



Economic Impact Analysis of Airport Property Choices

For County of Nevada

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Economic Impact Analysis, Airport Property Scenarios County of Nevada

Executive Summary

Airport operations and aviation businesses at the Nevada County airport provide an asset that cannot be replicated anywhere else in the county without a large amount of convulsion and cost. The 88,000 square feet of commercial spaces at the airport could have other businesses instead of aviation.

Having the space as an airport can also complement other businesses that exists in Nevada County (and regionally that may use that airport to provide logistics for goods or people), including an expansion of tourism options for potential visitors. Not having the airport and associated businesses and operations, Nevada County would be dependent on other, regional airports and aviation areas to access similar services and logistics by air. The airport provides an intangible, economic development asset.

This study shows the economic implications of other uses of airport spaces, and the variety of industries affected. From a pure economic standpoint, light manufacturing may have a larger employment impact for the same amount of business revenue, but aviation businesses create a large “multiplier” effects on business revenues and state and local taxable transactions. The government revenue options that come with aviation operations are not available except for specific types of manufacturing (cannabis being a new example).

Summary of Economic Impacts and Considerations

The following figure summarizes the economic impact analysis for quick comparisons across the potential projects, each with \$2 million in annual revenues. For example, at \$2 million of businesses revenue, aviation businesses at the airport help support another \$856,000 of business revenue elsewhere in Nevada County, 49 workers overall (including those working at the airport businesses) and \$395,340 of estimated state and local tax revenue annually.

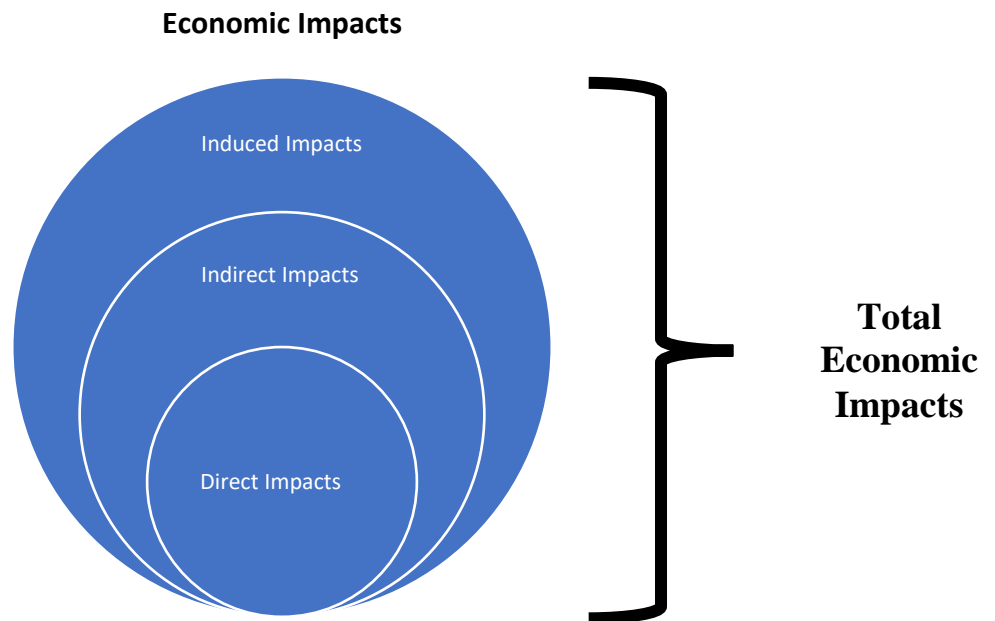
Project	Business Revenues	Jobs Supported	State and Local Revenues
Airport	\$2,856,000	49.1	\$395,340
Food/Beverage Manu	\$2,636,000	21.0	\$268,360
Clothing Manufacturer	\$2,859,000	66.4	\$103,620

Introduction

This brief report provides an economic impact analysis of possible scenarios for the Nevada County Airport being considered by the County of Nevada. The property space is 88,000 square feet.

- The first option is to use the space for light industrial, with two possible types of businesses: food/beverage manufacturing or clothing manufacturing or a mix;
- The second possible use is for aviation businesses, including airplane maintenance.

