US 395 Strategic Corridor Investment Analysis

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Executive Summary:

-Growing sectors: Professional/Business Services

-Declining sectors: Natural Resources/Mining, Information Services, Finance Services, Leisure/Hospitality

-Base industries are farming and government sectors

-Expansion of US 395 will lead to approximately 140 additional jobs

-Expansion of US 395 will lead to a yearly increase in GDP of approximately $9 million

-Expansion of US 395 will lead to yearly State and Local Tax Revenues greater than $1 million

-User benefits include over 6000 hours total time savings, over $130,000 in reliability, and over $2.4 million in safety improvements per year

-Recommend diversifying economy bundled with US 395 expansion.

Demographic Characteristics of Lassen County:

Lassen County, California is located on the eastern slope of the Sierra Nevada mountains in northeastern California approximately 90 miles northwest of Reno, Nevada and approximately 100 miles northeast of Chico, California, which are the two closest urban labor markets. It is currently home to *approximately 32,000 residents* of which approximately 6,000 are currently incarcerated in one of three federal or state correctional facilities.[1] There are *9,280 households* with *2.26 persons per household*. Susanville is the largest city in Lassen County and is home to approximately half of the county's total population. The *median household income* in Lassen County (in 2019 dollars) is *$56,352* which is less than the median household income for California at $75,235 and a larger percentage of the *population is in poverty (16.5%)* than for the state (11.8%).[2]

Lassen County Economy:

Historically, the economy of Lassen County was dependent upon mining and lumber as well as farming; however, currently the largest source of employment for residents is working at one of the correctional facilities. To understand how a proposed expansion of Highway 395 will affect the economy of Lassen County, we must first gain a better picture of the county's current economy.

Table 1 Source: QCEW, BLS	**Number of Business Establishments by Industry**						
INDUSTRY	**2016**	**2017**	**2018**	**2019**	**2020**	**2021Q1**	**% Change**
Total, all industries	552	552	557	565	572	572	3.62%
Goods-Producing	*82*	*82*	*87*	*86*	*84*	*84*	*2.44%*
Natural Resources & Mining	39	39	40	40	36	36	-7.69%
Construction	40	40	45	43	n/a	n/a	
Manufacturing	3	3	3	3	n/a	n/a	
Service-Providing	*470*	*470*	*470*	*479*	*488*	*488*	*3.83%*
Trade, Transportation, & Utilities	97	91	92	90	88	90	-7.22%
Information	12	13	13	12	12	11	-8.33%
Financial Activities	51	49	49	47	46	42	-17.65%
Professional & Business Services	43	46	42	48	49	50	16.28%
Education & Health Services	172	174	184	190	205	209	21.51%
Leisure and Hospitality	46	44	45	48	46	45	-2.17%
Other Services	41	42	43	44	43	41	0.00%
Unclassified	9	12	2	n/a	n/a	n/a	
Government Ownership:							
Federal Government	34	34	49	35	34	32	-5.88%
State Government	78	81	83	86	87	86	10.26%
Local Government	50	50	34	48	48	47	-6.00%

[1] California Department of Finance, Demographic Research Unit population estimates, including group quarters.
[2] Census Bureau, QuickFacts

Table 1 illustrates the number of business establishments in Lassen County by year from 2016 through the first quarter of 2021 as reported by the Bureau of Labor Statistics in the Quarterly Census of Employment and Wages. This data is a quarterly count of employment and wages reported by employers covering more than 95% of U.S. jobs and is available at the county level. There has been *a 3.62% increase in the overall number of business establishments over this time period* with the bulk of the growth coming from an *increase* in the number of businesses providing services, namely *education and health services (21.51%)* and *professional and business services (16.28%)*. This growth has been tempered by *declines* in the number of businesses in *financial services (-17.65%)* and in *trade, transportation, and utilities (-7.22%)*.

Also of interest is the size of each of the firms as measured by the number of workers that each firm employs as shown in Table 2. This data was collected by the U.S. Census Bureau for 2019, the most recent year available. As we can see, the *typical business establishment* in Lassen County is quite small, employing *less than 20 workers* with over half of all firms employing significantly less than that. The private employers who employ the *largest number of workers* are found in the *health care and social assistance* industry.

