CITY OF WHEATLAND

CITY COUNCIL MEETING
STAFF REPORT

July 27, 2021

SUBJECT: The City of Wheatland staff recommends City Council accept the Employment Zone Feasibility Analysis completed by Applied Development Economics (ADE)

PREPARED BY: Jim Goodwin, City Manager

Recommendation

The City of Wheatland staff recommends the City Council accept the final Employment Zone Feasibility Analysis prepared by Applied Development Economics (ADE).

Discussion and Background

In 2019 The City of Wheatland was awarded $100,000 of Category 3 project funding from SACOG for the City of Wheatland Business Park Feasibility Study. The purpose of the study is to identify a preferred business park site within the Johnson Rancho area, analyze feasibility, and determine the action steps required to achieve success in job creation. In October 2019 the contract to prepare the study was awarded to Applied Development Economics (ADE).

During the preparation of the study, the scope was adjusted to reflect planning for employment opportunities throughout the Hop Farm/Johnson Rancho area and not just to evaluate one location as a "business park." The broader employment zone concept has been incorporated in the final product now title *Employment Zone Feasibility Analysis* which is attached for your review.

Doug Svensson, President of ADE, and Lon Hatamiya will be available at the Council Meeting to present the final product and answer any questions you may have about study.

Fiscal Impact

The project was funded through a grant from SACOG with a city match of 10 percent.

Attachments

1. Final Employment Zone Feasibility Analysis

Wheatland Employment Zone Feasibility

June 30, 2021

APPLIED DEVELOPMENT ECONOMICS

Prepared for:
City of Wheatland

Prepared by:
Applied Development Economics, Inc.

In Association with:
The Hatamiya Group
KD Anderson Traffic Engineers
Two Blue Aces, LLC

FINAL REPORT

June 30, 2021

Employment Zone Feasibility Study

Prepared for:
The City of Wheatland

Prepared by:

Applied Development Economics, Inc.
3527 Mt. Diablo Blvd. #248, Lafayette, CA 94549 ■ 925.934.8712
www.adeusa.com

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INTRODUCTION AND SUMMARY

INTRODUCTION

In 2014, Wheatland annexed approximately 4,500 acres extending the City limit line east, which included the Hop Farm Annexation area and the Johnson Rancho Annexation area. Between both annexation areas, a total of 14,396 dwelling units were proposed for the entire project area, plus 131 acres of commercial, 274 acres of employment, and 495 acres of schools, public uses and open space. This annexation area, in proximity to Beale Air Force base, represents the City's best opportunity to attract significant job growth on large parcels. With the prospect of substantial residential development in this area and other areas within the City's General Plan, it is essential to ensure that economic development proceeds in a reasonable time frame to improve the City's jobs/housing balance. The land use plan presented in this report would support development of nearly 13,100 jobs and about 14,475 dwelling units, for a jobs/housing balance of 0.90.

The objectives for this study, which has been funded through a grant from the Sacramento Area Council of Governments (SACOG), are as follows:

- Study the feasibility of a coordinated and cohesive Employment Zone within the Johnson Rancho Planning Area.
- Identify preferred/feasible employment zone industries.
- Calculate the optimal land area for the employment zone in Wheatland.
- Determine the required infrastructure to serve a viable employment zone.

The report provides the analysis and conclusions for these topics in separate chapters addressing market analysis, land use plan and infrastructure.

SUMMARY

MARKET ANALYSIS

The market analysis addresses three main economic opportunities, including industries related to technologies employed at Beale AFB, agriculture and food processing industries, and other emerging industries with strong growth potential from the surrounding region.

Beale: The mission at Beale is evolving to concentrate more on information technology and development of applications utilizing machine learning and multispectral imagery among other research. The USAF established Beale as the first DoD 'Federal Lab' associated with a Major Weapon System and as such, Beale is connected to national labs and research centers. The Base is moving to expand its Federal Laboratory function through the establishment of a University Affiliated Research Center (UARC) in partnership with universities in California. Beale is interested in establishing an off-base Research Lab to complement and expand its on-base capabilities and create the opportunity for commercial and pubic research applications in addition to military technologies. This facility could serve as a catalyst to attract other technology and aerospace firms.

Emerging Industries. The regional market analysis identified a number of professional, technical and scientific service industries with projected growth potential in the Sacramento region. With the UARC as an anchor, providing a commercial data center and high speed broadband capacity, Wheatland could attract some of this technology business expansion. In addition, the market projections show growth potential in light industrial operations including repair and installation services, fabricated metal parts, machinery manufacturing and transportation equipment manufacturing.

Food and Agriculture. Both Yuba and Sutter counties are underdeveloped in food manufacturing infrastructure compared to other counties in the Sacramento region. Wheatland is in the process of adopting an Agriculture Overlay Zone, which would cover portions of the Hop Farm and Johnson Rancho annexation areas. Opportunities exist to develop food hub operations that would include light processing, packing and distribution to the regional restaurant network as well as institutional buyers such as schools and hospitals. In addition, some new crop development is occurring which may accelerate processing opportunities as markets develop.

Medical and Senior Care. With the growing senior population, health care has been a major source of job growth in recent years. In addition, residential care facilities and outpatient clinics have been growing rapidly. With the extensive residential growth projected in Wheatland in the annexation areas and other locations, some of which may be age restricted housing, the City will reach critical mass for a medical center. The Employment Zone would be a natural location for a complex of medical services, with access along Spenceville Rd. and the proposed Wheatland Expressway.

In summary, the economic development opportunities identified in the market research are grouped by land use in Exhibit A.

Exhibit A: Business Opportunities in the Wheatland Employment Zone

Office/R&D	**Ag Industry**
UARC	Food Processing
Tech and Scientific Services	Distribution
Professional Services	Machinery Sales/Repair
Data Processing	**Other Industry**
Information Services	Light Mfg/Repair
Finance, Insurance, Real Estate	Construction Businesses
Administrative Offices	Distribution
Commercial	**Medical/ Senior Care**
Retail	Residential Care Facilities
Personal Services	Medical Offices/Outpatient Care
Restaurants and Entertainment	Dental and Medical Labs
Lodging	Social Services

LAND USE PLAN

A major goal of the Employment Zone Feasibility Analysis is to identify land use policies that can support creation of attractive employment, commercial and entertainment centers in proximity to the

residential neighborhoods. A related concern is to confirm the feasibility of maintaining a healthy balance between job growth and housing development. The plan presented below outlines a Village concept that provides for a distribution of employment and local serving commercial in Village cores in each neighborhood, while designating larger scale office, industrial, retail and civic uses to two main employment centers – a Town Center and an Industry and Technology Park (Exhibit B).

This plan produces slightly more housing but slightly fewer jobs than the original plan, due in part to the addition of mixed use housing in some of the village centers. The plan would support development of more than 7.1 million sq. ft. of non-residential development, not including schools, and the overall jobs/housing balance is 0.90. The Village Concept is intended to support Wheatland's Community Vision and the original principles of the Johnson Rancho Plan, particularly the preservation of historical and cultural resources.

A central purpose of the conceptual land use plan is to create amenities in an environment that will be attractive to businesses as well as residents. As discussed above, the land use quantities in the conceptual land use plan are very similar to those in the Stage 1 Development Plan for Johnson Rancho, which were the basis for the annexation DEIR. However, the present plan contemplates a much greater integration of non-residential uses so that the distinction between commercial areas and employment zones is less pronounced, and there is greater proximity between residential uses and job locations. Within this broad goal, it is anticipated that the zoning will permit substantial flexibility to mix uses within commercial and employment zones but create performance standards in terms of job development in a form-based building envelope framework. This form based structure would be supplemented by recommended amenities and design concepts for the major types of commercial areas and employment zones in the plan, including but not limited to:

- Active transportation system, including bikeways, pedestrian trails and accommodation for alternative mobility modes.
- Urban forest standards, linked to storm water management.
- Protection of sensitive historical, cultural and natural resources.
- Extensive broadband deployment.

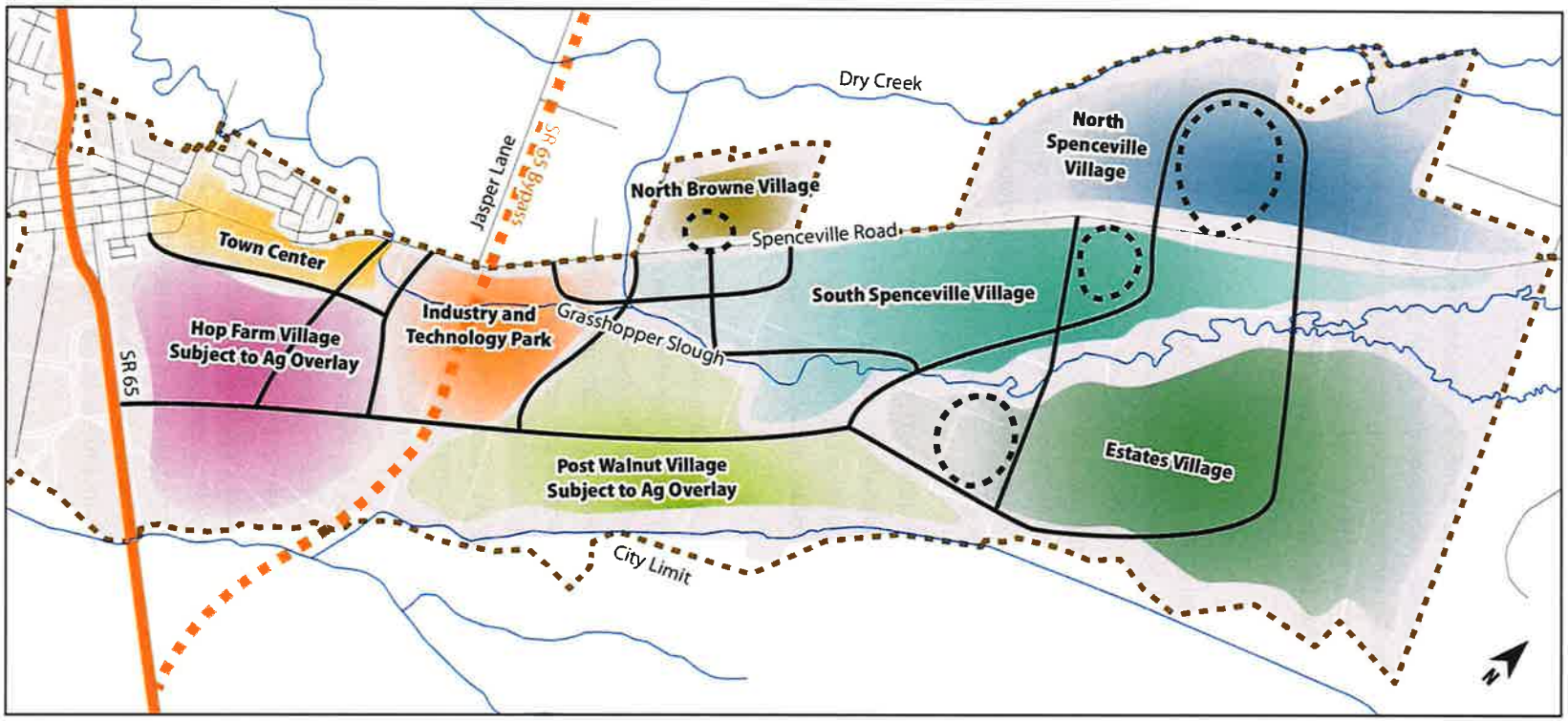
INFRASTRUCTURE

KD Anderson & Associates has evaluated the Employment Zone Village Land Use and Circulation Concept and determined that it would produce lower Average Daily Traffic than the previous Johnson Rancho annexation plan, due in part to the improved mix of jobs in proximity to the housing. However, development of the project is still largely contingent on completing the Wheatland Expressway from SR 65 to Spenceville Rd. Under current state and regional rules for addressing impacts to Vehicle Miles Traveled (VMT), the EZ project site could support just 33 office jobs or 11 new residences before triggering significant impacts. The first phase of the Beale UARC is planned to support 24 jobs, so this project could actually move forward in the interim, without major circulation improvements. Existing water and wastewater infrastructure is also adequate to support the Phase 1 UARC. Full buildout of the Employment Zone will require additional wells to supply water and the City's implementation of a regional wastewater treatment solution.

Exhibit B: Village Concept Plan

Wheatland Employment Zone Feasibility

Village Land Use Concept



MARKET ANALYSIS

The market analysis addresses three major components of potential business development: 1) industries associated with the technological mission at Beale AFB; 2) industries with solid growth potential in the greater Sacramento region, especially emerging technology and service businesses looking for a good location to expand; and, 3) value-added food aggregation and food processing businesses supporting the agricultural economy in Yuba County and the surrounding region.

BEALE

Beale Air Force Base occupies 23,000 acres in Yuba County and has an active military personnel complement of 5,000 plus 1,300 civilian personnel and more than 5,000 dependents. Beale is home for the U-2 Dragon Lady, T-38 Talon, RQ-4 Global Hawk, and KC-135 Refueling Wing and is a national asset for global intelligence production and dissemination. The Base's mission set is evolving to meet National Security priorities and its expanding capabilities are less related to increasing aircraft and more about information collection and analysis. The Base is anticipating expanding both its military and civilian personnel levels, with a focus on higher technology skill sets.

The USAF established Beale as the first DoD 'Federal Lab' associated with a Major Weapon System and as such, Beale is connected to national labs and research centers. The Base is moving to expand its Federal Laboratory function through the establishment of a University Affiliated Research Center (UARC) in partnership with universities in California. Figure 1 highlights the key mission and features planned for the UARC.

Beale is interested in establishing an off-base Research Lab to complement and expand its on-base capabilities and create the opportunity for commercial and pubic research applications in addition to military technologies. The Base envisions this facility both to enhance military research capacities but also address domestic research priorities in California, including flood management, power and water demand forecasting and fire prevention and suppression through increased reconnaissance activities and machine learning applications. In collaboration with the University of California, the Lab could serve as an educational facility as well as an advanced research hub. Initially, the workforce at the Lab would consist primarily of PhD level researchers, but Lab officials anticipate development of BA level and even high school educational programs as the Lab expands to its full mission.

This creates a significant opportunity for Yuba County to create an innovation center and technology node. The proximity of the Wheatland Employment Zone to the Base and the fact that the annexation areas provide the opportunity to create a complete community with housing and amenities to support the research center makes it an ideal location for this facility. Preliminary discussions with the Beale Federal Lab officials suggest that a 5-10 acre site would suffice for the initial phase of the facility, but the availability of additional land for expansion over time would be important to fully achieve the clustering potential of this catalyst facility. The Lab would include a Data Center and an Internet Exchange, creating access for the community to high speed broadband which is critical to attracting additional businesses to the area.

Figure 1: Preliminary Beale UARC Proposal

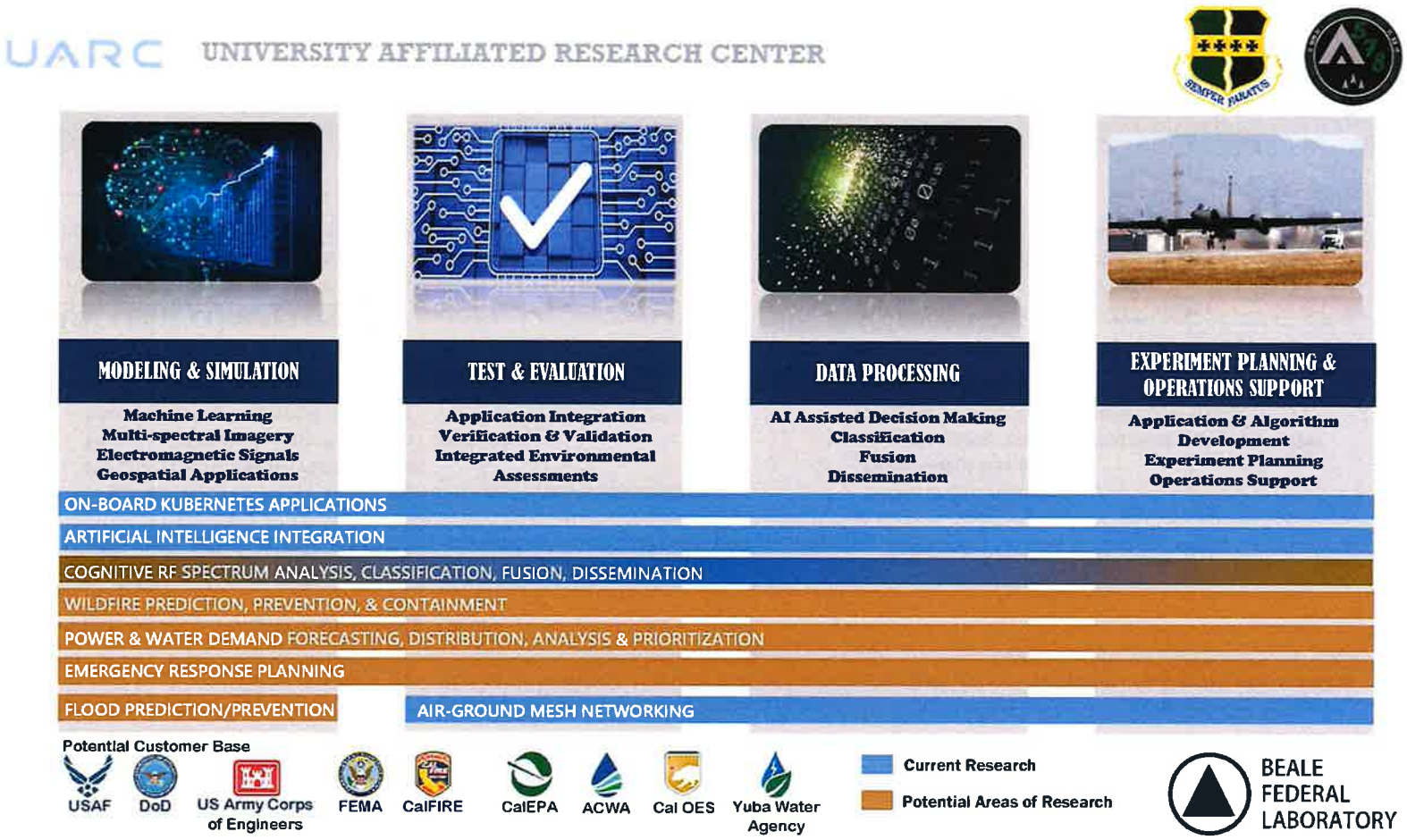


Figure 1 continued

UARC UNIVERSITY AFFILIATED RESEARCH CENTER

MISSION

Establish collaborative research partnerships between California Universities and the United States Air Force that focuses on initiatives that are vital to national defense, homeland security, the State of California, and the environment. As the Air Force's first UARC, it maintains essential engineering, research, and development capabilities and provides subject matter experts for core areas of expertise across multiple Major Commands.