Economic impacts come in three “flavors”. In the same way ripples come from throwing a rock into a still pond, a new or expanding business acts like a thrown rock and becomes even more businesses spending on vendors and workers, which ripples out as additional economic impacts from those choices.



Direct impacts come from business spending, such as aviation businesses or light manufacturing. Vendor and directly-affected worker spending (including workers’ wages and salaries made at jobs at the airport) trigger **indirect impacts**. Indirect impacts may have the following example: an aviation business may buy tools or fuel from local vendors. Such spending supports these businesses by generating revenue and becomes spending on those businesses’ vendors and employees; this round of new spending creates **induced impacts** on the broader economy. The tool store’s employees spend their wages on groceries, medical visits, restaurant meals, and various other industries. The employees affected by the direct and indirect effects spend across all industries as the figures in this study show.

This study has the following sections. The next section describes the airport site and the basics of the planned airport operation in terms of business revenues, jobs and tax revenues specific to the airport operation. The next section looks at two manufacturing alternatives to consider:

food manufacturing and clothing manufacturing. These are considered light manufacturing where a business would need space for assembly, logistics and offices. The economic impacts from these different scenarios are then compared, as we use the IMPLAN® model (see www.implan.com for more information) to estimate how much in additional business revenue and jobs and state and local tax revenue each option supports. The final section is a brief reflection on the economic development support an airport provides versus the use of an airport space as light manufacturing.

The Airport: Used as an Airport

The airport in Nevada County has a total amount of 88,000 square feet of fungible space. Because airports are unique community assets, where this is land not being utilized short of supporting aviation businesses and airport use, the industrial and office spaces are the most likely to be used by another entity. The following are the airport's basic assets beyond the runway and associated acres of land.

- Loma Rica's Frontage Hangar = 55,000 square feet;
- West Side Hangar = 19,000 square feet; and
- East Side Hangar = 14,000 square feet.

The County of Nevada provided financial estimations to act as a basis for the economic impact analysis and comparisons for potential alternatives uses below.

- Approximately \$2 million of annual revenue from businesses at the airport;
- 25 full-time equivalent employees for the aviation businesses as an annual average; and
- Approximately \$60,000 annually in aircraft tax revenues.

These are critical assumptions in helping determine comparison data for the light manufacturing options. We will assume that tenant improvements would be equivalent under any of the options. Let's now look at the food and clothing manufacturing options and some basic data.

Food and Clothing Manufacturing

Using the airport spaces for light manufacturing and making comparisons to expand airport usage leads to a few questions, assuming that there are no major constraints in either type of manufacturing operating on the airport ground (for example, no deal breakers in terms of water/sewer/electricity availability and other critical infrastructure):

- Can manufacturing utilize the available space efficiently versus other alternatives?
- Is Nevada County a place where clothing or food manufacturing (or both) have a history and labor available?

- Would locating at the airport “pencil” out for either a clothing or food manufacturer in terms of tenant improvements and other up-front costs to prepare those spaces for something other than aviation businesses?

We assume the final question is yes for the sake of this exercise. Generally, manufacturing has fewer workers per square foot than aviation businesses and. The United States Green Building Council published simple metrics in 2008 on the different labor needs per square foot of industrial or office space.¹ While technology marches forward, we should assume less space is needed per employee, especially in manufacturing, and we should assume that is true for aviation businesses also. The US Green Building Council estimated suggested 215 square feet per aviation workers and approximately 400 per square feet per light manufacturing worker (food and clothing businesses are examples of light manufacturing businesses). These data are important as the IMPLAN® model estimates a certain number of workers in each manufacturing scenario based on generating \$2 million of business revenue. If that number of employees does not conform to the square feet available, it may be difficult to assume one employer or a mix of light manufacturing businesses will come **and** stay at the airport location these businesses may outgrow the available space quickly.

Currently, in Nevada County, of the approximately 26,000 people that have jobs with Nevada County based employers, no employers exist in clothing manufacturing and there are approximately 235 workers in food/beverage manufacturing (which includes bakeries for 27 employers.²

Economic Impacts: Two Scenarios

The results for each scenario below are split into three separate effects: annual business revenues, jobs supported and new, annual sales and local tax revenues. The revenue figures are annual in terms of ongoing impacts; if a clothing manufacturer generates \$2,000,000 of annual revenue and hires 15 people to run the business, the economic impacts on other businesses in Nevada County continue each year as the revenue is generated annually by the clothing manufacturing business. The jobs supported are a one-time change, but continue on as baseline jobs supported in Nevada County. In all cases, one can read the results as the annual support for the local economy provided by each scenario.

