taxable sales data by retail category. The projected growth in this 2015 to 2035 time period is 3,811, based upon estimates and projections prepared by SACOG (see Exhibit 12). The year 2035 was selected as a proxy for Project buildout, but also because the year 2035 comprises the furthest horizon year for SACOG's demographic and economic projections.

ALH Economics estimated household incomes for future Davis households based on the 2014 average generated by Nielson, a national resource for demographic estimates and projections. This estimate is $84,420. Pursuant to data published by the U.S. Bureau of Labor Statistics, 2013 Consumer Expenditures Survey, households in the income group with annual household incomes over $70,000 throughout the United States spent an average of 25% of household income on the type of retail goods tracked by the BOE. This is the highest income bracket analyzed by the Consumer Expenditures Survey, and these households had average household incomes of $131,945 before taxes (see Exhibit B-4). Because the average income within this bracket is significantly higher than the Davis average household income ALH Economics looked to the other percentage share of income spent on retail findings in Exhibit B-4 to select a more appropriate percentage share, since the share of household income spent on retail increases as household incomes decrease. For example, the Consumer Expenditure findings suggest that households with incomes in the $50,000 to $69,999 range spend 36% of income on retail, and that households in the $40,000 to $49,999 range spend 40% of income on retail. Based on these findings, ALH Economics assumes new households in Davis, assuming their incomes are comparable to the current average income, will spend 30% of their income on retail. In all likelihood this is a very conservative assumption, as new households in Davis may have higher income profiles than the current households, due to the cost of new housing and associated income requirements.

As a proxy for household spending patterns, ALH Economics analyzed statewide taxable sales trends for 2012 and converted them to estimated total sales. The results, presented in Exhibit B-5, indicate that household spending by retail category ranges from a low of 5.3% on home furnishings & appliances to a high of 17.4% on food & beverage stores. The retail spending projections for new Davis households were converted to supportable square feet based upon the following: industry average assumptions regarding store sales performance (see earlier reference to Exhibit B-3); an adjustment to allow for a minimum stabilized vacancy allowance of 5%; and an allocation of additional space for services, such as banks, personal services, and business services. The 5% vacancy factor reflects a minimum vacancy allowance to allow for market fluidity. Finally, the analysis assumes 15% of retail space will be occupied by uses whose sales are not reflected in the major BOE

categories, yet which require commercial space. This typically includes service retail, such as finance, personal, and business services.

Residential Retail Demand Findings

The retail demand generated by household growth in Davis is presented in Exhibit 13. The results indicate that on an annual basis by 2035, the new households are anticipated to generate demand for 260,000 square feet of retail space per year. Davis retailers would likely not reap the benefit of all this demand, as households will likely shop for comparison goods in more retail rich locations as well as through the internet, but overall this finding indicates the potential to support some increment of future retail space in Davis. This finding equates to 68 square feet of supportable retail per household.

ALH Economics believes this finding indicates that even if all of the Project's retail space is not supported by the Project's employment base, sufficient new demand could be generated throughout Davis to support a portion of the Project's retail space. Alternately, if the space at the Project is supported to the detriment of existing retail in Davis, with some stores closing as a result of sales diversions, the results indicate sufficient demand could exist to support yet additional retail outlets. The extent to which this happens would be dependent upon the nature of any prospective retailers that may experience sales losses, but there would be future household-generated demand in all major retail categories, which would serve to help offset potential sales diversions.

THE CURRENT RETAIL ENVIRONMENT

Davis has a strong retail commercial real estate base. According to CoStar, the Davis retail base totals nearly 2.2 million square feet, and was operating at 3.4% vacancy at year-end 2014 (see Exhibit 14). This is a very low vacancy rate, and is indicative of a tight retail market. It is preferable for retail markets to operate at a 5% to 10% vacancy rate, which allows for market fluidity and the entrance of new retailers. Despite the market's low vacancy rate, it is characterized by some fluidity, with information from Costar indicated that 21 retail leases totaling close to 80,000 lease square feet were executed during 2014. The average size of these leases was about 3,700 square feet, with the largest lease transaction comprising approximately 45,000 square feet for a Toyota dealership.

Even at the height of the Great Recession Davis' retail vacancy rate was well below the 10% threshold indicative of a healthy market, which signifies an extremely strong retail sector. This strength is likely due to the influence of the UC Davis student population, with the UC Davis campus located in close proximity to Downtown Davis, which is a vibrant walk-able and bike-friendly downtown. It features many local restaurants, bars, and niche specialty shops. Downtown Davis has a 32-block Business Improvement District, which empowers the economic well-being of the area. This area consists of over 100 niche and specialty businesses and restaurants. Popular events include the Davis Farmers Market held on Saturday mornings and Wednesday evenings. Downtown is a truly mixed-use community with office spaces mixed with retail options as well as close proximity to residential neighborhoods in addition to the UC Davis campus. The retail options are varied from niche local to popular chains. The downtown in particular is characterized by very few vacancies.

Even throughout Davis the few vacancies that are available are generally smaller in size, well maintained, and do not show signs of decay. There is only one contiguous space over 10,000 square feet currently being marketed. Section IV, Chapter 1, of the 2001 General Plan encourages "shopping opportunities to meet Davis residents' daily needs in areas conveniently located to each neighborhood." The city supports many smaller neighborhood commercial centers each at a focal point instead of fewer larger centers, although there are some larger centers.

The largest retail node by square footage is Second Street Crossing on Second Street and Mace Boulevard. This center offers over 172,000 square feet of retail and is one of the newest retail options in Davis. Target opened in late 2009 and was followed by a TJ Maxx in 2013. Although there are a couple of retail vacancies in the center, the spaces are well maintained and do not show signs of decay. Throughout Davis there are a number of mid-sized neighborhood-serving retail centers, most of which are under 100,000 square feet and traditionally anchored by a grocery store and drug store. The University Mall on Russell Boulevard and Anderson Road has an estimated 103,695 square feet of retail and is anchored by Trader Joe's, Cost Plus World Market, and Forever 21. Further north the Marketplace on West Covell (and State Route 113) is anchored by Safeway and neighborhood-serving retail. Further east, on East Covell Boulevard and Pole Line Road, is the Oak Tree Plaza, which is anchored by a Nugget Market and CVS Pharmacy as well as neighborhood retail. The Oakshade Town Center on Cowell Boulevard and Pole Line Road serves the southern part of Davis, and features a Safeway, Rite Aid, and Office Max. Also in the southern part of the city the El Macero on Mace Shopping Center on Mace Boulevard and Cowell Boulevard is anchored by a Nugget Market. These retail nodes each traditionally have grocery store anchors, restaurants and other neighborhood-serving retail, keeping with the above-cited General Plan goal.

Other smaller retail nodes are sprinkled around the city and are generally smaller neighborhood-serving retail centers with about 50,000 square feet. Some are older from about the 1960s era but have been remodeled and are well maintained. This includes G Street Shopping Center, Westlake Plaza, and Davis Manor Center. These centers generally have high occupancy rates and are a mix of national chain and local retail options.

Overall, the Davis retail market is attractive and has the demonstrated ability to backfill retail vacancies. One retail backfilling example includes Forever 21 filling a 38,000-square-foot former Gottshalks space in the Spring of 2011 in the University Mall. As another example, Borders Books and Music closed all its stores in late 2011, and Whole Foods Market filled the vacant Davis space in Fall 2012. More recently, the Downtown Davis retail space formerly occupied by Dimple Records has been issued building permits for two restaurants.

CUMULATIVE RETAIL PROJECTS

Identification of Cumulative Projects

Project-based urban decay analyses typically also consider cumulative impacts associated with other planned and proposed projects. They generally include consideration of projects that are under construction, approved for development, or engaged in the entitlements process. These are the type of projects that have a foreseeable expectation of being developed during the same development horizon as the project under study given knowledge and information about their development cycle status.

For the purpose of preparing a cumulative projects analysis, ALH Economics obtained information about planned retail projects in Davis. These projects are listed and identified in Exhibit 15. As this exhibit indicates, there are seven projects with new retail components in various stages of the planning and development process in Davis. These seven projects have an estimated cumulative total of 286,745 square feet of planned retail. The project with the largest increment of retail is the Davis Innovation Center, with 120,000 square feet of ancillary retail space planned. This space is anticipated to serve the same general purpose for the Davis Innovation Center as the planned retail space at the Mace Ranch Innovation Center, which is to primarily serve the retail needs of project

employees. The next largest project is The Cannery project currently under construction in Davis. This mixed use development with approximately 550 dwelling units is anticipated to include 65,000 square feet of retail, among other uses. The timing of the retail development is unknown, but it is most likely to occur well before the Project's 2035 buildout assumption. The next largest increment of planned retail space is 47,950 square feet at the Nishi Gateway project, which is another mixed use development. All other increments of planned retail space are approximately 25,000 square feet or less, with the smallest comprising a new Bank of America building with 3,547 square feet, which is completed and includes a bank in half the space with the other half available for lease.

Cumulative Projects Internally-Generated Demand

ALH Economics conducted analysis comparing the size of the planned retail space for each project and all the projects cumulatively to the amount of retail anticipated to be supportable by the employment and households associated with each project. The purpose of this analysis was to assess if the cumulative projects in addition to the Mace Ranch Innovation Center's planned retail space would result in negative impacts on the existing retail base that could cause or contribute to urban decay. This analysis is presented and documented in Exhibit 16. The internally-generated demand estimates for each project were based upon the supportable retail space estimates per employee and per household derived in Exhibits 11 and 13, respectively. Because the analysis is cumulative the Mace Ranch Innovation Center findings are also included in the cumulative analysis.

The results of this analysis indicate that in the aggregate, the Project and the cumulative projects include development of 361,652 square feet of retail space. The supportable retail square feet based upon project-generated demand totals 474,407 square feet. These aggregate findings indicate that retail demand generated by the cumulative projects is anticipated to exceed the retail supply. Even if all the project-generated demand is not directed to each individual project's retail space, the results indicate the projects would need to capture less than 80% of the demand to achieve 95% occupancy.

There are only two projects with planned retail space not anticipated to generate sufficient internal demand to support their planned retail components. These include The Cannery, a primarily residential project, and the potential Mace Triangle project. Together, these two projects include 90,155 square feet of planned retail space with collective support for 42,503 square feet. This leaves a 47,652-square-foot deficit of demand. These will be the type of cumulative projects whose success will be relatively more reliant on future demand for retail generated by household growth in Davis or on sales diversion from existing retailers. However, the preceding analysis suggests that more than sufficient new demand could be generated to support either the projects or other retailers whose sales might be diverted as a result of project-based success.

Additional Cumulative Project Support

In addition to retail demand generated by new household growth as a source of support for the Project and cumulative projects, the retail base in Davis does not meet the retail needs of Davis households. Pursuant to analysis of State of California Board of Equalization sales data, Davis taxable retail sales totaled approximately $516.9 million between third quarter 2012 and third quarter 2013, i.e., the most recent data points available (see Exhibit 17). With nontaxable sales adjustments ALH Economics estimates this equates to $657.0 million in annual retail sales. Pursuant to a standard type of industry analysis, which estimates retail sales attraction or leakage in a community relative to anticipated household spending, the findings in Exhibit 18 indicate that Davis experiences retail sales leakage in a number of retail categories, with anticipated household spending exceeding estimated

sales. Retail categories where the opposite occurs, with sales exceeding spending, are called attraction categories.

ALH Economics calls the analysis in Exhibit 18 a retail demand, sales attraction, and spending analysis. Per this analysis, the categories with the strongest leakage in Davis include home furnishings and appliances, building materials and garden equipment, clothing and accessories, and general merchandise. These findings are presented purely for the illustrative purpose of demonstrating that there is unmet local demand for retail. Consequently, this analysis suggests that if existing retailers experience sales diversion sufficient to result in store closures because of cumulative project impacts, there could be opportunities for new retailers to enter the market or for existing retailers to expand and capture a portion of the household spending potential leaving Davis due to insufficient retail outlets to meet household retail needs. This is especially considered likely since the Project and most of the cumulative projects are anticipated to generate sufficient demand to support their planned increment of retail space

MACE RANCH INNOVATION CENTER RETAIL AND CUMULATIVE RETAIL IMPACTS CONCLUSION

The preceding retail analysis indicated that at buildout of the Project's employment-generating office and industrial uses, there would be more than sufficient demand for the Project's planned retail space generated by Project employees. The level of employee-supported demand, however, is not anticipated to be sufficient by the time the Project's retail space is built out, proposed to occur by the end of Phase 2, when 40% of the Project's planned office and industrial space is anticipated to be built. However, the new household growth and retail leakage analysis findings demonstrate that there is potential for additional sales support from overall household growth in Davis or retailers positioned to capture retail sales leakage. Therefore, ALH Economics believes that full development of the Project's retail space by the end of Phase 2 would not result in sales diversions away from existing retailers, especially if a fitness facility is included in the retail space, as a fitness facility tenant would reduce the need for the space to capture more traditional retail sales. Even if such diversions occur, they may not be sufficiently large enough to cause existing retailers to close operations due to the small increment of space involved. Most importantly, any prospective sales diversion would be temporary until such time as more employee-based demand is generated through Phases 3 and 4. Yet, even if such closures occur, the strong retail market conditions in Davis, along with the demonstrated leakage and household growth, suggest that any resulting retail vacancies would be readily backfilled, with no resultant negative impact on the city's commercial retail base.

The finding regarding internally-based retail demand being generated sufficient to support the Project's planned retail space at buildout holds steady relative to the cumulative project analysis, with the mix of land uses associated with the cumulative projects overall generating sufficient retail demand to absorb the planned retail components. This finding would also hold steady regardless of the timing of the long-term residential demand estimate, because there is little to no need for the Project and cumulative projects to rely upon future residential demand to support the space at buildout. Thus, if buildout of the Mace Ranch Innovation Center extends beyond the 2035 benchmark year reflected in this analysis, thus extending the time period necessary for the Project to generate sufficient internal demand to support the Project's planned retail space, this would not change the study conclusion, especially as extending the time period would create the opportunity for yet additional residential demand to support new retail space added to the Davis retail market pursuant to the Project and the cumulative projects.

In conclusion, ALH Economics believe that development of the Project's retail component, and the cumulative retail projects, are not likely to result in long-term retail sales diversions relevant to the

existing retail base. Any shifts in the market that do occur could more likely be the result of market forces not associated with the Project or cumulative projects, such as dwindling demand due to inferior service or poor product quality. If closures do occur pursuant to Project or cumulative project impacts, however, several market fundamentals strongly suggest that the closed retail spaces will not experience long-term vacancy. These market fundamentals include a strong retail market operating at an extremely low vacancy rate, generally positive net retail absorption, and demonstrated retail leakage in a number of retail sales categories. The urban decay implications of these findings are presented in Chapter VI. Urban Decay Implications.

The BAE analysis concluded that there would be more than sufficient internal demand to support the Project's ancillary retail space at buildout, but suggested that it would be reasonable for the City of Davis to establish phasing controls for the retail space to ensure that the new retail space being developed at the Project and other planned projects, such as Davis Innovation Center, does not outpace the increase in employee demand for daytime retail, dining, and services.[25] Toward this end, the ALH Economics analysis found that Project employees would have the potential to provide the bulk of support for the Project's planned retail space when the industrial and office space achieves 82% buildout, but that not all the space would be supportable by internally-generated demand upon completion at the end of Phase 2.

In terms of development timing, it would be optimal for retail space development to lag the office and industrial development to some extent to ensure the supply does not get ahead of the demand. It would be optimal, however, for some of the development to occur earlier in the overall development timeline in order to best meet the retail shopping needs of the Project's front end employees. It will also be important to create a sufficient critical mass of Project retail to encourage synergy and increase overall demand. BAE tempered its recommendation regarding phasing controls for the Project's ancillary retail space by indicating that if it can be shown that excess demand from other sources within the City of Davis justify new retail development beyond that supported by new employee expenditures then such a phasing program may not be necessary.[26] The ALH Economics analysis indicated that these other sources of demand are anticipated to be available to support the ancillary retail space at the Project and the cumulative projects, including demand from new household growth as well as recaptured retail sales leakage. Therefore, this suggests that development controls for phasing of the Project's retail space are not necessary, and that the retail space at the Project as well as the cumulative projects are not likely to result in long-term retail vacancies in Davis.