FEATURES

One of 15 UARCs in the nation, providing core capabilities for the USAF and State of California to include:

- Emphasis on Open Source Information and Open Systems Architecture
- Focus on Innovative new technologies
- Leverage California's expertise in semi-conductors
- Ease of access to technical resources
- Quick response to evolving state and government requirements
- Technical development
- Independent assessment
- Results in government-owned solutions to problems of regional, state, and national importance
- Freedom from real or perceived conflicts of interest

UARC CORE COMPETENCIES

- Artificial Intelligence and Machine Learning
- Cognitive RF Spectrum Analysis
- Wildfire Predication Prevention and Containment
- Power and Water Demand Forecasting
- Emergency Response Planning
- Modular Open Systems Architecture for airborne, space, and ground applications

Partnerships among Silicon Valley, top universities, and the U.S. Air Force enable rapid decisions based on accurate and relevant data...accelerating change to advance solutions to local, state, and national challenges.

GROWTH INDUSTRIES

With the UARC as a catalyst, Wheatland would potentially be able to attract other growing businesses from throughout the Sacramento region and beyond. This section analyzes recent and projected growth trends for a wide range of business sectors in Yuba County and the surrounding region including Sutter, Placer and Sacramento counties. The research methodology segments industries by their level of concentration in the local and regional economy and the speed of growth or decline they have experienced over the past ten years. As illustrated in Figure 2, this results in four groups of industries representing the economic base of the region and the industries with strongest growth history.

The economic base industries in the upper part of the graph are large industries that are highly concentrated in the regional economy and provide most of the jobs associated with traded sectors, which draw income into the region from external markets. Those that are growing drive growth in jobs and the overall economy. Those that are declining should be the target for business retention activities to help mitigate jobs losses to the extent possible. In Yuba County, the primary economic base industries include agriculture, mining, utilities, and the military. Education and health care are also relatively high job producers but their function is mainly local serving. In the four-county region, construction, finance, insurance, and government are additional economic base industries,

In the lower part of the graph are smaller industries that are not highly concentrated locally. However, those that are growing in the region faster than they are growing statewide or nationally, represent the potential economy of the future. We refer to these industries as emerging growth sectors.

Figure 2: Target Industry Framework

Tables 1 and 2 highlight the more detailed industry types that have shown higher than average growth or are projected to grow over the next ten years. In terms of existing industry concentrations in Yuba County, health care, education and lodging appear to be the best job growth opportunities, although some construction jobs are also expected to grow.

Table 1: Growth Industries in Yuba County

Industry	NAICS	2018 Jobs	2008-2018 Job Change	Percent Change	Location Quotient	Shift-Share	Avg Ann Wages per Worker	Job Growth 2018-2028	CAGR
Economic Base Industries									
Utilities	221	392	-6	-1.5%	3.61	2.1%	$73,349	15	0.4%
Specialty Trade Contractors	238	806	352	77.4%	1.37	66.0%	$52,032	117	1.1%
Transit and Ground Passenger Transportation	485	155	53	51.3%	1.80	27.5%	$45,995	19	1.2%
Waste Management and Remediation Services	562	157	49	46.1%	2.87	21.4%	$62,183	39	2.2%
Educational Services	611	2,656	-49	-1.8%	1.77	-6.0%	$44,874	243	0.9%
Hospitals	622	1,734	645	59.2%	2.92	51.8%	$53,338	142	0.8%
Social Assistance	624	989	765	340.7%	1.19	77.1%	$14,449	375	3.2%
Emerging Industries									
Computer and Electronic Product Manufacturing	334	65	60	1255.7%	0.23	1262.5%	$101,738	-5	-0.7%
Transportation Equipment Manufacturing	336	90	53	145.0%	0.69	141.8%	$113,545	-2	-0.2%
Miscellaneous Manufacturing	339	36	36		0.40		$38,639	-5	-1.5%
Merchant Wholesalers, Durable Goods	423	159	73	84.0%	0.43	81.3%	$41,016	4	0.2%
Real Estate	531	119	71	148.6%	0.51	135.2%	$46,315	26	1.7%
Management of Companies and Enterprises	551	82	42	104.0%	0.31	81.0%	$29,358	7	0.8%
Ambulatory Health Care Services	621	563	127	29.0%	0.64	-18.9%	$62,119	198	3.0%
Amusement, Gambling, and Recreation Industries	713	220	125	132.4%	0.80	120.3%	$19,335	23	1.0%
Accommodation	721	217	83	62.5%	0.83	47.8%	$23,562	23	1.0%
Repair and Maintenance	811	126	76	151.6%	0.75	145.4%	$40,342	7	0.6%

Source: ADE, Inc., based on data from Chmura Economics.

Table 2 highlights growth opportunities in the larger four county region. With Wheatland's proximity to growth centers in Placer and Sacramento counties, a sound strategy would be to attract expanding companies from this region, particularly as the labor force expands with the development of the Johnson Rancho and Plumas Lakes areas. Within the four-county regional economic base, construction industries show greater growth potential, along with office based industries like insurance, real estate, and support services. In the emerging sectors group, a number of manufacturing industries had good growth during the past ten years but Chmura JobsEQ projects limited or declining growth in the near future. However, Wheatland may be in a unique position, with the planned rapid increase in personnel at Beale, to support expansion of aerospace industries and contractors. In addition, the new economic environment post Covid-19 may see increased reshoring of manufacturing, particularly of medical equipment and supplies, to reduce risk of supply chain disruption in international trade. Moreover, wholesale and distribution sectors are projected to continue to grow, along with some higher

technology sectors such as data processing, information services and professional, technical and business services.

Table 2: Target Industries, Yuba, Sutter, Placer and Sacramento Counties

Industry	NAICS	2018 Jobs	2008-2018 Job Change	Percent Change	Location Quotient	Shift-Share	Avg Ann Wages per Worker	Projected Job Growth	Ann % Growth
Economic Base Industries									
Utilities	221	7,544	1,333	21.5%	1.41	25.1%	$112,021	302	0.4%
Construction of Buildings	236	11,998	925	8.4%	1.20	2.6%	$69,108	1,610	1.2%
Heavy and Civil Engineering Construction	237	5,995	500	9.1%	1.17	2.5%	$92,629	1,509	2.2%
Specialty Trade Contractors	238	39,021	6,067	18.4%	1.34	7.0%	$60,696	4,544	1.1%
Insurance Carriers	524	19,314	-1,707	-8.1%	1.84	-6.1%	$81,774	2,463	1.2%
Real Estate	531	12,030	3,090	34.6%	1.04	21.2%	$60,087	1,440	1.1%
Admin. and Support	561	57,373	17,309	43.2%	1.05	24.2%	$39,188	6,404	1.1%
Ambulatory Health Care	621	50,407	22,268	79.1%	1.17	31.2%	$87,217	16,190	2.8%
Hospitals	622	31,553	-2,721	-7.9%	1.08	-15.3%	$93,363	2,912	0.9%
Nursing and Res. Care	623	15,726	2,576	19.6%	1.01	-8.6%	$32,297	2,930	1.7%
Social Assistance	624	46,801	34,144	269.8%	1.15	6.2%	$19,461	16,795	3.1%
Repair and Maintenance	811	9,399	1,551	19.8%	1.13	13.6%	$46,120	673	0.7%
Emerging Industries									
Support Activities for Agriculture and Forestry	115	3,228	848	35.7%	0.28	12.3%	$29,394	225	0.7%
Mining (except Oil/Gas)	212	291	34	13.2%	0.99	15.0%	$75,021	-21	-0.7%
Paper Manufacturing	322	897	427	91.0%	0.83	108.3%	$71,162	-71	-0.8%
Fabricated Metal Product Manufacturing	332	2,984	113	3.9%	0.44	8.9%	$52,720	-64	-0.2%
Machinery Manufacturing	333	1,941	311	19.1%	0.50	19.4%	$61,694	-64	-0.3%
Transportation Equipment Manufacturing	336	2,848	176	6.6%	0.44	3.4%	$100,531	-62	-0.2%
Miscellaneous Manufacturing	339	1,739	389	28.8%	0.40	30.1%	$77,041	-53	-0.3%
Wholesalers, Durable	423	13,858	1,705	14.0%	0.76	11.3%	$71,809	257	0.2%
Wholesalers, Nondurable	424	8,654	2,066	31.4%	0.57	14.0%	$59,389	219	0.2%
Transit and Pass. Trans.	485	3,941	1,025	35.2%	0.93	11.4%	$46,869	204	0.5%
Couriers and Messengers	492	4,223	1,746	70.5%	0.90	31.5%	$35,727	270	0.6%
Warehousing and Storage	493	4,412	1,919	77.0%	0.57	-25.8%	$41,337	979	1.9%
Motion Picture and Sound Recording Industries	512	1,634	593	56.9%	0.23	65.1%	$18,327	76	0.4%
Data Processing, Hosting, and Related Services	518	1,254	841	204.0%	0.51	58.2%	$103,844	161	1.2%
Other Information Svs	519	1,298	200	18.2%	0.20	-136.0%	$52,995	651	4.0%
Professional, Scientific, and Technical Services	541	52,039	1,347	2.7%	0.79	-16.1%	$94,606	7,189	1.3%
Waste Mgmt.	562	2,608	923	54.8%	0.97	30.0%	$56,705	506	1.8%
Educational Services	611	66,105	1,078	1.7%	0.90	-2.6%	$53,724	6,922	1.0%
Amusement, Gambling, and Recreation Industries	713	13,085	228	1.8%	0.97	-10.3%	$23,294	1,418	1.0%
Accommodation	721	8,031	1,101	15.9%	0.62	1.2%	$29,956	292	0.4%

Source: ADE, Inc., based on data from Chmura Economics.

MANUFACTURING

Table 3 provides a longer term focus on manufacturing trends and updates the data through 2019. (Food manufacturing is addressed in the next section). Overall, manufacturing in Yuba County has only recovered about half the jobs it lost since 2001, most in the Great Recession of 2009. But Yuba County has seen growth in aerospace equipment and other transportation equipment, and also has about 25 percent of its manufacturing sector in wood products. However, it has lost jobs in fabricated metal products as well as sporting goods manufacture. A couple industries, such as cement, fertilizers and chemicals, may have moved over from Sutter County, based on the jobs data from that county.

In Sutter County, the largest non-food manufacturing industries are wood products, fabricated metal products and farm machinery manufacturing. It is notable that since 2001, growth in these industries has been offset as the County lost a number of industries including paper manufacturing, fertilizers, paint manufacturing, clay and cement products, elevator and conveyor systems, tire retreading, furniture manufacturing and medical instruments.

Local economic development officials report, however, that despite past industry losses, they field many inquiries from potential large industries who have identified the Yuba Sutter area as a low cost, well connected place for manufacturing. The impediments to landing these industries are typically lack of infrastructure to support the large sites that are available.

Table 3: Yuba County Manufacturing Job Trends, 2001-2019

Industry	NAICS	2019 Jobs	Job Change		Location Quotients		
			2001-2019	2010-2019	2001	2010	2019
Non-Food Manufacturing	31 (part)-33	703	-257	278	0.53	0.36	0.48
Wood Product Manufacturing	321	177	-323	99	6.02	1.71	3.25
Truss Manufacturing	321214	46	-145	46	34.99	0.04	11.26
Cut Stock, Resawing Lumber, and Planing	321912	0	-27	0	8.45	0.09	0.21
Other Millwork (including Flooring)	321918	68	-113	12	19.48	11.34	13.69
Wood Container and Pallet Manufacturing	321920	22	21	6	0.13	2.39	2.66
Prefabricated Wood Building Manufacturing	321992	0	-28	0	7.86	0.07	0.17
All Other Miscellaneous Wood Product Manufacturing	321999	38	-31	32	12.54	1.77	9.63
Printing and Related Support Activities	323	6	-10	-1	0.15	0.11	0.11
Chemical Manufacturing	325	32	30	24	0.01	0.08	0.29
Plastics Material and Resin Manufacturing	325211	6	6	6	0.01	0.00	0.81
Phosphatic Fertilizer Manufacturing	325312	14	14	14	0.00	0.00	19.17
Toilet Preparation Manufacturing	325620	11	11	9	0.01	0.27	1.46
Plastics and Rubber Products Manufacturing	326	19	-6	19	0.21	0.01	0.21
Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing	326113	0	-20	0	2.37	0.00	0.00
Plastics Plumbing Fixture Manufacturing	326191	19	14	19	1.71	0.01	10.66
Nonmetallic Mineral Product Manufacturing	327	143	57	63	1.12	1.68	2.63

Industry	NAICS	2019 Jobs	Job Change		Location Quotients		
			2001-2019	2010-2019	2001	2010	2019
Cement Manufacturing	327310	42	42	14	0.00	16.42	23.55
Ready-Mix Concrete Manufacturing	327320	46	-34	-1	4.79	4.31	3.59
Other Concrete Product Manufacturing	327390	54	54	52	0.01	0.37	7.33
Fabricated Metal Product Manufacturing	332	63	-147	-27	0.89	0.54	0.33
Saw Blade and Handtool Manufacturing	332216	10	-11	-2	2.68	2.91	2.70
Fabricated Structural Metal Manufacturing	332312	14	14	0	0.03	1.42	1.17
Metal Window and Door Manufacturing	332321	0	-41	-7	3.40	1.13	0.01
Machine Shops	332710	9	-15	-2	0.66	0.34	0.25
Electroplating, Plating, Polishing, Anodizing, and Coloring	332813	7	6	6	0.03	0.04	0.84
Fabricated Pipe and Pipe Fitting Manufacturing	332996	20	-101	-23	25.71	12.12	4.67
Machinery Manufacturing	333	10	3	1	0.04	0.08	0.07
Computer and Electronic Product Manufacturing	334	74	72	26	0.01	0.34	0.53
Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing	334511	73	73	29	0.00	2.38	4.26
Electrical Equipment, Appliance, and Component Manufacturing	335	12	7	12	0.07	0.01	0.23
Power, Distribution, and Specialty Transformer Manufacturing	335311	12	12	12	0.01	0.01	3.29
Transportation Equipment Manufacturing	336	106	105	56	0.00	0.29	0.47
Aircraft Manufacturing	336411	36	36	-5	0.00	1.37	1.15
Aircraft Engine and Engine Parts Manufacturing	336412	13	13	13	0.00	0.00	1.07
Other Aircraft Parts and Auxiliary Equipment Manufacturing	336413	7	7	7	0.00	0.00	0.45
Guided Missile and Space Vehicle Manufacturing	336414	5	5	-4	0.00	1.28	0.60
Ship Building and Repairing	336611	44	44	44	0.00	0.00	2.50
Furniture and Related Product Manufacturing	337	4	-12	-11	0.18	0.33	0.08
Miscellaneous Manufacturing	339	48	-32	25	0.75	0.29	0.56
Jewelry and Silverware Manufacturing	339910	7	4	5	0.32	0.30	1.62
Sporting and Athletic Goods Manufacturing	339920	1	-28	0	2.91	0.14	0.20
Sign Manufacturing	339950	5	-1	1	0.45	0.32	0.37
All Other Miscellaneous Manufacturing	339999	34	-6	18	3.77	2.14	3.46

Source: ADE, Inc. based on data provided by Chmura.

Site selection is determined by a multitude of different factors that can be specific to different industries as well as individual companies. Even though the needs of site locations can be very specific, it is useful to see the current trends on what companies look for in determining locations for placing new facilities.

In its annual survey of corporate executives, *Area Development* noted several current trends with site selection decisions in 2019.[1] Over half of the respondents represent manufacturing firms, so the survey results tend to emphasize the needs for those sectors more.

As shown in Table 4, the top three site selection factors that respondents rated as either "important" or "very important" in 2019 were highway accessibility, availability of skilled labor, and labor costs. Those were identical to the top three criteria in 2018. Quality of life and occupancy/construction costs were the other site selection factors cited by at least 80 percent of the respondents. Other criteria that made the top 10 list included corporate tax rates, energy availability/cost, tax exemptions, environmental regulations, and proximity to major markets.

Table 4: Ranking of Site Selection Criteria by Corporate Executives, 2019

2019 Ranking	Site Selection Factor (Very Important or Important)	2019 Response	2018 Response	2018 Ranking
1	Highway accessibility	92.4%	87.2%	3
2	Availability of skilled labor	92.3%	90.5%	1
3	Labor costs	87.1%	89.1%	2
4	Quality of life	82.2%	82.8%	6
5	Occupancy or construction costs	80.3%	76.1%	10
6	Corporate tax rate	79.7%	86.7%	4
7	Energy availability and costs	79.5%	77.8%	8
8	Tax exemptions	75.0%	83.0%	5
9	Environmental regulations	73.0%	69.9%	16
10	Proximity to major markets	72.6%	71.8%	14
11	Right to work state	70.0%	70.2%	15
12	Available buildings	71.3%	76.7%	9
13	Expedited or fast track permitting	70.7%	64.9%	19
14	State and local incentives	70.2%	82.5%	7
15	Inbound/outbound shipping costs	69.8%	69.2%	18
16	Proximity to suppliers	68.1%	72.8%	13
17	Available land	64.4%	75.6%	11
18	Low union profile	62.7%	74.4%	12
19	Training programs/technical schools	60.3%	69.9%	16
20	Availability of long-term financing	59.5%	60.5%	21
21	Availability of unskilled labor	59.0%	59.4%	22
22	Raw materials availability	56.1%	55.6%	23
23	Accessibility to major airport	50.6%	62.7%	20
24	Water availability	45.2%	51.6%	24
25	Proximity to innovation commercialization/R&D centers	35.7%	41.5%	27
26	Availability of advanced ICT services	26.7%	50.0%	25
27	Railroad services	25.3%	46.6%	26
28	Waterway or oceanport accessibility	20.3%	34.1%	28

Source: Area Development

[1] *Area Development*; "34th Annual Corporate Survey & the 16th Annual Consultants Survey"; https://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2020/34th-annual-corporate-survey-16th-annual-consultants-survey.shtml

Generally, programmatic factors such as training programs, services, and financing rated lower on the list. In particular, state and local incentives fell from the 7th highest rated site selection factor in 2018 to 14th in 2019. Area Development noted that tax and incentive factors in general were not as important as in years past. They indicated that this finding is consistent with a recent paper by the W.E. Upjohn Institute for Employment Research that concluded that "for at least 75 percent of incented firms, the firm would have made a similar decision location/expansion/retention decision without the incentive."[2]

In addition, about 45 percent of survey respondents indicated that they planned to open new facilities within the next 5 years. For survey respondents, access to skilled labor is a top priority. In 2019, the low unemployment rates and increasing numbers of workers approaching retirement age make quality of life factors more important because companies need to recruit workers.[3] For industrial facilities, low vacancy rates across the country has led to companies doing more pre-capital planning and site-readiness factors such as utilities, environmental compliance, and greater due diligence with the permitting and entitlements needs.

