APPLIED ECONOMICS

ANNUAL ECONOMIC IMPACTS OF THE JOBPATH PROGRAM ON THE CITY OF TUCSON AND PIMA COUNTY

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1.0 INTRODUCTION

JobPath contracted with Applied Economics to prepare an independent analysis of the economic impacts of the organization, and the return on investment it creates for the region. This analysis was initially prepared in 2008 using data on graduates from the previous two years, and has been updated annually since that time. The analysis incorporates the newest data on graduates from 2022-23. Additional results going back to 2009-10 are included in the appendix.

JobPath provides annual data on pre-training wages, participation in public assistance programs and post-training wages for individuals placed in jobs. This data forms the basis for the economic impact analysis. A graduate is defined as an individual who completes their degree or certificate program. It includes individuals who are employed upon graduation, and those who are not immediately employed, or have not reported back information on their employer.

JobPath is a non-profit workforce development organization that sponsors low-income, unemployed and underemployed adults from Southeast Arizona in long-term education and job training opportunities. The organization recently expanded to serve clients in Pinal, Cochise and Santa Cruz counties, but all the data presented in this report is for Tucson and Pima County. JobPath was created in 1998 by Pima County Interfaith Council and community business leaders to meet an urgent need for job training programs in career areas to address a demand for skilled workers in the community. Sponsorship includes financial assistance, wraparound case management, mentoring, peer support and assistance connecting to employers for JobPath clients in associate's degree or certification programs primarily at Pima Community College. Training programs include a variety of occupations in healthcare, information technology, truck driving and industrial trades including aviation technology. JobPath's mission is to improve the economic status of underserved adults so that they can lead healthier, more prosperous lives.

The purpose of this analysis is to quantify the overall impacts of JobPath on the economy of Pima County in terms of the direct and indirect increase in labor income, output, jobs and tax revenues created by these graduates, and reductions in public assistance costs.[1] The economic impacts are estimated using multipliers that are specific to Pima County and to the industries in which graduates are employed. The state and local tax revenue impacts are based on post-training wages, and the reductions in public assistance costs are estimated based on the number of individuals receiving assistance prior to graduation, and the average annual amount of assistance per recipient in Pima County. The analysis compares the aggregate increase in wages for graduates placed in jobs, plus the reductions in public assistance costs, to annual operating expenditures for JobPath to estimate a return on investment. *Additional information on methodology can be found in the appendix.*

JobPath has generated annual economic impacts ranging from $17.6 million to $37.4 million per year over the past five years. The total economic impact for 2022-23 is estimated at $33.3 million based on an increase in annual direct wages of $8.2 million for graduates placed in jobs. Over the five-year period since 2018-19, 525 individuals obtained jobs immediately upon graduation, including 158 individuals in 2022-23.

[1] Output can be defined as the value of goods or services produced, or more specifically the cost of labor + cost of inputs+ profits.

Applied Economics LLC is an economic consulting firm, based in Phoenix, Arizona, specializing in economic development, economic and fiscal impact assessment, socioeconomic modeling and urban planning. Applied Economics conducts economic and fiscal impact studies and develops models to measure the effects of a wide variety of activities. These activities include workforce development programs, land use and policy changes, business-driven economic impacts, and incentive agreements. Applied Economics is frequently called upon by local governments to provide a third-party evaluation of economic and fiscal impacts related to economic development activities. The principals at Applied Economics have worked together for more than twenty-five years, and are very experienced in working with local and regional economic and planning issues.

The information and observations contained in this report are based on our present knowledge of the components of development, and of the current physical, socioeconomic and fiscal conditions of the affected areas. Estimates made in this analysis are based on hypothetical assumptions, current tax policies, and the current economic structure of the region. However, even if the assumptions outlined in this report were to occur, there will usually be differences between the estimates and the actual results because events and circumstances frequently do not occur as expected. This analysis is based on the best available information and is intended to aid JobPath in quantifying the value of its program and the return on investment. In no way will Applied Economics be held responsible or have any liability or be subject to damages resulting from this analysis. This report may be used only for the purposes that it was intended.

2.0 IMPACT SUMMARY

JobPath graduates attain quality jobs with post-training wages and benefits that are transformational to these individuals and their families. These skilled workers also create significant economic benefits in the City of Tucson and Pima County.

- Over the past five years, JobPath graduates experienced average wage increases of $48,100 per person compared to pre-training wages. The one-time cost per graduate to achieve this result is $15,800. This cost per graduate includes individuals that are placed in jobs, as well as those who have graduated but are not yet employed. In 2022-2023, the average increase in wages for employed graduates of $52,100 was above the five-year average (Figure 1). Note that this figure only represents the wage increase. The total post-training average wage for graduates in 2022-2023 is $57,200.