[25] BAE study, page iii.
[26] Ibid, page 35.

V. HOTEL ANALYSIS

CONTEXT FOR MACE RANCH INNOVATION CENTER PLANNED HOTEL

The Mace Ranch Innovation Center plans a 150-room hotel. There are 11 existing hotels in Davis, with a total of 733 rooms. The Project's hotel would increase the existing rooms supply by 20%. The nearest hotels to the Project site are located on Chiles Road, approximately 0.5 to 0.6 miles away. These are economy class hotels, with among the lowest room rates in Davis, with all other hotels located almost 3.0 or more miles away, closer to UC Davis (see Exhibit 19)..

The BAE study included analysis of the potential demand for the Mace Ranch Innovation Center hotel. The BAE analysis was predicated upon estimating internal demand for hotel rooms generated by the Project. The BAE findings concluded that Project development at buildout would not generate adequate internal demand to support the Project's planned hotel using conservative assumptions, but that more than adequate internal demand would occur using more aggressive demand assumptions predicated upon enhanced absorption. Similar to BAE's retail analysis, BAE suggested that it would be reasonable for the City of Davis to establish phasing controls for hotel development, to ensure that new hotel facility development (at the Project and other planned projects, such as Mace Ranch) does not outpace the increase in anticipated demand for hotels.

In a check for reasonableness, ALH Economics conducted a separate analysis of hotel demand relevant to the Project's planned hotel. The ALH Economics analytical approach differs from the BAE analysis, providing a triangulated crosscheck on the overall BAE findings. The ALH Economics analysis is based upon growing out the met demand at Davis' existing hotels pursuant to employment growth projections, some of which are predicated upon projections prepared or modified by BAE. Because an urban decay analysis must also look at cumulative impacts, there is additional analysis comparing the projected demand for hotel rooms in Davis to the supply of other planned hotels. This study chapter closes with an assessment of the Project's potential impact on existing hotels and hence the existing physical hotel stock.

EXISTING SUPPLY OF DAVIS HOTELS

There 11 existing hotels in Davis were identified through internet research and review of a list of hotels maintained by Smith Travel Research, a company that tracks supply and demand data for the hotel industry and provides market share analysis. ALH Economics reviewed a list of hotels throughout Yolo County that participate in Smith Travel Research's trend analysis, which includes operating trends such as rooms, average daily room rate, demand, supply (measured by rooms available per period), and revenue, among other characteristics. ALH Economics then researched room rates for the listed hotels.

The existing Davis hotels represent four classes of hotel, including economy, midscale, upper midscale, and upscale. Overall there are 733 rooms distributed among the 11 hotels (see Exhibit 19). Approximately half of Davis' hotels are located in Downtown Davis, near UC Davis. These are the hotels in closest proximity to the Project site, located approximately 2.8 and 2.9 miles away (See Exhibit 20). Among the hotels with known opening dates, approximately half opened prior to the 1980s, another three opened in the 1990s, one opened in 2000, and the newest hotel, the Hyatt Place UC Davis, opened in March 2010 and then expanded by 52 rooms in March 2014. In addition, While not an exact correlation, the room rates are generally higher among the newer hotels and lower

among the older hotels. This also tracks with the newer hotels generally including the more upscale or upper midscale hotels. When the newest hotel opened, the Hyatt Place UC Davis, the city's hotel room count expanded by approximately 20%. This is similar to the expansion rate that would result from addition of the Project's hotel.

ALH Economics conducted field reconnaissance to examine the physical condition of the existing hotels. All of the existing hotels were found to be in good general repair, with attractive physical conditions and no signs of urban decay or deterioration, such as litter, graffiti, weeds or rubbish.

HISTORIC AND CURRENT HOTEL PERFORMANCE

Smith Travel Research provided a summary report of the performance of the 11 existing competitive hotels. This included aggregate performance data from 2008 through November 2014. These data are presented in Exhibit 21. As noted in this exhibit, the average number of rooms available per year changed over time, increasing from 609 in 2008 to an average of 724 in 2014. The number of rooms sometimes changed on a monthly basis, hence the minor vacillation in recent years. The annual average figure in 2014 is slightly below the current room count of 733.

The Smith Travel research data also include a supply estimate, which reflects the summation of the number of rooms available per month times the number of days in the period. This is effectively a measure of the number of room nights available among the competitive supply throughout the year. Thus, in 2014, there were a total of 264,477 room nights available among the 11 hotels.

Smith Travel Research also measures demand, which is based on occupancy reported by the participating hotels. As the data in Exhibit 21 indicate, annual demand dropped in 2009, concurrent with the Great Recession, but increased steadily thereafter, peaking in recent years at 175,034 in 2014. This increasing demand corresponds with increasing annual occupancy rates, which changed from a low of 49.8% in 2009 to 66.2% in 2014. This 66.2% occupancy rate comprises the baseline for analysis of the Project.

Over the 2008 through 2014 time period, the rate of increase in demand was lumpy, with a significant 17% increase from 2010 to 2011, slowing to 2% from 2011 to 2012, but then increasing thereafter, including an 11% increase from 2013 to 2014. Overall, hotel demand grew on annual average of 9.1% percent since 2009, and a slightly lower 6.8% from 2008 onward. These data clearly indicate that hotel demand in Davis is trending upward. Since the number of rooms effectively stayed relatively constant from 2010 onward, the increasing demand also translated into higher occupancy rates.

PROJECTED HOTEL DEMAND AND MACE RANCH INNOVATION CENTER HOTEL IMPACT

ALH Economics developed projections for hotel demand applicable to the existing supply based upon an economic growth projection range. The purpose of these projections was to prepare estimates of aggregate hotel occupancy rates following the Project's addition to the supply. The premise is that if hotel occupancy drops below a level considered unhealthy for the hospitality industry, then there could be some negative impacts on the market, which could raise concerns about the Project contributing to urban decay. Alternatively, if hotel occupancy rates are estimated to remain the same as the current baseline, or improve, then the Project would not be expected to contribute to urban decay.

ALH Economics updated the supply of existing hotel rooms to include the Project. The Project phasing anticipates developing the hotel during Phase 2. The specific timing of this phase would be market-driven, based upon the absorption success of the Project's planned office and industrial space. For the sake of analysis, ALH Economics assumes that the Project's hotel could be added to the supply by 2027, thereby increasing the supply of rooms to 933 and the annual supply of room nights to 340,545. This year is midway between the initial Project availability in 2018 and the assumed maximum office and industrial space buildout year of 2035. For study purposes this is considered a proxy for the hotel's anticipated Phase 2 development. Information about the changed number of rooms and annual supply of rooms is reflected in Exhibit 22, which projects future hotel supply and demand trends. The projection is extended to 2040 to depict projected supply and demand conditions in the more long-term after anticipated Project buildout.

ALH Economics prepared two different demand trends, each based upon a different economic growth projection. These rates are 1.33% and 1.76%. The 1.33% growth rate is based upon analysis prepared by BAE, wherein BAE modified assumptions regarding the allocation of regional growth, resulting in slightly higher Yolo County employment estimates than reflected in SACOG's base analysis. BAE prepared this reallocation to reflect anticipated growth in Davis pursuant to the innovation center development. As the hotel is being built as part of innovation center development, assuming such growth is appropriate. The higher 1.76% rate corresponds to the rate associated with the adjusted employment growth rate in just Davis under the same BAE reallocation scenario. The derivation of this rate is also presented in Exhibit 6. Notably, the 1.33% growth rate comprising the low end of the range for the hotel analysis is relatively comparable to SACOG's unadjusted growth 1.29% annual growth rate for Yolo County between 2014 and 2035 (see footnote 3 to Exhibit 23). Accordingly, the 1.33% rate does not represent an aggressive assumption, assuming a countywide rate has some applicability to projecting hotel demand in Davis.

The two annual growth rates in demand of 1.33% and 1.76% were applied to the 2014 Smith Travel Research demand figure of 177,123 to result in annual demand projections from 2014 through 2040. The resulting annual demand estimates are presented in Exhibit 22, and by 2027 result in estimated demand ranging from 210,533 to 223,590 room nights of demand.

The projected annual estimated occupancy rates by year are also depicted in Exhibit 22. As these figures indicate, by 2027, the Project's estimated year of market entry, annual average occupancy among the existing hotels, including the Project, is estimated to range from 65.8% to 69.4%. This range is projected to increase to 73.6% to 81.2% by 2035, the Project's assumed buildout year. The 2035 rate reflects enhanced market performance relative to the baseline rate of 66.3% in 2014.

As noted earlier, the existing Davis hotels in the three most recent years were generally operating at occupancy rates in the 60% range. Occupancy dipped as low as 49.8% at the height of the Great Recession. The projected occupancy range for 2027, following addition of the Project, is generally similar to the recent range in 2013 and 2014, and higher than the low occupancy rates during the Great Recession. Therefore, ALH Economics concludes that the Project's operations are not anticipated to reduce or impact hotel occupancy to the extent that any hotels would significantly falter and operations would cease. Thus, no existing hotels are anticipated to close as a result of the Project's development and operations. Moreover, the occupancy impacts are relatively minor and short-term, with occupancy rates continually increasing each year after the assumed opening of the Project.

CUMULATIVE HOTEL IMPACTS

Supply Additions

To conduct a cumulative analysis ALH Economics researched information about other planned hotel projects in Davis. The research findings about the planned supply are presented in Exhibit 24. These results provide information on two planned hotel projects plus one more speculative project. One of the two projects comprises the redevelopment of an existing hotel site. The existing 45-room University Park Inn and Suites Hotel with on-site restaurant will be redeveloped with a 132-room Embassy Suites hotel with a 12,000-square-foot conference center plus restaurant. This will comprise a net addition of 87 rooms. Construction is anticipated to start by the end of 2015 and could take one year. Consequently, ALH Economics assumes that the existing hotel supply will drop by the existing facility's 45 rooms in 2016 but then gain 132 rooms in 2017.

Another planned supply addition is the 200-room hotel planned for the Davis Innovation Center. Similar to the Project, the urban decay analysis for the Davis Innovation Center assumes this planned hotel is anticipated to be added to the market by 2027, but under a cumulative scenario with potentially prolonged innovation center absorption the analysis assumes a 2035 completion year.[27]

Finally, there is some suggestion that a hotel may be part of the Nishi Gateway project. However, there is no detailed hotel proposal for the project at this time. Inclusion of a hotel would result in square footage reallocations from other planned uses. Therefore, ALH Economics has deemed a hotel at the Nishi Gateway to be not foreseeable, and thus is not included in the tabulation of cumulative projects.

Together, the two planned hotel projects include 287 hotel rooms anticipated to be net new to the Davis market. Adding the Project's planned hotel rooms into the future supply results in the total addition of 437 hotel rooms to the Davis market.

Projected Hotel Demand and Cumulative Project Impacts

Similar to the analysis for just the Project, ALH Economics prepared a future projection of hotel supply and demand and then examined the occupancy impacts pursuant to the addition of the planned hotel projects. This analysis is presented in Exhibit 25. Given the more cumulative nature of the analysis, and potentially prolonged innovation center absorption, the two innovation center hotels are assumed to be cumulatively added to the supply in 2035, or approximately eight years later than assumed individually for the Project.

The near term results after the addition of the new Embassy Suites Hotel in 2017 indicates that hotel occupancy is projected to dip down to 61.6% to 62.7%, following a much higher occupancy of 72.5% to 73.5% the year before when the supply could be temporarily reduced due to the redevelopment of the existing University Park Inn and Suites Hotel. The 61.6% to 62.76% rate is projected to quickly ratchet up, reaching 77.1% to 84.4% in 2034, which is the year before the Project's hotel and the Davis Innovation Center hotel are cumulatively assumed to be added to the market. Once these two hotels are added to the market, annual average occupancy is projected to drop to 54.8% to 60.2% and increase thereafter, although at the low end, remain in the 50% range until at least 2040.

[27] See "Davis Innovation Center Urban Decay Analysis," March 2015, Prepared by ALH Urban and Regional Economics for Raney Planning and Management, Inc.

In 2009 and 2010, at the height of the Great Recession, hotels in Davis operated at average occupancy rates of 49.8% and 50.3%, respectively (see Exhibit 21). These rates are even lower than the projected rates in Davis in 2035 when all cumulative projects have been added to the supply. Overall, the historic hotel occupancy rates in Davis were sustained in the 50% range for at least four years, from 2008 through 2012. ALH Economics is not aware of any hotels closing or becoming characterized by poor maintenance and lackluster operations during this time. Thus, market precedence suggests that reduced occupancy in the range of 50% is sustainable for a limited period of time without resulting in existing hotel closure.

ALH Economics conducted sensitivity analysis to assess potential innovation center hotel market impacts assuming earlier introduction of one of the innovation center hotels, such as in 2027 or 2030. This sensitivity analysis did not change the projected occupancy rates to a level where ALH Economics would conclude the potential for impacts resulting in potential hotel closure of existing hotels.

MACE RANCH INNOVATION CENTER AND CUMULATIVE HOTEL PROJECTS IMPACTS CONCLUSION

The preceding analysis for the Project hotel indicates that occupancy impacts on the existing base of hotels could be limited, and that existing hotels could be able to perform at occupancy levels higher than the current baseline. This indicates that the Project hotel will not have a negative impact on the existing supply of hotels. Occupancy impacts could be greater for the cumulative scenario, with resulting occupancy rates following the addition of all cumulative project hotels lower for the existing hotels than the current baseline. However, the projected rates are historically sustainable for the existing hotels, and ALH Economics concludes that existing hotels will not be impacted to the point that hotel closure is a potential risk. The urban decay implications of this finding are presented in the following chapter, Chapter VI. Urban Decay Implications.

This ALH Economics conclusion is predicated upon a different methodology than the BAE analysis, yet results in the same finding assuming BAE's more aggressive absorption estimates for the Project. Even using a more conservative hotel demand growth rate, however, the ALH Economics findings support a finding of no impact on existing hotels. Thus, if the Project's office and industrial space is developed consistent with the Project assumptions, with buildout generally consistent with a 2035 timeframe and hotel development timing in the 2027 to 2035 timeframe, ALH Economics' findings suggest phasing controls for hotel development as suggested by BAE assuming low absorption would likely not be warranted.

VI. URBAN DECAY IMPLICATIONS

STUDY DEFINITION OF URBAN DECAY AND CONTRIBUTING CAUSES

The CEQA threshold for impact is to cause the potential for urban decay resulting from significant adverse physical impacts related to economic and social changes and/or effects.[28] Therefore, for the purpose of this analysis, urban decay is defined as extended long-term business vacancies, directly or indirectly resulting in physical deterioration to properties or structures that is so prevalent, substantial, and lasting a significant period of time that it impairs the proper utilization of the properties and structures, and the health, safety, and welfare of the surrounding community. Physical deterioration includes abandoned buildings, boarded doors and windows, parked trucks and long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth. Typically, pursuant to the Fifth District Court of Appeal in decision in *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1204, urban decay analyses are primarily prepared for retail development, or the retail components of large-scale mixed use projects. Over time, some environmental impact reports also conservatively extend the urban decay analysis to other land uses, including hotel, office, and industrial land uses. Such is the case for this current analysis for the multiple land uses envisioned for the Project, in addition to retail.

Before considering how the Mace Ranch Innovation Center might affect the market and environs, it is useful to focus on what constitutes the *environmental* impact known as urban decay. In *Bakersfield Citizens for Local Control v. City of Bakersfield*, the court described the phenomenon as "a chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake." The court also discussed prior case law that addressed the potential for large retail projects to cause "physical deterioration of [a] downtown area" or "a general deterioration of [a] downtown area." (Id. at pp. 1206, 1207). The focus on retail is pursuant to the focus of the case, which was prospective retail development. When looking at the phenomenon of urban decay, it is also helpful to note economic impacts that do not constitute urban decay. For example, a vacant building is not urban decay, even if the building were to be vacant over a relatively long time. Similarly, in the context of retail development, even a number of empty storefronts would not constitute urban decay. Based on the above description regarding urban decay, therefore, ALH Economics' analysis examined whether there was sufficient market demand to support the Project's various land use components without affecting existing retailers or other businesses so severely such as to lead to a downward spiral toward decay of the existing physical environment. A relevant part of this analysis is examination of existing efforts in the city to maintain existing commercial properties in good physical condition.