MANUFACTURING OUTLOOK

At a national level, manufacturing has seen gains in both employment and production since the Great Recession. However, according to Deloitte's 2020 manufacturing outlook, momentum slowed down in 2019 and they lowered their manufacturing GDP growth projection to 1.3 percent for 2020 from 2.0 percent.[4] Uncertainty with the economy and labor shortages, even before the COVID-19 outbreak, effectively shut down much of the global economy and had already blunted growth in the sector.

Previously, Deloitte's long-term projection showed manufacturing employment growing at an average rate of 1.5 percent between 2018 and 2028.[5] This indicated the need for a net growth of 1.96 million additional manufacturing workers.

However, the long-term challenge for manufacturing will be a combination of lack of skilled labor and pending retirements. In August 2018, there were over 508,000 open positions in US manufacturing. Deloitte projected that between 2018 and 2028 the number of unfilled manufacturing jobs would grow to 2.4 million positions. This represents a long-term challenge for the broader economy and individual regions.

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[2] Bartik, Timothy; 'But For' Percentages for Economic Development Incentives: What Percentage Estimates Are Plausible Based on the Research Literature?"; July 31, 2018; p.1

[3] Dunbar, Courtney; "34th Annual Survey of Corporate Executives Commentary: Robust Information Needed to Satisfy Site Selection Demands"; Q1 2020
https://www.areadevelopment.com/Corporate-Consultants-Survey-Results/Q1-2020/information-needed-site-selection-demands-courtney-dunbar.shtml

[4] Deloitte; "2020 manufacturing industry outlook"; 2019.

[5] Deloitte and The Manufacturing Institute; "2018 Deloitte and The Manufacturing Institute Skills Gap and Future of Work Study"; 2018.

While the retirement of baby boomers will continue to contribute to the talent shortage in manufacturing, since 2015 the top reason for skills shortages has switched more towards the shifting skill set needs brought on by advanced technology and automation. Technologies adopted by manufacturing industries include "robots, cobots, machine learning, and artificial intelligence (AI)," and that has rapidly changed the skills needed by manufacturing employers.[6]

Influences in Decision Making and Growth

For existing manufacturing operations, a 2018 survey of manufacturers by *IndustryWeek* found that the factors that most influenced their decision making include access to materials and resources (30 percent rated as "great influence"), regulatory changes (27 percent), technological advances (26 percent), and economic health (24 percent).[7] Other factors cited as less influential include trade relations (18 percent), political atmosphere (9 percent), population trends (9 percent), and climate/weather (8 percent).

The *IndustryWeek* survey also found that the factors driving their organizations' growth were primarily driven by new products and services (53 percent) and improvements to existing offerings (46 percent). Other growth factors include technology enhancements (42 percent), efficiency gains (42 percent), marketing to new industry segments (39 percent), stronger brand (36 percent), new geographies (30 percent), and acquisitions (27 percent).

The two largest factors that limited the growth of manufacturing businesses were access to workforce (41 percent) and competition (39 percent). Other growth limiting factors cited in the survey include culture (26 percent), aging equipment (23 percent), eroding margins (23 percent), regulations and compliance (23 percent), leadership complacency (20 percent), access to materials/resources (20 percent), and lack of strategy or vision (19 percent).

Technology and Automation in Manufacturing

Manufacturing facilities have increasing gone to automation and heavy investment in information and operational technology to increase output. According to ABI Research, labor availability and cost remain a "massive issue" because finding qualified workers is "hard and expensive."[8] As manufacturing processes have become more customized and complex, lot sizes for manufactured goods have also gone down. Additive manufacturing (3D printing) is another process that is evolving beyond its more limited existing role of making low volume/high complexity components. Manufacturers also increasingly use technology to integrate multiple processes within a facility, rather than relying on autonomous islands. This greater availability of these technologies will also increase the use of automation for small and medium sized enterprises.

Parallel to the increasing role of automation in manufacturing, a notable trend occurring in global manufacturing is the rise of multimodal (or smart) factories. According to an IDC survey of global manufacturers, 23 percent of manufacturing plants currently operate as smart plants.[9] A multimodal

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[6] Ibid.
[7] Robertson, Brent; *IndustryWeek*; "Top Trends in Today's Manufacturing Workforce"; 2018.
[8] Carlaw, Stuart; ABI Research; "The Next American Industrial Revolution"; September 2018.
[9] GE Capital; The Rise of Multimodal Manufacturing; 2018.

facility will integrate multiple manufacturing processes under one roof. This can entail accommodating different steps in the manufacturing process for a specific or interrelated product, rather than having the various components manufactured discretely at different sites.

A multimodal manufacturing facility can also produce products for different unrelated industries as well. The reasons for going to multimodal facilities include reducing transportation expenses, minimizing lulls in production due to seasonal or demand-driven factors, maximizing usage of specialized equipment or labor, greater control over product quality, and reducing down time. These types of facilities rely heavily on information technology integrating with operational technology.

Fabricated Metal Products

Across the broader region (including Yuba, Sutter, Sacramento, and Placer counties), fabricated metals manufacturing (NAICS code 332) showed annual growth of about 1.4 percent between 2009 and 2019, while the manufacturing sector as a whole declined at an average annual rate of 0.4 percent.[10] The regional growth trend for this sector also outpaced California, which averaged 0.2 percent annual growth during this period.

According to a May 2019 IBIS World report, metal fabrication as an industry generates nearly $50 billion in revenue annually in the U.S., with exports totaling $1.4 billion.[11] While revenue declined an at average annual rate of 0.6 percent between 2014 and 2019, IBIS World projected that the revenue will recover by a total of 1.9 percent through 2024. Continued growth would be contingent on demand from construction and manufacturing sectors. Potential growth factors would also include utility needs.

Nationally, employment in this sector had its strongest growth since 2008 in 2018 with 4.7 percent growth.[12] This came as a culmination of recovery from a global crash in oil and commodity prices and the 2017 tax cuts. The IBIS World report also indicates that California has the fastest growing steel products workforce in the U.S.

As with other manufacturing industries, metal fabrication has invested heavily in robotics and automation, which has exacerbated existing skills gaps in the industry. While automation has shrunk the workforce over the long-term, those that remain have higher skills and they are in great demand.[13] Workforce development has emerged as a big issue. In more recent years, the overall expansion and recovery of the industry has led to both automation and employment growth.

Machinery Manufacturing

In the Yuba-Sutter-Sacramento-Placer region, machinery manufacturing (NAICS code 333) showed an average annual employment growth of 2.4 percent between 2009 and 2019, according to data from JobsEQ. This outpaced both the manufacturing sector as a whole (which declined an average annual rate of -0.4 percent) and the overall economy (average annual growth of 1.2 percent).

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[10] JobsEQ; Q2 2019 preliminary job count and projections.
[11] Smith, Mark R.; *Expansion Solutions*; "The Right Location for Metal Fabrication? Near You"; September 30, 2019.
[12] Ibid.
[13] Ibid.

Machinery manufacturing is commonly cited as one of the key sectors in the overall definition of advanced manufacturing.[14] Machinery is a key component in an overall manufacturing process for other classes of products. According to Sikich, machinery manufacturing has more in common with capital projects in that machinery is often engineered to order and can involve designing complex and customized machines designed for longevity.[15] Growth in the industry depends on capital investment by other manufacturers, and that investment can fluctuate in cycles.[16]

The outlook for machinery manufacturing will vary by which segments of the economy that companies serve. For example, new orders for construction machinery declined by 7.5 percent. However, forecasts from ITR Economics indicate that an expected rise in demand for residential construction could increase demand.[17] Subsequently, IBIS World indicates strong wholesale demand in the U.S. for industrial machinery as food processing, materials handling, and metal working were all expected to increase over between 2019 and 2024. The new machinery would also allow for greater energy efficiency, which is of increasing concern across the manufacturing sectors.[18] [19]

Transportation Equipment Manufacturing

Transportation equipment manufacturing (NAICS code 336) in the Yuba-Sutter-Sacramento-Placer had an average annual employment growth of 1.5 percent between 2009 and 2019, according to data from JobsEQ. Existing employment in the region is dominated by aerospace and railroad vehicle and parts manufacturing. Job growth for the region in this sector outpaced the overall economy and the rest of the manufacturing sector in the region. Projected job growth through 2029 is expected to show a slight decline overall, although this projection likely does not account for emerging opportunities through Beale AFB.

The transportation equipment manufacturing combines multiple product groups, including motor vehicles, trailers, aerospace, rail vehicles, ships, and other transportation equipment such as motorcycles and bicycles. Even though large scale motor vehicle manufacturing in California largely centers on Tesla's electric vehicle plant in Fremont, the company uses suppliers located throughout California and its most important component, the battery, is manufactured in Nevada and trucked to Fremont along the I-80 corridor.

Aviation and aerospace manufacturing supply both civilian and military markets, and are part of a complex supply chain. The trend with the industry has been towards greater digital integration of that supply chain.[20] With the current COVID-19 outbreak, the impact on civilian aviation remains unknown and even before the outbreak commercial aerospace demand had slowed. For military markets,

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[14] Damicis, Jim; *Expansion Solutions*; "Understanding Advanced Manufacturing"; December 2, 2014.
[15] Bos, Evert; Sikich; "Why Machinery Manufacturers Need Different ERP Solutions Than High Volume Manufacturers"; January 27, 2020.
[16] Lloyd, Adrian; Interact Analysis; "Manufacturing Outlook for 2020: A Slow Start But Picking Up Steam"; 2020.
[17] OEM Off-Highway; "U.S. Machinery Markets Down in 2019, Growth Possible in 2020"; March 26, 2020.
[18] IBIS World; "Industrial Machinery & Equipment Wholesaling Industry in the US - Market Research Report"; February 2020.
[19] Deloitte; "2020 manufacturing industry outlook"; 2019.
[20] Crawford, Mark; *Area Development*; "Transportation Equipment: A Key Economic Driver"; Q2 2014.

Deloitte had projected continued growth in the global defense market, with a compounded annual growth rate of 3 percent between 2019 and 2023.[21]

WAREHOUSING AND STORAGE

In the Yuba-Sutter-Sacramento-Placer region, the warehousing and storage sector had an average annual employment growth of 5.8 percent between 2009 and 2019, according to data from JobsEQ. This outpaced the overall economy that grew at an average annual growth of 1.2 percent, and the rest of the transportation sector as a whole, which grew by an average annual rate of 1.8 percent. Projected job growth through 2029 is expected to slow down to an average annual rate of 1.9 percent.

In Sutter County, the planned Sutter Pointe development would include major employment uses supporting more than 55,000 jobs. Local officials expect that area to develop into a distribution hub similar to recent developments at Metro Park near the Sacramento Airport. This development, combined with the rapid increase in trucking firms locating in Sutter County, suggest that major distribution uses will locate on the SR 99 corridor rather than in Yuba County. However, there remains the potential for smaller scale "last mile" delivery centers serving the Yuba, southern Placer and Nevada County markets.

Warehousing and storage (NAICS code 493) is an integral component in the broader logistics sector that also includes transportation and courier services. The logistics sector is a source of economic growth on its own, but it also enables growth in other sectors such as manufacturing and retail trade by connecting import and export activity. In the 2008 to 2017 period after the Great Recession, the logistics sector as a whole expanded by 12.7 percent nationally. This significantly outpaced 5.0 percent job growth for the national economy overall.[22]

Trends driving growth in the warehousing sector have included increased consumer spending and manufacturing output. In addition, warehousing has seen an increase in outsourcing that has occurred concurrently with larger companies such as Amazon, Walmart, and Target upgrading their own logistics capacity. Smaller e-commerce sellers have also driven demand for outsourced spaces, as they choose to forego their own warehouse capacity.[23]

Emerging trends in logistics include broader adoption of technology driven by e-commerce and just-in-time (JIT) delivery, autonomous vehicles, and digital supply chains that integrate logistics closer to the manufacturing supply chain using digitally interconnected production processes. The supply chain integration relies on companies being able to locate warehousing and transportation-related facilities either within or in close proximity to manufacturing facilities. The nature of logistics also increases the need for broadband services and smart infrastructure.[24]

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[21] Deloitte; "2020 global aerospace and defense industry outlook"; 2019.
[22] Damicis, Jim; *Expansion Solutions*; "Recent and Emerging Trends in Transportation and Logistics"; January 9, 2018.
[23] Ibid.
[24] Ibid.

DATA PROCESSING AND OTHER INFORMATION SERVICES

In the Yuba-Sutter-Sacramento-Placer region, data processing and related services (NAICS code 518) had an average annual employment growth of 10.0 percent between 2009 and 2019, according to data from JobsEQ. This outpaced the overall economy and the rest of the broader information services sector. Projected job growth through 2029 is expected to slow down to an average annual rate of 1.2 percent.

Other information services (NAICS code 519) represent another category that also includes internet publishing, data portals, and news organizations. In the region, these services grew at an average annual rate of 2.1 percent between 2009 and 2019, and are projected to grow at a higher average rate of 4.0 percent through 2029.

Globally, the continued integration of information technology into a broad cross-section of the economy has driven growth in the data processing and information services sector. As more businesses deploy cloud, hybrid-cloud, and/or edge computing for their application needs, these types of services will continue to grow.[25]

Site locations for data processing and information services will often consist of data centers and IT centers. In general, data centers focus on lower costs, while IT centers select their sites based more on the workforce availability.[26] For data centers, the capital investment up front is very high, but the primary operating costs are driven by energy. Lower energy costs can offset other higher operating costs, while availability of renewable energy can serve environmental and public relations goals for companies. IT centers tend to locate in regions that can produce and attract a high quality workforce. If the UARC locates in Wheatland, it is possible other IT Centers could follow.

PROFESSIONAL SERVICES

Professional services is a broad category that includes a combination of professional, technical, and scientific services, including legal, architectural, accounting, engineering, design, computer systems design, management consulting, scientific research, advertising, marketing, and veterinary services. In the Yuba-Sutter-Sacrament-Placer region, the professional services category grew at an average annual rate of 0.6 percent between 2009 and 2019. While this growth lags behind the overall growth rate of 1.2 percent for the region during this period, the projected job growth from Jobs EQ through 2029 shows professional services jobs growing at an average annual rate of 1.3 percent – faster than the 1.0 growth rate projected for the region as a whole.

The professional services category has traditionally served an important role as an economic engine for regional economies. Professional services are typically primary tenants for new Class A office developments, and the average annual wages for these sectors are usually well above the overall average.

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[25] Deloitte; "2020 technology industry outlook"; 2019.

[26] Engle, Chris, and John Rees; *Trade & Industry Development*; "Site Selection Trends in the Information Technology Industry"; July 16, 2014.

Compared to other economic sectors, professional services have not yet seen the kind of disruption that digital technology has created in other sectors such as manufacturing. However, that could change over the next decade, and digital transformation evolves how knowledge sharing occurs.[27] Changes to the professional services sector would include increased competition, deregulation, globalization, changing client demands, and technology and artificial intelligence. The role of technology and artificial intelligence in particular can be viewed as both an enabler and a threat to the industry. Outcomes would potentially include increased quality of services; commoditization and automation; change in focus from problem solving to preventative; digital marketplaces for services; greater transparency; greater potential for knowledge sharing and networking; and broader market reach.[28]

FOOD AND AGRICULTURE

In the SACOG region, economic development planning is squarely focused on maximizing the potential in the food and agriculture cluster. The Prosperity Plan Regional CEDS outlines a number of early goals for development of the Food and Agriculture cluster.

- Implement early proof-of-concept projects for Global Institute for Agriculture, Food and Health Innovation
- Pilot a Dutch-California Innovation AgriFood Tech Partnership
- Expand wet lab and greenhouse innovation spaces
- Assess feasibility of a Food Manufacturing Innovation Park
- Support emerging food system infrastructure projects and expand institutional procurement – including Live Oak Food Hub and Wheatland Ag Innovation Zone
- Develop a cohesive branding and marketing strategy for the region's food and ag assets
- Address broadband infrastructure challenges

The Prosperity Plan further states that,

"The region should ensure that it is supporting startups that are developing technologies in Agrifood Tech so that it gains a market foothold. This strategy would see the region become home for creation of individual technologies or a combination of technologies related to areas such as seed optimization, fertilizer and crop inputs, irrigation, remote sensing (including drones), farm management, food safety and traceability, and agricultural big data." (p.65)

The Yuba Sutter region could be a major participant in the future development of this cluster. It has a significant crop base but is relatively underdeveloped in value added food processing operations. Sutter County has designated a Food Processing, Agriculture and Recreation Combining District (FPARC) to host more intensive food processing and innovative agricultural technologies. Sutter County produces about twice the annual crop value as does Yuba County and will be more likely to

[27] Consultants 500; "The Future of the Professional Services Industry"; May 20, 2016.
[28] Ibid.

develop the next level of food manufacturing infrastructure. However, Sutter has significant infrastructure constraints and as discussed above, Beale AFB has developed state of the art remote sensing technologies and is interested in partnering with public and private entities to test these systems in areas such as farming, forest management, water management and other resource areas.

CROP TRENDS

In 2019, Yuba County produced $234.5 million in total crop value and Sutter County produced about three times that amount at $698.7 million. The two counties combined accounted for 41% of the total crop value produced in the six county SACOG region. Over the past 25 years, crop values in the SACOG region have grown at about 1.1% per year in real dollar terms, compared to 1.0% for Sutter and 0.6% for Yuba. To some extent, the higher growth in the region has been driven by wine grapes, which is a minor crop in the Yuba Sutter area.

The crop mix in Yuba and Sutter counties features commodity crops such as rice, walnuts, tomatoes prunes, and almonds. In the SACOG region, rice and walnuts are the first and third highest value crops (wine grapes are second) and the two counties produce about three quarters of the regional volume of both these crops (Table 5). The two counties also produce over 90% of the region's prunes and 97.4% of its peaches.

In Yuba County about half the livestock value is milk production, which has consistently been a top ten category in Yuba County over the past 25 years. The pasture operations in Yuba County, which is a land rental value rather than crop value, support both beef cattle and dairy, as well as some sheep production, and the combined livestock operations represent the third largest agricultural category behind rice and walnuts.