Table 2. Firm Establishment Size by Number of Employees in 2019
Source: U.S. Census Bureau County Business Patterns

		Number of Employees in Each Firm					
Column1	**# Firms**	**<5**	**5-9**	**10-19**	**20-49**	**50-99**	**100-249**
Total, all industries	405	247	65	56	23	9	5
Agriculture, Forestry, Fishing, and Hunting	10	9	N	N	N	N	N
Utilities**	3	N	N	N	N	N	N
Construction	41	32	N	6	N	N	N
Manufacturing**	4	N	N	N	N	N	N
Wholesale Trade**	9	5	N	N	N	N	N
Retail Trade	71	32	17	15	4	N	N
Transportation and Warehousing	10	6	N	3	N	N	N
Information	13	7	3	N	N	N	N
Finance and Insurance	22	15	6	N	N	N	N
Real Estate and Rental and Leasing	27	26	N	N	N	N	N
Professional, Scientific, and Technical Services	23	14	5	N	N	N	N
Administrative, and Support, and Waste Mgmt Services	16	13	N	N	N	N	N
Educational Services**	4	N	N	N	N	N	N
Health Care and Social Assistance	56	25	12	9	5	3	N
Arts, Entertainment, and Recreation	5	4	N	N	N	N	N
Accommodation and Food Services	47	17	7	14	7	N	N
Other Services (except Public Admin)	43	35	5	3	N	N	N

** Individual firm data for this industry obscured for privacy reasons

When we look at recent historical trends in *private, non-agricultural employment* in Lassen County as presented in Table 3, we see that there has been an *18% decline* in average monthly employment across all industries with the largest declines in natural resource and mining employment (-69.46%) followed by *information services (-58.04%)*. Those sectors producing goods suffered from larger declines than those sectors producing services for the local economy. There was also a *decline in employment by the local government of Lassen County of almost 20%* and a *decline in state government employment of over 5%* over this time period.

Table 3 Source: QCEW, BLS	**Avg Monthly Non-Ag Employment**						
INDUSTRY	**2016**	**2017**	**2018**	**2019**	**2020**	**2021Q1**	**% Change**
Total, all industries	3,962	3,873	3,913	3,966	3,366	3,218	-18.78%
Goods-Producing	*842*	*854*	*911*	*959*	*504*	*406*	*-51.78%*
Natural Resources & Mining	681	711	735	789	305	208	-69.46%
Construction	153	138	169	163	n/a	n/a	
Manufacturing	8	6	7	7	n/a	n/a	
Service-Providing	*3,120*	*3,018*	*3,002*	*3,007*	*2,862*	*2,811*	*-9.90%*
Trade, Transportation, & Utilities	1,030	1,025	1,042	1,023	1,014	1,040	0.97%
Information	112	102	90	93	61	47	-58.04%
Financial Activities	146	146	140	134	127	109	-25.34%
Professional & Business Services	152	176	181	209	238	217	42.76%
Education & Health Services	860	838	850	846	819	825	-4.07%
Leisure and Hospitality	615	580	568	574	471	432	-29.76%
Other Services	192	128	129	129	133	140	-27.08%
Unclassified	12	25	3	n/a	n/a	n/a	
Government Ownership:							
Federal Government	1,898	1,837	1,672	1,807	1,924	1,899	0.05%
State Government	2,542	2,603	2,565	2,586	2,561	2,409	-5.23%
Local Government	1,838	1,830	1,761	1,652	1,455	1,485	-19.21%

The declines in private, non-ag employment are counterbalanced by an overall increase in weekly wages across most of the economy of Lassen County over the same time period as presented in Table 4. There are only three industry sectors that saw a *decline in average weekly wages, namely information services (-5.88%), federal government employment (-2.81%), and other services (-9.45%)*.

Table 4 Source: QCEW, BLS	**Avg Weekly Wage by Industry**						
INDUSTRY	**2016**	**2017**	**2018**	**2019**	**2020**	**2021Q1**	**% Change**
Total, all industries	$681	$692	$715	$715	$819	$782	14.83%
Goods-Producing	*$777*	*$784*	*$728*	*$698*	*$1,029*	*$844*	*8.62%*
Natural Resources & Mining	$765	$786	$696	$672	$1,079	$816	6.67%
Construction	$832	$775	$869	$826	n/a	n/a	
Manufacturing	$708	$805	$707	$726	n/a	n/a	
Service-Providing	*$655*	*$666*	*$711*	*$721*	*$782*	*$773*	*18.02%*
Trade, Transportation, & Utilities	$577	$592	$620	$631	$686	$666	15.42%
Information	$868	$697	$660	$659	$826	$817	-5.88%
Financial Activities	$995	$992	$1,018	$1,028	$1,172	$1,388	39.50%
Professional & Business Services	$747	$743	$967	$871	$852	$870	16.47%
Education & Health Services	$873	$937	$993	$1,020	$1,074	$1,017	16.49%
Leisure and Hospitality	$329	$331	$347	$357	$380	$404	22.80%
Other Services	$688	$541	$534	$577	$623	$623	-9.45%
Unclassified	$624	$475	$614	n/a	n/a	n/a	
Government Ownership:							
Federal Government	$1,174	$1,220	$832	$1,290	$1,284	$1,141	-2.81%
State Government	$969	$999	$1,066	$1,061	$1,248	$1,460	50.67%
Local Government	$770	$801	$1,254	$814	$910	$958	24.42%

From 2016 through the first quarter of 2021, *Lassen County saw an overall decline in its employment although wages experienced a small increase* and the number of business establishments in the county remained relatively stable over the same time period. The *decrease in employment occurred simultaneously with an out-migration of residents* from Lassen County as shown in Table 5. The population of Lassen County is projected to continue to decline through 2030. It should be noted that the state of California's official population projections are more optimistic than the estimated/observed declines of population seen from 2010-2020.