REGULATORY CONTROLS

Owners of commercial retail properties are generally financially motivated to maintain property in a manner appropriate to retain existing tenants and attract new retail tenants. Based upon visual observation this appears to be the case in Davis. If property owners lag in their maintenance, however, and the property begins to show signs of disrepair, the City of Davis has regulatory controls that can be implemented to avoid the onset of deterioration or decay.

[28] CEQA Guidelines Section 15064(e), 15064(f)(6), 15131, and 15182.

Ordinances within the City of Davis Municipal Code require property owners to maintain their properties so as not to create a nuisance by creating a condition that reduces property values and promotes blight and neighborhood deterioration. These include the City of Davis Municipal Code of Ordinances Chapter 23 on Nuisance Abatement which defines various nuisances such as," Any dangerous, unsightly, or blighted condition that is detrimental to the health, safety or welfare of the public", "Any condition in violation of the weed and rubbish abatement laws defined at Government Code Sections 39501 et seq., and 39560 et seq., as enacted or hereafter amended and enforced by city ordinance and resolutions", "Any vacant, unoccupied or abandoned building or structure that is not reasonably secured against uninvited entry or that constitutes a fire hazard, or is in a state of unsightly or dangerous condition so as to constitute a blighted condition detrimental to property values in the neighborhood or otherwise detrimental to the health, safety and welfare of the public", "Any condition that constitutes a visual blight", "Any condition of a building or structure deemed to be unsafe or that in the discretion of the code compliance administrator or the department head, would constitute a threat to public safety, health, or welfare, or poses a security problem by reason of dilapidation, fire hazard, disaster, damage or other similar occurrence specified in this Code or any other applicable law."[29] As well as Chapter 25 on Graffiti control.[30] Enforcement of these ordinances can help prevent physical deterioration due to any long-term closures of retail, office, or industrial spaces as well as hotels. The City of Davis's Code Compliance Department is part of the Police Department and currently comprises one full time Police Services Specialist, one Public Safety Service (PSS) Supervisor, trained PSS staff to handle Code Enforcement when the primary is gone, as well as supplementation by trained volunteers.

Code enforcement within the City of Davis is done on both a proactive basis by the Code Compliance Department and a complaint basis by the public.[31] Public complaints can be made to the City by calling the Code Compliance Department with the Police Department, emailing the Code Compliance Department, submitting an on-line form, or leaving a message on the Code Compliance hotline. The Code Compliance Department works with residents to help resolve any violations on a voluntary basis. The City of Davis Municipal Code 23.04.020 on Public nuisance abatement- notice of violation and 23.04.050 on Notice and order state that once a nuisance has been determined a notice of violation will be personally delivered or mailed to the owner of the property and its occupants along with specified date to which the violation shall be corrected, usually 30 days.[32] In addition, according to Section 23.05.020 on Failure to obey order - Abatement by City:

> If, after any notice of violation or any order of a hearing officer made pursuant to this chapter has become final, the person to whom such order is directed shall fail, neglect or refuse to obey such order, the department head is authorized and directed to cause the nuisance to be abated by city personnel or private contract. In furtherance of this section, the department head shall obtain a warrant, if required, and thereafter is expressly authorized to enter upon the premises for the purpose of abating the

[29] City of Davis, "Municipal Code 23.01.030 Nuisances," http://qcode.us/codes/davis/ (accessed January 22, 2015.
[30] City of Davis, "Municipal Code 25," http://qcode.us/codes/davis/ (accessed January 22, 2015).
[31] Code Compliance Department, Police Department Assistant Chief, City of Davis; electronic interview conducted January 2015.
[32] City of Davis, "Municipal Code, Chapter Section 23.04.020 Public nuisance abatement – Notice and violation and 23.04.050 – Notice and order," http://qcode.us/codes/davis/ (accessed January 2015).

> nuisance. Additionally, any person who fails to obey such order shall be guilty of a misdemeanor punishable as specified in Section 23.02.030 of this chapter.[33]

According to Sections 23.05.040 Costs of abatement, 23.05.050 Procedure for assessing costs and 23.05.060 Assessment of costs--Special assessment lien against property, any abatement completed by the City is done at the expense of the property owner and if costs are not paid within 30 days the City may place a special assessment lien on the property."[34] The most common types of violations are uncontrolled grass or weeds in public view, cars parked on lawns, construction materials and basketball hoops on the sidewalk or street, visible garbage and trash on the property, indoor furniture outside in front of the property, dilapidated or inoperable vehicles on public property, construction activity without permits or zoning approvals, and loud noises from parties.[35] According to the Code Enforcement Department most violations are resolved with 24-72 hours after the initial verbal or written notice is received.[36]

During 2014 the Code Compliance Department had 398 violation cases, of which those categorized as commercial properties were very low, the majority being residential violations.[37] In addition, the City of Davis has a Graffiti Abatement Program that provides a 24-hour hotline to help combat the graffiti violations and opportunities such as having the City of Davis Police Department present on graffiti prevention and removal, programs to adopt a block/area to help prevent and removal graffiti, and the organization of neighborhood clean-up days or Graffiti Removal Days.[38]

MACE RANCH INNOVATION CENTER URBAN DECAY DETERMINATION

In developing a conclusion regarding the potential for urban decay, ALH Economics relied on the definition presented earlier in this chapter, which focused on determining whether or not economic and social changes and/or effects resulting from development of the Project as well as other cumulative projects would cause significant adverse physical impacts and result in urban decay. During Project-related fieldwork conducted in January and February 2015, ALH Economics found there were little-to-no visible signs of litter, graffiti, weeds, or rubbish associated with existing commercial and industrial nodes in the City of Davis. This included the industrial flex inventory, with a noted high vacancy rate. Thus, ALH Economics concludes that existing measures to maintain private commercial and industrial property in good condition are generally effective and would serve to help preclude the potential for urban decay and deterioration in the event any existing commercial or industrial operations in Davis close following the operations of the Project and other cumulative projects. The findings for the major land uses reflected in the analysis follow.

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[33] City of Davis, "Municipal Code, Chapter Section 23.05.020 Public Nuisance Abatement – Failure to obey order - Abatement by City," http://qcode.us/codes/davis/ (accessed January 2015).
[34] City of Davis, "Municipal Code Chapter Sections 23.05.040 Costs of abatement, 23.05.050 Procedure for assessing costs and 23.05.060 Assessment of costs-Special assessment lien against property," http://qcode.us/codes/davis/ (accessed January 2015).
[35] City of Davis, "Code Compliance Department" http://police.cityofdavis.org/code-compliance (accessed January 2015).
[36] Code Compliance Department, Police Department Assistant Chief, City of Davis; electronic interview conducted January 2015.
[37] Ibid.
[38] Ibid.

Office and Industrial Uses

The office and industrial analysis found that there is the potential for existing office and industrial space in Davis to become vacant as a result of development impacts associated with the Project and other cumulative projects. The amount of space that could become vacant is indeterminate, but the entire base of existing space estimated to be occupied by the types of tenants that the innovation centers would be targeting for occupancy totals approximately 760,000 square feet. Only some of these occupiers are large space users such as would be specifically targeted for the innovation centers.

ALH Economics cited an illustrative amount of space that could become vacant due to Project impacts. This illustrative was 313,300 square feet. Net of additional demand with the assumed potential to backfill existing space, the resulting illustrative vacancy figure was 151,575 square feet. This amount of space totals 5.2% of Davis' existing office and industrial base.

ALH Economics believes that the illustrative analysis suggests that regardless of the amount of space, some increment of existing office and industrial space is at risk of sustained vacancy following development of the Project and cumulative office and industrial projects. The vacancies would remain sustained until such time as yet additional demand was generated due to economic growth and expansion. Numerous market factors could likely boost this demand potential, including the attraction of larger increments of office and industrial space and the draw of Davis to businesses located in other regional locations like Woodland and West Sacramento that would prefer a Davis location.

The regulatory review suggests existing City of Davis measures to avoid the onset of deterioration or decay are effective. Moreover, many of the office and industrial properties in Davis are owned by major institutional and private real estate companies. These are the types of companies with the financial wherewithal to withstand prolonged vacancy and fund the maintenance necessary for upkeep even during times of vacancy. More specifically, there are two salient examples of office or industrial properties in Davis that experienced prolonged vacancy yet did not exhibit indicators of urban decay. One of these properties is an 11,000-square-foot medical office building on W. Covell Boulevard between Lake Boulevard and Denali Drive that was built on a speculative basis in approximately 2010. This property was not properly sized for the market and thus remained vacant for a prolonged period of time. Approximately one-half the space was finally leased to a medical group in early 2014, and another medical group is moving into the remaining half during first quarter 2015. City of Davis and commercial broker information indicates this property was well-maintained throughout its prolonged vacancy.

Another salient example of a long-term vacancy in Davis includes an older office/industrial property on 5th Street between Pole Line Road and L Street. This is a 20,000-square-foot building vacated by Integrated Plant Genetics Inc. (IPG) approximately 10 to 12 years ago. The building functions as industrial space, but includes mezzanine space that was outfitted as office space. The resulting office space, however, has a low ceiling height, which is generally not well perceived by the market. A real estate broker familiar with this property reports it has other dysfunctional issues, including insufficient electrical power and inadequate parking given its office buildout. Thus, the property is generally perceived as functionally obsolete. While approximately half the property was backfilled after IPG vacated the building, approximately one-half has remained vacant. However, despite this vacancy and the building's functional obsolescence, the building appears to be well maintained and has not generated concerns about its physical condition. This demonstrates that the Davis market can sustain a long-term vacancy without the vacancy subsequently becoming characterized by urban decay.

Because the office and industrial market in Davis is generally supply constrained, especially for spaces totaling 10,000 square feet or more, there are limited other examples of office or industrial properties experiencing prolonged vacancy in Davis. However, the examples cited above indicate that when they occur, prolonged vacancies are well maintained and do not exhibit characteristics indicative of urban decay. This information, along with property owner incentives, suggests the potential for other properties to be well maintained during periods of prolonged vacancy if prolonged vacancy occurs. ALH Economics therefore concludes that the office and industrial components of the Project and cumulative projects are not anticipated to cause adverse physical impacts leading to urban decay, despite the anticipated potential of some prolonged existing office and industrial base vacancies.

Retail Uses

The retail analysis found that there could be more than sufficient demand for the Project's planned retail space generated by Project employees at buildout of the Project's office and industrial uses. This sufficient demand is anticipated to be generated by the time the Project's employment-generated uses are 82% built out. The analysis further found that sufficient demand could be generated from other market segments to support the Project's planned retail space during overall Project development, including new household growth and recaptured sales leakage from existing households. The same findings apply to the cumulative project analysis as well, with the mix of land uses associated with the cumulative projects overall generating sufficient retail demand to absorb the planned retail components.

These findings, coupled with the Davis retail market's strong fundamentals, support ALH Economics concluding that the Project's planned retail component will not cause or contribute to urban decay. Existing retailers are not anticipated to close as a result of Project or cumulative project impacts, thus no existing commercial retail properties are anticipated to fall vacant pursuant to Project or cumulative project impacts. If such vacancies do occur, however, the market's current and historic performance suggests such vacancies would be well-maintained and would backfill quickly, resulting in no significant adverse physical impacts related to economic and social changes and/or effects and thus no potential for urban decay to result.

Hotel Use

The hotel analysis indicated that sufficient demand is anticipated to exist in Davis to support the Project's hotel along with the existing hotels. The same finding pertains to the cumulative project analysis. These conclusions took into consideration projected demand by 2027 and 2035, the Project and cumulative project's respective anticipated years of market addition, as well as future demand beyond this timeframe, coupled with the projected supply of hotel rooms.

Existing hotels are anticipated to be able to sustain a short term decline in occupancy without risk of closure following the anticipated introduction of the Project and cumulative project hotels. The existing hotels are not anticipated to experience impacts sufficient to cause them to close or achieve an occupancy rate insufficient to be maintained in a physical state of good repair, and thus not contribute to any downward spiral toward urban decay. All hotels are currently in good physical condition with no visible signs of litter, graffiti, weeds or rubbish. Moreover, as cited repeatedly above, the overall occupancy following introduction of Project and cumulative project hotels very likely to be higher than projected, due to the increase in demand resulting Project-related heightened business demand. Based upon these findings, ALH Economics concludes that the proposed Mace Ranch Innovation Center hotel as well as the cumulative hotel projects will not result in adverse physical impacts that would cause or contribute to urban decay.

ASSUMPTIONS AND GENERAL LIMITING CONDITIONS

ALH Urban & Regional Economics has made extensive efforts to confirm the accuracy and timeliness of the information contained in this study. Such information was compiled from a variety of sources, including interviews with government officials, review of City and County documents, and other third parties deemed to be reliable. Although ALH Urban & Regional Economics believes all information in this study is correct, it does not warrant the accuracy of such information and assumes no responsibility for inaccuracies in the information by third parties. We have no responsibility to update this report for events and circumstances occurring after the date of this report. Further, no guarantee is made as to the possible effect on development of present or future federal, state or local legislation, including any regarding environmental or ecological matters.

The accompanying projections and analyses are based on estimates and assumptions developed in connection with the study. In turn, these assumptions, and their relation to the projections, were developed using currently available economic data and other relevant information. It is the nature of forecasting, however, that some assumptions may not materialize, and unanticipated events and circumstances may occur. Therefore, actual results achieved during the projection period will likely vary from the projections, and some of the variations may be material to the conclusions of the analysis.

Contractual obligations do not include access to or ownership transfer of any electronic data processing files, programs or models completed directly for or as by-products of this research effort, unless explicitly so agreed as part of the contract.