Table 5: Top Ten Crops for Yuba and Sutter Counties, 2019

Crop	Yuba	Reg'l Share	Sutter	Reg'l Share
Rice	$58,960,000	16.0%	$214,145,000	58.1%
Walnuts	$54,326,000	23.2%	$127,526,000	54.6%
Prunes	$25,522,000	26.3%	$62,691,000	64.5%
Tomatoes			$51,666,000	31.5%
Peaches	$22,243,000	30.0%	$49,984,000	67.4%
Nursery flowers, etc.			$41,102,000	38.0%
Kiwi Fruit	$13,086,000	3.7%		
Almonds	$5,583,000	2.6%	$39,866,000	18.8%
Seeds, vegetables, etc.			$29,889,000	36.0%
Livestock	$22,786,000	12.4%	$4,991,000	3.6%
Field crops, unspecified	$12,070,000	28.2%	$14,455,000	33.8%
Fruits and nuts, unspecified	$6,540,000	17.8%	$12,694,000	34.6%
Pasture	$5,706,000	21.2%		

Source: ADE, Inc. based on Agricultural Commissioner's Reports.

The miscellaneous field crops, fruits and nuts round out the top ten categories in both counties. Field crops include silage, pumpkins, safflower, squash, wheat, barley, cotton, industrial hemp, triticale, and sorghum. Fruits and nuts include a wide range such as apple, apricot, berry, cherry, chestnut, citrus, figs, jujubes (Chinese date), kumquat, table and wine grape, nectarine, olive, pear, persimmon, pistachio, pomegranate, quince and strawberry.

Both counties lost substantial food processing jobs prior to 2010 and those jobs have not returned in the past decade (Tables 6 and 7). The hardest hit sector was dehydrated and dried fruits and vegetables, although there were still nearly 700 jobs in this industry in 2019.

Table 6: Yuba County Food and Agriculture Job Trends, 2001-2019

Industry	NAICS	2019 Jobs	Job Growth		Location Quotients		
			2001-2019	2010-2019	2001	2010	2019
Agriculture, Forestry, Fishing and Hunting	11	1,051	-941	-228	6.26	4.80	3.86
Crop Production	111	684	-757	-182	12.20	8.38	6.46
Rice Farming	111160	95	-8	7	252.44	238.00	222.58
Apple Orchards	111331	20	-1	19	4.70	0.24	4.42
Grape Vineyards	111332	22	11	22	1.78	0.00	6.47
Tree Nut Farming	111335	140	53	41	57.44	51.99	51.10
Fruit and Tree Nut Combination Farming	111336	22	-26	-57	66.40	113.15	22.06
Other Noncitrus Fruit Farming	111339	149	-519	-167	160.27	72.68	38.12
All Other Miscellaneous Crop Farming	111998	9	-112	1	13.93	2.40	2.11
Animal Production and Aquaculture	112	92	-30	-9	0.98	1.05	0.99
Beef Cattle Ranching and Farming	112111	4	-17	-10	5.10	3.48	0.75
Dairy Cattle and Milk Production	112120	37	14	5	2.64	2.84	2.72
Forestry and Logging	113	66	0	42	4.24	2.26	6.68
Support Activities for Agriculture and Forestry	115	202	-154	-76	6.89	5.62	3.49
Soil Preparation, Planting, and Cultivating	115112	7	-5	-20	2.34	5.53	1.15
Postharvest Crop Activities (except Cotton Ginning)	115114	131	-10	13	15.08	11.36	10.80
Farm Labor Contractors and Crew Leaders	115115	40	-119	-51	7.82	4.59	1.71
Support Activities for Animal Production	115210	11	-2	-2	1.90	1.93	1.52
Support Activities for Forestry	115310	10	-14	-15	7.01	9.13	3.33
Food Manufacturing	311	40	-231	2	1.24	0.20	0.19
Dried and Dehydrated Food Manufacturing	311423	22	6	20	7.97	1.51	12.91
Beverage and Tobacco Product Manufacturing	312	70	69	-4	0.01	3.13	1.87
Soft Drink Manufacturing	312111	39	39	1	0.00	4.01	3.92
Wineries	312130	28	28	-3	0.03	5.95	3.06
Merchant Wholesalers, Nondurable Goods	424	34	22	1	0.24	0.34	0.33
Fresh Fruit and Vegetable Merchant Wholesalers	424480	7	-3	4	1.01	0.33	0.57
Other Grocery and Related Products Merchant Wholesalers	424490	22	22	0	0.02	0.83	0.74

Source: ADE, Inc. based on data provided by Chmura.

Table 7: Sutter County Food and Agriculture Job Trends, 2001-2019

Industry	NAICS	Jobs 2019	Job Change		Location Quotients		
			2001-2019	2010-2019	2001	2010	2019
Agriculture, Forestry, Fishing and Hunting	11	5,035	398	826	9.97	9.53	10.86
Crop Production	111	3,043	-142	301	18.46	16.03	16.90
Dry Pea and Bean Farming	111130	9	-1	-4	157.34	146.82	51.73
Rice Farming	111160	308	16	17	489.48	474.16	423.63
Other Vegetable (except Potato) and Melon Farming	111219	157	56	135	5.90	1.35	9.90
Apple Orchards	111331	12	-36	-24	7.47	4.72	1.61
Grape Vineyards	111332	9	8	-11	0.05	2.98	1.53
Tree Nut Farming	111335	659	346	174	139.89	153.00	141.14
Fruit and Tree Nut Combination Farming	111336	487	231	193	243.37	255.44	288.14
Other Noncitrus Fruit Farming	111339	748	-430	-67	193.48	113.27	112.80
Nursery and Tree Production	111421	58	38	34	1.01	1.45	3.25
Floriculture Production	111422	41	24	30	1.48	1.26	4.16
Cotton Farming	111920	7	-2	4	2.44	0.97	2.72
Hay Farming	111940	9	2	3	6.21	3.35	4.31
All Other Miscellaneous Crop Farming	111998	105	-202	-141	24.02	41.11	13.91
Animal Production and Aquaculture	112	64	-131	-7	1.08	0.44	0.40
Apiculture	112910	39	24	17	54.35	50.20	51.28
Forestry and Logging	113	56	-54	12	4.76	2.48	3.30
Forest Nurseries and Gathering of Forest Prod.	113210	11	3	-26	11.31	49.10	18.83
Logging	113310	45	-56	38	5.01	0.47	3.09
Fishing, Hunting and Trapping	114	18	6	4	0.95	1.30	1.84
Support Activities for Agriculture and Forestry	115	1,854	719	516	15.04	16.35	18.83
Cotton Ginning	115111	5	4	3	0.32	1.17	2.71
Soil Preparation, Planting, and Cultivating	115112	94	-28	23	16.23	8.76	9.56
Crop Harvesting, Primarily by Machine	115113	79	72	65	2.28	5.47	24.27
Postharvest Crop Activities (ex. Cotton Gin.)	115114	204	-43	24	18.00	10.47	9.84
Farm Labor Contractors and Crew Leaders	115115	1,361	666	335	23.37	31.07	33.92
Farm Management Services	115116	81	51	70	7.41	2.89	15.51
Support Activities for Animal Production	115210	12	-16	7	2.70	0.47	0.99
Support Activities for Forestry	115310	18	13	-11	1.08	6.36	3.40
Food Manufacturing	311	661	-443	-66	3.47	2.35	1.81
Dried and Dehydrated Food Manufacturing	311423	642	-363	-22	356.43	292.40	223.43
Beverage and Tobacco Product Mfg	312	23	-18	-35	0.98	1.50	0.37
Soft Drink Manufacturing	312111	23	-18	-33	2.30	3.61	1.36
Merchant Wholesalers, Nondurable Goods	424	707	328	149	0.89	1.33	1.47
General Line Grocery Merchant Wholesalers	424410	358	358	49	0.01	6.49	6.66
Confectionery Merchant Wholesalers	424450	44	-3	0	5.10	4.06	3.47
Fresh Fruit and Vegetable Merchant Whlsrs	424480	9	-10	7	1.26	0.12	0.40
Oth. Grocery Merch. Whlsle	424490	59	52	33	0.18	0.59	1.16
Grain and Field Bean Merchant Wholesalers	424510	15	-22	7	3.97	0.76	1.60

Source: ADE, Inc. based on data provided by Chmura.

FOOD HUB

In 2012-2014 the SACOG Rural Urban Connections (RUCS) program funded research into the potential for food hubs in the region to create distribution channels for local specialty crop growers to connect with local restaurants and grocery stores. The analysis indicated that much of the food produced in the Sacramento Region is distributed through a widely dispersed wholesale network centered in San Francisco and further south on the San Joaquin Valley. This network is difficult for small growers to access and moreover, local restaurants and institutional food customers such as schools and hospitals interested in regional farm to fork opportunities are not well served. Additional potential benefits of food hubs include reducing carbon emissions from out of region food transportation and the opportunity for capturing greater value added for local growers and processors.

The RUCS study presented both a regional prototype and a case study for Yuba County. A key finding is that many food hub enterprises fail because they do not reach sufficient scale to be profitable. This leads to the need for ongoing public or philanthropic subsides and is not sustainable. The full scale prototype in the RUCS analysis began to generate positive annual cash flow when it reached an input level of $5.6 million ($2019) in farmgate value and stabilized at a profitable level when the cost of goods sold reached $13 million. The Yuba County case study used a more scaled down design that featured a walnut glazing operation to make use of the main commodity crop in the area. That model began to show profits with an input level of $3.4 million.

As shown in the crop tables above, Yuba County produces about $18.5 million in miscellaneous field crops, fruits and nuts, and Sutter County about $27 million per year. These quantities are sufficient to support a food hub, although it would require devoting more than half of the existing production to the food hub. The Yuba Case study actually presumed that the food hub would stimulate additional planting of specialty crops in the area in order to be most successful. Discussions with growers and farm officials in Yuba County indicate that there is some crop experimentation occurring, such as with alternate grains like Ethiopian Teff, but not widespread interest in expanding specialty crop production. Sutter County has a larger existing base of specialty crop production and also is better situated on the regional transportation system, and therefore may be a more likely location for a future food hub serving the northern SACOG area.

In their annual industry assessment of the food and beverage industry, Food Processing identified the following trends as having the most lasting effect on the industry in 2020:[29]

- **Manufacturing labor.** The availability of labor is an increasing concern as the workforce ages and retires. In addition, recent low unemployment and increased political hostility on immigration further constrain the labor supply.
- **Trade climate.** Tariffs have had a more negative impact on the food and beverage industry, as other countries react to tariffs in other industries by retaliating against US food and beverage exports.

[29] Demetrakakes, Pan; *Food Processing*; "2020 Food and Beverage Industry Outlook"; January 7, 2020.

- **Regulatory prospects for cannabis components.** The legalization of cannabis in many states has created potential new consumer markets. However, regulations for including cannabis components into food and beverage products remain uncertain, and limit the viability of the cannabis market.
- **Strategies for product innovation and specialization.** Increasing product specialization has led larger producers to acquire smaller upstart producers.
- **Increasing importance of transparency and traceability.** Consumers increasingly want to know where their food comes from and more about the different characteristics of the production processes. Traceability also goes back to greater emphasis on food safety. Blockchain technology is increasingly deployed to meet this demand.

In addition, consumer preferences have evolved quickly as demand has gone towards more differentiated products.[30] This necessitates flexibility built into a processing facility to handle increasingly specialized consumer preferences. According to Gray Solutions, modern processing facilities need to be built around speed, efficiency, and customization. Increasing adoption of automation and technology addresses these issues, along with the greater emphasis on food safety brought about by the passage of the Food Safety Modernization Act (FSMA) in 2011.

BEVERAGE MANUFACTURING

In the region encompassing Yuba, Sutter, Sacramento, and Placer counties, beverage manufacturing (NAICS code 312) grew by at an annual average of 1.2 percent between 2009 and 2019. The ten-year job projection from JobsEQ shows expansion of about 0.6 percent through 2029. Growth in beverage manufacturing has been driven by beer and wine production. As noted above, wine grapes are a minor crop in the Yuba Sutter area, but there has been growth in the number of wineries in the region, particularly in the Yuba foothills area. In addition, the high quality of water in Yuba County should be attractive to breweries, as additional population and tourism growth expands the local market.

For the beer industry, the 2010s saw tremendous growth in the number of breweries, as the consumer market shifted towards craft breweries. According to the Brewers Association, the number of U.S. craft breweries grew from 1,813 to 7,450 between 2010 and 2018, while volume increased from 10.1 million to 25.9 million during that time.[31] Growth has slowed since 2014, and while craft breweries continue to grow at a slower pace, the overall beer market has stagnated. Growth in the number of tap rooms and brewpubs has also contributed to widening the reach of breweries. The outlook for the industry points to continued slower growth, and craft breweries diversifying into non-beer products such as hard seltzers and canned cocktails.[32]

For the wine industry, Silicon Valley Bank's (SVB) annual *State of the US Wine Industry* report has pointed to several indicators that project sluggish growth in the near term despite record sales volume

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[30] Gray, Stephen; *Area Development*; "Radical Transformation in the Food & Beverage Industry"; Q4 2019.

[31] Brewers Association; "National Beer Sales & Production Data"
https://www.brewersassociation.org/statistics-and-data/national-beer-stats/

[32] Furnari, Chris; *Forbes*; "Looking Ahead: Beer Pros Predict The Next Decade of Industry Trends"; December 31, 2019.

in 2019.[33] The industry as a whole saw tremendous growth since the mid-1990s, however the baby boomers that drove much of the industry's growth are retiring and their per capita consumption of wine is also declining while millennials have not yet embraced wine consumption to the same extent.

The SVB forecast also points to oversupply, competition from imported wines, lack of innovative direct-to-consumer strategies, and labor availability as drags on the industry's growth potential. Areas of opportunity from the SVB forecast include resilience in the market for higher priced wines, market opportunities with millennials, better product quality in lower price segments due to existing oversupply, more diverse retail approaches, and increasing direct to consumer sales channels.

HEALTH CARE

The general demographic trends throughout the country is increasing average ages as the Baby Boomer generation reaches retirement age. This is true in the Sacramento region as well and the land owners in the study area have considered developing age restricted housing in portions of the site. This trends has also led in part to the expansion of the health care sector and in particular residential care for seniors.

AMBULATORY HEALTH CARE SERVICES

In the greater Yuba-Sutter-Sacramento-Placer region, ambulatory health care services grew at an average annual rate of 6.3 percent between 2009 and 2019, which well outpaced the majority of other economic sectors in the region. Through 2029, the job growth is projected by JobsEQ to average about 2.8 percent annually.

Nationally, the broader health care sector became the largest source of U.S. jobs in late-2017, continuing a long-term trend that saw health care surpass both manufacturing and retail trade in total jobs. Demand is driven by rapidly growing health care expenditures and demographic factors.[34] The share of retirees as a percentage of the overall population is expected to continue growing, with the 65 and over population expected to nearly double its 2012 total by 2050. By its nature, an aging population demographic will drive greater demand for health care services.

In addition, the facility needs for the health care industry are also evolving as providers reassess how they deliver patient care. In recent years, the trend with ambulatory health care has seen primary care services locate in the communities. This has broadened to also include urgent care centers and outpatient care facilities that can provide most medical services that do not require a hospital or overnight stays.[35] The real estate planning for health care providers has evolved into building out multi-tiered networks that ideally consist of a regional hospital, comprehensive care centers, and neighborhood clinics.

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[33] McMillan, Rob; *State of the US Wine Industry 2020*; January 2020.

[34] Bastian, Lisa; *Expansion Solutions*; "U.S. Healthcare: The Century's Newest Economic Leader"; November 29, 2019.

[35] Damicis, Jim, and Alexandra Tranmer; *Expansion Solutions*; "Health Care and Real Estate Development Trends In The U.S."; November 23, 2016.

While health care providers have traditionally owned their own properties, the industry has increasingly moved toward build-to-suit buildings with long-term leases and looking for more affordable spaces for lease. With the large retraction occurring with retail commercial spaces, a glut of low cost storefronts in high visibility locations has led health care providers to reuse retail locations for neighborhood clinics. In addition, with the number of spaces vacated by big box retailers, those large format spaces have also increasingly been converted into community health care centers.[36]

RESIDENTIAL CARE AND SOCIAL ASSISTANCE

Residential care in Yuba-Sutter-Sacramento-Placer region had an average annual employment growth rate of 2.1 percent between 2009 and 2019. Through 2029, the job growth is projected by JobsEQ to average about 1.7 percent annually.

The residential care sector primarily serves seniors, with other large segments devoted to residents with disabilities or issues with mental health or substance abuse. The facilities can be temporary residential care, or more permanently tenured locations. In addition, the level of care can vary from retirement communities to nursing homes to other forms of assisted living. Social assistance sectors serve the same constituency, but offers services on an in-home or walk-in basis. In addition, social assistance also broadly includes child care and other family services.

Most of the recent and projected future growth in residential care is driven by senior health care. As the baby boomers retire, the U.S. home care market expects to more than double between 2016 and 2024. While the demand expects to grow, there's also an increasing shortage of health care workers and physicians that can serve that demand.[37] Digital health care technologies are potential ways that providers can try to resolve existing and anticipated shortcomings in the senior care market. These technologies include telehealth applications, personal emergency response services, wearable devices, and other smart devices.

[36] Ibid.

[37] Meola, Andrew; *Business Insider Intelligence*; "Future demand for elderly care services like assisted living & in-home care are rife for digital disruption"; July 8, 2019.

LAND USE PLAN

INTRODUCTION

The market analysis above identifies both short term (five years) and longer term (10-30 years) opportunities for job growth in the Wheatland Employment Zone. One goal of the Employment Zone Feasibility Analysis is to identify land use policies that can support creation of attractive employment, commercial and entertainment centers in proximity to the residential neighborhoods in the Hop Farm and Johnson Rancho areas. A related concern is to confirm the feasibility of maintaining a healthy balance between job growth and housing development. The plan presented below outlines a Village concept that provides for a distribution of employment and local serving commercial in Village cores in each neighborhood, while designating larger scale office, industrial, retail and civic uses to two main employment centers – a Town Center and an Industry and Technology Park.

The DEIR for the annexations shows buildout of 14,396 dwelling units and 405 acres of employment and commercial sites producing 13,197 jobs, a jobs/housing ratio of 0.92. In addition, the plans include sites for a civic center and local schools that would create additional jobs. The land use plans presented in the DEIR show employment areas generally situated along Spenceville Rd. Commercial land uses are also on Spenceville Rd., as well as along the SR 65 Bypass alignment and in an interior location on the Johnson Rancho site (Figure A-1 in the Appendix below).