Let’s now look at the economic impacts with the following assumptions for the direct impacts or the primary effects of each of the potential uses above.

Clothing Manufacturing

Using \$2 million in annual revenue for a clothing manufacturer in Nevada County, the results in Figures 1 to 3 show the other businesses affected by the clothing manufacturer’s existence at this level of revenue. Figure 1 shows the employment effects, as we estimate there would be

¹ See <https://www.usgbc.org/drupal/legacy/usgbc/docs/Archive/General/Docs4111.pdf> for more.

² See Quarterly Census of Employment and Wages (QCEW) for more information.

approximately 59.7 full-time equivalent workers at these businesses helping generate the \$2 million in revenue. Figure 2 shows how other businesses would generate revenues from the spending by the clothing business and its workers; notice wholesalers would generate revenue of \$148,080 because of their relationship as a vendor to the clothing manufacturer. Figure 3 shows the state and local tax revenues derived from the business and employee spending across Nevada County.

Figure 1: Jobs Supported, Clothing Manufacturing, Full-Time Equivalents, \$2 million of manufacturing revenue

Industry	Direct	Indirect	Induced	Total
Clothing Manufacturing	59.7	0.2	-	59.9
Wholesale trade	-	1.0	0.1	1.1
Marketing research and miscellaneous professional services	-	0.4	-	0.4
Accounting, tax preparation, bookkeeping, and payroll services	-	0.3	0.0	0.3
Real estate	-	0.2	0.1	0.3
Services to buildings	-	0.3	0.0	0.3
Other support services	-	0.3	-	0.3
Management of companies and enterprises	-	0.2	-	0.2
Insurance agencies, brokerages, and related activities	-	0.2	0.0	0.2
Full-service restaurants	-	0.1	0.1	0.2
Architectural, engineering, and related services	-	0.2	-	0.2
Limited-service restaurants	-	0.1	0.1	0.1
Business support services	-	0.1	-	0.1
Landscape and horticultural services	-	0.1	0.0	0.1
Maintenance and repair construction of nonresidential structures	-	0.1	-	0.1
All Others	-	1.6	0.9	2.5
Totals	59.7	5.4	1.3	66.4

Figure 2: Jobs Supported, Clothing Manufacturing, Full-Time Equivalents, \$2 million of manufacturing revenue

Industry	Direct	Indirect	Induced	Total
Clothing Manufacturing	\$2,000,000	\$7,660	\$-	\$2,007,660
Wholesale trade	\$-	\$148,080	\$8,780	\$156,860
Real estate	\$-	\$45,080	\$15,740	\$60,820
Lessors of nonfinancial intangible assets	\$-	\$52,120	\$380	\$52,500
Management of companies and enterprises	\$-	\$35,760	\$280	\$36,040
Insurance agencies, brokerages, and related activities	\$-	\$32,240	\$1,740	\$33,980
Rental Income for Property Owners	\$-	\$-	\$28,940	\$28,940
Marketing research and other technical services	\$-	\$23,260	\$380	\$23,640
Architectural, engineering, and related services	\$-	\$22,460	\$700	\$23,160
Other local government enterprises	\$-	\$17,560	\$4,600	\$22,160
Wired telecommunications carriers	\$-	\$19,020	\$2,360	\$21,380
Maintenance and repair construction, nonresidential	\$-	\$18,580	\$1,400	\$19,980
Other support services	\$-	\$18,480	\$80	\$18,560
Accounting and payroll services	\$-	\$17,500	\$820	\$18,320
Local government electric utilities	\$-	\$12,660	\$1,180	\$13,840
All Others	\$-	\$224,160	\$97,120	\$321,280
Totals	\$2,000,000	\$694,620	\$164,500	\$2,859,120

Figure 3: State and Local Tax Revenues, Annual Gains, Current Dollars

Tax Category	Amount
Employment Taxes	\$920
Sales taxes	\$40,260
Property taxes	\$39,960
Personal Income	\$12,540
Other Taxes and Fees	\$9,940
Total State and Local taxes	\$103,620