APPENDIX A: EXHIBITS

Exhibit 1: Map of Mace Ranch Innovation Center Site Location

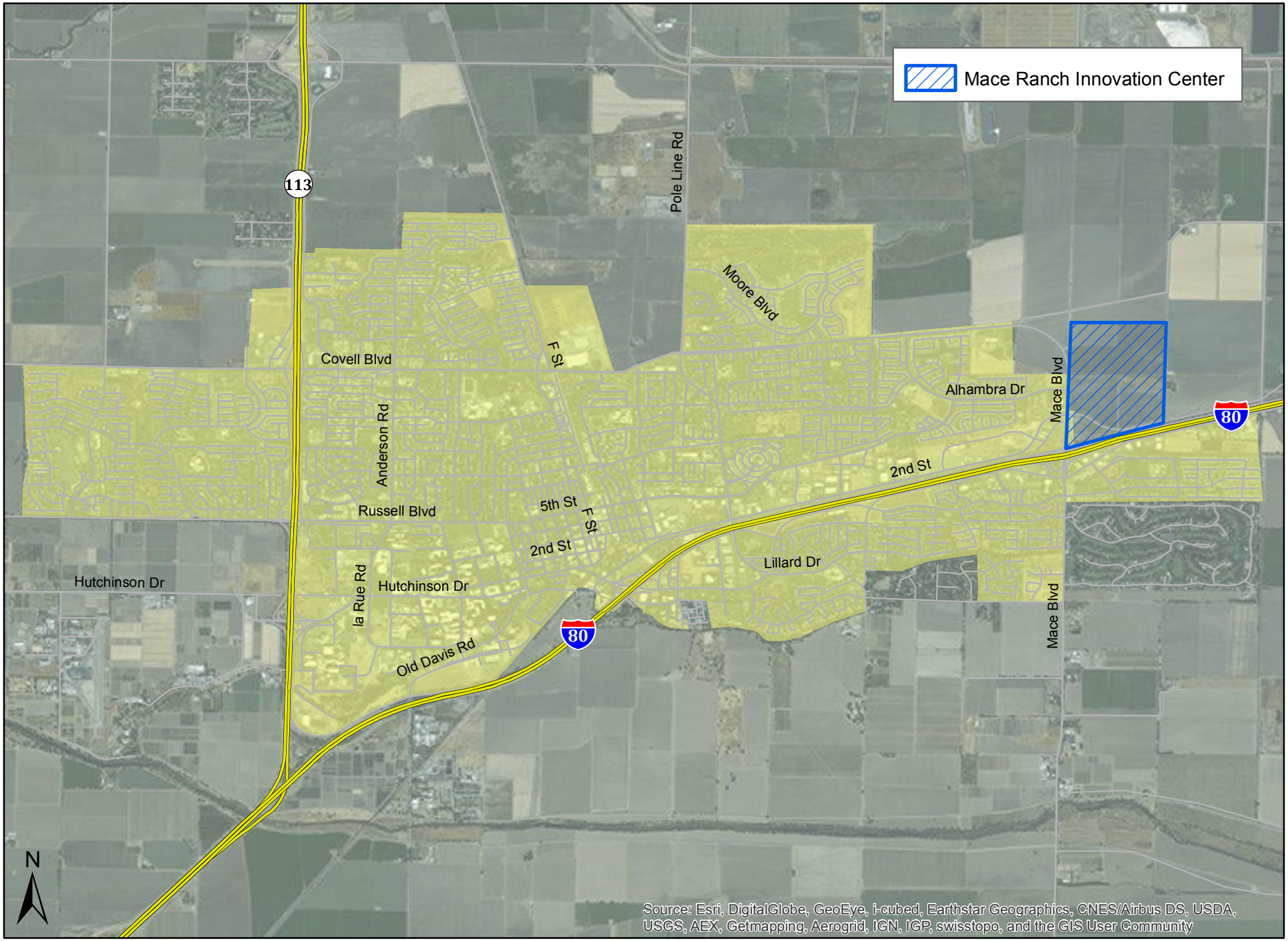

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Exhibit 2
Mace Ranch Innovation Center
Project Description - Land Uses and Estimated Employment

Land Use (1)	Square Feet or Rooms (1)	Employment (2)
Research, Office, R&D	1,510,000	3,553
Manufacturing	884,000	2,080
Ancillary Retail	100,000	200
Hotel/Conference Center	160,000 (150 rooms)	50
Total	**2,654,000**	**5,882**

Sources: "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) See BAE study, December 19, 2014, page 2.
(2) See BAE study, December 19, 2014, page 3 for employment count estimates. BAE's combined job count of 5,633 for research, office, R&D, and manufacturing is distributed proportional to the space allocation.

Exhibit 3
City of Davis Office Vacancy Trends
2006 Through Q4 2014

	Rentable Building Area						Leasing Activity		New Construction			
Period	# Bldgs	Total SF	Vacant SF	Percent Vacant	Occupied SF	Total Net Absorption	Total Deals	Total SF Leased	Number Delivered	RBA Delivered	# Under Const	RBA Under Const
2014 4Q	189	1,752,394	169,680	9.7%	1,582,714	(927)	4	9,268	0	0	0	0
2014 3Q	189	1,752,394	168,753	9.6%	1,583,641	2,727	2	1,570	0	0	0	0
2014 2Q	189	1,752,394	171,480	9.8%	1,580,914	(55,410)	11	61,384	0	0	0	0
2014 1Q	189	1,752,394	116,070	6.6%	1,636,324	8,579	10	12,682	0	0	0	0
2013 4Q	189	1,752,394	124,649	7.1%	1,627,745	11,016	5	13,185	0	0	0	0
2013 3Q	189	1,752,394	135,665	7.7%	1,616,729	42,812	6	17,621	1	42,000	0	0
2013 2Q	188	1,710,394	136,477	8.0%	1,573,917	8,413	3	7,812	0	0	1	42,000
2013 1Q	188	1,710,394	144,890	8.5%	1,565,504	10,916	10	24,682	0	0	1	42,000
2012 4Q	188	1,710,394	155,806	9.1%	1,554,588	26,802	6	19,788	1	27,484	1	42,000
2012 3Q	187	1,682,910	155,124	9.2%	1,527,786	29,124	5	11,326	0	0	1	27,484
2012 2Q	187	1,682,910	184,248	10.9%	1,498,662	745	6	26,704	0	0	1	27,484
2012 1Q	187	1,682,910	184,993	11.0%	1,497,917	(24,704)	1	16,617	0	0	0	0
2011 4Q	187	1,682,910	160,289	9.5%	1,522,621	7,453	5	11,172	0	0	0	0
2011 3Q	187	1,682,910	167,742	10.0%	1,515,168	47	4	11,845	0	0	0	0
2011 2Q	187	1,682,910	167,789	10.0%	1,515,121	8,912	6	12,028	0	0	0	0
2011 1Q	187	1,682,910	176,701	10.5%	1,506,209	(8,143)	6	17,355	0	0	0	0
2010 4Q	187	1,682,910	168,558	10.0%	1,514,352	14,088	8	6,095	0	0	0	0
2010 3Q	187	1,682,910	182,646	10.9%	1,500,264	4,425	6	8,208	0	0	0	0
2010 2Q	187	1,682,910	187,071	11.1%	1,495,839	8,051	8	4,333	0	0	0	0
2010 1Q	187	1,682,910	195,122	11.6%	1,487,788	6,118	4	5,521	0	0	0	0
2009 4Q	187	1,682,910	201,240	12.0%	1,481,670	(11,789)	4	13,076	0	0	0	0
2009 3Q	187	1,682,910	189,451	11.3%	1,493,459	(19,311)	6	7,139	1	20,240	0	0
2009 2Q	186	1,662,670	149,900	9.0%	1,512,770	(8,923)	2	1,550	1	12,060	1	20,240
2009 1Q	185	1,650,610	128,917	7.8%	1,521,693	26,671	3	2,471	0	0	2	32,300
2008 4Q	185	1,650,610	155,588	9.4%	1,495,022	46,024	4	6,255	1	98,000	2	32,300
2008 3Q	184	1,552,610	103,612	6.7%	1,448,998	1,725	4	9,073	0	0	3	130,300
2008 2Q	184	1,552,610	105,337	6.8%	1,447,273	10,603	6	12,326	0	0	2	118,240
2008 1Q	184	1,552,610	115,940	7.5%	1,436,670	10,763	3	2,865	2	44,736	1	98,000
2007 4Q	182	1,507,874	81,967	5.4%	1,425,907	(1,275)	3	3,429	0	0	3	142,736
2007 3Q	182	1,507,874	80,692	5.4%	1,427,182	(1,521)	2	1,834	1	5,730	3	142,736
2007 2Q	181	1,502,144	73,441	4.9%	1,428,703	45,020	3	4,329	0	0	4	148,466
2007 1Q	180	1,487,624	103,941	7.0%	1,383,683	(38,298)	2	3,154	1	14,520	3	118,250
2006 4Q	180	1,487,624	65,643	4.4%	1,421,981	(16,006)	0	0	0	0	3	118,250
2006 3Q	180	1,487,624	49,637	3.3%	1,437,987	26,459	13	21,056	0	0	2	112,520
2006 2Q	180	1,487,624	76,096	5.1%	1,411,528	2,516	3	4,400	0	0	1	98,000
2006 1Q	180	1,487,624	78,612	5.3%	1,409,012	22,907	1	1,145	3	35,107	1	98,000

Source: CoStar.

Exhibit 4
City of Davis Industrial Vacancy Trends
2006 Through Q4 2014

	Rentable Building Area						Leasing Activity		New Construction			
Period	# Bldgs	Total SF	Vacant SF	Percent Vacant	Occupied SF	Total Net Absorption	Total Deals	Total SF Leased	Number Delivered	RBA Delivered	# Under Const	RBA Under Const
2014 4Q	26	656,967	10,327	1.6%	646,640	(3,433)	0	0	0	0	0	0
2014 3Q	26	656,967	6,894	1.0%	650,073	(944)	0	0	0	0	0	0
2014 2Q	26	656,967	5,950	0.9%	651,017	0	1	1,035	0	0	0	0
2014 1Q	26	656,967	5,950	0.9%	651,017	(1,950)	0	0	0	0	0	0
2013 4Q	26	656,967	4,000	0.6%	652,967	0	0	0	0	0	0	0
2013 3Q	26	656,967	4,000	0.6%	652,967	6,109	2	6,118	0	0	0	0
2013 2Q	27	689,873	43,015	6.2%	646,858	(15,119)	0	0	0	0	0	0
2013 1Q	27	689,873	27,896	4.0%	661,977	0	1	1,100	0	0	0	0
2012 4Q	27	689,873	27,896	4.0%	661,977	(1,100)	0	0	0	0	0	0
2012 3Q	27	689,873	26,796	3.9%	663,077	211,806	1	2,200	1	200,000	0	0
2012 2Q	26	489,873	38,602	7.9%	451,271	(3,538)	3	7,768	0	0	1	200,000
2012 1Q	26	489,873	35,064	7.2%	454,809	1,152	2	4,752	0	0	1	200,000
2011 4Q	26	489,873	36,216	7.4%	453,657	(2,571)	1	1,585	0	0	1	200,000
2011 3Q	26	489,873	33,645	6.9%	456,228	2,261	5	205,138	0	0	1	200,000
2011 2Q	26	489,873	35,906	7.3%	453,967	(27,300)	0	0	0	0	1	200,000
2011 1Q	26	489,873	8,606	1.8%	481,267	0	0	0	0	0	0	0
2010 4Q	26	489,873	8,606	1.8%	481,267	2,872	1	3,791	0	0	0	0
2010 3Q	26	489,873	11,478	2.3%	478,395	3,050	2	3,050	0	0	0	0
2010 2Q	26	489,873	14,528	3.0%	475,345	(5,782)	0	0	0	0	0	0
2010 1Q	26	489,873	8,746	1.8%	481,127	4,950	1	1,550	0	0	0	0
2009 4Q	26	489,873	13,696	2.8%	476,177	700	0	0	0	0	0	0
2009 3Q	26	489,873	14,396	2.9%	475,477	(4,796)	0	0	0	0	0	0
2009 2Q	26	489,873	9,600	2.0%	480,273	1,100	0	0	0	0	0	0
2009 1Q	26	489,873	10,700	2.2%	479,173	500	0	0	0	0	0	0
2008 4Q	26	489,873	11,200	2.3%	478,673	(1,500)	0	0	0	0	0	0
2008 3Q	26	489,873	9,700	2.0%	480,173	(3,700)	0	0	0	0	0	0
2008 2Q	26	489,873	6,000	1.2%	483,873	2,200	0	0	0	0	0	0
2008 1Q	26	489,873	8,200	1.7%	481,673	(700)	0	0	0	0	0	0
2007 4Q	27	1,048,873	566,500	54.0%	482,373	(558,300)	0	0	0	0	0	0
2007 3Q	27	1,048,873	8,200	0.8%	1,040,673	200	0	0	0	0	0	0
2007 2Q	27	1,048,873	8,400	0.8%	1,040,473	3,891	0	0	0	0	0	0
2007 1Q	27	1,048,873	12,291	1.2%	1,036,582	19,009	1	3,791	0	0	0	0
2006 4Q	27	1,048,873	31,300	3.0%	1,017,573	2,000	0	0	0	0	0	0
2006 3Q	27	1,048,873	33,300	3.2%	1,015,573	4,000	0	0	0	0	0	0
2006 2Q	27	1,048,873	37,300	3.6%	1,011,573	0	0	1,100	0	0	0	0
2006 1Q	27	1,048,873	37,300	3.6%	1,011,573	(1,100)	0	1,700	0	0	0	0

Source: CoStar.

Exhibit 5
City of Davis Industrial Flex Vacancy Trends
2006 Through Q4 2014

	Rentable Building Area						Leasing Activity		New Construction			
Period	# Bldgs	Total SF	Vacant SF	Percent Vacant	Occupied SF	Total Net Absorption	Total Deals	Total SF Leased	Number Delivered	RBA Delivered	# Under Const	RBA Under Const
2014 4Q	23	521,595	125,733	24.1%	395,862	4,020	0	0	0	0	0	0
2014 3Q	23	521,595	129,753	24.9%	391,842	(23,047)	2	4,020	0	0	0	0
2014 2Q	23	521,595	106,706	20.5%	414,889	2,289	2	3,910	0	0	0	0
2014 1Q	23	521,595	108,995	20.9%	412,600	7,273	1	3,796	0	0	0	0
2013 4Q	23	521,595	116,268	22.3%	405,327	(13,598)	1	3,477	0	0	0	0
2013 3Q	23	521,595	102,670	19.7%	418,925	1,830	2	17,567	0	0	0	0
2013 2Q	23	521,595	104,500	20.0%	417,095	7,485	2	3,728	0	0	0	0
2013 1Q	23	521,595	111,985	21.5%	409,610	3,725	3	11,752	0	0	0	0
2012 4Q	23	521,595	115,710	22.2%	405,885	32	0	0	0	0	0	0
2012 3Q	23	521,595	115,742	22.2%	405,853	(37,865)	0	0	0	0	0	0
2012 2Q	23	521,595	77,877	14.9%	443,718	(32,200)	0	0	0	0	0	0
2012 1Q	23	521,595	45,677	8.8%	475,918	(3,077)	0	0	0	0	0	0
2011 4Q	23	521,595	42,600	8.2%	478,995	6,978	1	4,737	0	0	0	0
2011 3Q	23	521,595	49,578	9.0%	472,017	3,037	1	2,937	0	0	0	0
2011 2Q	23	521,595	52,615	9.6%	468,980	(13,021)	0	0	0	0	0	0
2011 1Q	23	521,595	39,594	7.6%	482,001	(2,937)	0	0	0	0	0	0
2010 4Q	23	521,595	36,657	7.0%	484,938	(3,812)	0	0	0	0	0	0
2010 3Q	23	521,595	32,845	6.3%	488,750	10,255	2	2,400	0	0	0	0
2010 2Q	23	521,595	43,100	8.3%	478,495	300	0	0	0	0	0	0
2010 1Q	23	521,595	43,400	8.3%	478,195	(500)	0	0	0	0	0	0
2009 4Q	23	521,595	42,900	8.2%	478,695	19,700	1	9,200	0	0	0	0
2009 3Q	23	521,595	62,600	12.0%	458,995	(8,214)	0	0	0	0	0	0
2009 2Q	23	521,595	54,386	10.4%	467,209	60,391	1	2,684	1	71,175	0	0
2009 1Q	22	450,420	43,602	9.7%	406,818	100	0	0	0	0	1	71,175
2008 4Q	22	450,420	43,702	9.7%	406,718	(16,000)	0	0	0	0	1	71,175
2008 3Q	22	450,420	27,702	6.2%	422,718	18,598	0	0	0	0	1	71,175
2008 2Q	22	450,420	46,300	8.1%	404,120	13,756	0	0	0	0	0	0
2008 1Q	22	450,420	60,056	11.1%	390,364	(6,963)	1	2,937	0	0	0	0
2007 4Q	22	450,420	53,093	11.1%	397,327	(8,334)	0	0	0	0	0	0
2007 3Q	22	450,420	44,759	9.9%	405,661	10,499	0	0	0	0	0	0
2007 2Q	22	450,420	55,258	12.3%	395,162	4,099	3	2,341	0	0	0	0
2007 1Q	22	450,420	59,357	13.2%	391,063	15,200	1	4,200	0	0	0	0
2006 4Q	22	450,420	74,557	16.6%	375,863	8,900	1	10,000	0	0	0	0
2006 3Q	22	450,420	83,457	18.5%	366,963	(300)	0	7,300	0	0	0	0
2006 2Q	22	450,420	83,157	18.5%	367,263	7,919	0	0	0	0	0	0
2006 1Q	22	450,420	91,076	20.2%	359,344	4,200	2	15,000	0	0	0	0

Source: CoStar.