Table 5 Lassen County Population Estimates, 2010-2020; Population Projections 2021-2030 Source: California Department of Finance, Demographic Research Unit					
Year	**Population Estimates**	**Year to Year Difference**	**Year**	**Population Projections**	**Year to Year Difference**
2010	34,789				
2011	34,370	-419	2021	29,965	1,093**
2012	32,736	-1,634	2022	29,842	-123
2013	31,888	-848	2023	29,724	-118
2014	31,219	-669	2024	29,643	-81
2015	30,200	-1,019	2025	29,526	-117
2016	29,756	-444	2026	29,424	-102
2017	29,756	0	2027	29,327	-97
2018	29,693	-63	2028	29,161	-166
2019	28,972	-721	2029	29,031	-130
2020	28,872	-100	2030	28,894	-137
** Population adjustment due to 2020 Census numbers					

Economic Base Analysis:

Economic base analysis adapts an international trade model to describe local economies by characterizing the economy into two broad groups. The "Basic" (B) Sector are those firms whose performance primarily depends on economic conditions outside the local economy because they primarily sell to consumers outside of the local economy. In contrast, the "nonbasic" (NB) Sector are those firms whose performance depends upon local economic conditions because they primarily sell their output to local consumers. Because all trade is a reciprocal flow, money flows in the opposite direction of goods and services; therefore, goods that are produced for "export" out of the local region create a reciprocal flow or "import" of money into the local region. By exporting their output out of the region, Basic employers are bringing money into the local economy.

Basic and nonbasic firms are distinguished from each other by calculating location quotients (LQ) for each industrial sector of a local economy. A location quotient describes an industry's share of local employment in comparison to that industry's share of national employment. If an industry's location quotient is > 1, then industry is considered Basic and "exports" its output outside the local economy to outside consumers. If an industry's location quotient is < 1, then industry is considered nonbasic and produces primarily for the local economy.

As a relatively remote, rural county on the eastern slope of the Sierra Nevada mountains, Lassen County has several strong characteristics that influence its economic performance. To better analyze Lassen County's economy, we wanted to compare it to other counties that share similar characteristics, specifically:

1) Rural designation in the western United States

2) Presence of state or federal correctional facility
3) Located within either 1.5 hours or 90 miles of larger urban labor market

The counties we identified matching those requirements are listed in Table 6.

Table 6. Comparative Counties for Economic Base Analysis			
Arizona	Cochise County	Nebraska	Johnson County
	Mohave County	Nevada	Pershing County
	Navajo County	New Mexico	Cibola County
California	Kings County	Oregon	Jefferson County
	Lassen County		Malheur County
Colorado	Delta County	Utah	Sanpete County
	Fremont County	Washington	Kittitas County
	Lincoln County		Mason County
Idaho	Fremont County	Wyoming	Carbon County
	Twin Falls County		Goshen County
Montana	Powell County		Niobrara County

Because location quotients are calculated by comparing a local region's industry employment to that industry's national employment, it is useful to see industrial employment for Lassen County as shown in Table 7. Because the data includes full-time and part-time employment, these numbers will not match the employment figures presented in earlier tables. For example, an individual can work two part-time jobs in two different industries in Table 7.

Table 7 Total Full-Time and Part-Time Employment by Industry for Lassen County in 2019 Source: Bureau of Economic Analysis	
INDUSTRY SECTOR	**# JOBS**
Farm employment	1001
Forestry, fishing, and related activities	163
Mining, quarrying, and oil and gas extraction	22
Utilities	11
Construction	421
Manufacturing	60
Wholesale trade	119
Retail trade	1107
Transportation and warehousing	150
Information	105
Finance and insurance	206
Real estate and rental and leasing	280
Professional, scientific, and technical services	186
Management of companies and enterprises	33
Admin, support, waste mgt and remediation services	287
Educational services	100
Health care and social assistance	1035
Arts, entertainment, and recreation	102
Accommodation and food services	629
Other services (except govt and govt enterprises)	582
Federal civilian govt	1833
Military	40
State government	2673
Local government	1692

This industrial employment mix is then compared to the industrial employment mix of the 21 comparison counties to calculate Lassen County's location quotients by industry as shown in Table 8. Remember, this helps to identify what's unique about Lassen in comparison to its other rural county compatriots who are also within commuting distance of a larger urban labor market and have a federal or state correctional facility nearby. Those *industries with a location quotient greater than 1 are considered basic employers* for Lassen County in comparison to those rural counties in the comparison group. As we can see, *farming employment, and government employment at the federal, state, and local levels are basic industries for Lassen County*.