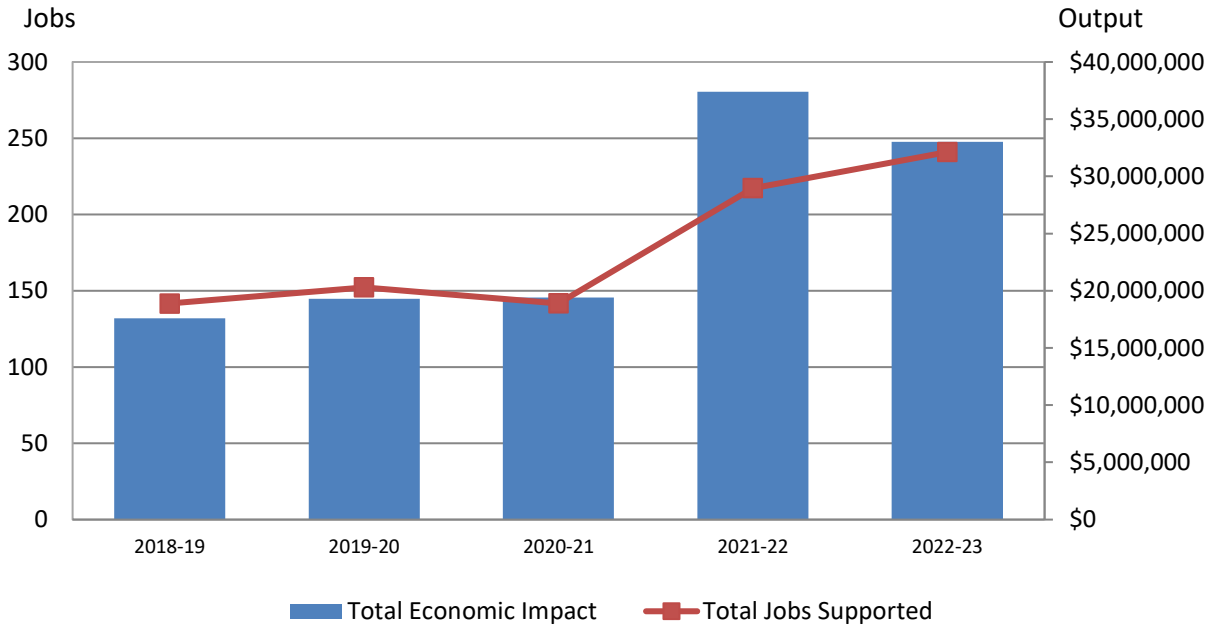
- Graduates of the JobPath program from the past five years reported a total combined increase in annual wages of $25.3 million. At the same time public assistance costs were reduced by an estimated $2.6 million per year, as individuals were able to attain jobs that allowed them to become self-sufficient. To achieve these results, JobPath expended $10.2 million on programs, general and administrative expenses and fundraising over five years.

- The return on investment to the city and county for their investment in JobPath is estimated at 175 percent over five years. The return on investment is estimated based on annual expenses compared to the increase in wages, less the decrease in public assistance. For every $1.00 of expenditures, JobPath produced $2.75 in direct wage increases plus decreases in public assistance costs for graduates in 2018-19 through 2022-2023.

JobPath created an economic impact of $127.0 million in Pima County over the past five years. A total of 525 individuals obtained jobs immediately upon graduation, resulting in a direct increase in wages of $25.3 million over pre-training levels. This increased level of economic activity indirectly supports an estimated 370 additional jobs and $17.0 million in annual payroll *at other local businesses* throughout the county that benefit from additional business purchases and employees spending. Of the total 158 graduates that were placed in jobs in 2022-23, 92 percent were employed at businesses within the City of Tucson, meaning that the additional economic impacts largely occurred within the city. It is typically the case that most graduates are employed at businesses in the City of Tucson.

Figure 2 shows total annual economic impacts and jobs supported. These results represent the increase in the value of production and jobs at the businesses where JobPath graduates work, plus the increase in jobs and production at companies that are suppliers to those businesses, and the increase in jobs and production where employees shop. Two years ago (2021-22) was the largest single-year impact to date at $37.4 million. The impacts for 2022-23 are just below that peak level at $33.3 million, with a record number of graduates placed in jobs.

FIGURE 2
ANNUAL ECONOMIC IMPACTS ON PIMA COUNTY



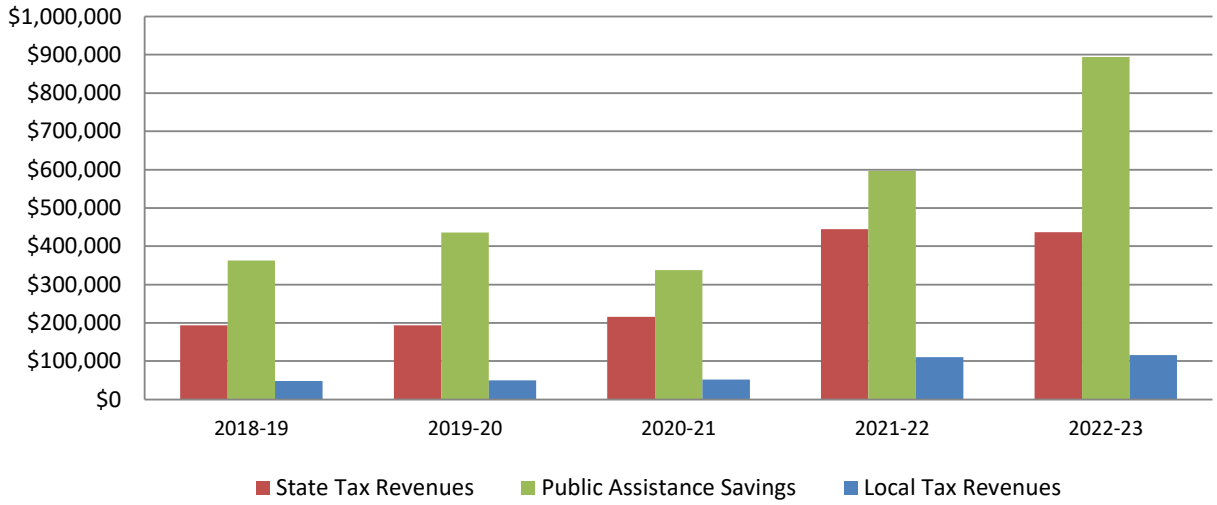
- Looking at the cumulative impacts of the JobPath program and assuming graduates from previous years continue to be employed in Pima County in jobs paying at least equal to their post-training wages, the cumulative economic impact over the past five years is estimated at $507.9 million, based on cumulative wage increases of $93.3 million. A previous study of JobPath graduates showed that 79 percent of them were still employed in Pima County and continuing to create economic impacts five years after graduating.[2]

- The 525 graduates from the past five years, and the additional workers they support at other local businesses, make a significant amount of taxable purchases. The increases in payroll that are directly and indirectly supported through employed graduates from the JobPath program resulted in $0.9 million in cumulative city and county sales tax revenues and $3.7 million in cumulative state sales and personal income tax revenues over the past five years (Figure 3). The revenue impact estimates are based on taxes paid by employed graduates from 2018-19 through 2022-23.