Exhibit 6
Analysis of BAE-Adjusted Office and Industrial Employment (1)
City of Davis and Yolo County
2008 - 2035

	Figures Provided by SACOG				BAE Adjustments (2)			
Jurisdiction/Type of Employment	**2008**	**2035**	**Increase**	**CAGR (3)**	**2008**	**2035**	**Increase**	**CAGR (3)**
Davis								
Office Employment	2,460	4,713	2,254		2,460			
Industrial Employment	1,072	1,048	-24		1,072			
Sub-total	3,532	5,761	2,230	1.83%	3,532	11,627	8,095	4.51%
All Other Employment	12,562	14,180	1,617	0.45%	12,562	14,180	1,617	0.45%
Total Employment	16,094	19,941	3,847	0.80%	16,094	25,806	9,712	1.76%
Yolo County								
Office Employment	14,993	28,681	13,687		14,993			
Industrial Employment	23,571	28,411	4,839		23,571			
Sub-total	38,565	57,091	18,527	1.46%	38,565	62,245	23,680	1.79%
All Other Employment	63,813	83,930	20,117	1.02%	63,813	83,930	20,117	1.02%
Total Employment	102,378	141,021	38,643	1.19%	102,378	146,175	43,797	1.33%

Sources: SACOG 2008 Regional Land Use by City and County; SACOG 2035 Regional Land Use by City and County; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) Reflects BAE adjustments to SACOG projections to accommodate innovation center growth.
(2) See BAE report, page 50 for shaded figures, comprising the adjusted figures estimated by BAE. The balance of the figures under this heading were either provided by SACOG or deduced by ALH Urban & Regional Economics pursuant to the BAE adjustments.
(3) CAGR denotes Compound Annual Growth Rate.

Exhibit 7
Mace Ranch Innovation Center
Identified Planned and Proposed Industrial and Industrial Development Projects (1)
City of Davis
February 2015

	Project	Description	Total Acreage	Potential Sq. Ft.	Status	Location	Expected Opening / Completion
1	Del Rio Live/Work	This project comprises 16 1,717-square-foot-three-story live/work units with a total of 27,472 square feet. The ground floor of each unit includes 455 square feet allowed to be leased for commercial use. (2)	0.00	7,280	Building permits are expected to be filed February 2015	2751 Del Rio Place	2015 / 2016
2	Panattoni	This project is planned for 225,000 square feet of Class A office, lab, and R&D space	14.80	225,000	In planning stage	3501 Chiles Boulevard	2018 (3)
3	The Cannery (part of Mixed Use)	This project is a neighborhood mixed use comprising a net of 12 net acres, approx. 550 dwelling units, 65,000 square feet of retail, and 56,000 square feet of office/flex space.	12.00	56,000	Under construction	1111 Covell Blvd.	Unknown
4	Davis Innovation Center	This project includes 3.0 million square feet of tech office and lab, 680,000 square feet of R&D, Assembly, and Flex space, 120,000 square feet of ancillary retail, 85 acres of open space, and a 200-room hotel.	207.75	3,680,000	In planning stages, EIR under preparation	W. Covell Blvd. and Route 113	2035
5	Nishi Gateway	This project includes 352,950 square feet of research, office, and R&D, 47,950 square feet of ancillary retail, 5 acres of open space and 650 condominium and apartment units. A hotel could be included but square footage would be redirected from other uses. But there is no detailed hotel proposal for the project.	47.00	352,950	In planning stages	Between I-80 and the Railroad	2035
6	Mace Triangle	This project comprises 45,901 square feet of research, office, and R&D and 25,155 square feet of retail.	17.00	45,901	In planning stages	I-80 and Mace Blvd.	2035
7	Alhambra	This project includes 68,000 square feet of office, R&D, and retail. (4)	5.98	45,333	On hold, approval expired	Alhambra Dr. and Mace Blvd.	NA, Not Foreseeable
8	2932 Spafford St. (Park Vaughn)	This is a 24,685-square-foot office research building.	--	24,685	On hold	2932 Spafford St.	NA
9	602 Cantrill Office	This is a 17,290-square-foot office building.	--	17,290	On hold	602 Cantrill Dr.	NA
10	614 Cantrill Comm. Service	This is a 15,040-square-foot office building.	--	15,040	On hold	614 Cantrill Dr.	NA
		TOTAL, All projects	**NA**	**4,469,479**			
		TOTAL, Excluding projects on hold		**4,367,131**			

Sources: City of Davis Planning Department; City of Davis City Council, "Del Rio Live-Work, 2751 Del Rio Place, City Council August 26, 2014" page 8; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) Includes office and industrial development projects with development plans in progress with the City of Davis. Projects are generally listed in descending order of development timeframe.
(2) According to a City Council report the commercial component of the Del Rio live/work units may comprise office, personal services, small scale retail, etc.. ALH Urban & Regional Economics assumes that one-third of the space will comprise retail and the remaining will be office space.
(3) ALH Economics assumption, based upon news reports suggesting construction could start as early as 2016.
(4) The approval on this project has expired and the breakdown of the 68,000 square feet between office, R&D, and retail is unknown. ALH Urban & Regional Economics is assumed an equal distribution, i.e., one third to each land use. However, ALH Urban & Regional Economics does not consider this a reasonably foreseeable project since the approval has expired.

Exhibit 8
Average Annual Estimated Daytime Retail Spending (1)
Office Workers in Suburban Locations
In 2014 Dollars (2)

Category of Spending (3)	Weekly Spending		Annual Spending (5)	
	Suburban Locations	Suburban Ample Locations (4)	Suburban Locations	Suburban Ample Locations (4)
Full-Service Restaurants and Fast Food	$30.64	$53.58	$1,385.28	$2,422.35
Goods and Services				
Groceries	$22.91	$40.06	$1,035.84	$1,811.31
All Other (6)	$102.00	$178.37	$4,611.84	$8,064.42
Total	**$155.55**	**$272.01**	**$7,032.96**	**$12,298.08**

Sources: Office-Worker Retail Spending in a Digital Age," International Council of Shopping Centers; United States Bureau of Labor Statistics, CPI for Urban West; and ALH Urban & Regional Economics.

(1) Reflects spending "near the office" for office workers. This is contrued to mean in relative proximity to the work location.
(2) The data were reported for 2011. See Exhibit B-1. ALH Urban & Regional Economics inflated the figures to 2014 by using the Urban West CPI Index, with adjustments from June 2011 to June 2014, resulting in a 1.06% (rounded) adjustment.
(3) Excludes spending on transportation and online purchases.
(4) Reflects an increase in spending by office workers in location with more ample retail, restaurant, and services offerings in the vicinity of the office building. This adjustment is based upon analysis reflected in the cited International Council of Shopping Centers source document. In suburban locations the increment was approximately 75% more.
(5) Reflects a 48-year work week, allocating 2 weeks for holidays and 2 weeks for vacation.
(6) All other includes a range of retail purchases, such as personal care shops, office supplies, department stores, drug stores, electronics, jewelry stores, entertainment, clothing, and other goods.

Exhibit 9
Retail Demand Near the Work Location Generated by On-Site Innovation Center Employees
Yolo County Benchmark
In 2014 Dollars

	Type of Employee			
	Office	**Industrial**	**Retail**	**Hotel**
Average Wage (1)				
Annual Average Wage	$50,000	$53,000	######	$17,820 (2)
Wage Benchmarked to Office Wage (3)	100%	106%	54%	34%
Average Annual Spending (4)				
Restaurants/Fast Food	$1,400	$1,500	$800	$500
Groceries	$1,000	$1,100	$500	$300
All Other	$4,600	$4,900	$2,500	$1,500
Total Spending	**$7,000**	**$7,500**	**$3,800**	**$2,300**

Sources: United States Census Bureau, County Business Patterns, Yolo County 2012; United States Census Bureau, County Business Patterns, State of California 2012; and ALH Urban & Regional Economics.

(1) See Exhibit B-2. Figures rounded to the nearest $1,000.
(2) Wages are not disclosed for this category of work. Based on overall State of California findings, ALH Urban & Regional Economics assumes that hotel sector wages are approximately equal to 66% of retail industry workers.
(3) Wages are benchmarked relative to office wages, since workers are assumed to make retail purchases in a pattern similar to office workers, but in proportion to their wages relative to office worker wages.
(4) See Exhibit 8. Figures rounded to the nearest $100.

Exhibit 10
Mace Ranch Innovation Center
On-Site Employment Retail Demand Generation Near the Work Location
Cumulative Demand at Buildout
In 2014 Dollars

	Retail Demand (1)						Supportable Sq. Ft.	
Type of Retail	Office	Industrial	Retail	Hotel	Total Demand	Sales Per Sq. Ft. (2)	Amount (3)	Vacancy Adjusted (4)
Restaurants	$4,974,118	$3,120,000	$160,000	$24,750	$8,278,868	$495	16,700	17,600
Grocery	$3,552,941	$2,288,000	$100,000	$24,750	$5,965,691	$685	8,700	9,200
Other	$16,343,529	$10,192,000	$500,000	$24,750	$27,060,279	$300 (5)	90,200	94,900
Total	**$24,870,588**	**$15,600,000**	**$760,000**	**$74,250**	**$41,304,838**	**$339 (6)**	**115,600**	**121,700**

Source: ALH Urban & Regional Economics.

(1) Comprises demand by type of worker multipled by the estimated number of workers at buildout, see Exhibit Exhibit 2 for employee count and Exhibit 9 for worker spending estimates.
(2) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit B-3.
(3) Reflects the total estimated project-generated spending on retail divided by the achievable sales per square foot estimate. Figures rounded to nearest 100.
(4) Includes a 5% vacancy allowance for all categories of retail space. Figures rounded to the nearest 100.
(5) Reflects a generated average sales per square foot assumption reflecting a range of prospective retailers.
(6) Reflects a weighted average based on the vacancy adjusted total square feet.

Exhibit 11
Mace Ranch Innovation Center
Supportable Retail Square Feet per Employee (1)

Characteristic	Office	Industrial	Retail	Hotel	Total/Average
Number of Employees (2)	3,553	2,080	200	50	5,882
Supportable Square Feet (3)	77,135	48,383	2,357	230	127,875 (4)
Supportable Sq. Ft./Employee (5)	22	23	12	5	22

Source: ALH Urban & Regional Economics.

(1) This comprises an analysis of the supportable retail square feet by innovation center employee by type of land use. This is predicated upon the findings in Exhibit 10, by using an average sales performance figure to derive a generalized average supportable square feet of retail estimate.
(2) See Exhibit 2.
(3) Comprises the number of employees multiplied by the weighted average sales per square foot assumption of $335 for employee-supported retail space derived in Exhibit 10, which is then adjusted by the assumed 5% vacancy rate also presented in Exhibit 10.
(4) Because this total figure was derived differently, using a more generic approach, the total supportable square foot estimate varies nominally from the estimate derived in Exhibit 10. This is not a material difference, and ALH Urban & Regional Economics believes the resulting supportable square feet per employee figures are reasonable estimates for generalized analysis (see next footnote).
(5) Comprises the supportable square foot estimate divided by number of employees. This is a generic assumption derived to support generalized cumulative project analysis.

Exhibit 12
Household and Population Estimates and Projections
City of Davis and Yolo County (1)
2010 - 2035

Demographic Characteristic	2010	2014	2015	2020	2035 (2)	Compound Annual Average Growth Rate 2010-2014	2014-2020	2020-2035
Households								
City of Davis	24,873	25,029	25,500	27,994	29,311	0.16%	1.88%	0.31%
Yolo County	70,849	70,716	73,531	89,381	104,080	-0.05%	3.98%	1.02%
Population								
City of Davis	65,622	66,656	67,090	69,301	78,060	0.39%	0.65%	0.80%
Yolo County	200,772	206,381	209,319	224,647	277,139	0.69%	1.42%	1.41%

Sources: Sacramento Area Council of Governments (SACOG), "Population, Housing and Household Estimates 1990 - 2014," 5/5/2014; SACOG, "SACOG-08-20-35-forecast-Jurisdiction"; and ALH Urban & Regional Economics.

(1) Demographic Census data for 2010, 2014 estimates, and 2020 and 2035 projections are provided by SACOG. The 2015 figures are projected by ALH Urban & Regional Economics based on the compound annual growth rate between 2014 and 2020.
(2) The furthest projection year per SACOG is 2035.

Exhibit 13
City of Davis
Annual Retail Demand Generated by New Households (1)
Level of Demand Supported in 2035
Household Growth Between 2015 and 2035
In 2014 Dollars

	Retail Demand			Supportable Sq. Ft.	
Type of Retailer	**Per Household Demand (2)**	**Total Demand (3)**	**Sales Per Sq. Ft. (4)**	**Amount (5)**	**Vacancy Adjusted (6)**
Food and Beverage Stores	$4,414	$16,818,865	$590	28,507	30,007
Food Services and Drinking Places	$3,189	$12,152,647	$495	24,545	25,837
Home Furnishings and Appliance Stores	$1,333	$5,080,694	$320	15,894	16,731
Building Materials and Garden Equip (7)	$1,482	$5,648,043	$297	19,006	20,007
Clothing and Clothing Accessories Stores	$1,748	$6,660,693	$390	17,070	17,968
General Merchandise Stores	$3,899	$14,858,990	$285	52,211	54,958
Other Retail Group (8)	$2,802	$10,677,383	$428	24,958	26,272
Motor Vehicles and Parts Dealers	$3,325	$12,669,431	$800	15,837	16,670
Gasoline Stations	$3,133	$11,940,388	N/A	N/A	N/A
Subtotal	**$25,326**	**$96,507,133**	N/A	**198,028**	**208,451**
Additional Service Increment (15% of total) (9)		N/A	N/A	44,308	46,640
Total (10)		**N/A**	**N/A**	**232,974**	**245,236**
Average per Household (11)					**64**

Sources: Nielson Reports; and ALH Urban & Regional Economics.

(1) Includes an estimated 3,811 new households between 2015 and 2035. See Exhibit 12.
(2) The per household spending estimates for new City of Davis households were generated by ALH Urban & Regional Economics by assuming estimated average 2014 household incomes of $84,420 per Nielson Reports and multiplying by 30%, utilizing the assumption that 30% of household income is spent on BOE type retail.This figure was then multiplied by the percentages calculated from the ratio of the BOE sales for the State of California. See Exhibits B-4 and B-5.
(3) Represents per household spending multiplied by the increase of household count from Exhibit 12.
(4) These figures reflect achievable sales per square foot estimates for each respective retail category except as noted. The figures reflect general industry averages as well as national averages reported in the Retail MAXIM publication "Alternative Retail Risk Analysis for Alternative Capital." See Exhibit B-3.
(5) Reflects the total estimated new household-generated spending on retail divided by the achievable sales per square foot estimate.
(6) Includes a 5% vacancy allowance for all categories of retail space.
(7) Building Materials and Garden Equipment includes hardware stores, plumbing and electrical supplies, paint and wallpaper products, glass stores, lawn and garden equipment, and lumber.
(8) Other Retail Group includes drug stores, electronics, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, electronics, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.
(9) Includes an allocation of 15% of space to accommodate service retail, such as banks, personal, and business services.
(10) Vacancy adjusted figures rounded to nearest 10,000.
(11) Comprises the total supportable square footage divded by the number of new households, to derive a generalized average estimate per household.