The phasing of development in this area is affected by the fact that the land owners have planted walnut orchards on much of the property south off Grasshopper Slough and intend to farm those orchards over an extended period of time. These areas are anticipated to be given an agricultural zoning overlay to permit and protect long term agricultural use (see Figure A-2 in the Appendix).

PROPOSED CONCEPTUAL LAND USE PLAN

ADE has prepared a new conceptual land use plan to bring the jobs and housing into closer proximity to facilitate active transportation modes and greater mixed use opportunities. The land use plan also allocates some job development to parcels in the ag overlay. Some of these jobs would be agricultural industry jobs that may support ongoing farming operations, while others could be integrated into mixed use centers as these walnut orchards are converted to urban uses over the long term.

The land use plan conceives of a number of villages with mixed use cores that allow for employment and commercial development closer to the residential neighborhoods. The village locations are shown in Figure 3 and their land uses are summarized in Table 8. The acreage calculations rely on the analysis of planning areas in the Stage 1 Development Plan (see Figure A-3 in the Appendix). The planning areas are referenced where appropriate in Table 8. In most cases, the new land use plan uses the same residential mix as shown in the Appendix (Figure A-1). The main difference is the location of employment and commercial uses, which have been roughly balanced with the residential development in each village. The land use category labels used in the Table are shown below. More detailed land uses for the non-residential categories are shown in Table 9.

- VLDR - Very Low Density Residential
- LDR - Low Density Residential
- LMDR - Low Medium Density Residential
- MDR - Medium Density Residential
- HDR - High Density Residential
- EMP - Office/R&D/Medical Employment Uses

- IND - Industrial Employment Uses
- C - Commercial
- Other - Parks, schools, open space

Table 8: Summary of Wheatland Villages

Land Uses	Acres	Density	DUs	Jobs	Non-Residential SF
Town Center					
Civic Center	24	0.35		853	365,904
C	10	0.25		200	108,900
MDR	28	6.5	182		
HDR	17.2	12	206		
Total	79.2		388	1,053	474,804
Industry and Technology Park					
EMP	83	0.35		2,490	1,265,418
IND	77.3	0.40		1,160	1,346,875
C	22	0.25	100	440	239,580
Other	35				
Total	259.3		100	5,350	3,492,205
Hop Farm Village - subject to Ag overlay					
LDR	218	3	654		
LMDR	134.8	5	674		
MDR	43.5	6.5	283		
Other	67.2				
Total	463.5		1,611		
North Browne Village (PA-12)					
MDR	54	6.5	351		
HDR	30	12	360		
EMP	15	0.35		525	228,690
C	5	0.25		100	54,450
Total	104		711	700	283,140
Post Walnut Village (PA-2 (part) & PA-3) Subject to Ag Overlay					
LMDR	397	5	1,985		
MDR	184	6.5	1,196		
Other	187				
Total	732		2,947		
South Spenceville Village (PA-2 (part), PA-4, PA-5, PA-9)					
LDR	130	3	390		
LMDR	309	5	1,545		
MDR	259	6.5	130		
MED OFF/EMP	60	0.50		2,760	1,306,800
C	22	0.25	100	440	239,580
Other	39				
Total	525		2,165	765	359,370

Land Uses	Acres	Density	DUs	Jobs	Non-Residential SF
North Spenceville Village (PA-10 & PA-11)					
LDR	368	3	1,104		
LMDR	75	5	375		
MDR	108	6.5	702		
EMP	45	0.25	300	1,125	490,050
C	23	0.25		460	250,470
Other	17				
Total	636		2,481	1,585	740,520
Estates Village (PA-6, PA-7, PA-8 and portion of PA-2)					
VLDR	230	1.5	345		
LDR	571	3	1,713		
LMDR	72	5	360		
EMP	28	0.35	50	980	426,888
C	15	0.25	50	300	163,350
Other	101				
Total	1,017		2,518	1,280	590,238
Totals	**4,135**		**14,475**	**13,092**	**7,127,287**

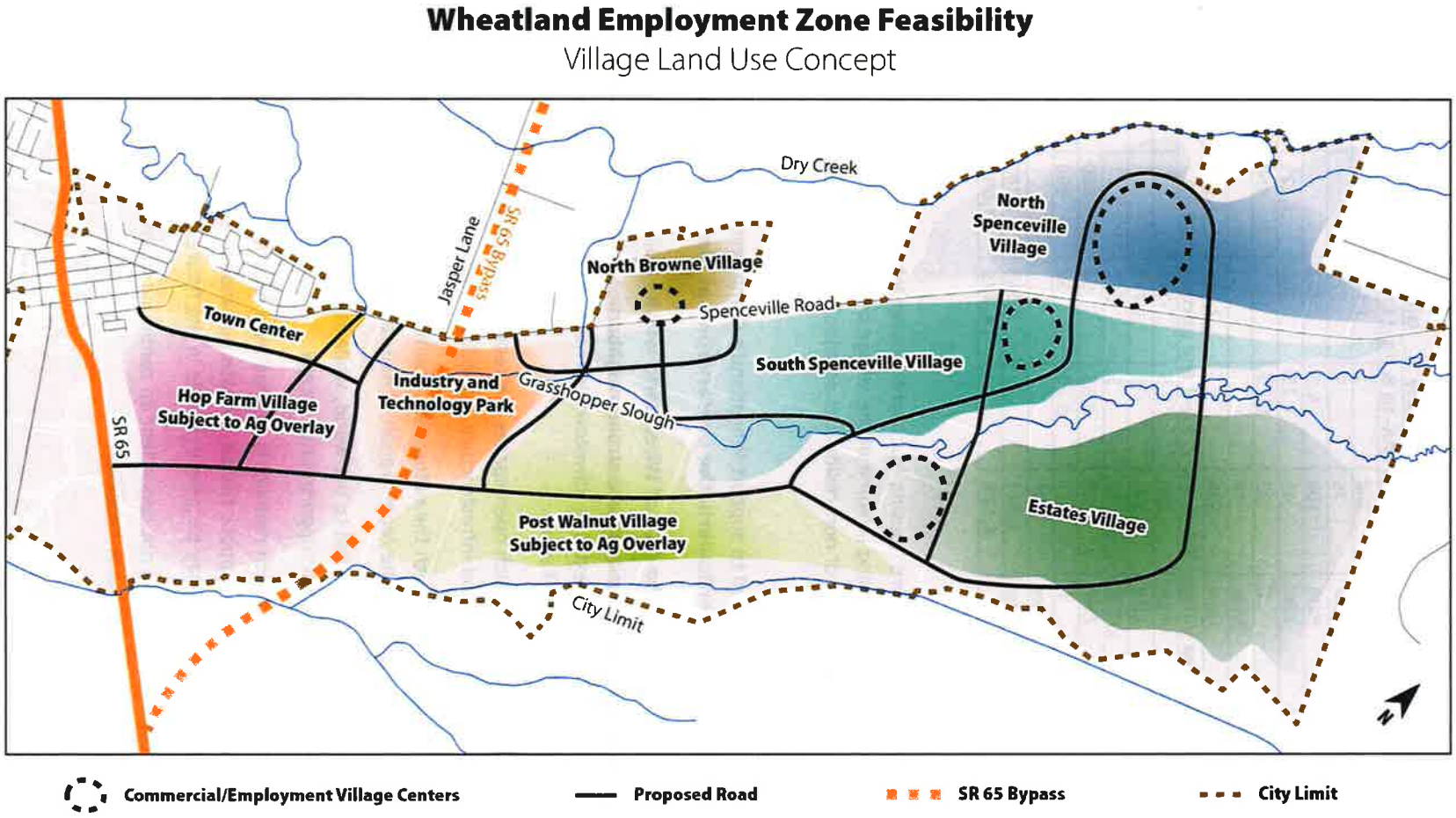
This plan produces slightly more housing but slightly fewer jobs than the original plan, due in part to the addition of mixed use housing in some of the village centers. The plan would support development of more than 7.1 million sq. ft. of non-residential development, not including schools, and the overall jobs/housing balance is 0.90.

The Village Concept is intended to support Wheatland's Community Vision and the original principles of the Johnson Rancho Plan, **particularly the preservation of historical and cultural resources.**

The Community Vision of the City of Wheatland will be guided by the following:

- A cohesive community where strong neighborhoods are the center of the community identity, while the existing downtown is enlivened to ensure that the City maintains an identifiable sense of place.
- A community in which open spaces are retained to provide visual relief from urban spaces, connectivity, natural infrastructure, agricultural production and wildlife enhancement.
- A community in which the natural environment is not just sustained, but continually improved through the regeneration of natural systems.
- A community connected to the world, while striving to provide much of the City's required energy and economic opportunities locally.
- A community in which mobility is defined by a full range of mode options, including pedestrian, bicycle, public transit, private automobile and developing transportation technologies that may become available in the future.
- A community that is not dependent on continued future growth to fund existing city services, operations or liabilities.

Figure 3: Conceptual Land Use Plan



VILLAGE DESCRIPTIONS

Town Center. This area connects the existing developed areas of Wheatland to the annexation areas and would include a new civic center for Wheatland. This area includes some high density and medium density residential as well as 10 acres of commercial/entertainment uses. We would envision this area to be designed in a mixed use format that provides an attractive blend of all these uses.

Industry and Technology Park. This area is centered on the SR 65 bypass and would be the main employment center. It would potentially include the UARC and associated research facilities adjacent to the Town Center and extending east of the bypass. On the Hop Farm side of the bypass, south of the research park, it would also include an area dedicated to ag industry and other general industrial uses. In addition to employment uses, the area would include commercial development serving the Post Walnut and Hopyard Villages, as well as any larger scale retail boxes that would serve the entire community. This Park would support 5,350 jobs, about 40% of the total in the plan. The employment/commercial cores for the Villages, therefore, would feature smaller scale commercial and employment centers appropriate to the neighborhoods they serve.

Hop Farm Village. This area is subject to the ag overlay, but would also be adjacent to the location for industrial uses supporting the ag industry, as well as other industrial uses over time. Eventually, about 1,600 housing units could replace the agriculture in this village. The area also includes historical and cultural features that should be preserved and integrated into the village design.

South Spenceville Village. AKT has suggested that an age-restricted residential development would be a good first phase for development, which is well supported by the demographic trends in the area and statewide. This village location could support that vision, but, at 844 acres, may be large enough for other types of residential as well. This village would allow for 3,719 dwelling units, including a 48 acre MDR area south of Grasshopper Slough that is not in the ag overlay zone. The village also includes a 60 acre employment area that could feature medical offices and clinics as well as residential care facilities. The previous plan included a hospital site north of Spenceville Rd. but a hospital operator would likely want to be closer to the SR 65 interchange. With an ultimate total City population of about 50,000, ADE estimates the medical center on this site could occupy as much as 45 acres. The village includes 22 acres of commercial, which could include local services, restaurants and possibly entertainment uses.

North Browne Village. This area follows basically the same land use us mix as the previous plan, but replaces five acres of employment uses with commercial to better serve the neighborhood and provide mixed use opportunities.

Post Walnut Village. This village includes the area south of Grasshopper Slough that is proposed for long term agricultural use. Similar to the prior land use plan, this area would have just under 3,000 dwelling units. The employment count is lower than the .90 jobs/housing ratio due to the village's proximity to the research park.

North Spenceville Village. The original plan had employment uses on the north side of Spenceville Rd. and commercial uses to the south. The village plan re-allocates these uses to better balance the commercial with the residential north and south. The jobs/housing balance in this village is 0.64.

Estates Village. This a low density area south of Grasshopper Slough. It includes 15 acres of commercial and 28 acres of employment uses, for an overall jobs/housing balance of 0.50. In order to maintain the dwelling unit count, we have added 100 units of mixed use housing to go with the commercial and business areas. Ideally, all of these more urban uses could be combined into a mixed use core for the village.

Table 9: Projected Business Tenant Types by Land Use

Office/R&D	Ag Industry
UARC	Food Processing
Tech and Scientific Services	Distribution
Professional Services	Machinery Sales/Repair
Data Processing	**Other Industry**
Information Services	Light Mfg/Repair
Finance, Insurance, Real Estate	Construction Businesses
Administrative Offices	Distribution
Commercial	**Medical/ Senior Care**
Retail	Residential Care Facilities
Personal Services	Medical Offices/Outpatient Care
Restaurants and Entertainment	Dental and Medical Labs
Lodging	Social Services

DESIGN CONCEPTS

A central purpose of the conceptual land use plan is to create amenities in an environment that will be attractive to businesses as well as residents. As discussed above, the land use quantities in the conceptual land use plan are very similar to those in the Stage 1 Development Plan for Johnson Rancho, which were the basis for the annexation DEIR. However, the present plan contemplates a much greater integration of non-residential uses so that the distinction between commercial areas and employment zones is less pronounced, and there is greater proximity between residential uses and job locations. Within this broad goal, it is anticipated that the zoning will permit substantial flexibility to mix uses within commercial and employment zones but create performance standards in terms of job development in a form-based building envelope framework. Therefore, acreages shown under the "C" and "EMP" zones in Table 1 above should be combined into a Village Commercial designation that allows office space and Neighborhood Light Industrial uses as well as retail, services and low impact entertainment uses. This form based structure would be supplemented by the recommended amenities and design concepts for the major types of commercial areas and employment zones described in the sections below.

COMMUNITYWIDE

Active Transportation. One over-arching concept is that the employment zones, village commercial cores and residential areas be linked by an active transportation system that encourages pedestrian,

bike and alternative mobility vehicle travel, as well as local and regional transit, to connect the villages. In addition to the road system discussed in the previous chapter, Grasshopper Slough and the Bear River provide opportunities for open space corridors that should be developed with trails and linked to passive and active recreation areas.

Urban Forest, Storm Water Management. Streets, medians, parking areas, large building roof tops and other paved areas should be landscaped with drought tolerant trees and bushes as well as groundcover to reduce heat island effects. Some of these types of surfaces may also be covered by solar panels. Storm water management should be integrated with both the open space system and urban forest features. Designed treatment systems such as bioswales, flow-through planters, permeable paving, and green roofs should be utilized as part of a comprehensive approach to stormwater management.

Protection of Sensitive Resources. Consistent with the Community Vision, the plan shall protect historical, cultural and natural resources within the community.

Broadband Deployment. As part of the utility installation that occurs with the buildout of the circulation system, dark fiber conduits should be installed to facilitate eventual connection to the high speed broadband service anticipated to be available from the Industry and Technology Park through the UARC. It is important that this level of broadband service be available to the residential areas as well as the commercial cores and employment zones.

VILLAGE COMMERCIAL CORES

In the village commercial cores the intent is to encourage both horizontal and vertical mixed use that provides opportunities for jobs, shopping, residential and entertainment. Permitted uses include offices, retail and services, eating and drinking establishments, and high density residential.

Neighborhood Light Industrial uses are permitted and defined as uses with an industrial character which have public-facing operations such as breweries, wineries, catering companies, garment manufacturers and crafts or artists' studios (or similar). Light industry is intended to accommodate businesses operating substantially within an enclosed building and without provision of storage or side yards. Such permitted uses shall not be objectionable or detrimental to adjacent properties because of signage, noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards or industrial wastes emanating from the property.

Other uses that may be conditionally permitted are entertainment that would not create noise or traffic conflicts with residential uses, religious institutions, and public facilities.

Design concepts that have proven to foster vibrant employment and downtown centers include:[38]

- Use of form based zoning standards to permit flexibility in mixed use development. Allowable Floor area ratio (FAR) up to 1.0.

[38] Adapted in part from City of Santa Clara, *Tasman East Focus Area Specific Plan*, Perkins + Will, November 2020.

- Complete streets, including accommodation for transit and bicycles as well as auto travel and parking.
- Pedestrian oriented intersections and street furniture, with bulb outs for traffic calming.
- Sidewalks sufficiently wide to accommodate not only pedestrian traffic, including children seniors and people with disabilities, but also restaurant seating, street furniture and opportunities for people to linger, socialize and rest.
- Pedestrian oriented active building frontages, such as:
    - Retail, entertainment, arts and recreation use;
    - Public uses including a community room, an urban school, a bookmobile dock and/or a book vending machine stocked by the library;
    - Residential or live/work units that are individually entered from the street;
    - Building lobbies; and
    - Spaces accessory to residential uses, such as fitness rooms, work spaces, leasing offices, shared kitchens, mail rooms and Class I bicycle parking facilities with direct access to the sidewalk or street.
- Unbundled parking, permitting shared parking among uses.
- Bike storage facilities and services.
- Electric vehicle parking and charging facilities.
- Clustered ground floor retail to promote park once and stroll activity.

INDUSTRY AND TECHNOLOGY PARK/MEDICAL CENTER

The Stage One Development Plan included two primary employment zone land use designations, Business Professional (BP) and Light Industrial (LI). This separation of uses would be appropriate within the Industry and Technology Park; however, we recommend the allowable uses in these zones be expanded to better accommodate the range of business types identified in the market analysis. This involves mainly adding big box commercial uses and entertainment to the BP zone and clarifying that outdoor storage uses are allowed in the LI zone. In addition, a small amount of high density residential would be permitted in the BP zone. Both zones permitted hospitals as a conditional use. The Conceptual Land Use plan envisions a medical center in the South Spenceville Village; however the precise design and location for this would be subject to further planning so continuing the conditional treatment of this use would be recommended.

Business Professional (BP). Professional offices, research and development facilities, large format retail, and convenience/service retail are permitted uses in BP. Other uses that may be conditionally permitted are high density residential, hospitals, private recreation facilities, and entertainment uses not otherwise appropriate for Village Commercial Cores due to sound or traffic impacts.

Light Industrial (LI). Offices, warehouses, "flex" office space, clean light industrial uses, and industrial uses that require outdoor storage of materials and equipment are permitted uses in the LI.

Other uses that may be conditionally permitted are hospitals, private recreation facilities, religious institutions and public utilities/facilities.

The BP zone should include at least 165 acres and be located along the south side of Spenceville Rd. between the point where Grasshopper Slough crosses Spenceville Rd,. and the eastern boundary of the North Spenceville Village.

The LI zone should include approximately 80 acres and be located south of the BP zone and primarily west of the Wheatland Expressway alignment.

The anticipated average floor area ratios (FARs) for uses in these zones range from 0.25 to 0.50. However, the City may permit FARs up to 1.0 to facilitate design flexibility.