- Along with the additional tax revenues, JobPath also supported a decrease in public assistance expenditures. Many of the clients were receiving various types of public assistance prior to completing their education and being placed in jobs that enabled them to become self-sufficient. Based on the average cost per recipient for TANF, Food Stamps, Utility Assistance, Childcare Assistance, Housing and AHCCCS in Pima County, and the number of graduates who were previously receiving assistance, JobPath created an estimated total reduction of $6.7 million in cumulative public assistance payments over the past five years. Annual revenue impacts are shown in Figure 3.

[2] Applied Economics, Long Term Impacts of JobPath Graduates on Pima County, January 2016.

FIGURE 3
STATE AND LOCAL ANNUAL REVENUE IMPACTS FROM JOBPATH GRADUATES



JobPath has strategically aligned its programs with the target industries for the region as defined by Sun Corridor Inc., including Aerospace and Defense, Transportation and Logistics, and Bioscience and Healthcare. The types of graduates that JobPath produces fill a critical need for in-demand jobs that require skills training beyond high school, but necessarily not a four-year degree. According to a 2020 study by the National Skills Coalition, 51 percent of the job openings in Arizona over the next ten years will require skills training, and an additional 32 percent will require a four-year degree.[3]

- The Aerospace & Defense industry is a major component of the region's economy and the Tucson metro area is ranked as one of the top ten areas in the country for this industry.[4] Having the workforce to support this industry is critical to its long-term sustainability in Pima County. Pima Community College plays an important role in workforce development for Aerospace & Defense through its Aviation Technology Center where 37 JobPath clients completed their education in the past two years.

- Pima County has also become a leading center for innovation in the Bioscience and Healthcare industry. According to the Arizona Bioscience Roadmap, jobs in hospitals account for 77 percent of all bioscience and healthcare jobs in Arizona. In the Tucson metro area, there is a growing hospital sub-sector that has experienced significant employment increases. Healthcare fields accounted for 66 percent of JobPath graduates in 2022-23. While some jobs in this industry require a four-year degree, Pima Community College is supporting medical device manufacturing and other advanced manufacturing in the region through the Center of Excellence in Applied Technology. The community college also has a significant focus in applied degree programs to support bioscience and healthcare in the region.

[3] National Skills Coalition, Skills Mismatch Fact Sheets by State, 2020, http://www.nationalskillscoalition.org/state-policy/fact-sheets
[4] Sun Corridor Inc, https://www.suncorridorinc.com/industry-strengths/aerospace-defense

Over the past several years, metro areas in Arizona experienced significant increases in both housing prices and rents, making housing unattainable for many families, particularly renters. JobPath assists students in preparing for jobs at wage levels that allows them to afford housing in the local market. The median *pre-training* wage for JobPath graduates in 2022-23 who were employed at the time they entered the program was $17,241, placing them below 30 percent of HUD median family income (MFI) for a 2-person family in Pima County. This figure does not include graduates who were unemployed when they entered the program. The median *post-training* wage for JobPath graduates was $58,000, placing most graduates at 50% or more of MFI. Assuming these graduates are part of households where there are multiple wage earners, this would likely result in household income greater than 100 percent of median family income, allowing them to afford housing without subsidies. Figure 4 shows the distribution of wages as a percent of MFI for JobPath graduates from 2022-23.

To address the current housing affordability crisis, the City of Tucson budgeted $47.6 million for Housing Choice Vouchers in 2022-23 at an annual average cost of $10,900 per voucher. By creating opportunities for individuals to increase their wages to a level where they can afford housing in the current market, JobPath creates a potential savings for the City of Tucson by reducing demand for the city's limited housing subsidies.

FIGURE 4
DISTRIBUTION OF JOBPATH GRADUATES BY PRE-TRAINING AND POST-TRAINING WAGES RELATIVE TO HUD MEDIAN FAMILY INCOME FOR PIMA COUNTY

	Pima County Median Family Income 2023*	Pre-Training		Post-Training	
		Number	Percent	Number	Percent
Median Wage	$86,000	$17,241		$58,032	
Percent of MFI					
0% to 30%	$0 - $25,800	144	91%	2	1%
30% to 50%	$25,800 - $43,000	12	8%	19	12%
50% to 80%	$43,000 - $68,800	2	1%	115	73%
80% to 100%	$68,800 - $86,000	0	0%	14	9%
Over 100%	Above $86,000	0	0%	8	5%

Source: Department of Housing and Urban Development, FY23 Income Limits.
* Median income reflects 2 person family.

JobPath is a valuable program to support long-term workforce training in Pima County. It has generated a high return on investment compared to program expenditures during the past five years. JobPath continues to produce graduates to fill positions in key growth occupations in the county in health care, trucking, information technology and industrial trades including aviation technology. This one-time investment in workforce training creates long term benefits for the local economy by increasing the supply of skilled workers, and it produces significant increases in earnings and standard of living for program graduates.

3.0 ECONOMIC IMPACTS

Economic impacts measure the effects of new economic stimuli or demand in the local economy. These impacts include direct and indirect jobs, labor income and output that are supported by graduates of the JobPath program. Indirect impacts are the result of the multiplier effect and capture supported supplier and consumer businesses and their employees in the City of Tucson, and elsewhere in Pima County, that benefit from this new economic activity.

The economic impact results presented here are grouped into direct and total impacts. Direct impacts include the 525 graduates of the JobPath program from 2018-19 through 2022-23 who are employed in the region. Direct labor income of $25.3 million represents the increase in wages for these individuals over their pre-training wages. The direct increase in production value or output created by these 525 workers is estimated at $72.2 million per year, or about $137,600 per worker. The total economic impact over the past five years is $127.0 million, supporting 895 jobs (including 525 JobPath graduates) and $42.3 million in total labor income.

The JobPath graduates from 2022-23 alone are projected to create a total annual economic impact of $33.3 million in Pima County. They indirectly support an estimated 84 jobs and $4.4 million in labor income at other local businesses through additional supplier purchases by their employers and consumer purchases made by graduates. These economic impacts at other local businesses are in addition to the 158 new jobs and $8.2 million increase in payroll directly attributed to JobPath graduates in 2022-23. The annual impacts for the past five fiscal years are detailed in Figure 5 and data for previous years is included in the Appendix.