Exhibit 14
City of Davis Retail Vacancy Trends
2006 Through Q4 2014

	Rentable Building Area						Leasing Activity		New Construction			
Period	# Bldgs	Total SF	Vacant SF	Percent Vacant	Occupied SF	Total Net Absorption	Total Deals	Total SF Leased	Number Delivered	RBA Delivered	# Under Const	RBA Under Const
2014 4Q	189	2,180,814	74,031	3.4%	2,106,783	3,730	3	6,780	0	0	0	0
2014 3Q	189	2,180,814	77,761	3.6%	2,103,053	13,538	4	10,644	0	0	0	0
2014 2Q	189	2,180,814	91,299	4.2%	2,089,515	(2,803)	8	11,566	1	9,603	0	0
2014 1Q	188	2,171,211	78,893	3.6%	2,092,318	48,613	9	49,945	3	60,559	1	9,603
2013 4Q	185	2,110,652	67,100	3.2%	2,043,552	48,585	6	12,749	2	33,781	4	70,162
2013 3Q	183	2,076,871	81,904	3.9%	1,994,967	26,615	12	27,165	0	0	6	103,943
2013 2Q	183	2,076,871	108,519	5.2%	1,968,352	(15,396)	11	16,465	0	0	5	94,340
2013 1Q	183	2,076,871	93,123	4.5%	1,983,748	540	8	22,621	0	0	3	40,538
2012 4Q	183	2,076,871	93,663	4.5%	1,983,208	20,230	11	17,976	0	0	3	40,538
2012 3Q	183	2,076,871	113,893	5.5%	1,962,978	2,539	9	31,327	0	0	3	40,538
2012 2Q	183	2,076,871	116,432	5.6%	1,960,439	26,833	13	21,808	1	10,000	2	15,538
2012 1Q	182	2,066,871	133,265	6.4%	1,933,606	36,870	4	5,183	1	3,000	3	25,538
2011 4Q	181	2,063,871	167,135	8.1%	1,896,736	(581)	5	24,984	0	0	4	28,538
2011 3Q	181	2,063,871	166,554	8.1%	1,897,317	(32,379)	3	7,065	0	0	2	15,538
2011 2Q	181	2,063,871	134,175	6.5%	1,929,696	(1,231)	5	5,861	0	0	2	15,538
2011 1Q	181	2,063,871	132,944	6.4%	1,930,927	31,380	3	2,700	1	3,362	2	15,538
2010 4Q	180	2,060,509	160,962	7.8%	1,899,547	(18,912)	3	1,515	0	0	3	18,900
2010 3Q	180	2,060,509	142,050	6.9%	1,918,459	(27,389)	5	10,836	0	0	3	18,900
2010 2Q	180	2,060,509	114,661	5.6%	1,945,848	5,815	6	48,263	0	0	3	18,900
2010 1Q	180	2,060,509	120,476	5.8%	1,940,033	34,674	3	3,078	0	0	3	18,900
2009 4Q	180	2,060,509	155,150	7.5%	1,905,359	(9,605)	2	2,140	0	0	2	15,538
2009 3Q	180	2,060,509	145,545	7.1%	1,914,964	(22,995)	2	17,500	0	0	2	15,538
2009 2Q	180	2,060,509	122,550	5.9%	1,937,959	122,171	3	6,457	2	141,352	2	15,538
2009 1Q	178	1,919,157	103,369	5.4%	1,815,788	16,175	3	4,056	1	3,840	4	156,890
2008 4Q	177	1,915,317	115,704	6.0%	1,799,613	(448)	0	0	0	0	2	8,350
2008 3Q	177	1,915,317	115,256	6.0%	1,800,061	(34,491)	2	4,143	0	0	1	3,840
2008 2Q	177	1,915,317	80,765	4.2%	1,834,552	(17,072)	1	400	0	0	0	0
2008 1Q	177	1,915,317	63,693	3.3%	1,851,624	17,571	1	0	0	0	0	0
2007 4Q	177	1,915,317	81,264	4.2%	1,834,053	19,013	1	8,200	1	15,713	0	0
2007 3Q	176	1,899,604	84,564	4.5%	1,815,040	(1,509)	1	3,183	0	0	1	15,713
2007 2Q	176	1,899,604	83,055	4.4%	1,816,549	13,053	2	4,060	0	0	1	15,713
2007 1Q	176	1,899,604	96,108	5.1%	1,803,496	1,381	0	0	0	0	1	15,713
2006 4Q	176	1,899,604	97,489	5.1%	1,802,115	(1,028)	0	0	0	0	1	15,713
2006 3Q	176	1,899,604	96,461	5.1%	1,803,143	(5,458)	3	1,910	0	0	0	0
2006 2Q	176	1,899,604	91,003	4.8%	1,808,601	(20,687)	1	0	0	0	0	0
2006 1Q	176	1,899,604	70,316	3.7%	1,829,288	(48,268)	3	7,439	0	0	0	0

Source: CoStar.

Exhibit 15
Mace Ranch Innovation Center
Identified Planned and Proposed Retail Projects (1)
City of Davis
February 2015

	Project	Description	Total Acreage	Potential Retail Sq. Ft.	Status	Location	Expected Opening / Completion
1	Bank of America	This is a 3,547-square-foot building, 1/2 of the space is a bank and 1/2 of the space is available for lease.	--	3,547	Completed	4551 2nd St.	2015
2	Del Rio Live/Work	This project comprises 16 1,717-square-foot-three-story live/work units with a total of 27,472 square feet. The ground floor of each unit includes 455 square feet allowed to be leased for commercial use. (2)	--	2,427	Building permits are expected to be filed February 2015	2751 Del Rio Place	2015 / 2016
3	The Cannery (part of Mixed Use)	This project is a neighborhood mixed use comprising a net of 12 net acres, approx. 550 dwelling units, 65,000 square feet of retail, and 56,000 square feet of office/flex space.	12.00	65,000	Under construction	1111 Covell Blvd.	Unknown
4	Davis Innovation Center	This project includes 3.0 million square feet of tech office and lab, 680,000 square feet of R&D, Assembly, and Flex space, 120,000 square feet of ancillary retail, 85 acres of open space, and a 200-room hotel.	207.75	120,000	In planning stages, EIR under preparation	W. Covell Blvd. and Route 113	2035
5	Alhambra	This project includes 68,000 square feet of office, R&D, and retail. (3)	5.98	22,667	On hold, approval expired	Alhambra Dr. and Mace Blvd.	NA, Not Foreseeable
6	Nishi Gateway	This project includes 352,950 square feet of research, office, and R&D, 47,950 square feet of ancillary retail, 5 acres of open space and 650 condominium and apartment units. A hotel could be included but square footage would be redirected from other uses. But there is no detailed hotel proposal for the project.	47.00	47,950	In planning stages	Between I-80 and the Railroad	2035
7	Mace Triangle	This project comprises 45,901 square feet of research, office, and R&D and 25,155 square feet of retail.	17.00	25,155	In planning stages	I-80 and Mace Blvd.	2035
		TOTAL	**NA**	**286,745**			

Sources: City of Davis Planning Department; City of Davis City Council, "Del Rio Live-Work, 2751 Del Rio Place, City Council August 26, 2014" page 8; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) Includes retail development projects with development plans in progress with the City of Davis.
(2) According to a City Council report the commercial component of the Del Rio live/work units may comprise office, personal services, small scale retail, etc.. ALH Urban & Regional Economics assumes that one-third of the space will comprise retail and the remaining will be office space.
(3) The approval on this project has expired and the breakdown of the 68,000 square feet between office, R&D, and retail is unknown. ALH Urban & Regional Economics is assumed an equal distribution, i.e., one third to each land use. However, ALH Urban & Regional Economics does not consider this a reasonably foreseeable project since the approval has expired.

Exhibit 16
Mace Ranch Innovation Center
Supportable Retail Space Analysis for Cumulative Projects (1)
City of Davis

Cumulative Project and Characteristics	Land Use (1) Research, Office, R&D	Manu-facturing	Retail	Hotel	Residential Units	Total Supportable Retail
Supportable Retail Sq. Ft. Per Employee/household (2)	22	24	12	7	64	
Employment Density (3)	250	425	500	.33/room		
Vacancy Rate Assumption (4)	10%	10%	5%	NA	5%	
Mace Ranch Innovation Center						
Square Feet of Development (5)	1,510,000	884,000	100,000	150		
Number of Employees (5)	3,553	2,080	200	50		
Supportable Retail Space (6)	73,208	45,920	2,237	335		121,700
Davis Innovation Center						
Square Feet of Development/Hotel Rooms (7)	3,000,000	680,000	120,000	200		
Number of Employees (8)	8,589	1,947	240	66		
Supportable Retail Space (9)	188,806	45,853	2,864	477		238,000
The Cannery						
Square Feet of Development/No. of Housing Units (7)	56,000		65,000		550	
Number of Employees/Households (10)(11)	202		124		523	
Supportable Retail Space (9)	4,432		1,474		33,626	39,532
Nishi Gateway						
Square Feet of Development (7)	352,950		47,950		650	
Number of Employees (12)	1,412		96		618	
Supportable Retail Space (9)	31,039		1,146		39,740	71,924
Mace Triangle						
Square Feet of Development (7)	45,901		25,155			
Number of Employees (12)	108		50			
Supportable Retail Space (9)	2,374		597			2,971
Bank of America						
Square Feet of Development (7)			3,547			
Number of Employees (10)			13			
Supportable Retail Space (9)			281			281
Cumulative Project Totals						
Sq. Ft. of Development/Hotel Rooms/ Housing Units	4,964,851	1,564,000	361,652	350	1,200	
Number of Employees/Households	13,864	4,027	722	116	1,140	
Supportable Retail Space	299,859	91,773	8,598	812	73,366	**474,407**

Sources: "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; Urban Decay Analysis for Davis Innovation Center, March 2015, Prepared by ALH Urban & Regional Economics for Raney Planning and Management, Inc. and ALH Urban & Regional Economics.

(1) See Exhibit 15 for a list of the cumulative projects, including their planned retail square footage. This exhibit includes cumulative projects with planned retail components. However, the analysis does not include all the identified cumulative projects with potential retail space. This includes the Alhambra project, which is not deemed reasonably foreseeable. It also does not include the Embassy Suites project, as the planned retail is generally replacing existing retail already on site. It further does not include the Del Rio Live Work Project, as the retail space is very limited (less than 2,500 sq. ft.) and employment will likewise be limited.
(2) See Exhibit 11 for the estimated per employee figure and Exhibit 13 for the estimated per household figure. Note these are generalized estimates. Further note that the figures cited for Manufacturing and Hotel vary slightly from Exhibit 11. These figures were separately derived by ALH Urban & Regional Economics for the Davis Innovation Center Urban Decay Analysis, and are used herein for consistency. The differences are immaterial to the findings.
(3) Estimated square feet of space per employee or number of employees per hotel room. These are generalized industry estimates, some of which are presented in Exhibit 2.
(4) See Exhibit 2 for the office, R&D, industrial, and retail estimates. The household estimate of 5% is a generalized estimate, reflecting the likelihood that at any point in time some units may be vacant due to housing unit turnover.
(5) See Exhibit 2.
(6) See Exhibit 11. Note the explanation in this exhibit for how and why the supportable square feet figure varies from Exhibit 10.
(7) See Exhibit 15 for cumulative project details, including planned square feet by land use and number of housing units. Housing unit count is a minimum for Cannery Park.
(8) See Exhibit 2 in the Urban Decay Analysis for Davis Innovation Center, February 2015, Prepared by ALH Urban & Regional Economics for Raney Planning and Management, Inc.
(9) Comprises estimated number of employees multiplied by the per employee estimate of supportable retail square feet, or estimated number of households multiplied by the per household estimate of supportable retail square feet.
(10) Number of employees are calculated by taking the planned square footage by use, multiplying it by the occupancy rate by use, i.e., 100% less the vacancy rate per use, and then dividing the resulting figure by the employment density by land use.
(11) Number of households are calculated by the housing unit count multiplied by the assumed occupancy rate, i.e., 100% less the vacancy rate.
(12) See BAE Study, page 3.

Exhibit 17
City of Davis BOE Taxable Sales Estimate
in Current Dollars
Third Quarter 2012 Through Second Quarter 2013
(in $000s), Except Household Estimates

	BOE Taxable Sales Estimate in $000s (1)					City of Davis Taxable Sales Adjusted to Total Retail	
	Q4 2012	Q1 2013	Q2 2013	Q3 2013	Total Taxable Sales		Per
Type of Retailer	[A]	[B]	[C]	[D]	[E = A + B + C +D]	Total	Household (2)
Food & Beverage Stores	$12,903	$11,664	$12,388	$11,829	$48,784	$162,613 (3)	$6,507
Food Services & Drinking Places	$24,253	$24,627	$27,229	$24,734	$100,843	$100,843	$4,035
Home Furnishings & Appliances	$1,720	$1,224	$1,387	$1,458	$5,789	$5,789	$232
Building Materials & Garden Equipment	$4,702	$3,764	$4,972	$4,819	$18,257	$18,257	$731
Clothing & Clothing Accessories	$4,319	$3,505	$3,604	$3,190	$14,618	$14,618	$585
General Merchandise Stores	$12,499 (4)	$9,479 (4)	$10,140 (4)	$9,962 (4)	$42,080	$56,106 (5)	$2,245
Other Retail Group	$10,879 (4)	$10,410 (4)	$10,523 (4)	$11,449 (4)	$43,261	$55,517 (6)	$2,222
Motor Vehicle & Parts Dealers	$38,937	$35,445	$50,878	$43,197	$168,457	$168,457	$6,741
Gasoline Stations	$17,915	$18,139	$19,422	$19,309	$74,785	$74,785	$2,993
Total (7)	**$128,127**	**$118,257**	**$140,543**	**$129,947**	**$516,874**	**$656,986**	**$26,290**

Sources: California State Board of Equalization (BOE), "Taxable Sales in California (Sales & Use Tax)" reports, for Third Quarter 2012, Fourth Quarter 2012, First Quarter 2013, and Second Quarter 2013; U.S. Economic Census, "Retail Trade: Subject Series - Product Lines: Product Lines Statistics by Kind of Business for the United States: 2007"; and ALH Urban & Regional Economics.

(1) Taxable sales are pursuant to reporting by the State of California Board of Equalization (BOE).

(2) Comprises total sales divided by estimated 2013 household count of 24,990. See Exhibit 12 for household estimates providing the basis for the interpolated 2013 estimate.

(3) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.

(4) The BOE omits certain sales because their publication would result in the disclosure of confidential information. ALH Urban & Regional Economics estimated the missing category sales figures. See Exhibit B-6 for calculations.

(5) Sales for General Merchandise Stores have been adjusted to account for non-taxable food sales, since some General Merchandise Store sales include non-taxable food items. ALH Urban & Regional Economics estimates that at least 25% of General Merchandise sales are for grocery items that are also non-taxable. This estimate is based on analysis of the 2007 U.S. Economic Census, which attributes 26% of General Merchandise Stores sales to food.

(6) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with the California BOE and examination of U.S. Census data. In Yolo County, drug store sales in Q4 2012, Q1 2013, Q2 2013, and Q3 2013 represented approximately 13.95% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable sales.

(7) Totals may not add up due to rounding.

Exhibit 18
Retail Demand, Sales Attraction, and Spending Analysis (1)
City of Davis
2013

Type of Retailer	Per Household Spending (2)	Per Household Sales (3)	City of Davis Household Spending (2)	City of Davis Sales (3)	Retail Sales Attraction/(Leakage) Amount	Retail Sales Attraction/(Leakage) Percent
Food and Beverage Stores	$3,616	$6,507	$90,359,036	$162,613,333	$72,254,298	44.4%
Food Services and Drinking Places	$2,613	$4,035	$65,289,869	$100,843,000	$35,553,131	35.3%
Home Furnishings and Appliance Stores	$1,092	$232	$27,295,932	$5,789,000	($21,506,932)	(78.8%)
Building Materials and Garden Equip (4)	$1,214	$731	$30,344,007	$18,257,000	($12,087,007)	(39.8%)
Clothing and Clothing Accessories Stores	$1,432	$585	$35,784,449	$14,618,000	($21,166,449)	(59.1%)
General Merchandise Stores	$3,194	$2,245	$79,829,643	$56,106,400	($23,723,243)	(29.7%)
Other Retail Group (5)	$2,295	$2,222	$57,364,041	$55,517,109	($1,846,932)	(3.2%)
Motor Vehicles and Parts Dealers	$2,724	$6,741	$68,066,283	$168,457,000	$100,390,717	59.6%
Gasoline Stations	$2,567	$2,993	$64,149,509	$74,785,000	$10,635,491	14.2%
Total	**$20,748**	**$26,290**	**$518,482,768**	**$656,985,843**	**$138,503,075**	**21.1%**

Source: ALH Urban & Regional Economics.