Table 8 Location Quotients for Lassen County (2019) by Industry Sector		
INDUSTRY SECTOR	**LQ in 2019**	**Change in LQ since 2011**
Farm employment	1.34*	0.2942
Forestry, fishing, and related activities	0.63	-0.3343
Mining, quarrying, and oil and gas extraction	0.28	-0.0199
Utilities	0.22	-0.5195
Construction	0.60	0.0350
Manufacturing	0.09	-0.0238
Wholesale trade	0.48	-0.0463
Retail trade	0.78	0.0963
Transportation and warehousing	0.37	-0.0558
Information	0.95	0.3335
Finance and insurance	0.60	-0.0304
Real estate and rental and leasing	0.50	-0.0119
Professional, scientific, and technical services	0.40	0.0030
Management of companies and enterprises	0.91	-0.1178
Admin, support, waste mgt and remediation services	0.54	0.0361
Educational services	0.80	-0.0011
Health care and social assistance	0.80	-0.0571
Arts, entertainment, and recreation	0.50	-0.0731
Accommodation and food services	0.61	-0.1062
Other services (except govt and govt enterprises)	0.84	0.0614
Federal civilian govt	5.71*	0.9659
Military	0.13	0.0269
State govt	4.66*	0.4881
Local govt	1.07*	-0.0794
* designates a basic industry		

What this means is that Lassen County's economy is more ***heavily*** dependent upon federal civilian and state government employment in comparison to other rural counties in the west with federal/state correctional facilities that are within easy commuting distance to larger urban labor markets. Lassen's dependence on local government and farming employment is slightly more than in the other comparison counties but not overly so.

A related question is exactly how dependent is Lassen County on those basic industries? This can be answered by calculating the Economic Base Multiplier to show the change in overall employment due to a change in employment in the Basic sector. The total employment for Lassen County is broken down into its basic and nonbasic components in Table 9. These components are then used to calculate the economic base multiplier.

Table 9. Lassen County Employment in 2019 Source: Bureau of Economic Analysis	
Total employment (# jobs)	12837
Basic employment	7814
Nonbasic employment	5023
Economic Base Multiplier	1.643

The economic base multiplier suggests that every job in the basic sector is generating 0.64 jobs in the nonbasic sector for a total of 1.64 jobs overall. It is important to note that this process also works in the opposite direction, meaning that every basic job lost will generate an additional loss of 0.64 jobs in the nonbasic sector. For this reason, a decline in basic sector employment in Lassen County can have compounding effects throughout the rest of the economy.

Potential Effect of Proposed Closure of CCC:

In April 2021, the California Department of Corrections and Rehabilitation announced the closure in June 2022 of the California Correctional Center (CCC) in Susanville, CA.[3] This following broadly sketches out the potential economic impact of that prison closure on Lassen County.[4]

As seen in Table 8, the location quotient (LQ) of state government employees is 4.66 indicating that this is a basic (export) industry (Any industry with a LQ greater than 1 is considered to be producing goods and services beyond the consumption capability of the local economy. For this particular industry, this means that the CCC and the High Desert State Prison are producing correctional services, and attracting funding, largely from the state population outside of Lassen County.

Using the above information, we can compute an employment base multiplier showing how many jobs in other local (non-basic) industries are supported by the production in correctional services which is seen in Table 9. The proposed decline in correctional services means that these jobs may disappear. Since CCC employs approximately 1,100 people[5], *the total potential job loss possible in Lassen County would be roughly 1,800 total jobs*.

While it is possible for some of these workers to find jobs within Lassen County (for example, at High Desert State Prison or FCI Herlong) or other local establishments, it is likely that many, if

[3] https://www.cdcr.ca.gov/news/2021/04/13/cdcr-announces-deactivation-of-california-correctional-center-in-susanville/

[4] Note that these figures are "back of the envelope," rough estimates of the closure of the prison. It is indeed possible that these figures could be significantly different; however, that would require a more complete analysis with respect to the linkages between CCC and the community of Lassen County and the overall economic conditions of Lassen County.

[5] https://www.cdcr.ca.gov/research/wp-content/uploads/sites/174/2021/06/2021-Q1-CCC-SB601.pdf

not most, of these households will leave. According to the U.S. Census Bureau[6], there were approximately 2.26 persons per household in Lassen County. Taking a conservative estimate of outmigration from Lassen County, approximately 1,500 households might be affected, which roughly translates to a population loss of at least 3,390 as the potential total impact of the CCC closure. We also note that in the decade since 2010, the population of Lassen County has declined by over 12%[7] largely due to previous prison realignment. It is likely that the closure of CCC would accelerate this trend.

Lassen County GDP in 2019 was approximately $1,441,448,000[8] making per capita GDP approximately -$47,148 per person. With a potential population decline of 3,390 as a result of the prison closure, this would amount to an estimated *loss of approximately $160 million in GDP*.