The cumulative economic impacts of the program over the past five years total $507.9 million, assuming all graduates continue to work at their current wage levels. Of course, some graduates will move away and/or change jobs over time. However, this type of investment in human capital continues to provide benefits long after individuals complete the training programs. A past study of JobPath graduates showed that 79 percent of them were still employed in Pima County five years after graduation.

The indirect impacts created by JobPath graduates in terms of supplier purchases and employee spending are called multiplier effects. Multiplier effects are a way of representing the larger economic effects on the local economy and translate an increase in output (loosely defined as cost of labor plus cost of inputs plus profits) into a corresponding increase in jobs and labor income. In essence, the multiplier effect represents the recycling of local spending. This recycling process creates new business opportunities. The multipliers used in this analysis are from IMPLAN, a national vendor of economic impact software, and are specific to Pima County.

FIGURE 5
ECONOMIC IMPACT OF JOBPATH PROGRAM OVER PAST FIVE YEARS

	Direct Impacts			Total Impacts			Total Annual	Return on
	Output	Jobs	Income[1]	Output	Jobs	Income	Expenditures	Investment[2]
2018-19	**$10,130,060**	**80**	**$3,376,968**	**$17,591,469**	**142**	**$5,766,807**	**$1,027,681**	**264%**
Radiology Technician	$703,610	5	$204,244	$1,219,255	9	$365,910		
Respiratory Therapy	$562,888	4	$190,412	$975,404	7	$319,745		
RN Program	$3,658,772	26	$1,382,276	$6,340,125	48	$2,222,941		
LPN Program	$1,688,664	12	$428,969	$2,926,212	22	$816,968		
Dental Hygienist	$523,099	6	$352,976	$933,614	9	$477,932		
Dental Assisting	$96,559	4	$65,156	$172,336	5	$88,222		
Aviation	$1,822,577	11	$372,538	$3,272,025	23	$875,363		
Med Lab Tech	$180,280	3	$108,312	$312,439	4	$149,857		
Truck Driving	$445,377	4	$148,408	$761,378	6	$253,215		
Electrician	$117,923	3	$45,760	$171,913	3	$62,355		
Surgical Tech	$140,722	1	$40,477	$243,851	2	$72,810		
Welding	$189,588	1	$37,440	$262,917	2	$61,489		
2019-20	**$11,154,080**	**85**	**$3,380,240**	**$19,291,627**	**152**	**$5,953,111**	**$1,373,458**	**178%**
Radiology Technician	$985,054	7	$215,777	$1,706,957	13	$442,110		
Respiratory Therapy	$844,332	6	$226,094	$1,463,106	11	$420,094		
RN Program	$4,503,104	32	$1,471,954	$7,803,231	59	$2,506,619		
LPN Program	$2,673,718	19	$760,355	$4,633,169	35	$1,374,687		
Dental Hygienist	$210,188	3	$141,830	$375,137	4	$192,039		
Dental Assisting	$129,465	3	$87,360	$231,065	4	$118,286		
Aviation	$497,066	3	$108,160	$892,370	6	$245,294		
Med Lab Tech	$25,078	1	$15,067	$43,463	1	$20,846		
Truck Driving	$788,788	6	$262,839	$1,348,443	10	$448,457		
Electrician	$42,881	1	$16,640	$62,514	1	$22,675		
Surgical Tech	$281,444	2	$33,604	$487,702	4	$98,271		
Welding	$136,925	1	$27,040	$189,884	1	$44,408		
Machine Tool Technology	$36,037	1	$13,520	$54,586	1	$19,325		
2020-21	**$10,783,256**	**81**	**$3,373,420**	**$19,408,847**	**142**	**$6,060,235**	**$2,033,413**	**83%**
Radiology Technician	$1,215,278	7	$241,339	$2,238,910	14	$559,563		
Respiratory Therapy	$694,444	4	$152,326	$1,279,377	8	$334,168		
RN Program	$3,993,056	23	$1,336,548	$7,356,420	47	$2,382,142		
LPN Program	$2,604,167	15	$601,790	$4,797,665	30	$1,283,699		
Dental Hygienist	$922,881	9	$491,337	$1,520,919	13	$672,031		
Dental Assisting	$323,538	9	$172,250	$533,195	10	$235,596		
Aviation	$273,584	5	$143,039	$507,837	7	$223,438		
Med Lab Tech	$153,983	2	$67,428	$243,145	3	$95,976		
Truck Driving	$127,545	1	$60,424	$227,785	2	$93,478		
Electrician	$42,138	1	$20,800	$66,907	1	$28,472		
Surgical Tech	$34,729	1	$14,171	$63,982	1	$23,265		
Welding	$359,956	3	$54,080	$504,055	4	$100,411		
Computer-Aided Design	$37,959	1	$17,888	$68,650	1	$27,994		
2021-22	**$21,093,506**	**121**	**$6,907,966**	**$37,402,553**	**217**	**$11,907,001**	**$2,330,471**	**222%**
Radiology Technician	$246,530	2	$108,077	$444,731	3	$168,254		
Respiratory Therapy	$392,113	2	$86,944	$707,356	4	$182,657		
RN Program	$10,587,049	54	$3,265,771	$19,098,622	104	$5,850,024		
LPN Program	$4,117,186	21	$1,066,847	$7,427,242	40	$2,071,834		
Dental Hygienist	$1,711,424	15	$1,030,016	$2,809,449	21	$1,355,306		
Dental Assisting	$174,391	3	$104,957	$286,278	4	$138,104		
Aviation	$396,282	6	$286,749	$728,623	8	$393,744		
Truck Driving	$2,945,316	15	$825,984	$5,081,597	29	$1,522,651		
Clinical Research	$113,033	1	$44,221	$202,665	2	$71,956		
Welding	$305,839	1	$40,560	$425,062	2	$76,769		
Computer-Aided Design	$104,342	1	$47,840	$190,927	2	$75,703		
2022-23	**$19,074,976**	**158**	**$8,227,846**	**$33,291,208**	**242**	**$12,594,895**	**$3,393,673**	**169%**
Radiology Technician	$820,818	6	$359,840	$1,480,723	10	$560,198		
Respiratory Therapy	$681,511	6	$298,769	$1,229,419	9	$465,123		
RN Program	$6,494,379	49	$2,847,085	$11,715,605	79	$4,432,335		
LPN Program	$3,057,871	30	$1,340,547	$5,516,280	44	$2,086,960		
Dental Hygienist	$1,881,836	16	$1,132,578	$3,089,194	23	$1,490,258		
Aviation	$1,056,388	14	$764,400	$1,942,324	19	$1,049,620		
Truck Driving	$2,572,280	14	$721,370	$4,437,994	26	$1,329,801		
Electrician	$185,321	2	$91,520	$295,005	3	$123,915		
Clinical Research	$116,967	1	$45,760	$209,718	2	$74,460		
Welding	$266,629	1	$35,360	$370,567	2	$66,927		
Computer-Aided Design	$217,758	2	$99,840	$398,457	3	$157,990		
Veterinary Technologist	$57,783	2	$31,304	$85,632	2	$39,497		
Machine Tool Technology	$54,753	1	$20,280	$84,428	1	$29,571		
Bldg & Construction Technology	$366,790	2	$82,160	$559,763	3	$138,790		
Logistics & Supply Chain Mgmt	$169,597	4	$122,720	$311,829	5	$168,510		
Computer Information Systems	$27,120	1	$20,000	$48,223	1	$26,579		
Automated Industrial Tech	$1,047,177	7	$214,313	$1,516,046	9	$354,359		
5 Year Total	**$72,235,878**	**525**	**$25,266,440**	**$126,985,705**	**895**	**$42,282,049**	**$10,158,696**	**175%**