(1) All figures are expressed in 2013 dollars.
(2) The per household spending estimates for the City of Davis were generated by ALH Urban & Regional Economics by taking the estimated average 2014 area household income figure of $84,420 for 2014 from Nielson Reports, deflating the figure to a 2013 estimate per the 1.72% CPI from 2013 to 2014, and multiplying by 25%, utilizing the assumption that 25% of household income is spent on BOE type retail.This figure was then multiplied by the percentages calculated from the ratio of the BOE sales for the State of California. See Exhibit B-5.
(3) See Exhibit 17.
(4) Building Materials and Garden Equipment includes hardware stores, plumbing and electrical supplies, paint and wallpaper products, glass stores, lawn and garden equipment, and lumber.
(5) Other Retail Group includes drug stores, health and personal care, pet supplies, gifts, art goods and novelties, sporting goods, florists, musical instruments, stationary and books, office and school supplies, second-hand merchandise, and miscellaneous other retail stores.

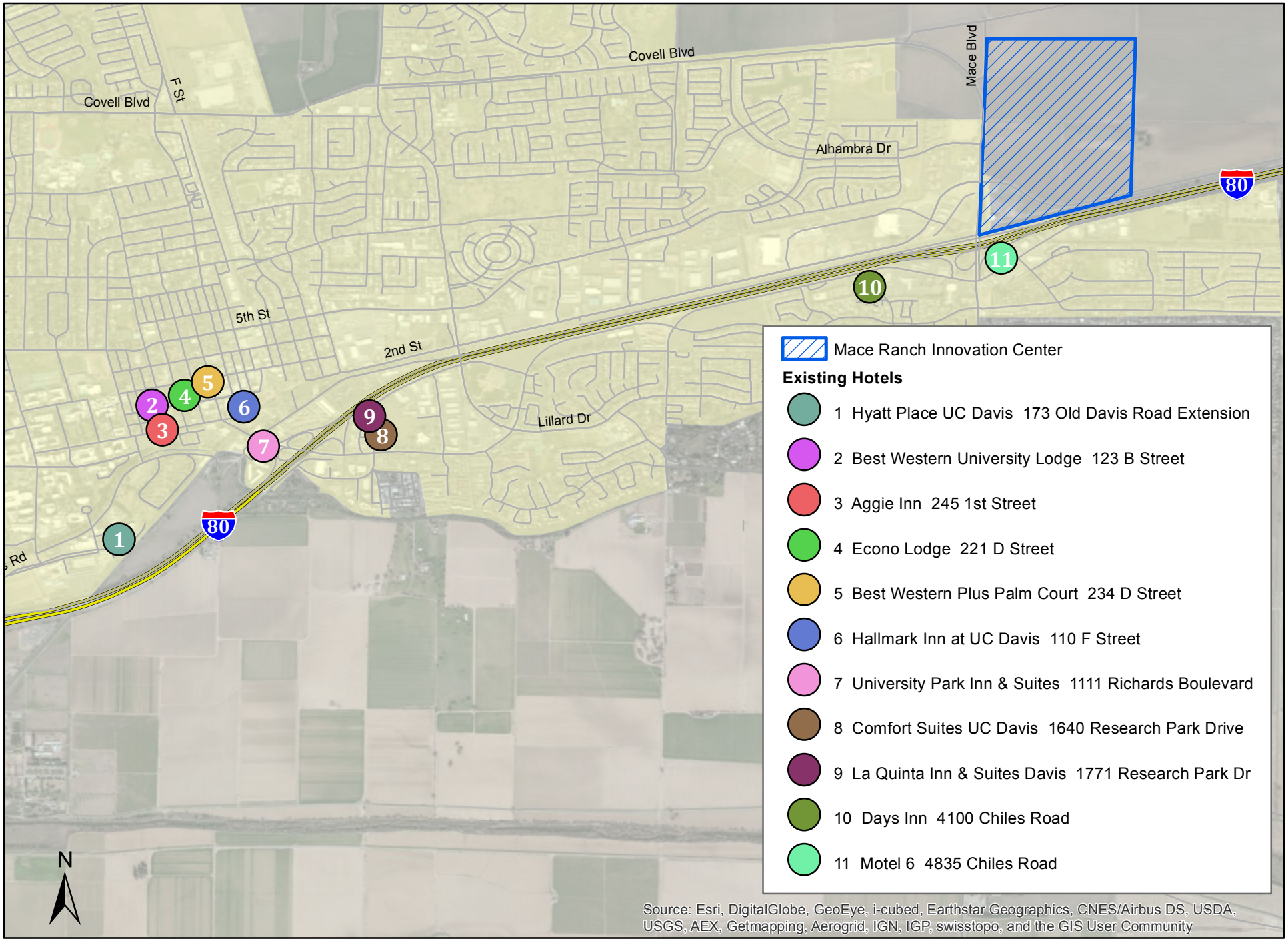
Exhibit 19
Existing Hotel Supply
City of Davis
January 2015

Map No.	Name of Establishment	Miles from Mace Ranch Innovation Center (1)	Address	Class	Average Room Rate (2)	Open Date	Room Count
1	Hyatt Place UC Davis	3.8	173 Old Davis Road Extension	Upscale Class	$149	Mar 2010	127
2	Best Western University Lodge (3)	3.1	123 B Street	Midscale Class	$110	Jun 1968	52
3	Ascend Collection Hotel Aggie Inn	3.2	245 1st Street	Upscale Class	$169	NA	33
4	Econo Lodge Davis	3.0	221 D Street	Economy Class	$95	Jun 1963	26
5	Best Western Plus Palm Court Hotel	2.9	234 D Street	Upper Midscale Class	$160	Apr 1994	27
6	Hallmark Inn	2.9	110 F Street	Upper Midscale Class	$135	Apr 1990	120
7	University Park Inn	3.2	1111 Richards Boulevard	Economy Class	$120	Jun 1973	45
8	Comfort Suites UC Davis	2.8	1640 Research Park Drive	Upper Midscale Class	$134	May 2000	71
9	La Quinta Inns & Suites Davis	2.7	1771 Research Park Dr	Midscale Class	$75	Jan 1997	51
10	Days Inn Sacramento UC Davis	0.6	4100 Chiles Road	Economy Class	$70	Jun 1974	78
11	Motel 6 Davis Sacramento Area (3)	0.5	4835 Chiles Road	Economy Class	$56	Nov 1978	103
							733

Sources: Smith Travel Research; Hotel websites; GoogleMaps; and ALH Urban & Regional Economics.

(1) The site location assumed for distance mapping purposes is the intersection of Mace Boulevard and 2nd Street for the Mace Ranch Innovation Center.
(2) Average room rate for a single room with a king-sized bed for 2 adults, free cancellation. No special pricing applied. Internet-based room queries, approximately 3 weeks prior notice.
(3) The hotel does not offer king-sized beds, the average rate is for a single room with a queen-sized bed.

Exhibit 20: Mace Ranch Innovation Center and Existing Hotels



0 0.5 1 2 Miles

Exhibit 21
Supply and Demand Trends
Davis Hotels (1)
2008 through 2014

Year	Average No. of Rooms (2)	Annual Supply (3) Amount	Annual Supply (3) % Change	Annual Demand (4) Amount	Annual Demand (4) % Change	Annual Occupancy (5)
2008	609	222,285	---	118,154	---	53.2%
2009	622	227,030	2%	113,047	-4%	49.8%
2010	685	249,980	10%	125,684	11%	50.3%
2011	695	253,675	1%	146,939	17%	57.9%
2012	681	248,565	-2%	149,859	2%	60.3%
2013	681	248,565	0%	158,257	6%	63.7%
2014 (6)	724	264,477	6%	175,034	11%	66.2%

Sources: Smith Travel Research, Hotel Trend Report, Davis, CA, January 2008 Through November 2014; and ALH Urban & Regional Economics.

(1) Includes hotels listed and mapped in Exhibit 2 and Exhibit 2, respectively.
(2) Comprises the average number of rooms throughout the calendar year.
(3) Annual supply is equal to the summation of the number of rooms available per month times the number of days in the period.
(4) Annual demand is reported by Smith Travel Research. See footnote (6) for information about the 2014 estimate.
(5) Annual occupancy comprises annual demand divided by annual supply.

(6) The Smith Travel Research data for 2014 were provided through November 2014. ALH Urban & Regional Economics estimated the supply based on the figure reported through November 2014 plus one additional month based on the most recent month figure reported by Smith Travel Research. ALH Urban & Regional Economics estimated the demand based on the figure reported through November 2014 plus one additional month based on the pattern of the amount of demand in December of all prior years relative to aggregate demand from January through November of each year. The average percentage share of demand in December relative to the prior 11 months of the year was 6.82%.

Exhibit 22
Mace Ranch Innovation Center
Projected Future Hotel Supply and Demand Trends (1)
City of Davis
2014 - 2035

Year		No. of Rooms	Annual Supply (2)	Demand per Annual Growth Rate in Demand (3) 1.33%	Demand per Annual Growth Rate in Demand (3) 1.76%	Occupancy per Growth Rate in Demand (4) 1.33%	Occupancy per Growth Rate in Demand (4) 1.76%
2014		733 (5)	267,545	177,358	178,122	66.3%	66.6%
2015		733	267,545	179,713	181,265	67.2%	67.8%
2016		733	267,545	182,099	184,463	68.1%	68.9%
2017		733	267,545	184,517	187,717	69.0%	70.2%
2018		733	267,545	186,967	191,028	69.9%	71.4%
2019		733	267,545	189,450	194,399	70.8%	72.7%
2020		733	267,545	191,965	197,828	71.8%	73.9%
2021		733	267,545	194,514	201,318	72.7%	75.2%
2022		733	267,545	197,096	204,870	73.7%	76.6%
2023		733	267,545	199,713	208,484	74.6%	77.9%
2024		733	267,545	202,365	212,162	75.6%	79.3%
2025		733	267,545	205,052	215,905	76.6%	80.7%
2026		733	267,545	207,774	219,714	77.7%	82.1%
2027	(6)	883	322,295	210,533	223,590	65.3%	69.4%
2028		883	322,295	213,328	227,535	66.2%	70.6%
2029		883	322,295	216,161	231,549	67.1%	71.8%
2030		883	322,295	219,031	235,634	68.0%	73.1%
2031		883	322,295	221,939	239,791	68.9%	74.4%
2032		883	322,295	224,886	244,021	69.8%	75.7%
2033		883	322,295	227,872	248,326	70.7%	77.0%
2034		883	322,295	230,897	252,707	71.6%	78.4%
2035		883	322,295	233,963	257,165	72.6%	79.8%
2036	(7)	883	322,295	237,069	261,702	73.6%	81.2%
2037		883	322,295	240,217	266,319	74.5%	82.6%
2038		883	322,295	243,406	271,017	75.5%	84.1%
2039		883	322,295	246,638	275,798	76.5%	85.6%
2040		883	322,295	249,913	280,664	77.5%	87.1%

Sources: Smith Travel Research; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) Includes existing hotels listed in Exhibit 19 plus the planned Mace Ranch Innovaton Center hotel with 150 rooms.
(2) Comprises annual number of rooms multiplied by 365 days in a year.
(3) Forecasted demand based on the 2014 level of demand reported in Exhibit 21 grown out at a range of annual average growth rates. The growth rates are based on growth rates resulting from BAE's reallocated growth in Davis between 2008 and 2035.The lower growth rate of 1.33% matches the resulting Yolo County long-term employment growth rate presented in Exhibit 6.The higher growth rate of 1.76% matches the resulting City of Davis long-term employment growth based upon reallocation of regional employment to accomodate innovation center growth in the same exhibit.
(4) Annual occupancy comprises annual demand divided by annual supply. Note the existing 2014 baseline occupancy rate is estimated as 66.3%, as reported Exhibit 21.
(5) Per Exhibit 19 Smith Travel Research reports that as of November 2014 the competitive hotels include 733 rooms.
(6) The analysis examines the impact of the planned innovation park hotel by year 2027, which is midway between the initial Project availability in 2018 and the assumed office and industrial space buildout year of 2035. For study purposes this is considered a proxy for the hotel's anticipated Phase
(7) The analysis is grown out an additional five years beyond the anticipated innovation center buildout to assess the more long-term impact. For analytical purposes the same growth rates for the earlier years are assumed.

Exhibit 23
Yolo County Employment
Historical Trend and Forecast
2008 - 2035 (1)

Year	Total Employment (2) (3) Amount	% Change
2008	**102,378**	--
2009	103,253	0.85%
2010	104,135	0.85%
2011	105,024	0.85%
2012	105,922	0.85%
2013	106,826	0.85%
2014	107,739	0.85%
2015	108,660	0.85%
2016	109,588	0.85%
2017	110,524	0.85%
2018	111,468	0.85%
2019	112,421	0.85%
2020	**113,381**	0.85%
2021	115,042	1.47%
2022	116,727	1.47%
2023	118,438	1.47%
2024	120,173	1.47%
2025	121,933	1.47%
2026	123,720	1.47%
2027	125,532	1.47%
2028	127,371	1.47%
2029	129,237	1.47%
2030	131,131	1.47%
2031	133,052	1.47%
2032	135,001	1.47%
2033	136,979	1.47%
2034	138,986	1.47%
2035	**141,022**	1.47%

Sources: SACOG Modeling Projections for 2008, 2020, and 2035, May 2012; and ALH Urban & Regional Economics.

(1) SACOG data presented for benchmark years 2008, 2020, and 2035. These are the bolded figures.
(2) Interim year projections prepared by ALH Urban & Regional Economics based upon the compound annual growth rates between the benchmark years. These rates are 0.85% between 2008 and 2020 and 1.47% between 2020 and 2035.
(3) Note that the overall annual average growth rate between 2008 and 2035 is 1.19% and that the overall annual average growth rate between 2014 and 2035 is 1.29%.

Exhibit 24
Mace Ranch Innovation Center
Identified Planned and Proposed Hotel Projects (1)
City of Davis
February 2015

Project	Description	Potential Net New Hotel Rooms	Status	Location	Expected Opening / Completion
Embassy Suites	This project is a 132-room redevelopment of the existing 45-room University Inn and Suites Hotel and a 12,000-square-foot conference center plus 3,000 sq. ft. of restaurant space. The project will entail complete demolition of the existing hotel and restaurant structure.	87	Redevelopment in process. Construction could start by end of 2015 and take 1 year.	1111 Richards Blvd.	2017
Davis Innovation Center	This project includes 3.0 million square feet of tech office and lab, 680,000 square feet of R&D, Assembly, and Flex space, 120,000 square feet of ancillary retail, 85 acres of open space, and a 200-room hotel.	200	In planning stages, EIR under preparation	W. Covell Blvd. and Route 113	2027 - 2035
Nishi Gateway	This project includes 352,950 square feet of research, office, and R&D, 47,950 square feet of ancillary retail, 5 acres of open space and 650 residential units. A hotel could be included but square footage would be redirected from other uses. But there is no detailed hotel proposal for the project at this time.	NA (2)	In planning stages	Between I-80 and the Railroad	NA, Not Foreseeable
	TOTAL	**287**			

Sources: City of Davis Planning Department; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional

(1) Hotel projects or project including hotels with development plans in progress with the City of Davis.
(2) There are no detailed plans for a hotel for this project at this point in time. Therefore, a hotel is not deemed to be reasonably foreseeable.