Food/Beverage Manufacturer

Using \$2 million in annual revenue for a food or beverage manufacturer in Nevada County, the results in Figures 4 to 6 show the other businesses affected by the food or beverage manufacturer's existence at this level of revenue. Figure 4 shows the employment effects, as we estimate there would be approximately 15.7 full-time equivalent workers at these businesses helping generate the \$2 million in revenue. Notice this is less than the clothing manufacturer, likely due to different manufacturing styles and needs. Figure 5 shows how other businesses would generate revenues from the spending by the food or beverage business and its workers; notice wholesalers again generate more than the selected businesses with revenue of \$83,100 because of their relationship as a vendor to the food or beverage manufacturer. Figure 6 shows the state and local tax revenues derived from the business and employee spending across Nevada County.

Figure 4: Jobs Supported, Food Manufacturing at Airport, Full-Time Equivalents, \$2 million in manufacturing revenues

Industry	Direct	Indirect	Induced	Total
Food/Beverage manufacturing	15.7	-	-	15.7
Marketing research and other miscellaneous professional services	-	0.7	0.0	0.7
Wholesale trade	-	0.6	0.1	0.7
Full-service restaurants	-	0.1	0.1	0.2
Real estate	-	0.1	0.1	0.2
Services to buildings	-	0.1	0.1	0.2
Limited-service restaurants	-	0.1	0.1	0.2
Management of companies and enterprises	-	0.1	-	0.1
Accounting, tax preparation, bookkeeping, and payroll services	-	0.1	0.0	0.1
Individual and family services	-	-	0.1	0.1
All other food and drinking places	-	0.0	0.1	0.1
Landscape and horticultural services	-	0.0	0.0	0.1
Retail - Food and beverage stores	-	-	0.1	0.1
Offices of physicians	-	-	0.1	0.1
Hospitals	-	-	0.1	0.1
All Others	-	1.0	1.3	2.3
Totals	15.7	3.0	2.3	21.0

Figure 5: Business Revenue, Food Manufacturing at Airport, \$2 million in manufacturing revenues

Industry	Direct	Indirect	Induced	Total
Food/Beverage manufacturing	\$2,000,000	\$40	\$20	\$2,000,060
Wholesale trade	\$-	\$83,100	\$15,200	\$98,300
Rental Income for Property Owners	\$-	\$-	\$48,700	\$48,700
Real estate	\$-	\$19,760	\$27,940	\$47,700
Marketing research and miscellaneous services	\$-	\$37,780	\$660	\$38,440
Management of companies and enterprises	\$-	\$24,460	\$480	\$24,940
Other local government enterprises	\$-	\$9,800	\$8,140	\$17,940
Limited-service restaurants	\$-	\$7,680	\$9,440	\$17,120
Hospitals	\$-	\$-	\$13,520	\$13,520
Full-service restaurants	\$-	\$5,500	\$7,420	\$12,920
Banks and Credit Unions	\$-	\$8,760	\$3,760	\$12,520
Lessors of nonfinancial intangible assets	\$-	\$11,080	\$660	\$11,740
Maintenance and repair construction, nonresidential	\$-	\$8,340	\$2,460	\$10,800
Wired telecommunications carriers	\$-	\$5,700	\$4,180	\$9,880
Offices of physicians	\$-	\$-	\$9,840	\$9,840
All Others	\$-	\$129,900	\$131,880	\$261,780
Totals	\$2,000,000	\$351,900	\$284,300	\$2,636,200

Figure 6: State and Local Tax Revenues, Food Manufacturing, Current Dollars, Annual Impacts, \$2 million in manufacturing revenues

Tax Category	Amount
Employment Taxes	\$3,040
Sales taxes	\$110,320
Property taxes	\$109,320
Personal Income	\$20,580
Other Taxes and Fees	\$25,100
Total State and Local taxes	\$268,360

Air Operations

Using \$2 million in annual revenue for aviation businesses in Nevada County located at the airport is the final comparison shown here. The results in Figures 7 to 9 show how the airport's businesses affect many others at the \$2 million level of revenue. Figure 7 shows the employment effects, as we estimate there would be approximately 25.0 full-time equivalent workers at these businesses helping generate the \$2 million in revenue. Figure 8 shows how other businesses would generate revenues from the spending by the clothing business and its workers; notice local government and sightseeing businesses generate relatively-large indirect revenues based on the businesses at the airport. Figure 9 shows the state and local tax revenues derived from the business and employee spending across Nevada County.