It is also of note that our economic impact analysis is conducted agnostically with respect to the prison closure. There is not any predicted growth in the government sector and the closure (or non-closure) of the prison would likely *not affect the value-added of an expansion of US 395*.

Economic Impact:

The purpose of this study is to analyze the economic impact of a widening of US 395 from a 2-lane highway to a 4-lane highway from Hallelujah Junction (interchange with SR 70) to the SR 36 intersection (Susanville, CA) which is approximately 57 miles long. In particular this analysis will look at the economic impact on the particular study area of Lassen County, which is where this widening of US 395 will occur.

The main tool to be used in this analysis is TREDIS, which is a software program developed by the Economic Development Research Group, Inc. (https://tredis.com). TREDIS is specifically designed to analyze and forecast the economic impact and user benefits of a transportation improvement, which in this case would be the widening of the previously mentioned portion of US 395.

CalTrans also has also provided estimates from their travel demand model or more specifically actual traffic counts from 2015 as well as projections for 2050 without the widening of US 395 as well as projections incorporation the widening of US 395.
CalTrans has provided us with the following estimates with respect to a widening of US 395:

[6] https://www.census.gov/quickfacts/fact/table/lassencountycalifornia/PST045219
[7] https://www.census.gov/quickfacts/fact/table/lassencountycalifornia/PST045219
[8] https://fred.stlouisfed.org/series/GDPALL06035

Table 10 395 Daily Traffic Counts Source: CalTrans Statewide Modeling Branch	**2015 Baseline**	**2050 No-Build**	**2050 Build**
Average Daily Traffic (ADT)	1750	2018	2190
Vehicle Miles Traveled (VMT)	103970	119178	129337
Vehicle Hours Traveled (VHT)	1890	2167	2352
Average Daily Truck Traffic (ADTT)	289	373	405
Truck VMT	15988	20888	22669
Truck VHT	291	380	412

The *2015 Baseline* traffic counts are the *actual average daily traffic counts* for that time period and is what we use as our baseline traffic. The first three rows are counts measures for passenger cars and the bottom three rows are counts for trucks. As one can see, *CalTrans anticipates an increase of traffic in both* the 2050 No-Build scenario (no widening) as well as the 2050 Build scenario (4 lanes). Even more so, CalTrans predicts that the traffic will increase as a result of the lane widening where the 2050 Build ADT, VMT and VHT for both passenger cars and trucks is larger than the 2050 No-Build scenario.

Using this data, along with construction cost estimates of the project itself, TREDIS combines data from publicly available sources, Moody's Analytics, as well as components from IMPLAN to determine the effect this project would have on the economy of Lassen County.

Here we briefly describe the mechanism by which TREDIS operates (more detailed information is available[9]). As mentioned previously, TREDIS relies on Moody's Analytics to make predictions about the demographic and economic characteristics in Lassen County. Much as we have done above in looking at job trends in Lassen County, Moody's Analytics combines local, state, and national economic conditions (and predicted future conditions) in order to provide projections up through the year 2050. TREDIS also employs data from IMPLAN[10] in order to analyze how this approximately $678 Million highway improvement can affect the economy of Lassen County. In short, IMPLAN is an input-output model that attempts to trace how investments in one sector can affect other related and unrelated sectors. For example, this large investment obviously has a direct impact on purchasing goods and services used directly for construction but can also have impacts on other industries in the area ranging from hospitality to healthcare. Using this combination of predictive analytics from Moody's and input-output modeling from IMPLAN, TREDIS will help us reconcile and estimate how much this investment will affect the economy of Lassen County.

[9] https://tredis.com/pdf/User_Docs/TREDIS5_Data_Sources_and_Default_Values.pdf
[10] https://www.implan.com/

Put simply, the analysis studies the difference between the 2050 No-Build and 2050 Build scenarios in order to determine how much the highway improvement is adding to the Lassen County Economy. For the purpose of this exercise, we assume that construction project will take 5 years and begin in 2025, and the highway will be operational by 2030. We also conducted analyses where construction takes up to 10 years and/or has a start date of 2030, and the results by 2050 do not changes substantially.

Projected Employment:

Table 11 Job Projections and Changes in Output Source: TREDIS

Year	No-Build Jobs	Build Jobs	Difference	Increase in Output ($M)
2025	11,878.62	12,951.27	1,072.65	58.1
2026	11,714.23	12,790.36	1,076.12	58.27
2027	11,548.48	12,624.98	1,076.50	58.53
2028	11,379.61	12,460.21	1,080.61	58.91
2029	11,252.15	12,339.33	1,087.18	59.4
2030	11,126.15	11,171.88	45.73	2.32
2031	11,012.34	11,067.68	55.34	2.96
2032	10,903.05	10,968.11	65.06	3.64
2033	10,798.46	10,873.49	75.03	4.32
2034	10,700.69	10,785.36	84.67	4.98
2035	10,605.00	10,698.65	93.66	5.6
2036	10,511.03	10,612.86	101.82	6.17
2037	10,420.37	10,529.37	109	6.68
2038	10,339.54	10,454.87	115.33	7.13
2039	10,263.50	10,384.19	120.69	7.52
2040	10,195.01	10,319.52	124.51	7.86
2041	10,133.40	10,261.61	128.21	8.15
2042	10,078.66	10,209.74	131.08	8.4
2043	10,033.04	10,166.56	133.53	8.61
2044	9,991.77	10,127.07	135.31	8.78
2045	9,953.55	10,090.21	136.65	8.92
2046	9,919.09	10,056.78	137.69	9.04
2047	9,883.03	10,021.15	138.12	9.14
2048	9,849.18	9,987.55	138.36	9.22
2049	9,809.98	9,948.15	138.17	9.29
2050	9,775.14	9,912.93	137.79	9.34

One of the immediate takeaways from Table 11 is that in the No-Build scenario alone, *Lassen County is projected to lose between (depending on the year) 34 jobs (2048) and 169 jobs (2028)*.

However the Build scenario helps ameliorate some of this job loss. Obviously in the Build scenario, the 5 years of construction will bring the most economic activity to Lassen County. Relative to the No-Build scenario, the Build scenario will, from 2025-2029 have over 1000 more jobs as a result of construction activity. In fact, to analyze the specific industries with the most benefit, we have broken out the 2025 jobs by occupation:

Table 12 2025 Jobs created over No-Build Scenario
Source: TREDIS

Occupation Description	Jobs	Increases in Output ($M)
Architecture and Engineering Occupations	286	10.489
Construction and Extraction Occupations	192	14.572
Office and Administrative Support Occupations	124	7.037
Management Occupations	103	5.726
Business and Financial Operations Occupations	70	3.658
Transportation and Material Moving Occupations	47	2.55
Computer and Mathematical Occupations	45	1.834
Production Occupations	40	2.11
Life, Physical, and Social Science Occupations	36	1.308
Sales and Related Occupations	32	2.28
Installation, Maintenance, and Repair Occupations	28	1.874
Food Preparation and Serving Related Occupations	17	1.103
Arts, Design, Entertainment, Sports, and Media Occupations	11	0.514
Healthcare Practitioners and Technical Occupations	11	1.009
Building and Grounds Cleaning and Maintenance Occupations	10	0.542
Personal Care and Service Occupations	6	0.304
Protective Service Occupations	5	0.249
Healthcare Support Occupations	4	0.335
Education, Training, and Library Occupations	3	0.306
Community and Social Service Occupations	2	0.129
Legal Occupations	2	0.1
Farming, Fishing, and Forestry Occupations	1	0.068
TOTALS	1076	58.1

Here we see for 2025, the breakdown by occupation/industry of the jobs created by the Build scenario as well as the resulting increases in output (GDP). Most of the jobs are obviously created *as a result of the construction (architecture and engineering, construction and extraction, etc.) and this is what we would consider the* ***direct impact*** which are the increases in jobs/output in the industries that directly have something to do with the actual construction of the improvement. These occupations in Table 12 are in red. The ***indirect impact*** would be industries that would have to hire more workers as a result of the increase in construction, but are not directly related. For example, more healthcare practitioners may have to be hired as a

result of an increased need for healthcare as a result of more workers in the area. In addition, a similar argument can be made for sales and food preparation/serving in that these workers would need to purchase goods, services and food for consumption. The remaining job increases in other industries are considered to be ***indirectly impacted*** by the actual highway widening

While the construction phase would bring the biggest impact, the road improvement would (hopefully) last a finite amount of time. One of the most important parts of this improvement is how the Lassen County economy will fair ***after*** the improvement is completed which we would consider the ***induced impact*** from the improvement. Although Table 11 summarizes the difference in jobs and output, we will look at two specific years post-construction (2035, 2050) to get an idea of how this project affects different sectors of the Lassen County economy.

Table 13. 2035 Jobs created over No-Build Scenario
Source: TREDIS

Occupation Description	Jobs	Increases in Output ($M)
Office and Administrative Support Occupations	15	1.069
Transportation and Material Moving Occupations	14	0.538
Food Preparation and Serving Related Occupations	11	0.588
Sales and Related Occupations	10	0.722
Building and Grounds Cleaning and Maintenance Occupations	6	0.241
Management Occupations	5	0.34
Business and Financial Operations Occupations	5	0.382
Arts, Design, Entertainment, Sports, and Media Occupations	4	0.192
Personal Care and Service Occupations	4	0.109
Installation, Maintenance, and Repair Occupations	4	0.379
Computer and Mathematical Occupations	3	0.214
Education, Training, and Library Occupations	3	0.07
Architecture and Engineering Occupations	2	0.133
Life, Physical, and Social Science Occupations	2	0.135
Healthcare Practitioners and Technical Occupations	2	0.155
Production Occupations	2	0.113
Healthcare Support Occupations	1	0.049
Protective Service Occupations	1	0.057
Construction and Extraction Occupations	1	0.076
Community and Social Service Occupations	0	0.02
Legal Occupations	0	0.018
Farming, Fishing, and Forestry Occupations	0	-0.002
TOTALS	102	5.6