INFRASTRUCTURE

TRAFFIC AND CIRCULATION

KD Anderson and Associates (KDA) has prepared an updated analysis of projected traffic conditions under the proposed Employment Zone Land Use Concept (EZP) shown in Figure 3 above. KDA's analysis is substantially summarized in this chapter and their full report is available under separate cover.[39] In addition, the South Yuba Transportation Authority (SYTIA), has retained Dokken Engineering to address the questions of what alternatives are available for developing the Wheatland Expressway to best promote development of eastern Wheatland while meeting community goals for relieving traffic congestion on SR 65 through Wheatland and regional goals for access to Beale AFB and to SR 70. As of this writing, that analysis is still underway.

In addition to evaluating the internal circulation options, the KDA analysis is primarily concerned with identifying interim traffic solutions to provide adequate access to the Employment Zone during the interim period before the Wheatland Expressway is extended north across the Bear River. KDA has reviewed and assessed current constrains to community access on SR 65, considered whether potential circulation alternatives are feasible for the City and assessed the level of development that could proceed during this interim period. The analysis recognizes that the City is now taking a new look at the area with the intention of promoting a community layout that combines "Smart Growth" policies, bringing jobs and housing in closer proximity in order to reduce automobile travel, with coordination of City land uses and United States Air Force (USAF) plans to enhance the functions of Beale AFB.

EMPLOYMENT ZONE CIRCULATION ASSESSMENT

Eastern Wheatland Area Circulation

Background. The original CEQA analysis for the Johnson Rancho / Hop Farm Annexation included evaluation of the anticipated circulation system under Wheatland buildout conditions. The buildout condition included the Wheatland Expressway with an interchange at Spenceville Road, an arterial street crossing over the Expressway without direct connection and a crossing over the UPRR. Under these conditions the original plan was anticipated to result in daily traffic volumes that ranged from 6,975 to 47,250 on Spenceville Road.

Traffic Volume Forecasts. For this assessment the travel demand forecasting model previously employed for the Johnson Rancho – Hop Farm annexation EIR was reused to test the new land use pattern and circulation layout. Eastern Wheatland land uses previously assumed were redistributed in general accordance with the EZP but to provide a relative comparison of the effect of the plan, the overall Wheatland development level was not increased appreciably. The traffic model circulation

[39] KD Anderson & Associates, Traffic Engineers, letter to Doug Svensson, June 2, 2021, Re: Transportation Assessment Relating to the Wheatland Employment Zone Feasibility Study. Note: In their full report, KDA made recommendations for the internal circulation of the land use plan which have been incorporated into Figure 3 and are not replicated in this Chapter.

network was revised to more closely follow the initial circulation concepts created by ADE for the EZP. This assessment recognizes that the jobs created within the EZP could be related to the mission of Beale AFB, but no attempt has been made to increase the base employment previously included in the model. Figure 4 presents buildout traffic volumes anticipated if the EZP is developed.

Table 10 compares daily traffic volumes at buildout under the original Annexation layout and the EZP. As indicated, while concentrating land uses in the Industry and Technology Park in the immediate vicinity of the Expressway could increase the traffic volume near the interchange, the introduction of supporting non-residential land uses in Village areas has the effect of reducing the volume of traffic on many other roads.

INTERIM TRAFFIC OPERATIONS

This evaluation considers the current status of traffic operating conditions in the Wheatland area to determined how EZP development could be accommodated. It is important to note that with the implementation of SB 743, the analysis of transportation impacts under CEQA moves from a capacity-based analysis of Level of Service to evaluation of regional Vehicle Miles Traveled (VMT). Impacts to alternative transportation modes and safety remain CEQA criteria.

TRAFFIC DATA COLLECTION

Traffic volume data that characterizes current traffic conditions in Wheatland and identifies traffic growth since the Johnson Rancho / Hop Farm Annexation approval has been assembled.

Due to COVID-19 limited new traffic data was collected and compared to volumes occurring before 2020. New traffic volume data was collected in April 2021 to supplement counts made earlier.

Daily Traffic Volumes. Table 11 compares Caltrans *Annual Average Daily Traffic* volume reports and "spot" 24-hr counts conducted at these times:

- data collected in 2009 for the Johnson Rancho – Hop Farm Annexation EIR
- data from 2015
- the most recent Average Annual Daily Traffic (AADT) from Caltrans for 2019
- new 2021 daily counts

State Route 65. As indicated, the 2019 AADT reported by Caltrans for SR 65 is much greater than that published when the original Annexation DEIR was prepared in 2009 or reported in 2015. KDA's experience when the annexation was evaluated had been that Caltrans AADT could be unreliable in terms of the actual volume at any location but can be useful in terms of the relative growth on state highways. In this case, Caltrans data would suggest that the volume of traffic on SR 65 has gotten appreciably larger since 2009.

Figure 4: Employment Zone Buildout ADT

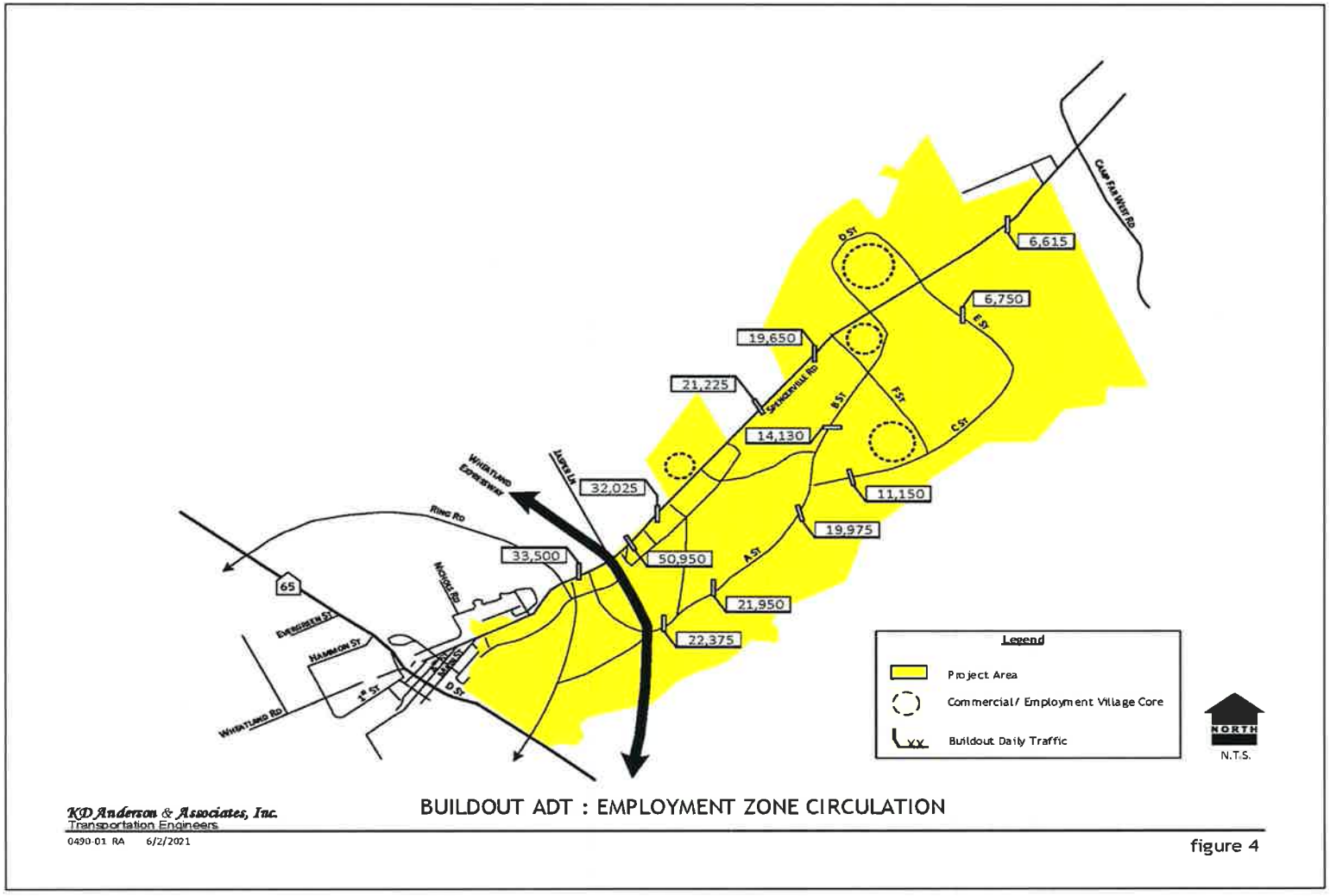


Table 10: Comparative Buildout Daily Traffic Volumes In Eastern Wheatland

Index	Road	Location	Daily Traffic Volume	
			Annexation EIR	EZP
	Spenceville Rd	West of Wheatland Expressway	37,425	33,500
1		East of Wheatland Expressway	47,250	50,950
		West of North Browne village	41,750	33,500
2		East of North Brown Village	23,050	21,225
3		West of North Spenceville Village	18,300	19,650
4		East of North Spenceville Village	6,975	6,615
5	A Street	Over Wheatland Expressway	29,725	22,375
6		Through Post Walnut Village	26,750	21,950
7	C Street	East of Road A	12,400	11,150
	E Street	South of Spenceville Road	8,400	6,750

To provide additional perspective on SR 65 conditions "spot" 24-hr counts from November 12, 2015 and from May 2009 were assembled and compared to new sample counts from late March 2021. At the locations where the data can be compared, the daily volume in 2015 was roughly 2,500 vehicles per day (vpd) higher than the 2009 counts and the 2021 counts were roughly 2,300 vpd greater than 2015.

Wheatland Streets. As noted, the traffic volumes on Wheatland streets did not increase appreciably between 2009 and 2015 or 2021.

Intersection Peak Hour Traffic Volume Counts. New a.m. and p.m. peak hour intersection traffic volume counts were at the two signalized intersections on SR 65 in Wheatland. These counts are presented in Appendix B, Figure 8.

As with the daily traffic volumes, comparison of the total intersection turning movements collected in 2009 with those counted in 2015 reveals that appreciable growth had occurred, particularly in the p.m. peak hour, as shown in Table 12. The most obvious change in Wheatland area circulation since 2009 was the opening of the Lincoln Bypass on SR 65. Prior to the bypass, all northbound traffic on SR 65 had to pass through the City of Lincoln, and this flow was constrained by congestion at the numerous in that community.

However, the relative change in peak hour volumes between 2015 and 2021 is very slight, even though the daily volume on SR 65 continued to increase. This can be explained by the constraining effect of the SR 65 / Main Street traffic signal. KDA's observation was that in 2015 the signal was accommodating all the northbound traffic that it could handle, and this remains the case in 2021.

Table 11: Existing Average Daily Traffic Volumes And Resulting Level Of Service

Road Location From / To	Jurisdiction	Daily Volume Thresholds		2009		2015		2019		2021	
		LOS C	LOS D	Daily Volume	LOS	Daily Volume	LOS	Daily Volume	LOS	Daily Volume	LOS
SR 65 from Sheridan to River	Placer	9,600	15,500	**16,800**	**E**	**16,800**	**E**	**24,700**	**F**	**n.a.**	
	24 hour counts			**18,716**	**F**	**21,484**	**F**	**n.a.**		**23,800**	**F**
SR 65 from Bear River to Main St	Wheatland	13,000	15,000	**16,800**	**F**	**16,800**	**F**	**24,700**	**F**	**n.a.**	
	24 hour counts			**18,716**	**F**	**21,484**	**F**	**n.a.**		**23,800**	**F**
SR 65 from Main Street to 1st Street	Wheatland	15,950	17,950	**16,800**	**E**	**16,800**	**E**	**n.a.**			
	24 hour counts			**20,680**	**F**	**22,828**	**F**	**n.a.**			
SR 65: 1st St to N.Wheatland City limits	Wheatland	15,950	17,950	**16,800**	**E**	**16,200**	**E**	**19,200**	**F**	**n.a.**	
	24 hour counts			**18,925**	**F**	**n.a.**					
Main St: SR 65 to Spenceville Rd	Wheatland	12,000	13,500	2,330	A	3,064	A	n.a.			
Fourth St: SR 65 to Olive St	Wheatland	12,000	13,500	2,600	A	n.a.					
Spenceville Rd: Main St to Jasper Ln	Wheatland	6,000	10,500	3,600	B	2,755	B	n.a.		2,819	B
Jasper Ln: Spenceville Rd to Ostrom Rd	Yuba	6,000	10,500	555	B	n.a..					
Spenceville Rd: Jasper Ln to Camp Far West Rd	Yuba	6,000	10,500	2,300	B	2,069	B	n.a.			
Camp Far West Rd: Spenceville Rd to Blackford Rd – McCourtney Rd	Yuba	6,000	10,500	630	B	n.a.					
n.a. is not available											

Table 12: Intersection Volumes

Intersection	Vehicles per Hour							
	AM Peak Hour				PM Peak Hour			
	2009	2015	2021	2015-2021 Factor	2009	2015	2021	2015-2021 Factor
SR 65 / 1st Street	1,778	1,885	1,879	1.00	1,871	2,041	2,024	0.99
SR 65 / Main Street	1,451	1,839	1,834	1.00	1,578	2,000	2,089	1.04

Existing Traffic Operating Level of Service

The Level of Service for roadway segments and for intersections has been determined based on Year 2015 data.

Daily Segment LOS. Table 11 previously identified the current roadway segment Level of Service on study area roads based on the thresholds employed by the City of Wheatland. As noted, SR 65 operates at LOS E to LOS F based on these thresholds. These results are similar to the conclusions reached in the original EIR traffic study.

Peak Hour Intersection Level of Service. The current operating Level of Service at the two signalized intersections was determined based on the new traffic counts and the current traffic signal timing plans being used by Caltrans. The methodology contained in the Highway Capacity Manual was used and Simtraffic simulation was employed to replicate conditions causing northbound queueing on SR 65 approaching the Main Street intersection. This approach is a departure from previous EIR analyses that treated the SR 65 traffic signal as "stand alone' intersections with "optimal" capacity.

As shown in Table 13, the SR 65 / 1st Street intersection operates acceptably, but in the afternoon the flow of northbound traffic out of Placer County exceeds the capacity of the SR 65 / Main Street intersection, and a long northbound queue is created. Because local schools are operating at less than full on-site capacity, it is likely that "normal" morning conditions are worse than those observed, particularly at the SR 65 / 1st Street intersection. While the northbound queue extended beyond State Street in the morning, in the evening that northbound queue was observed to result in stop-and-go traffic that extended south beyond the Bear River bridge more than a mile away. Alternatively, the queue of westbound side street traffic on Main Street cleared with each signal cycle. The overall average delay at the SR 65 / Main Street intersection reached 125 seconds, primarily due to the length of delay experienced by northbound traffic (i.e., nearly four minutes).

These results are reasonable given KDA's observations of current peak hour traffic but differ from previous EIR level results based on isolated intersection operation. While previous analyses have indicated that the traffic signals operated within the City's minimum standards in the p.m. peak hour, the result is generally a product of exaggerated intersection capacity assumptions and the somewhat lesser traffic volumes at the time.

Table 13: Existing Year 2021 Intersection Level Of Service

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS
SR 65 / 1st Street	Signal	22	B	48	D
SR 65 / Main Street	Signal	15	B	**125**	**F**

Collison History. While Level of Service is no longer a significance criterion under CEQA, traffic operations are still considered from the standpoint of safety. Collison records (SWITRS) for 2018 to 2020 were reviewed to determine whether current conditions have resulted in a safety problem, and five to six collisions appear to have occurred annually in the area south of Wheatland to the Rioso Road traffic signal.

Caltrans was contacted regarding the issues of SR 65 traffic operations near Wheatland.[40] District 3 is aware of the queueing issue both north and south of Wheatland and has considered alternatives for safety improvements on a preliminary basis. The most feasible safety improvement would be installation of a "queue monitoring and reporting system" that would use changeable message signs to warn approaching motorists of slow-moving traffic ahead. However, there are no immediate plans to install such improvements.

Improvement Options

The extent to which "reasonable" improvements might be implemented to increase the capacity of the Wheatland circulation system prior to the construction of another Bear River crossing and the Wheatland Bypass has been considered.

The most appreciable constraint to traffic flow in this area remains the capacity of the SR 65 / Main Street intersection and the transition from the four lane SR 65 expressway near Sheridan. to a two-lane section of SR 65 across the Bear River into Wheatland. Two measures have been discussed in the past to possibly address the capacity constraint created by the SR 65 / Main Street intersection, and the effectiveness and feasibility of these measures have been considered again. KDA also considered the effects of a Caltrans queue monitoring / reporting system:

Improve State Street or SR 65 to provide an alternative for traffic ultimately headed east on Main Street. This action was intended to move traffic off of SR 65 and onto Main Street outside of the traffic signal. However, Caltrans has already taken steps to facilitate use of State Street within the context of right of way limitations created by the adjoining UPRR. For about 225 feet beyond State Street the standard 8-foot shoulder has been widened to 12 feet to allow room for motorists to turn right outside of the northbound queue. This work likely represents the maximum improvement that can be provided without further widening to create a separate 12-foot right turn lane and required 4-foot shoulder. The improved shoulder area has already been somewhat effective by allowing traffic destined for Main Street to leave SR 65 more than ¼ mile before the signal. Review of the peak hour

[40] Teresa Limon, District 3 Chief, Office of Highway Operations, personal communication 5/27/2013.

traffic counts indicates that 80% of the a.m. and 95% of the p.m. peak hour traffic using SR 65 to reach east Main Street already use State Street. However, once the queue extends beyond the limits of the current shoulder widening, right turning traffic must wait along with through traffic in the long queue.

The feasibility of additional State Street related improvements has been considered. Improving the condition of State Street between Main Street and SR 65, while perhaps desirable, would not improve traffic flow on SR 65 alone since almost all exiting traffic to Main Street already uses this route. Lengthening the right turn "opportunity" prior to the SR 65 / State Street intersection could theoretically allow more traffic to bypass the traffic signal and incrementally reduce the length of the overall queue. This improvement would be difficult to implement because ROW is limited adjoining the UPRR and the roadside terrain in this area drops-off. Widening the highway to lengthen the shoulder widening area or to create a separate NB right turn lane does not appear feasible.

Downtown Corridor Improvement Plan: Main Street – Third Street Couplet. In 2015 the City of Wheatland recently prepared a *Downtown Corridor Improvement Plan*[41]. The plan (Appendix B Figure 9) included these features:

1. Creation of a one-way couplet matching Main Street (eastbound) and Olive Street – Third Street (westbound) in the area easterly from SR 65.
2. New traffic signal at SR 65 / Third Street.
3. Extension of C Street north to an extension of McDevitt Drive and new UPRR crossing near SR 65.
4. One-way northbound State Street to Main Street.
5. State Street extension to First Street.