Exhibit 25
Mace Ranch Innovation Center
Cumulative Hotel Occupancy Analysis (1)
City of Davis
2014 - 2040

Year	No. of Rooms	Annual Supply (2)	Demand per Annual Growth Growth Rate in Demand (3)		Occupancy per Annual Growth Rate in Demand (4)	
			1.33%	1.76%	1.33%	1.76%
2014	733 (5)	267,545	177,358	178,122	66.3%	66.6%
2015	733	267,545	179,713	181,265	67.2%	67.8%
2016	688 (6)	251,120	182,099	184,463	72.5%	73.5%
2017	820 (7)	299,300	184,517	187,717	61.6%	62.7%
2018	820	299,300	186,967	191,028	62.5%	63.8%
2019	820	299,300	189,450	194,399	63.3%	65.0%
2020	820	299,300	191,965	197,828	64.1%	66.1%
2021	820	299,300	194,514	201,318	65.0%	67.3%
2022	820	299,300	197,096	204,870	65.9%	68.4%
2023	820	299,300	199,713	208,484	66.7%	69.7%
2024	820	299,300	202,365	212,162	67.6%	70.9%
2025	820	299,300	205,052	215,905	68.5%	72.1%
2026	820	299,300	207,774	219,714	69.4%	73.4%
2027	820	299,300	210,533	223,590	70.3%	74.7%
2028	820	299,300	213,328	227,535	71.3%	76.0%
2029	820	299,300	216,161	231,549	72.2%	77.4%
2030	820	299,300	219,031	235,634	73.2%	78.7%
2031	820	299,300	221,939	239,791	74.2%	80.1%
2032	820	299,300	224,886	244,021	75.1%	81.5%
2033	820	299,300	227,872	248,326	76.1%	83.0%
2034	820	299,300	230,897	252,707	77.1%	84.4%
2035 (8)	1,170	427,050	233,963	257,165	54.8%	60.2%
2036 (9)	1,170	427,050	237,069	261,702	55.5%	61.3%
2037	1,170	427,050	240,217	266,319	56.3%	62.4%
2038	1,170	427,050	243,406	271,017	57.0%	63.5%
2039	1,170	427,050	246,638	275,798	57.8%	64.6%
2040	1,170	427,050	249,913	280,664	58.5%	65.7%

Sources: Smith Travel Research; "Economic Evaluation of Innovation Park Proposals," BAE Urban Economics, December 19, 2014; and ALH Urban & Regional Economics.

(1) Includes existing hotels listed in Exhibit 19 plus the planned Mace Ranch Innovaton Center hotel with 150 rooms and the cumulative hotels from Exhibit 15.
(2) Comprises annual number of rooms multiplied by 365 days in a year.
(3) Forecasted demand based on the 2014 level of demand reported in Exhibit 21 grown out at a range of annual average growth rates. The growth rates are based on growth rates resulting from BAE's reallocated growth in Davis between 2008 and 2035.The lower growth rate of 1.33% matches the resulting Yolo County long-term employment growth rate presented in Exhibit 6.The higher growth rate of 1.76% matches the resulting City of Davis long-term employment growth based upon reallocation of regional employment to accomodate innovation center growth in the same exhibit.
(4) Annual occupancy comprises annual demand divided by annual supply. Note the existing 2014 baseline occupancy rate is estimated as 66.3%, as reported Exhibit 21.
(5) Per Exhibit 19 Smith Travel Research reports that as of Nov. 2014 the competitive hotels include 733 rms.
(6) Assumes the existing 45-room University Park Inn and Suites Hotel is demolished pursuant to planned Embassy Suite Construction.
(7) Assumes the new 132-room Embassy Suite Hotel is added to the market. See Exhibit 15.
(8) For analytical purposes this is the year the Davis Innovation Center 200-room hotel and the Mace Ranch Innovation Center 150-room hotel are assumed to be added to the inventory under the cumulative scenario.
(9) The analysis is grown out an additional five years after the introduction of the innovation center hotels to assess the impact in the years immediately following their introduction. For analytical purposes the same growth rates for the earlier years are assumed.

APPENDIX B: SUPPORT EXHIBITS

Exhibit B-1
Office Worker Spending
Average Weekely and Annual Expenditure
ICSC 2012 Study
in 2011 dollars

	Urban Spending Patterns				Suburban Spending Patterns			
	Urban		Urban Ample Adjustment (3)		Suburban		Suburban Ample Adjustment (3)	
Frequency and Category of Spending (1)	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**	**Amount**	**Percent**
Weekly Spending								
Full-Service Restaurants and Fast Food	$26.29	22.7%	$37.57	22.7%	$28.86	19.7%	$50.47	19.7%
Goods and Services								
Groceries	$15.98	13.8%	$22.84	13.8%	$21.58	14.7%	$37.74	14.7%
All Other (2)	$73.33	63.4%	$104.80	63.4%	$96.08	65.6%	$168.01	65.6%
Total	$115.60	100.0%	$165.21	100.0%	$146.52	100.0%	$256.21	100.0%

	Urban Spending Patterns		Suburban Spending Patterns	
	Non-Ample	Ample	Non-Ample	Ample
Annualized Spending (4)				
Full-Service Restaurants and Fast Food	$1,261.92	$1,803.48	$1,385.28	$2,422.35
Goods and Services				
Groceries	$767.04	$1,096.22	$1,035.84	$1,811.31
All Other	$3,519.84	$5,030.39	$4,611.84	$8,064.42
Total	$5,548.80	$7,930.08	$7,032.96	$12,298.08

Sources: Office-Worker Retail Spending in a Digital Age," International Council of Shopping Centers, page 26; and ALH Urban & Regional Economics.

(1) Excludes spending on transportation and online purchases.
(2) All other includes a range of retail purchases, such as personal care shops, office supplies, department stores, drug stores, electronics, jewelry stores, entertainment, clothing, and other goods.
(3) Reflects an increase in spending by office workers in locations with more ample retail, restaurant, and services offerings in the vicinity of the office building. This adjustment is based upon analysis reflected in the cited International Council of Shopping Centers source document. In urban locations the increment was approximately 43% more and in suburban locations it was approximately 75% more.
(4) Reflects a 48-year work week, allocating 2 weeks for holidays and 2 weeks for vacation.

Exhibit B-2
Annual Average Salaries for Select Industries
Yolo County
2012

NAICS code	Industry code description	Number of employees	Annual Payroll	Avg. Salary (2012)	Avg. Salary (2014) (1)
31-33	Manufacturing	5,685	$313,877,000	$55,211	
42	Wholesale trade	5,494	$301,656,000	$54,906	
48-49	Transportation & warehousing	5,644	$240,742,000	$42,655	
Combined		**16,823**	**$856,275,000**	**$50,899**	**$53,085**
61	Educational services	852	$22,577,000	$26,499	$27,637
44-45	Retail trade	7,292	$192,218,000	$26,360	**$27,492**
72	Accommodation and food services	(2)	NA	NA	NA
51	Information	(3)	NA	NA	
52	Finance & Insurance	1,727	$97,421,000	$56,411	
53	Real estate and rental and leasing	1,548	$57,818,000	$37,350	
54	Professional, scientific, and technical services	4,066	$228,636,000	$56,231	
55	Management of companies and enterprises	1,325	$80,039,000	$60,407	
56	Administrative and Support and Waste Mang and Remediation Srvs	2,542	$73,870,000	$29,060	
Combined		**11,205**	**$537,784,000**	**$47,995**	**$50,056**

Sources: United States Census Bureau, County Business Patterns, Placer County 2012; U.S. Department of Labor, Consumer Price Index, through July 2014; and ALH Urban & Regional Economics.

(1) Inflated to 2014 based upon CPI for July 2012 and July 2014. Inflation factor is 1.04.
(2) Employee range 5,000-9,999. Wages not disclosed, and included in higher level information.
(3) Employee range 500-999. Wages not disclosed, and included in higher level information.

Exhibit B-3
Calculation of Sales Per Square Foot Estimates
Select Retail Stores and Store Types
2010 Through 2013, and 2014 Projected (1)

	2010		2011		2012		2013		Average
Store or Category (2)	**In 2010$'s**	**In 2014$'s**	**In 2011$'s**	**In 2014$'s**	**In 2012$'s**	**In 2014$'s**	**In 2013$'s**	**In 2014$'s**	**In 2014$'s**
Apparel									
Apparel - Specialty	$405	$439	$447	$473	$472	$488	$451	$459	$465
Women's' Apparel	$365	$396	$455	$481	$515	$532	$473	$482	$473
Shoe Stores	$371	$402	$454	$480	$487	$503	$475	$484	$467
Ross Dress for Less	$324	$351	$195	$206	$195	$202	$362	$369	$282
Kohl's	$229	$248	$215	$227	$209	$216	$190	$193	$221
Discount Stores	$196	$212	$212	$224	$213	$220	$202	$206	$216
Target	$282	$306	$290	$307	$304	$314	$297	$302	$307
Wal-Mart	$422	$458	$499	$528	$456	$471	$376	$383	$460
Department Stores Category	$252	$273	$276	$292	$274	$283	$285	$290	$285
Sears	$206	$223	$205	$217	$210	$217	$161	$164	$205
Domestics Category	$294	$319	$288	$304	$268	$277	$300	$305	$301
Furniture Category	$198	$215	$290	$307	$361	$373	$449	$457	$338
Average of Domestics & Furniture	$246	$267	$289	$306	$315	$325	$375	$381	$320
Neighborhood Center Category									
Supermarkets	$535	$580	$533	$563	$575	$594	$611	$622	$590
Specialty/Organic	$510	$553	$658	$696	$698	$722	$756	$770	$685
Drug Stores	$724	$785	$657	$695	$667	$689	$629	$640	$702
Rite Aid	$421	$456	$560	$592	$549	$568	$556	$566	$546
CVS	$802	$869	$806	$852	$883	$913	$875	$891	$881
Restaurants Category	$429	$465	$496	$524	$480	$496	$486	$495	$495
Casual Dining	$431	$467	$578	$611	$563	$582	$567	$577	$559
Fast Food Chains	$431	$467	$507	$536	$492	$509	$543	$553	$516
Home Improvement	$269	$292	$278	$294	$287	$297	$301	$306	$297
Auto - DIY Stores (3)	$205	$222	$218	$230	$220	$227	$217	$221	$225
Other Retail Categories									
Accessories	$778	$843	$978	$1,034	$1,191	$1,231	$1,032	$1,051	$1,040
HBA, Home Fragrances	$541	$587	$474	$501	$531	$549	$519	$528	$541
Electronics & Appliances	$686	$744	$1,171	$1,238	$821	$849	$946	$963	$948
Office Supplies	$263	$285	$270	$285	$262	$271	$283	$288	$282
Sports	$226	$245	$239	$253	$252	$260	$253	$258	$254
Pet Supplies	$185	$201	$188	$199	$218	$225	$234	$238	$216
Book Superstores	$180	$195	$247	$261	$210	$217	$189	$192	$216
Toys	$320	$347	$333	$352	$312	$323	$220	$224	$311
Music Superstores	$318	$345	$317	$335	$314	$325	$292	$297	$325
Gifts, Hobbies & Fabrics	$124	$134	$136	$144	$137	$142	$151	$154	$143
Average of Other Retail Categories	$362	$393	$435	$460	$425	$439	$412	$419	$428

Sources: Retail MAXIM, "Alternative Retail Risk Analysis for Alternative Capital" 2011, 2012, 2013, and 2014 (all publications present figures in the prior year dollars); United States Bureau of Labor Statistics Consumer Price Index - All Urban Consumers; and ALH Urban & Regional Economics.

(1) Figures are adjusted to 2014 pursuant to the mid-year CPI Index for all urban consumers.
(2) Includes industry-and category-representative stores.
(3) Average reflects a four-year trend.

Exhibit B-4
Household Income Spent on Retail (1)
United States
in Current Dollars
2013

Characteristic	All Consumer Units	Household Income Range $40,000 to $49,999	$50,000 $69,999	$70,000 and more
Average HH Income	$63,784	$44,576	$59,101	$131,945
Amount Spent on Retail (2)	$20,555	$17,769	$21,104	$32,771
Percent Spent on Retail (3)	32%	40%	36%	25%

Sources: Table 1202. Income before taxes: Annual expenditure means, shares, standard errors, and coefficient of variation, Consumer Expenditure Survey, 2013, U.S. Bureau of Labor Statistics; and ALH Urban & Regional Economics.

(1) Includes retail categories estimated to be equivalent to the retail sales categories compiled by the State of California, Board of Equalization.
(2) Includes the Consumer Expenditures categories of: food; alcoholic beverages; laundry and cleaning supplies; other household products; household furnishings and equipment; apparel and services; vehicle purchases, cars and trucks, new; vehicle purchases, cars and trucks, used; vehicle purchaes, other vehicles; gasoline and motor oil; 1/2 of maintenance and repairs (as a proxy for taxable parts); drugs; medical supplies; audio and visual equipment and services; pets, toys, hobbies, and playground equipment; other entertainment supplies, equipment, and services; personal care products and services; and reading; tobacco products and smoking supplies.
(3) Percentages may be low as some expenditure categories may be conservatively undercounted by ALH Economics.

Exhibit B-5
State of California BOE Taxable Retail Sales Estimate by Retail Category
in Current Dollars
2012
(in $000s)

Type of Retailer	Total Taxable Sales (1)	State of California Taxable Sales Adjusted to Total Retail	% of Total
Motor Vehicle & Parts Dealers	$61,547,848	$61,547,848	13.1%
Home Furnishings & Appliances	$24,681,910	$24,681,910	5.3%
Building Materials & Garden Equipment	$27,438,083	$27,438,083	5.9%
Food & Beverage Stores	$24,511,714	$81,705,713 (2)	17.4%
Gasoline Stations	$58,006,168	$58,006,168	12.4%
Clothing & Clothing Accessories	$32,357,516	$32,357,516	6.9%
General Merchandise Stores	$54,138,509	$72,184,679 (3)	15.4%
Food Services & Drinking Places	$59,037,320	$59,037,320	12.6%
Other Retail Group	$39,653,754	$51,870,516 (4)	11.1%
Total (5)	**$381,372,822**	**$468,829,753**	**100%**

Sources: California State Board of Equalization (BOE), "Taxable Sales in California (Sales & Use Tax) during 2012; U.S. Economic Census, "Retail Trade: Subject Series - Product Lines: Product Lines Statistics by Kind of Business for the United States and States: 2007"; and ALH Urban & Regional Economics.

(1) Taxable sales are pursuant to reporting by the BOE.
(2) Sales for Food and Beverage Stores have been adjusted to account for non-taxable sales; only 30.0% of all food store sales are estimated to be taxable.
(3) Sales for General Merchandise Stores have been adjusted to account for non-taxable food sales, since some General Merchandise Store sales include non-taxable food items. ALH Urban & Regional Economics estimates that at least 25% of General Merchandise sales are for grocery items that are also non-taxable. This estimate is based on analysis of the 2007 U.S. Economic Census, which attributes approximately 26% of General Merchandise Stores sales to food.
(4) Sales for Other Retail Group have been adjusted to account for non-taxable drug store sales, since drug store sales are included in the Other Retail Group category. ALH Urban & Regional Economics estimates that 33.0% of drug store sales are taxable, based on discussions with the California BOE and examination of U.S. Census data. In California, drug store sales in 2012 represented approximately 15.2% of all Other Retail Group sales. ALH Urban & Regional Economics applied that percentage and then adjusted upward for non-taxable sales.
(5) Totals may not add up due to rounding.

Exhibit B-6
BOE Omitted Taxable Sales Estimates for the City of Davis
Using Yolo County Sales Percentages
in Current Dollars
Fourth Quarter 2012 Through Third Quarter 2013
(in $000s)

	Yolo County		City of Davis	
Type of Retailer	**Amount**	**% of Total**	**Given**	**Calculated**
Q4 2012				
General Merchandise	$102,057	19.5%	#	$12,499
Other Retail Group	--	--	$23,378	$10,879 (1)
Total	**$523,076**	--	**$128,126**	--
Q1 2013				
General Merchandise	$76,530	16.0%	#	$9,479
Other Retail Group	--	--	$19,889	$10,410 (1)
Total	**$477,393**	--	**$118,255**	--
Q2 2013				
General Merchandise	$75,754	14.4%	#	$10,140
Other Retail Group	--	--	$20,663	$10,523 (1)
Total	**$525,006**	--	**$140,542**	--
Q3 2013				
General Merchandise	$78,336	15.3%	#	$9,962
Other Retail Group	--	--	$21,411	$11,449 (1)
Total	**$510,895**	--	**$129,946**	--

Sources: California State Board of Equalization (BOE), "Taxable Sales in California" reports, for Fourth Quarter 2012, First Quarter 2013, Second Quarter 2013, and Third Quarter 2013; and ALH Urban & Regional Economics.

(1) The BOE omits certain sales because their publication would result in the disclosure of confidential information; the omited sales are included in the Other Retail Group sales. The Other Retail Group is calculated by taking the figure given by the BOE and subtracting the new estimated sales for the categories that had been omitted. The General Merchandise group is estimated by multiplying the County percentage by the Total City sales and then dividing by two.