In *2035* (5 years post construction), we see that there are *102 more jobs than in the No-Build scenario*, where most of these jobs are coming from Office and Administrative Support, Transportation, Food Preparation and Service, as well as Sales. As a result, the increased economic activity in these industries generates an *additional $5.6 million in GDP*. Recall that

the best way to generate jobs is to increase jobs in the Base industries since those jobs generate additional jobs in the economy. However, *the jobs generated here are not base industry jobs*. There is no effect on the government sector, and no effect on the agricultural sector

For an even further look into the future, we look at the year 2050:

Table 14. 2050 Jobs created over No-Build Scenario Source: TREDIS

Occupation Description	Jobs	Increases in Output ($M)
Office and Administrative Support Occupations	24	1.795
Food Preparation and Serving Related Occupations	18	0.997
Sales and Related Occupations	17	1.227
Transportation and Material Moving Occupations	14	0.827
Business and Financial Operations Occupations	9	0.646
Building and Grounds Cleaning and Maintenance Occupations	9	0.407
Management Occupations	8	0.568
Installation, Maintenance, and Repair Occupations	7	0.655
Arts, Design, Entertainment, Sports, and Media Occupations	5	0.326
Personal Care and Service Occupations	5	0.181
Computer and Mathematical Occupations	4	0.364
Architecture and Engineering Occupations	3	0.226
Education, Training, and Library Occupations	3	0.118
Life, Physical, and Social Science Occupations	2	0.23
Healthcare Practitioners and Technical Occupations	2	0.255
Protective Service Occupations	2	0.09
Production Occupations	2	0.19
Community and Social Service Occupations	1	0.034
Healthcare Support Occupations	1	0.08
Construction and Extraction Occupations	1	0.112
Legal Occupations	0	0.031
Farming, Fishing, and Forestry Occupations	0	-0.016
TOTALS	137	9.34

Here, we see the same occupations from 2035 are the ones that are contributing the most to the difference in *jobs (137) relative to the No-Build scenario* and again are not base industry jobs. The increase in economic activity in 2050 results in an *additional $9.34 million in output (GDP)*.

State and Local Tax Revenue:

In addition to an increase in economic activity as a result of the highway expansion, the improvement can possibly lead to *an increase in State and Local Tax (SALT) Revenue*. Here is a projection of the increase in SALT Revenue:

Table 15. State and Local Tax Revenue Projections ($M)
Source TREDIS

Year	Households	Business	Total
2025	1.064	0.97	3.182
2026	1.067	0.981	3.207
2027	1.072	0.998	3.244
2028	1.078	1.021	3.295
2029	1.086	1.05	3.361
2030	0.039	0.129	0.295
2031	0.049	0.166	0.38
2032	0.06	0.205	0.469
2033	0.07	0.244	0.558
2034	0.081	0.282	0.645
2035	0.091	0.318	0.727
2036	0.1	0.352	0.803
2037	0.108	0.382	0.871
2038	0.116	0.409	0.932
2039	0.122	0.433	0.986
2040	0.128	0.454	1.033
2041	0.133	0.473	1.074
2042	0.138	0.489	1.109
2043	0.141	0.503	1.139
2044	0.145	0.515	1.165
2045	0.148	0.526	1.188
2046	0.15	0.536	1.207
2047	0.153	0.544	1.224
2048	0.155	0.552	1.239
2049	0.157	0.558	1.251
2050	0.158	0.564	1.263

While this table lists tax revenue totals, we will, as previously done, choose 3 specific years, 2025, 2035, and 2050 to break down the sources of the SALT Revenues.

Table 16. 2025 State and Local Tax Revenue ($M)
Source: TREDIS

State and Local Government Taxes	Households	Firms	Totals
Motor Fuel Tax	0	0	0
Motor Vehicle License	0.015	0.03	0.045
Income/Profits	0.461	0.208	0.669
Miscellaneous Fees & Taxes	0.097	0.135	0.232
Sales Tax	N/A	N/A	1.149
Property Tax	0.419	0.486	0.905
Social Insurance Tax	0.072	0.11	0.182
Total SALT Revenue	1.064	0.97	3.182

Table 17. 2035 State and Local Tax Revenue ($M)
Source: TREDIS

State and Local Government Taxes	Households	Firms	Totals
Motor Fuel Tax	0.008	0.006	0.015
Motor Vehicle License	0.001	0.008	0.009
Income/Profits	0.036	0.024	0.061
Miscellaneous Fees & Taxes	0.008	0.052	0.06
Sales Tax	N/A	N/A	0.318
Property Tax	0.032	0.219	0.251
Social Insurance Tax	0.006	0.009	0.014
Total SALT Revenue	0.091	0.318	0.727