All of those improvements have constraints to implementation to some degree. Some require UPPR approval, and some require approval from Caltrans.

KDA considered the effects of a *Main Street / Third Street couplet* to determine whether traffic flow conditions on SR 65 could be improved with the change. Theoretically a couplet of one-way streets may improve the flow of SR 65 by reducing the amount of time within each signal cycle devoted to cross street traffic and increasing the time for SR 65 at the Main Street intersection. Alternatively, even with active coordination, adding another traffic signal on SR 65 through Wheatland would normally be expected to reduce the overall capacity of the system.

We roughly tested traffic flow conditions with the one-way couplet and new Third Street traffic signal through simulation. At best, this alternative has the effect of reducing overall delay somewhat and

[41] IS/MND for City of Wheatland Downtown Corridor Improvement Plan, Raney, November 2015.

shortening the peak queue length, primarily by moving the "constraining" location north to Third Street. However, at "worst" the couplet could complicate the operation of traffic signals through Wheatland and keep conditions about the same. Additional analysis of traffic operations would be needed prior to proceeding with this concept and Caltrans will want analysis of conditions at least 10 years in the future in order to support the project.

SR 65 Queue Monitoring / Reporting. This safety measure suggested by Caltrans would warn motorists of the presence of upcoming queues prior to the need to stop. While this measure could help reduce the number of collisions resulting from peak queuing on SR 65 through Wheatland, it would not be expected to have an effect on the flow of traffic.

INTERIM DEVELOPMENT ASSESSMENT

The extent to which development in the EZP could proceed prior to completion of another connection of the Bear River and the Wheatland Expressway has been considered from several perspectives.

- Relative impact on Traffic flow in Wheatland.
- CEQA impacts: VMT and safety

Traffic Flow. Current traffic conditions on SR 65 through Wheatland already exceed the City General Plan's minimum LOS D standard, and no easily implementable improvements are expected to cause conditions that achieve that standard. At best some level of Mixed-Use EZP development when combined with a couplet of Main Street and Third Street would create traffic conditions that were no worse than those occurring today. However, additional analysis based on no-COVID traffic conditions would be needed within Caltrans requirements for addressing "interim" improvements within a 10-year future horizon to determine what that development level would be.

CEQA Significance Criteria - VMT. In previous years following annexation the status of LOS at intersections and on roadway segments in and around Wheatland would have been a primary consideration under CEQA, and the ability to achieve Caltrans and City of Wheatland minimum LOS standards would have been a limiting factor. The implementation of SB 743, CEQA criteria move from LOS to Regional Vehicle Miles Traveled (VMT) and Caltrans concerns move from operating Levels of Service to safety primarily relating to highway queuing. The effects of interim development within these two areas of concerns are discussed below.

Wheatland Area VMT. The City of Wheatland has not yet adopted measures for evaluating VMT or since criteria under CEQA. Yuba County is currently working to establish VMT guidelines and policies.

In the interim the Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides recommended thresholds for determining the significance of VMT impacts associated with land use development projects. Specific thresholds are provided for residential, office, and retail commercial types of development. For residential projects, the technical advisory generally recommends establishing a 15 percent reduction in VMT, compared to a baseline, as a significance threshold. That is, if a project would result in a reduction of at least 15 percent in VMT, compared to a baseline, the project can be considered to have a less than significant impact. The significance threshold

may be thought of as 85 percent of baseline conditions (100 percent less 15 percent equals 85 percent). A project that would not result in a reduction of at least 15 percent is considered to have a significant impact. The technical advisory notes,

> "A proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as regional VMT per capita or as city VMT per capita."

The OPR *Technical Advisory* provides general direction regarding the methods to be employed and significance criteria to evaluate VMT impacts, absent polices adopted by local agencies. The directive addresses several aspects of VMT impact analysis, and is organized as follows:

- ***Screening Criteria***: Screening criteria are intended to quickly identify when a project should be expected to cause a less-than-significant VMT impact without conducting a detailed study.
- ***Significance Thresholds***: Significance thresholds define what constitutes an acceptable level of VMT and what could be considered a significant level of VMT requiring mitigation.
- ***Analysis Methodology***: These are the potential procedures and tools for producing VMT forecasts to use in the VMT impact assessment.
- ***Mitigation***: Projects that are found to have a significant VMT impact based on the adopted significance thresholds are required to implement mitigation measures to reduce impacts to a less than significant level (or to the extent feasible).

Screening Criteria. Screening criteria can be used to quickly identify whether sufficient evidence exists to presume a project will have a less than significant VMT impact without conducting a detailed study. However, each project should be evaluated against the evidence supporting that screening criteria to determine if it applies. Projects meeting at least one of the criteria below can be presumed to have a less than significant VMT impact, absent substantial evidence that the project will lead to a significant impact.

- ***Small Projects:*** Defined as a project that generates 110 or fewer average daily vehicle trips.
- ***Affordable Housing:*** Defined as a project consisting of deed-restricted affordable housing.
- ***Local Serving Retail***: Defined as retail uses of 50,000 square feet or less can be presumed to have a less than significant impact.
- ***Projects in Low VMT-Generating Area:*** Defined as a residential or office project that is in a VMT efficient area based on an available VMT Estimation Tool. The project must be consistent in size and land use type (i.e., density, mix of uses, transit accessibility, etc.) as the surrounding built environment.

- ***Proximity to High Quality Transit.*** The directive notes that employment and residential development located within ½ mile of a high-quality transit corridor can be presumed to have a less than significant impact.

Screening Evaluation. The extent to which the VMT impact of a project in the EZP can be presumed to be less than significant has been determined based on review of the OPR directive's screening criteria and general guidance.

Residential projects would generate 9.44 daily trips based on ITE rates. The OPR 110 ADT threshold for automobile VMT would be exceeded when eleven (11) homes were constructed. Alternatively, office space developed alone would generate 3.28 daily trips per employee, so an office with 33 employees is a small project. With development beyond that level, the project's VMT impacts cannot be presumed to be less than significant based on this criterion.

The OPR directive provides this explanation for a Presumption of Less Than Significant Impact for ***Affordable Residential Development:***

> Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT.24,25 Further, "... low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available." In areas where existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market- rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations. Lead agencies may develop their own presumption of less than significant impact for residential projects (or residential portions of mixed use projects) containing a particular amount of affordable housing, based on local circumstances and evidence. Furthermore, a project which includes any affordable residential units may factor the effect of the affordability on VMT into the assessment of VMT generated by those units.

The Sacramento Area Council of Governments (SACOG) has identified ***Low VMT generating locations*** within this region, including the overall Yuba County area and Wheatland. Current uses within the EZP location within SACOG region were reviewed, and the per capita VMT characteristics of the existing residences and per job VMT was compared to the characteristics of existing non-residential areas, as noted in Table 14 and the VMT attachments in the KDA full report. As shown, the overall Yuba County average per capita VMT rate for residences is 24.92 vehicles miles per day. In incorporated Wheatland alone, the average is 32.30 per capita VMT. Per capita VMT rates satisfying OPR's 15% reduction goal are 21.18 and 27.45 per capita VMT, respectively. Similar information is presented on a per job VMT basis.

Today residences in eastern Wheatland have an average per capita VMT rates of 33.22 to 41.07 which is more than the average for the City of Wheatland. As the OPR recommended goal is a 15% reduction, the project is not located in a defined Low VMT generating region as compared to the City. Similarly, jobs in eastern Wheatland generate VMT at a rate that exceeds the City average. Jobs in downtown Wheatland generate VMT at a rate (25.32) that is 9% lower than the City average but the

area doesn't reach the 15% reduction needed to avoid significance. Initial development in the EZP cannot be presumed to be less than significant under this screen line criteria when compared to the incorporated City.

Table 14: VMT Characteristics

SACOG Regional Average	Overall Yuba County Average	15% Reduction from Overall Yuba County Average	Incorporated Wheatland	15% Reduction from Incorporated Wheatland Average	VMT Area	VMT
Per Capita VMT						
20.82	***24.92***	***21.18***	***32.30***	***27.45***	***1***	***34.63***
					2	***33.22***
					3	***41.07***
					4	***28.77***
Per Employee VMT						
21.30	***23.40***	***19.89***	***27.70***	***23.54***	***5***	***32.48***
					6	***25.32***
					7	***26.35***

Area 1: McCurry St Subdivision. Area 2: Spenceville Rd / Jasper Lane. Area 3: George Muck Ranch. Area 4: North Beale AFB. Area 5: East Wheatland. Area 6: Downtown Wheatland. Area 7 South Beal AFB
https://sacog.maps.arcgis.com/apps/Compare/index.html?appid=ec67f920461b461f8e32c6a5c3dd85cf

Proximity to High Quality Transit, which requires service on 15-minute headways. This criterion is not applicable in the area of the proposed project based on current transit service.

Next Steps. The next step in assessing VMT for "interim" development would involve use of the SACOG SACSIM traffic model or, if available, the eventually updated Yuba County VMT traffic model to assess the actual characteristics of mixed-use development in the EZP. It is reasonable to assume that the introduction of housing, jobs and locally serving retail would have a positive effect in reducing per capita and per employee VMT to levels below the Wheatland average. However, because some EZP area traffic would continue to use SR 65 to travel to metropolitan areas to the north and south, the distance added to reach SR 65 may negatively affect VMT estimates.

CEQA - Safety. The effect of EZP area traffic on safety along SR 65 could be a CEQA consideration. However, development could address that impact by contributing to the cost of the unfunded Queue Detection / Reporting measures identified by Caltrans.

WATER AND WASTEWATER

In the Draft EIR for the Johnson Rancho and Hop Farm annexations, the water and wastewater systems were planned for 14,332-14,562 dwelling units (DUs), 448 acres of employment and commercial uses, and 145 acres of schools and parks. The proposed Employment Zone Villages include very similar land use quantities, with 14,475 DUs and 429.3 acres of commercial and employment uses along with similar amounts of schools and parks. Therefore, the service demand estimates for water and wastewater in the present plan rely on the calculations provided in the DEIR. The focus of the discussion is on updating the information about potential solutions to providing the required water supply and wastewater treatment capacity.

WATER SUPPLY

The City of Wheatland operates a municipal water system that includes six deep ground water wells that pump to a ground storage tank with a capacity of 660,000 gallons. Water is then pumped to a 120 ft. elevated storage tank with a capacity of 72,000 gallons. The current water system has a capacity of 5.8 million gallons per day (MGD), about 6,497 AFY, with current average annual demand at about 1,000 AFY. One day summer peak demand reaches about 1.7 MGD (1,904 AFY if year round).

The DEIR estimates that the Johnson Rancho and Hop Farm properties would require 12,730 acre-feet of water per year (AFY) at full build out. (In addition, buildout of other areas in the General Plan was estimated to require 20,873 AFY.) The proposed water supply system in the DEIR would include seven new wells connected to the City's distribution system.

The DEIR indicates that as of 2010, the South Yuba Sub-Basin was not considered to be in overdraft, although ground water yields were close to the estimated sustainable draft level for the sub-basin. However, in 2010, a surface water canal was completed by Yuba Water District to provide 35,000 AFY to Wheatland Water District (WWD) for agricultural irrigation. Previously, WWD supplied its customers entirely from groundwater, so the canal represented a substantial increase to future groundwater pumping capacity. In addition, the DEIR estimated that at full build out of the annexation areas, 4,620 AFY of onsite agricultural irrigation water would no longer be used from the Bear River watershed surface water system, and could be available to support other growth in demand.

Therefore, the DEIR concluded that sufficient water supplies exist in proximity to the annexation areas and the completion of the planned new wells and connections to the City municipal water system would provide adequate water to the proposed development.

WASTEWATER TREATMENT

The City of Wheatland operates a wastewater treatment plan (WWTP) on a 2.1 acre site near the Bear River. The DEIR indicates that the capacity of the plant is limited to 0.62 MGD due to the amount of the aeration capacity and size of the sludge drying beds. According to the DEIR,

> "The WWTP currently discharges treated wastewater to percolation and evaporation ponds located within the Bear River floodplain. Regional Water Quality Control Board (RWQCB) staff has indicated that it is unlikely that future WDRs will permit continued use of these basins unless (1) the elevations of levees surrounding the basins are raised above the 100-year flood elevation; and (2) the City can demonstrate that no hydraulic connection exists between the infiltration basins and the Bear River. A review of data obtained from monitoring wells near the existing infiltration basins indicates that it is likely that such a hydraulic connection does exist." (p. 4.13-10)

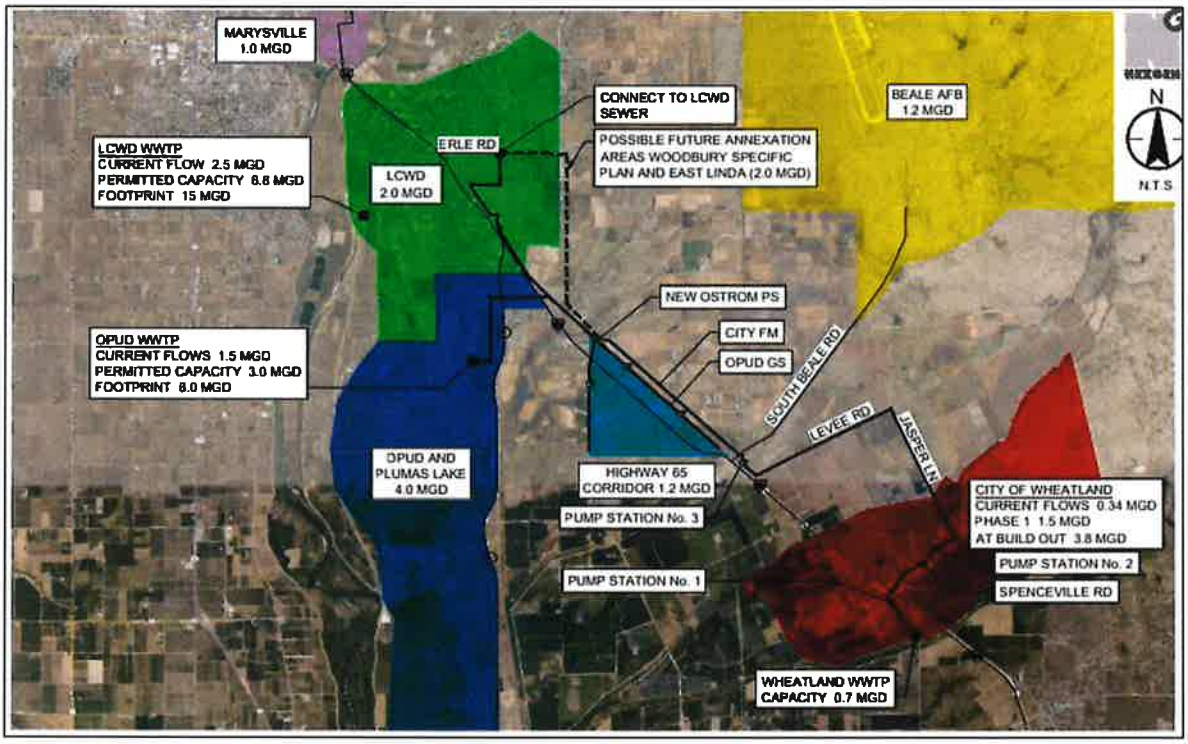
In addition to limiting further growth potential, the current plant is in need of major capital renovations.

The City is reviewing potential regional solutions to increase wastewater treatment capacity. In 2019, the City commissioned a study by NEXGEN Utility Management, Inc. and Coastland Civil Engineers which evaluated a number of wastewater treatment alternatives (Figure 5):[42]

- Connecting to Olivehurst Public Utility District (OPUD)
- Connecting to Linda County Water District (LCWD)
- A new City owned and operated reclamation facility
- Connecting to Beale Air Force Base (AFB)
- Connecting to the City of Lincoln (Lincoln)

Due to a lack of capacity and a lack of interest in a regionalized wastewater treatment effort, Beale AFB and the Lincoln were determined to be infeasible alternatives. The engineering data developed in the study indicates that alternatives conveying Wheatland's sewage to either OPUD or LCWD are the best options for meeting City's General Plan growth objectives. In addition, these alternatives can be accomplished in the shortest amount of time with the least impact to existing rate payers. The City is currently in discussions with these two agencies to determine the best path forward. Either alternative will include sufficient capacity to serve the Employment Zone at buildout.

Figure 5: Regional Wastewater Treatment Facilities



Source: Coastland Civil Engineers.

[42] NEXGEN Utility Management, Inc. and Coastland Civil Engineers, Wastewater Treatment Alternatives Analysis. December 2019.

CONCLUSION: NEXT STEPS

The study identifies a number of market opportunities that should be sufficient over time to produce a reasonable balance of jobs and housing in the Wheatland annexation area. The employment zone and mixed use village commercial cores would occupy nearly 430 acres and support more than 13,000 jobs at full buildout. With the eventual development of approximately 14,475 housing units, the jobs/housing ratio would be 0.90. However, the planned addition of 1,500-2,000 on-base personnel at Beale AFB plus existing deficiencies in housing availability for airmen make the effective ratio of future jobs to housing well over 1:1.

A number of City and private sector actions are necessary to implement this plan, as outlined below. The first set of actions relate to adopting land use and zoning regulations to reflect the employment zone conceptual plan, as well as implementing the infrastructure systems necessary to support the development. Secondly, the action plan addresses the economic development activities that would work to attract the jobs in the desired market segments.

LAND USE AND INFRASTRUCTURE

1. **Zoning:** Adopt new zoning for the study area to reflect the conceptual land use plan and recommended design amenities as described in this study. In the short term, the priority for this effort would be the properties between Spenceville Rd. and Grasshopper Slough. A key component of the development entitlements policy should be to tie development of the village centers to the residential development, while recognizing that a critical mass of rooftops needs to precede retail development. The intent would be to provide design flexibility for the layout and phasing of the villages while securing enforceable commitments to develop jobs along with the housing.

2. **Transportation:** Continue to work with SYTIA and SACOG to identify funding for the Wheatland Expressway. As the development progresses, consider ways in which increased transit options could help to reduce VMT generated by the project. Wheatland is not a member of the Yuba Sutter Transit Authority (YSTA), but receives minimal "lifeline" service currently. YSTA is grappling with the need to build a new transit facility by 2025 and to transition to an all electric bus fleet. These improvements are needed to maintain existing service levels and YSTA is not in a position to add new service in the meantime. Wheatland may consider whether privately financed transit may make sense to help address regional air quality constraints through collaboration with Beale AFB, project developers, and major employers.

3. **Wastewater Treatment:** Negotiate a service agreement with either OPUD or Linda County Water District to connect to available wastewater treatment facilities in South Yuba County.