Figure 7: Jobs Supported, Aviation and Air Operations, \$2 million in annual revenues, Full-Time Equivalents

Industry	Direct	Indirect	Induced	Total
Aviation Businesses	25.0	-	-	25.0
Scenic and sightseeing and support activities for transportation	-	3.0	-	3.0
All other food and drinking places	-	2.5	0.2	2.7
Wholesale trade	-	1.4	0.3	1.7
Other local government enterprises	-	1.3	0.1	1.4
Real estate	-	0.9	0.4	1.3
Services to buildings	-	0.8	0.2	1.0
Accounting, tax preparation, bookkeeping, and payroll services	-	0.5	0.1	0.6
Full-service restaurants	-	0.2	0.4	0.5
Marketing research and all other professional and technical services	-	0.5	-	0.5
Legal services	-	0.5	0.1	0.5
Maintenance and repair construction of nonresidential structures	-	0.5	0.1	0.5
Landscape and horticultural services	-	0.4	0.1	0.5
Commercial and industrial machinery and equipment rental and leasing	-	0.5	-	0.5
Architectural, engineering, and related services	-	0.4	-	0.4
All Others	-	3.9	5.1	9.0
Totals	25.0	17.2	6.9	49.1

Figure 8: Business Revenue, Aviation and Air Operations, \$2 million in annual revenues

Industry	Direct	Indirect	Induced	Total
Aviation Businesses	\$2,000,000	\$40	\$40	\$2,000,080
Other local government enterprises	\$-	\$130,620	\$6,340	\$136,960
Scenic and sightseeing and support activities for transportation	\$-	\$113,080	\$380	\$113,460
Real estate	\$-	\$49,900	\$21,680	\$71,580
Wholesale trade	\$-	\$54,520	\$12,100	\$66,620
Owner-occupied dwellings	\$-	\$-	\$40,000	\$40,000
All other food and drinking places	\$-	\$30,420	\$2,420	\$32,840
Commercial/industrial machinery rental and leasing	\$-	\$25,100	\$80	\$25,180
Maintenance and repair construction, nonresidential	\$-	\$19,960	\$1,920	\$21,880
Legal services	\$-	\$17,080	\$2,360	\$19,440
Architectural, engineering, and related services	\$-	\$13,320	\$980	\$14,300
Travel arrangement and reservation services	\$-	\$13,000	\$400	\$13,400
Couriers and messengers	\$-	\$10,100	\$580	\$10,680
Accounting and payroll services	\$-	\$9,440	\$1,140	\$10,580
Hospitals	\$-	\$-	\$10,500	\$10,500
All Others	\$-	\$142,760	\$630,000	\$772,760
Totals	\$2,000,000	\$629,340	\$226,920	\$2,856,260

Figure 9: State and Local Tax Revenues, Aviation and Air Operations, Current Dollars, Annual Impacts, \$2 million in annual revenues

Tax Category	Amount
Employment Taxes	\$1,200
Sales taxes	\$170,960
Property taxes	\$169,220
Airport Tax Revenue	\$25,000
Personal Income	\$17,320
Other Taxes and Fees	\$36,640
Total State and Local taxes	\$395,340

Comparisons, Caveats and Intangibles: Conclusions

What an economic impact analysis is meant to show is how specific businesses affect others and local governments by existing or growing to larger revenue or employment levels. We showed here how different business options at the Nevada County Airport may have different economic impacts on the Nevada County economy. In short, as shown in the previous section, the airport businesses have a larger effect on the county economy for the same level of revenue for food/beverage or clothing manufacturing except for the number of people employed.

There are caveats and intangible aspects of choosing specific types of businesses at such a site. Food and beverage manufacturing already exist in Nevada County, and there are ties to regional farmers by linking supply chains locally. Clothing manufacturing may link to local artisans and other types of businesses. Economic development and workforce development efforts must prepare for such an expansion if new businesses would be the focus of such use at the airport; linking local vendors to these businesses is critical to the economic impact estimates being realized.