Source: JobPath; Applied Economics, 2024.

[1] Direct income represents only increase in salary over pre-training level, not full ending salary. [2] Return on investment based on increase in wages (direct income) per dollar of total expenses.

The economic multipliers used in this analysis vary by training program since industry-specific multipliers were used for each program. The average output multiplier for JobPath training programs over the past five years is 1.76. Thus, for every $1.0 million increased production because of JobPath graduates, an additional $760,000 in demand is created at other supporting businesses in Pima County along with 5 indirect jobs.

The largest program in terms of impacts is the RN program, which accounts for a total of 184 graduates in jobs over the past five years, followed by the LPN and dental hygienist programs with 97 and 49 graduates, respectively. These three programs account for 68 percent of the economic impacts over the past five years. However, in the past two years, the aviation and truck driving program have increased significantly, accounting for 49 graduates in jobs in 2021-22 and 2022-23 combined.

All JobPath clients are below the poverty level prior to entering the program. The average pre-training annual wage for graduates in 2022-23 was $5,100 per person, and includes 121 graduates who were not employed prior to entering the program. Thus, a significant number of graduates from this past year were newly employed.

The average post-training annual wage was $57,200 in 2022-23, or $27.50 per hour. As of 2023, $22.60 per hour was a livable wage in metro Tucson, so the average wage of JobPath graduates is above that standard.[5] The average post-training wage of $57,200 is only somewhat higher than the average increase in wages of $52,100, because of the number of graduates placed in jobs did not have pre-training income. The magnitude of post-training wages is largely a function of the distribution of graduates by program. The dental hygienist, RN and truck driving programs offer the highest post-training wages in 2022-23, at $72,400, $62,000 and $61,600, respectively. The next highest post-training wages are for radiology technicians, aviation and LPNs ranging from $55,000 to $60,000.

[5] National Low Income Housing Coalition, Housing Needs by State 2023, 2-Bedroom Housing Wage for Pima County represents full time hourly wage required to afford a 2-bedroom home. https://nlihc.org/oor/state/az

4.0 REVENUE IMPACTS

In addition to economic impacts, graduates of the JobPath program generate increased tax revenues to state and local governments. Through increases in wages and spending, they generate sales taxes to the city, county and state, and state personal income taxes. It may also be the case that the companies that employ JobPath graduates generate increased sales or income taxes; however, information about employers is not available to calculate these impacts.

Sales taxes from employee spending are based on typical consumer expenditure patterns. According to the Census Consumer Expenditure Survey, approximately 30 percent of gross income is spent on taxable goods. Applying this assumption to labor income from the economic impact results in a cumulative increase of $934,000 in city and RTA sales taxes over the past five years (Figure 6). Note that the direct impacts in Figure 6 include only the additional taxes generated by the increase in wages for JobPath graduates, not their total wages. Total revenues include sales and income taxes generated by supported indirect jobs in the county, in addition to JobPath graduates.

In terms of state taxes, JobPath supported an estimated $1.7 million in cumulative state sales taxes and $2.0 million cumulative personal income taxes over the past five years. It is important to look at cumulative revenue impacts since graduates from previous years continue to generate local taxes as they continue to contribute to the local economy. All total, JobPath supported an estimated increase of $4.7 million in cumulative annual state and local taxes over the past five years, including $560,000 from 2022-23 graduates.