Table 18. 2050 State and Local Tax Revenue ($M)
Source: TREDIS

State and Local Government Taxes	Households	Firms	Totals
Motor Fuel Tax	0.023	0.017	0.04
Motor Vehicle License	0.002	0.014	0.016
Income/Profits	0.06	0.041	0.101
Miscellaneous Fees & Taxes	0.013	0.104	0.116
Sales Tax	N/A	N/A	0.54
Property Tax	0.051	0.374	0.426

Social Insurance Tax	0.01	0.015	0.024
Total SALT Revenue	0.158	0.564	1.263

To reiterate, these are *additional* SALT Revenues that would be collected as a result of the improvement. Each successive year (after construction) leads to subsequent increases in SALT revenues with approximately *$727,000 in tax revenue in 2035 and 2050 producing over $1.2 million in tax revenue.* Also of note is that the largest sources of tax revenue come from income tax and property tax, which underscores the need for increases in jobs/population.

User Benefits:

We also looked at potential user benefits from the perspective of travel time, reliability, and safety (relative to the No-Build scenario). One of the obvious user benefits is potentially *reduced travel time* as a result of the highway expansion, which in total is estimated to be *by 2050 over 6,000 hours per year*. These time savings can also be translated roughly into a pecuniary measure of *reliability* which can be thought of as the user's value of time (saved). This is estimated to be in total *by 2050 over $130,000*. We can also make some estimates from a safety perspective. By using estimates of accident rates and approximate valuations of accidents[11], we can estimate the approximate value of this improvement from a *safety* perspective to increase gradually to *over $2 million by 2050*.

Table 19. User Benefits Source: TREDIS

Year	Time Savings (Hours)	Reliability ($)	Safety Benefit ($M)
2025	0	0	0
2026	236	4,605	0.1
2027	473	9,260	0.3
2028	711	13,963	0.4
2029	952	18,716	0.5
2030	1,194	23,519	0.7
2031	1,437	28,374	0.8
2032	1,683	33,280	0.9
2033	1,930	38,238	1
2034	2,178	43,249	1.1
2035	2,429	48,314	1.2
2036	2,681	53,432	1.3
2037	2,934	58,606	1.4
2038	3,190	63,834	1.5
2039	3,447	69,119	1.6
2040	3,706	74,460	1.7
2041	3,967	79,858	1.8

[11] https://tredis.com/pdf/User_Docs/TREDIS5_Data_Sources_and_Default_Values.pdf

2042	4,230	85,314	1.9
2043	4,494	90,830	1.9
2044	4,760	96,404	2
2045	5,028	102,038	2.1
2046	5,298	107,734	2.1
2047	5,570	113,490	2.2
2048	5,844	119,309	2.3
2049	6,119	125,191	2.3
2050	6,397	131,136	2.4

Conclusions:

This economic impact analysis looked at the potential expansion of US 395 on Lassen County. Relative to the No-Build scenario, this expansion will provide an increase in the number of jobs, an increase in GDP, and most importantly an increase in user benefits for passenger cars and trucks from a time savings and safety standpoint. Widening Highway 395 from Hallelujah Junction to Susanville, California will lower commuting costs for those who travel along this highway between Susanville and Reno, Nevada.

While the proposed highway improvements' effect on traffic safety cannot be overstated, it is also important to acknowledge the purpose of this highway's travel and to consider the important role that commuting costs can play in far-flung rural economies. Improving ease of travel will allow communities living along Highway 395 to more easily travel away from Lassen County. This shift *may* facilitate an increase in Lassen County residents seeking work and broader retail shopping opportunities outside of Lassen County as they are better able to commute to larger urban centers such as Reno (and even Sacramento). If so, then Lassen County may potentially lose local sales tax revenue to purchases made outside of the county.

Furthermore, the proposed highway construction is a largely one-shot scenario, meaning once the highway is completed, the initial economic boost it provided largely disappears. Therefore, it is important that Lassen County seek to diversify its economy in tandem with this proposed improvement. With the highway expansion making road travel faster and safer, for travelers, commuters, and truckers, industries such as tourism and warehousing would provide potentially even greater benefit as well as help diversify and reinvigorate the economy of Lassen County. By taking advantage of its relative proximity to natural amenity-driven tourism such as Lassen Volcanic National Park and the recreational opportunities on the eastern slope of the Sierra Nevada Mountains, the communities along Highway 395 may be able to position themselves as gateways for stronger flows of tourism traffic. This economic diversification is critical given that Lassen County is projected to lose steadily lose population for the foreseeable future and in comparison to its rural county peers, even more heavily dependent upon state government spending from Sacramento. This dependence was shown in stark relief with the proposed closure of the state correctional facility and its potential to significantly harm Lassen County's economy.