4. **Water Supply:** Include in zoning and land use regulations for the annexation area the ability to construct sufficient water wells to supply the development as it proceeds. Such wells should be connected to, and operated as part of, the City's water system.

ECONOMIC DEVELOPMENT

As noted above, the market analysis addresses three main economic opportunities, including industries related to technologies employed at Beale AFB, agriculture and food processing industries, and other emerging industries with strong growth potential from the surrounding region. In order for these opportunities to develop more fully, the City of Wheatland will need to remain focused on accomplishing several things.

1. **Beale AFB UARC:** This opportunity requires immediate focus to continue existing momentum in 2021 as well as a longer term approach that maintains institutional relationships with Beale even as the Base command and support personnel cycle out of the area on a regular basis.

- Facilitate development and creation of an off-base coordinating authority between Beale AFB, the Yuba Water Agency, the University of California system, and the City of Wheatland with a primary focus on the creation of a joint research center (UARC).
    - This effort will need to pursue affiliated research and development opportunities consistent with the needs of a UARC, but also include regional- and statewide-relevant technologies related to power generation, fire protection, and water supply.
    - At the same time, pursue and identify various sources of public (state and federal) and private funding (institutional and philanthropic) to support the long-term viability of a UARC.
- Continue to facilitate and coordinate an ongoing relationship between the City and Beale AFB and the US Airforce.
    - This effort will need to identify mutually beneficial projects, priorities, and cooperative opportunities with regard to housing, education, infrastructure, and quality of life.

2. **Agriculture and Food Processing:** The adoption of the Agricultural Overlay Zone will help local growers and processors to site new processing facilities and other support operations for agriculture in Wheatland. The development of a Food Hub will likely require a public/private partnership, however. There are three key steps in the development process.

    - Identify an Operator. The operator needs to have both distribution expertise and packaging/ processing expertise. Food Banks can be natural partners in this process because they are already in the business of procuring and distributing local food within the area. However, if the Food Hub also engages in food processing operations, then industrial food manufacturing skills are also needed.
    - Demonstrate the Market. The essential purpose of the Food Hub is to connect local growers to local markets within the SACOG region. In addition to Food Banks, potential customers include institutional food buyers such as schools, hospitals, senior centers and universities as well as grocery and food service outlets such as restaurants and independent grocery stores. In order to make the Food Hub viable, it is necessary to line up sufficient contracts for the Food Hub's products to sustain a feasible level of operation.

In part, this involves working with local growers to ensure that local raw products are available to meet the specific demands from the customer base. In Yuba County, this may require some diversification in crop mix and growers willing to make those changes.

- Design and Finance the Facility. The Food Hub can be designed to grow in stages, beginning with a few crops and processed products and expanding over time to offer a greater variety of products. The specific design of the facility and the phasing of planned expansion will need to reflect what the growers can provide to the available market. The facility will require both construction capital and operating capital. This type of facility may be eligible for Federal EDA, USDA, or SBA funding to aid with construction and possibly some operating capital. It is vitally important that the operator secure sufficient operating capital to sustain early year losses until the volume of operations can get to a sustainable level. The SACOG Food Hub Pro Forma model is a good tool to evaluate what operating level will be sustainable for the specific Food Hub design under consideration. The most common issue for Food Hubs is that they fail to get to a viable level of operations and require constant subsidy which is not sustainable over the long run.

3. **Medical Center:** The opportunity for a medical center in the Employment Zone is based on two factors: 1) the possibility that an early phase of the residential development will be age-restricted housing, and 2) there are no medical clinic currently serving south Yuba County. Adventist Heath operates the hospital in Marysville and has expressed an interest in locating facilities in South County as the population there grows. However, they will likely also be considering sites in Plumas Lake, where housing production is proceeding more rapidly than in Wheatland in 2021.

   With full buildout of the annexation area in Wheatland, the City population would be 40,000 to 50,000 residents, which would be sufficient to support its own medical center, particularly with an older population in age restricted housing. However, decisions made in the shorter term may determine whether Wheatland is viewed by the health care industry as a sufficiently central location to serve South County as a hospital site. The planned connectors between SR 65 and SR 70 will help to make this case, but it would be important for City officials to meet with the major healthcare providers in the region to promote the fact that a major community is developing in Wheatland and a site is available for a future medical complex. In addition to Adventist Health, the City should reach out to Sutter Health, which has the hospital in Yuba City, and possibly Dignity Health and others who may be interested in a location to serve the Northern Sacramento region. The intent of these discussions would be to establish Wheatland as the preferred location for any major medical facilities intended to serve South Yuba County and North Placer county.

4. **Industry and Technology Park Businesses:** Every effort should be made to locate the UARC in the Industry and Technology Park as soon as feasible. This development will not only establish the identify for the employment zone but will facilitate the installation of high speed fiber optic broadband services and possibly a publicly available data center. This type of broadband accessibility will be a major attractor not only for firms that research and manufacture technology but also those that use technology in their own operations.

Once the UARC is in place, along with broadband and the other infrastructure discussed above to permit further business growth, the key economic development activity is marketing the site to businesses that would value proximity to the R&D facilities offered by the UARC. To some extent the UARC itself will aid in this marketing process, as one benefit of the facility for the Air Force will be easier access to private sector commercial firms conducting complementary product development. UARC staff will be able to identify the types of commercial firms with whom they conduct business and this will help provide more detail for the target industries list in the marketing program.

The City should continue to identify, analyze, and facilitate development of specific technology sectors for inclusion within the employment zone. This effort will need to identify emerging industry opportunities with strong growth potential such energy supply and storage, data centers and communications, etc.

In addition to hard infrastructure, businesses will be concerned about the availability of skilled labor. The City will need to market the accessibility of the labor pool in Placer County and the Sacramento region and be prepared to supply educational attainment data and occupational data for the workforce in each nearby city and area outside of Yuba County. This data is readily available from the American Community Survey and employment data vendors such as Chmura JobsEQ, which has been used for the present study. In addition, particularly as the residential component of the annexation area develops as well as continued development in Plumas Lake, there should be added focus on the skills of the local labor force and the availability of education and training programs locally that can meet the needs of new employers for on the job training and custom training services.

5. **Village Commercial Cores:** As discussed above in the zoning section, the City should recognize that the village commercial cores will not develop until after the bulk of residential development has occurred in each village. Retail developers will need to have a critical mass of rooftops to support new commercial centers. In addition, professional services firms and other office based businesses will most likely also want to access local purchasing power as well as a local labor force. Each 1,000 dwelling units should support about 7 acres of retail and commercial services. However, 22 acres of commercial is allocated to the Industry and Technology Park for larger scale box retail and this needs to be accounted for when phasing the village commercial centers.

   It is important that the City's zoning and development policies preserve the locations and access to the commercial centers while residential development proceeds. Ideally the village cores would be developed by master developers so that they are designed and implemented in a cohesive manner with a long term strategy to preserve the options for a business mix and a set of amenities that ultimately will create a vibrant community, even though constructed in phases over time. Well planned retail and entertainment in the village cores will help to recruit employment generating office businesses to these locations as well.

APPENDIX A: LAND USE MAPS

Figure A-1: Original Johnson Rancho & Hop Farm Land Use Plan

Figure 3-5
General Plan Amendment Exhibit

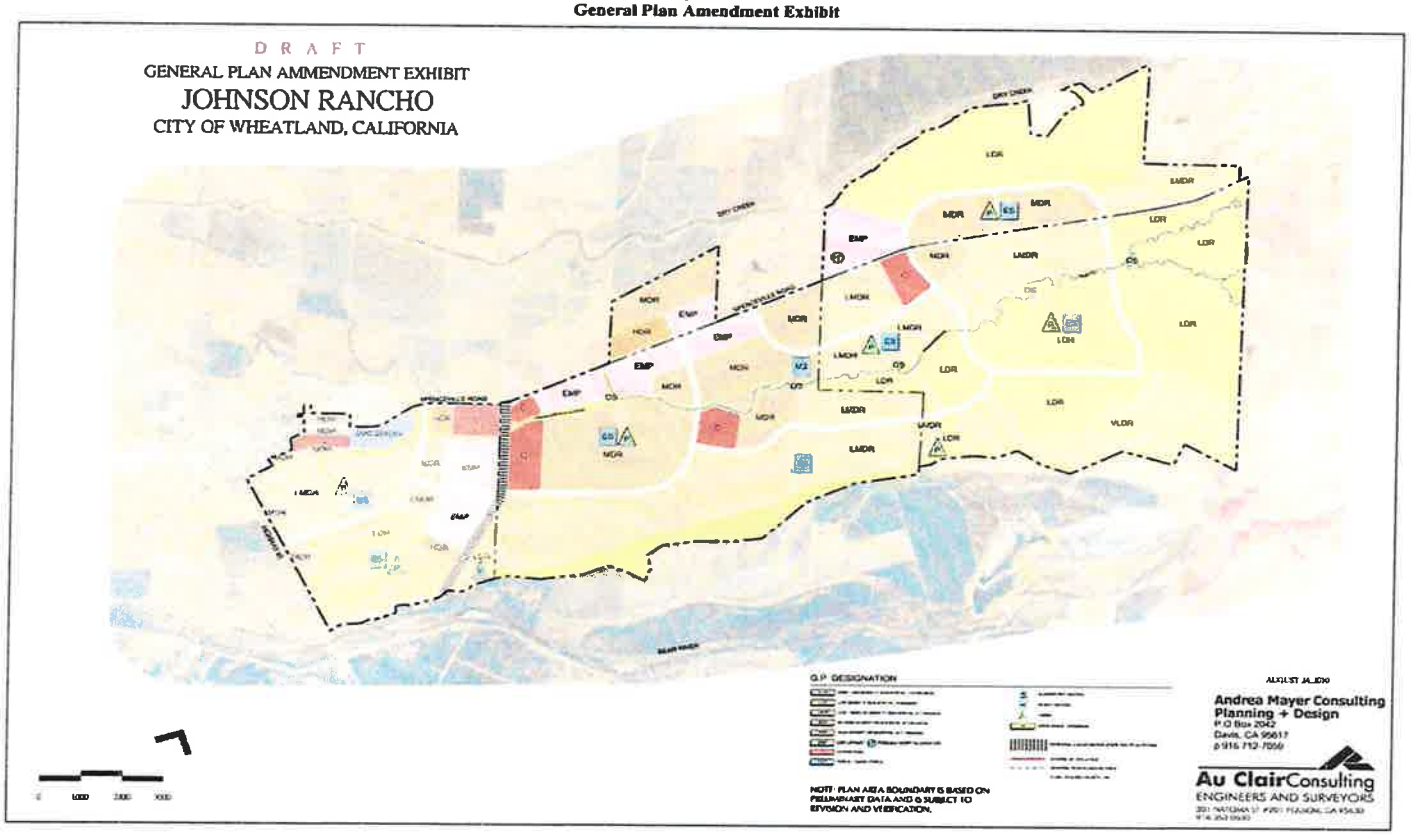


Figure A-2: Proposed Agricultural Overlay Zone

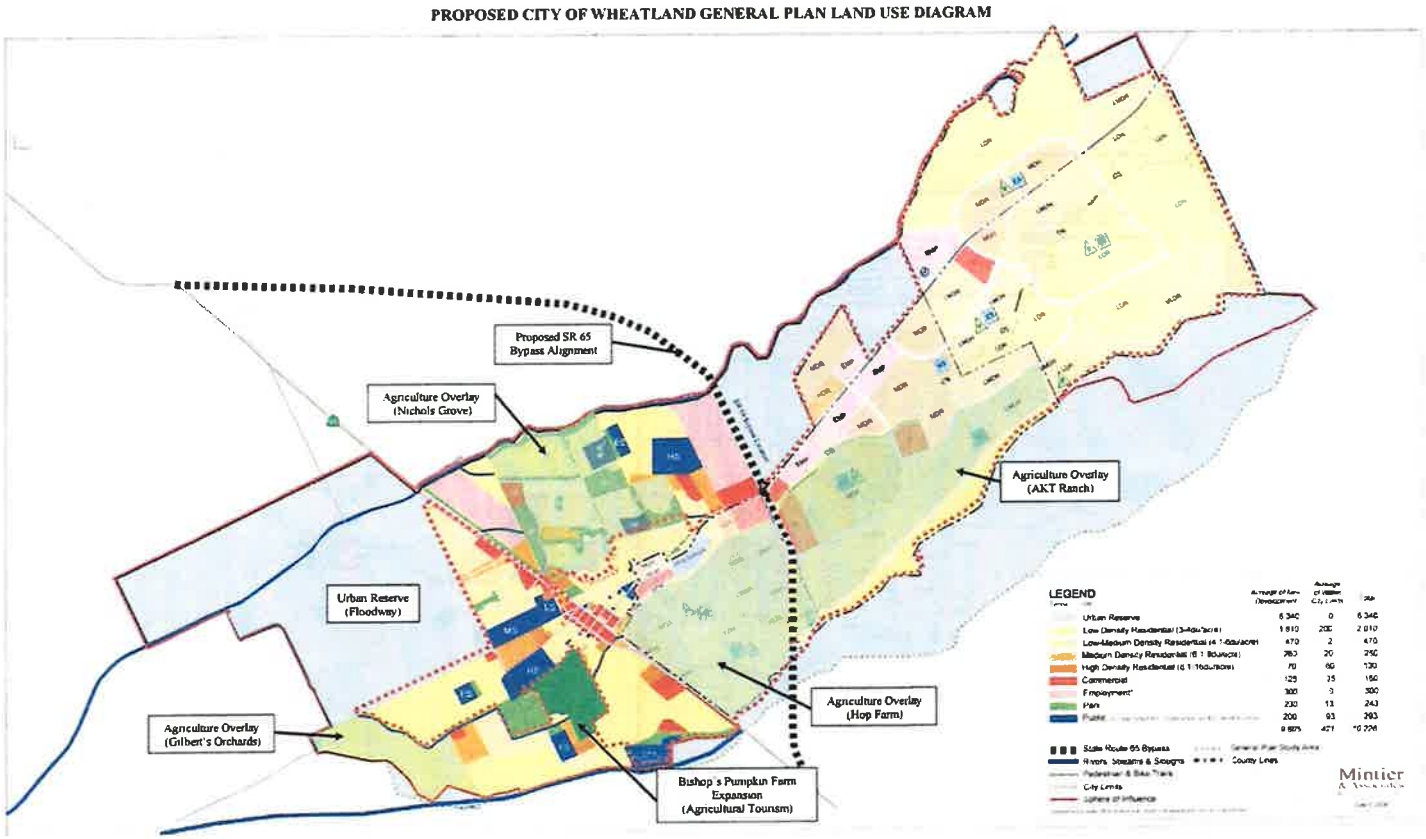
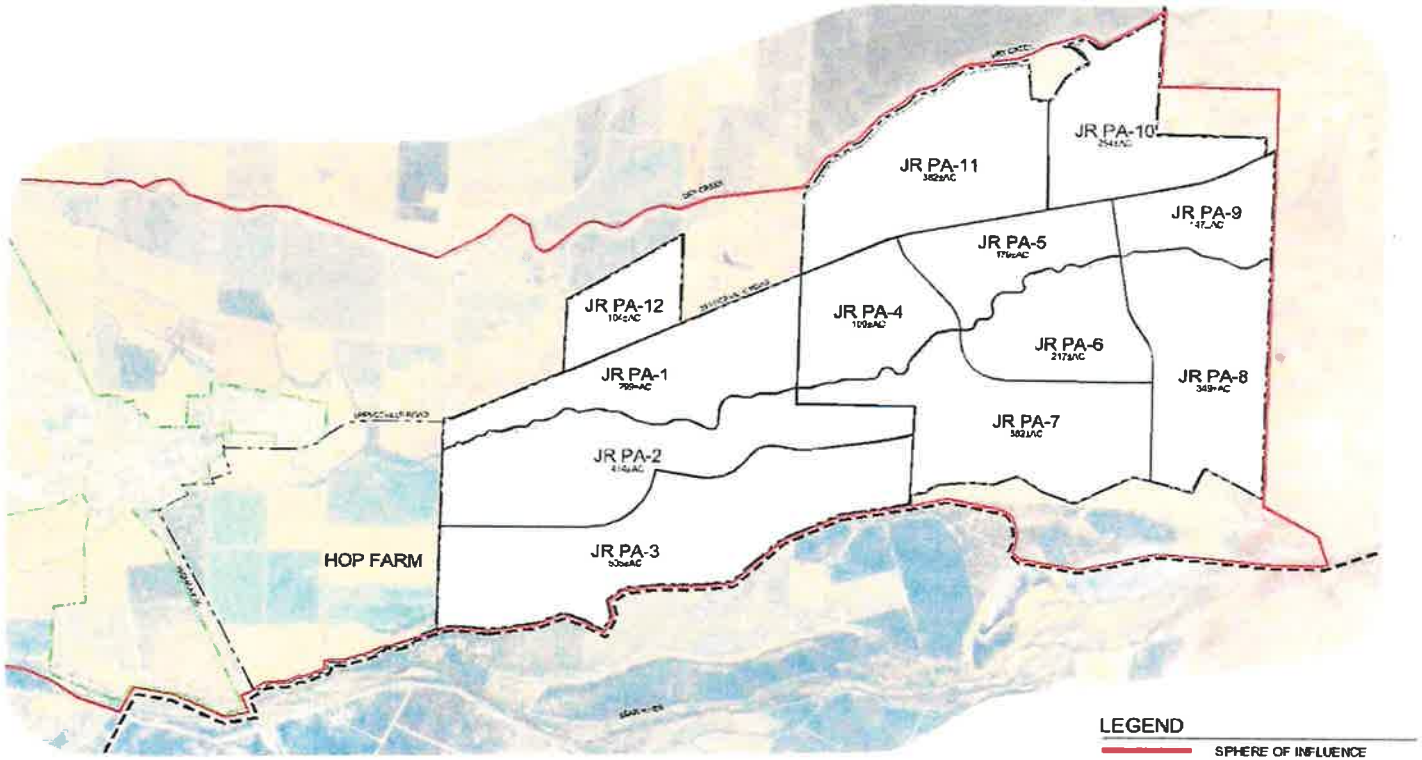


Figure A-3: Johnson Rancho Stage 1 Development Plan Planning Areas



PD Zone/Plan Areas
Exhibit 1.4

1-6

APPENDIX B: TRAFFIC EXHIBITS

KD Anderson & Associates, Inc.
Transportation Engineers
0490-01 RA 6/2/2021

EXISTING (2021) TRAFFIC VOLUMES AND LANE CONFIGURATIONS

figure 8

Figure 3
Proposed Downtown Corridor Improvement Plan