FIGURE 6
ANNUAL INCREASE IN LOCAL AND STATE TAX REVENUES
BASED ON INCREASES IN POST-TRAINING WAGES

	Local Impacts		State Impacts		
	City Sales Tax	RTA Sales Tax	Sales Tax	Personal Income Tax	Total Taxes
2018-19					
Direct Revenues	$23,706	$4,559	$51,060	$64,292	$143,617
Total Revenues	$40,483	$7,785	$87,194	$106,727	$242,190
2019-20					
Direct Revenues	$23,729	$4,563	$51,109	$59,885	$139,287
Total Revenues	$41,791	$8,037	$90,011	$103,905	$243,743
2020-21					
Direct Revenues	$23,681	$5,060	$56,673	$61,829	$147,244
Total Revenues	$42,543	$9,090	$101,812	$113,447	$266,892
2021-22					
Direct Revenues	$53,882	$10,362	$116,054	$144,254	$324,552
Total Revenues	$92,875	$17,861	$200,038	$244,198	$554,970
2022-23					
Direct Revenues	$64,177	$12,342	$138,228	$150,989	$365,735
Total Revenues	$98,240	$18,892	$211,594	$231,175	$559,902
5 Year Total	$315,931	$61,665	$690,649	$799,452	$1,867,697
5 Year Cumulative Total	$781,196	$152,957	$1,713,120	$2,009,168	$4,656,441

Source: JobPath; Applied Economics, 2024.
Note: Total revenue impacts include revenues related to additional indirect and induced workers and payroll supported through economic impacts. Total revenues are inclusive of direct revenues.

5.0 REDUCTION IN PUBLIC ASSISTANCE COSTS

A number of JobPath clients that enter the program each year are receiving some form of public assistance when they enter the program including AHCCCS, utility or child care assistance, SNAP, or TANF. Information is available to document the number of JobPath clients that were receiving various types of public assistance when they started the program. Based on the typical increase in wages for graduates, it is expected that individuals can become self-sufficient once they complete their education and are employed.

Using average payments per recipient in Pima County by type of program from the Arizona Department of Economic Security, the Arizona Department of Housing and AHCCCS, it is possible to estimate the annual decrease in public assistance expenditures. While the reductions are shown for each year, these impacts are cumulative over time. All total, the JobPath program resulted in an estimated five-year cumulative decrease in public assistance expenditures of $6.7 million in Pima County, based on job placements over the past five years, including an $894,000 decrease in 2022-23, based on the specific types of assistance received by graduates placed in jobs (Figure 7).

FIGURE 7
ANNUAL REDUCTION IN PUBLIC ASSISTANCE COSTS

	Assistance Program					
Program Year	SNAP/WIC	TANF	Utilities & Housing	AHCCCS	Child Care	Total Public Assistance
2018-19	($59,698)	$0	$0	($261,059)	($41,838)	($362,595)
2019-20	($87,564)	($2,523)	$0	($333,308)	($12,756)	($436,151)
2020-21	($118,444)	$0	($8,001)	($211,662)	$0	($338,107)
2021-22	($92,851)	($2,459)	($26,387)	($450,958)	($23,998)	($596,653)
2022-23	($130,193)	($4,638)	($18,358)	($675,205)	($65,889)	($894,283)
5 Year Total	($488,749)	($9,621)	($52,746)	($1,932,192)	($144,482)	($2,627,790)
5 Year Cumulative Total	($1,319,968)	($19,650)	($95,136)	($4,850,635)	($374,102)	($6,659,490)

Source: Arizona Department of Economic Security; AHCCCS; Arizona Department of Housing; JobPath; Applied Economics, 2024.

6.0 RETURN ON INVESTMENT

The final and most important calculation is the return on investment that JobPath is providing to the city and county based on the value of increased wages for graduates per dollar of operating expenses. All total, 641 individuals graduated from the program from 2018-19 through 2022-23, and 525 found jobs immediately upon graduation. An additional 5 individuals completed the program between 2018-2019 and 2022-23, but decided to continue their education, or joined the military, so they were not immediately employed in the region. Finally, 110 individuals who completed the program during the five-year period did not provide sufficient information about post-training wages to be included in the economic impact analysis. However, based on longer term data on graduates, most of the graduates who were not employed immediately do ultimately find jobs in their field in Pima County.

- The return-on-investment calculation is equal to (aggregate increase in wages for graduates placed in jobs each year + decrease in public assistance costs for graduates from that year)/ total expenses for that year.

- The aggregate wage increase is the sum of the post-training wage minus the pre-training wage for individuals who are employed based on detailed data for graduates each year.

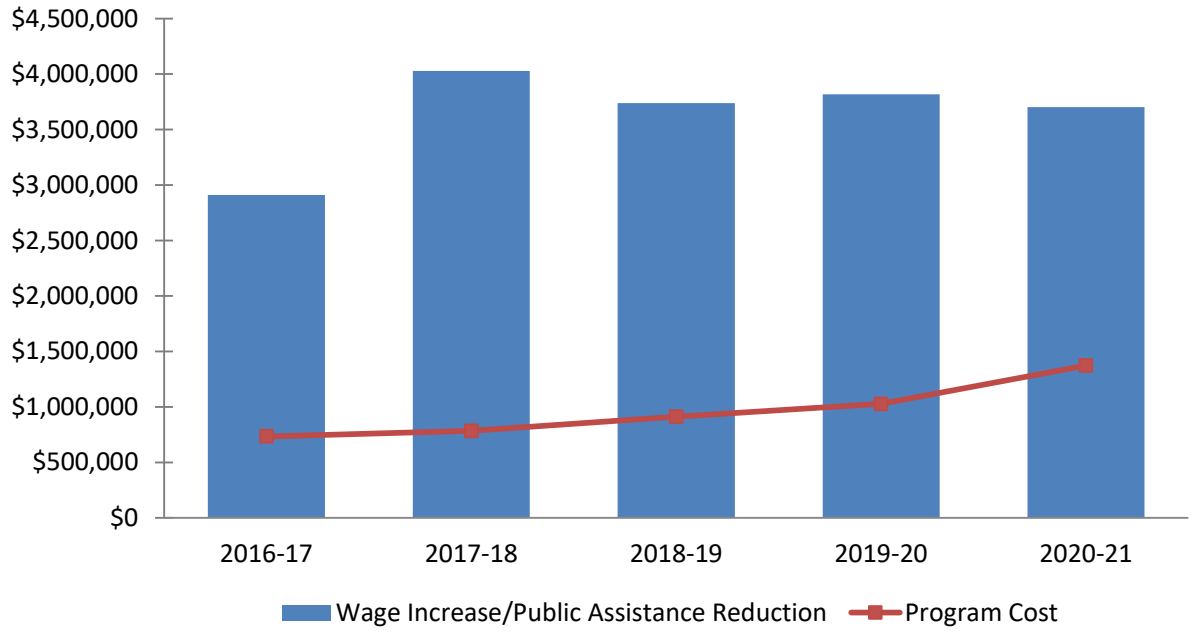
- The amount of public assistance is equal to the average cost per program for recipients in Pima County multiplied by the number of graduates participating in those assistance programs as described in section 5.0.