The airport operations provide an asset that cannot be replicated anywhere else in the county without a large amount of convulsion and cost. Having the space as an airport can also complement other businesses that exists in Nevada County (and regionally that my use that airport to provide logistics for goods or people), and also can expand the tourism options for visitors that would come to Nevada County. By eliminating the airport and associated businesses and operations, Nevada County would be dependent on other airports and aviation areas to access similar services and potential air logistics. The airport provides an intangible asset, while restricted in its industrial breadth, that is not easy to replicate otherwise in the county.

There are also government revenue options that come with aviation operations that are not available except for specific types of manufacturing (cannabis being a new example). Further, the airport could bring in more tourism and leave more spending and local taxes behind. Maintaining and enhancing airport operations has a large, relative economic impact (more jobs and businesses revenues supported outside the airport itself) and also has the largest state and local tax impact.

Summary of Economic Impacts and Considerations

The following figure summarizes the economic impact analysis for quick comparisons across the potential projects, each with \$2 million in annual revenues.

Project	Business Revenues	Jobs Supported	State and Local Revenues
Airport	\$2,856,000	49.1	\$395,340
Food/Beverage Manu	\$2,636,000	21.0	\$268,360
Clothing Manufacturer	\$2,859,000	66.4	\$103,620

Appendix: Line-Item Definitions

The following definitions pertain to line items referenced in Figures 1 to 9. Many of these definitions come from the US Bureau of Labor Statistics. Please see www.bls.gov for further details.

- **All other food and drinking places:** All additional restaurants not captured in limited- or full-service restaurants, including food trucks.
- **Computer Systems Design Services:** Systems design services firms plan and design computer systems that integrate computer hardware, software, and communications technologies. They help clients select the right hardware and software products for a particular project, and then develop, install, and implement the system.
- **Environmental and Technical Consulting Services:** The management, scientific, and technical consulting services industry includes firms that provide environmental consulting services as well as other scientific and technical consulting services.
- **Full-service restaurants:** Establishments primarily engaged in providing food service to patrons who order and are served while seated, and pay after eating. These establishments may sell alcoholic beverages, provide take-out services, operate a bar or present live entertainment, in addition to serving food and beverages.
- **Individual and family services:** Establishments primarily engaged in providing one or more of a wide variety of individual and family social, counseling, welfare, or referral services, including refugee, disaster, and temporary relief services. This industry includes offices of specialists providing counseling, referral, and other social services.
- **Insurance carriers:** insurance agents and businesses
- **Limited-service restaurants:** any establishments whose patrons generally order or select items and pay before eating. Food and drink may be consumed on premises, taken out, or delivered to customers' locations.
- **Management consulting services:** businesses hired as consultants to help with company operations, decisions, and other aspects of running a business.
- **Management of companies and enterprises:** This sector comprises establishments primarily engaged in managing companies and enterprises and/or holding the securities or financial assets of companies and enterprises, for the purpose of owning a controlling interest in them and/or influencing their management decisions.
- **Medical offices:** health care outside hospitals, based on outpatient general care outside of rehabilitation or skilled nursing and residential health facilities.
- **Nursing and community care facilities:** any facility, place, or building that is maintained and operated to provide nursing or non-medical residential care, day treatment, adult day care, or foster-family agency services for children, adults, or children and adults.

- **Owner-Occupied Dwellings:** The income made by owners of homes they occupy, through rent payments or other savings due to home ownership.
- **Other financial investment activities:** This industry comprises establishments, not classified to any other industry, primarily engaged in providing, on a contract or fee basis, miscellaneous financial investment services, such as trust, fiduciary and custody services, and other investment services.
- **Property income for rental owners:** Rents collected by residential rental home owners that act as landlords.
- **Retail – Internet Retailers;** These retail businesses do not have a storefront, but are locally headquartered and sell their goods and services through the internet or catalogs.
- **Services to buildings:** This industry group comprises establishments primarily engaged in exterminating and controlling insects, rodents and other pests, in and around buildings and other structures; cleaning building interiors and windows; landscaping installation, care and maintenance; cleaning and dyeing rugs, carpets and upholstery; and providing other services to buildings and dwellings.
- **Wholesale Trade:** Businesses that connect goods producers to retailers, classic distribution and wholesale businesses, including Costco.