- Total JobPath expenses used to estimate return on investment are taken from annual audited financial statements and include program costs, general and administrative costs and fundraising expenses.

For the 2022-23 fiscal year, total expenses for JobPath were $3.4 million according to audited financial statements. This represents a 46 percent increase over the previous year, because the program has expanded to serve a larger number of students, some of whom may not graduate for two to three years.

There were 185 graduates in 2022-23 (including those not placed in jobs), which represents a significant increase over previous years. The five-year average is 128 graduates per year. The annual expenses for JobPath of $3.4 million in 2022-23 can be compared to an increase in wages of $8.2 million, less the decrease in public assistance of $894,000, resulting in a return on investment of 169 percent for 2022-23. The average cost per graduate in 2022-23 was $18,344, based on 185 individuals completing the program, which is a somewhat higher cost per person than last year due to the increase in the program budget. The average wage increase for program graduates was $52,100 in 2022-23, which is 8 percent above the average for the last five years.

FIGURE 8
ANNUAL WAGE INCREASE VERSUS PROGRAM COSTS



Some of the individuals that did not obtain jobs immediately may have furthered their education with or without assistance from JobPath. Thus, some of the value of increased wages that are attributed to the JobPath program may have happened anyhow, given that more than 90 percent of students are already enrolled at the community college prior to becoming JobPath clients. However, JobPath has been able to significantly increase the retention rate for the types of individuals that they serve, thus adding value to the community and increasing the return on investment for the public funding they receive. The retention rate for all students at Pima Community College is 64 percent for full-time students and 47 percent for part-time students, compared to 95 percent of JobPath clients.[6]

JobPath wraparound coaching and financial support are integral to the success of its clients. Typical clients are already stretched thin by family and work demands and building habits of engagement requires a concerted effort. JobPath coaches help students navigate academic and institutional challenges, as well as providing counsel and directives that are essential to help them avoid disruptions that sabotage their ability to complete their academic program. Coaches are also able to connect students to other financial resources beyond the financial assistance provided by JobPath, including Pell Grants, scholarships, and Workforce Investment Act funds through Arizona@Work Pima County.

JobPath provides an important service to the community by enhancing the quality of life for graduates and their families by increasing their household incomes. In 2022-23, the median wage for employed graduates was $58,000, which is well above the Pima County median wage for 2023

[6] https://pima.edu/about-pima/reports-data/dashboards/retention.html

of $38,046.[7] JobPath provides qualified and motivated employees to meet the needs of local employers in high growth industries. JobPath has aligned its programs with the target industries for the region which include Aerospace and Defense, Transportation and Logistics, and Bioscience and Healthcare, and the types of graduates that JobPath produces fill a critical need for middle-skill workers in these industries.

Based on the average increase in wages compared to operating expenses, JobPath has provided an excellent return on investment over the past five years, with another strong year in 2022-23. In the past five years there were 641 total graduates, including 525 graduates that reported post-training wages. These employed graduates from the past five years experienced a combined annual wage increase of $25.3 million over their pre-training wage levels. At the same time, there was a reduction in public assistance costs estimated at $2.6 million for these individuals, based on the sum of annual reductions over the past five years. These impacts cumulate over time, but to provide a more conservative return on investment calculation, this analysis simply counts each year of graduates once.

The sum of wage increases less reductions in public assistance over the past five years can be compared to $10.2 million in total expenses over the five-year period, resulting in an overall return on investment of 175 percent for the period. In other words, for every $1.00 of operating expenses, JobPath produced $2.75 in local economic benefits in the form of direct wage increases plus decreases in public assistance costs for the 2018-19 to 2022-23 period.

[7] Arizona Commerce Authority, County Median Wage, https://www.azcommerce.com/media/2yjnmwuh/qjtc-county-median-wage-combined-2024_final.pdf

APPENDIX A – METHODOLOGY AND DATA SOURCES

The estimated job training impacts for JobPath utilizes multipliers from IMPLAN. IMPLAN is a national vendor of input-output software and data used to create economic impact models and is widely used in government, higher education and in the private sector to evaluate economic impacts. IMPLAN is an input-output model. Input-output analysis is a means of examining relationships within an economy, both between businesses and between businesses and final consumers. It captures all monetary market transactions for consumption. The resulting mathematical formulas allow for examination of the effects of a change in one or several economic activities on an entire economy (impact analysis).

The IMPLAN model begins with the most current national transactions matrix developed by the National Bureau of Economic Analysis Benchmark Input-Output Model. The model breaks down the U.S. economy into over 500 separate economic sectors in agriculture, manufacturing, commercial services, and government. Next, IMPLAN creates state and county level values by adjusting the national level data, such as removing industries that are not present in a particular state or region. These economic sector data are updated annually by IMPLAN. The most current available sectoral data are for 2022, and are used in this analysis to evaluate 2021-22 and 2022-23 graduates. Multipliers for previous years were matched with historical data for JobPath graduates.

Economic impacts are typically estimated using multipliers. IMPLAN proprietary software combined with data files purchased from IMPLAN for a particular geographic region can be used to create multipliers. In this case, county-level data for Pima County were used to create the multipliers to focus the analysis on local job creation within the JobPath service area. In general, these multipliers quantify the total production requirements for each industry within the selected study area for every unit of production sold to final demand. Multipliers may be constructed for output, employment, and labor income. Multipliers can be used to measure the impact of industries in the region buying goods and services from other regional industries. The cycle of spending works its way backward through the supply chain until all money leaks from the regional economy, either through imports or by payments to value added.

In the case of job training and placement, multipliers for specific industries are matched to the types of businesses where graduates are placed. The increase in employment and payroll associated with newly hired JobPath graduates ultimately translates into increased production of goods or services. This increase in production triggers an increase in demand for inputs, some of which are provided by local suppliers. This activity can be quantified using economic multipliers for individual industries and then aggregated across all JobPath programs.

Multipliers are also used to measure how payroll from the businesses employing JobPath graduates results in additional consumer purchases by employees. This money is recirculated through their household spending patterns causing further economic activity in the region and supporting additional jobs and labor income. These are the induced impacts discussed above. Direct, indirect, and induced impacts are summed to generate total impacts.

The economic multipliers are applied to data on individual graduates that is provided on an annual basis by JobPath. Each student record includes the JobPath program name, graduation date, pre-training wage, post-training wage, employer name, amount of direct financial assistance provided by JobPath, and a binary indicator of previous participation in public assistance programs including AHCCCS, food stamps, utility assistance, housing assistance, TANF and child care assistance.

APPENDIX B – HISTORICAL ECONOMIC IMPACTS

	Direct Impacts			Total Impacts			Total Annual	Return on
	Output	Jobs	Income[1]	Output	Jobs	Income	Expenditures	Investment[2]
2009-10	**$2,698,248**	**43**	**$1,407,176**	**$4,639,351**	**60**	**$2,020,845**	**$672,465**	**166%**
CNA	$89,183	3	$44,720	$154,574	4	$65,167		
Histology	$80,410	2	$40,321	$139,369	3	$58,756		
Radiology Technician	$78,813	1	$39,520	$136,601	1	$57,589		
Respiratory Therapy	$99,553	1	$49,920	$172,548	2	$72,744		
RN Program	$1,228,387	17	$615,962	$2,129,071	25	$897,588		
LPN Program	$368,579	5	$184,820	$638,831	7	$269,323		
Dental Hygienist	$361,851	5	$214,750	$609,230	7	$295,525		
Dental Assisting	$126,172	3	$74,880	$212,429	4	$103,045		
Biotech Research	$26,147	1	$16,640	$48,039	1	$23,878		
Aviation	$73,137	1	$50,398	$116,350	1	$64,697		
PCT	$77,465	2	$38,844	$134,264	2	$56,604		
HIT	$41,481	1	$20,800	$71,895	1	$30,310		
Electrician	$47,070	1	$15,600	$76,150	1	$25,619		
2010-11	**$3,017,894**	**48**	**$1,468,349**	**$5,165,672**	**66**	**$2,147,617**	**$802,820**	**126%**
Radiology Technician	$305,578	5	$153,229	$529,635	7	$223,287		
Respiratory Therapy	$170,024	3	$85,257	$294,690	4	$124,238		
RN Program	$1,113,341	15	$558,274	$1,929,670	22	$813,524		
LPN Program	$380,514	5	$190,805	$659,517	7	$278,044		
Dental Hygienist	$261,013	4	$154,905	$439,455	6	$213,171		
Dental Assisting	$157,014	4	$93,184	$264,356	5	$128,234		
Biotech	$24,060	2	$15,312	$44,205	2	$21,972		
Medical Lab Tech	$44,592	1	$22,360	$77,287	1	$32,583		
Electrician	$31,380	1	$10,400	$50,767	1	$17,079		
Medical Coding & Billing	$210,391	5	$124,862	$354,224	6	$171,827		
Power Plant/A&P	$319,987	3	$59,761	$521,865	4	$123,658		
2011-12	**$2,420,421**	**36**	**$1,136,157**	**$4,205,571**	**53**	**$1,699,408**	**$940,786**	**57%**
Radiology Technician	$219,385	4	$108,526	$390,706	6	$161,022		
Respiratory Therapy	$7,779	1	$3,848	$13,853	1	$5,709		
RN Program	$1,219,032	15	$603,035	$2,170,993	24	$894,735		
LPN Program	$309,004	5	$152,859	$550,309	7	$226,800		
Dental Hygienist	$162,794	2	$103,168	$292,785	3	$146,307		
Plumbing	$24,257	1	$8,320	$38,355	1	$13,292		
Biotech	$6,191	1	$3,328	$11,676	1	$5,188		
Aviation	$67,938	1	$36,400	$123,734	2	$56,878		
Trucking	$32,474	1	$14,400	$55,562	1	$22,935		
Electrician	$48,513	1	$16,640	$76,711	1	$26,584		
Medical Coding & Billing	$26,814	2	$16,993	$48,225	2	$24,098		
Power Plant/A&P	$170,563	1	$39,520	$249,108	2	$66,707		
Air Frame	$125,678	1	$29,120	$183,554	2	$49,153		
2012-13	**$5,169,041**	**75**	**$2,543,911**	**$9,127,363**	**113**	**$3,861,578**	**$887,493**	**224%**
Radiology Technician	$97,961	2	$48,460	$174,461	3	$71,901		
Respiratory Therapy	$74,003	2	$36,608	$131,793	3	$54,316		
RN Program	$1,286,006	14	$636,166	$2,290,268	23	$943,892		
LPN Program	$1,229,899	19	$608,411	$2,190,346	28	$902,711		
Dental Hygienist	$166,240	3	$105,352	$298,983	4	$149,404		
Dental Assisting	$117,829	4	$74,672	$211,915	5	$105,895		
Med Lab Tech	$39,419	1	$19,500	$70,202	1	$28,933		
Aviation	$683,980	13	$366,462	$1,245,706	19	$572,625		
Trucking	$1,402,883	15	$622,080	$2,400,280	25	$990,790		
Electrician	$64,257	1	$22,040	$101,605	1	$35,211		
Medical Coding & Billing	$6,564	1	$4,160	$11,806	1	$5,899		

	Direct Impacts			Total Impacts			Total Annual	Return on
	Output	Jobs	Income[1]	Output	Jobs	Income	Expenditures	Investment[2]
2013-14	**$4,297,596**	**60**	**$2,187,635**	**$7,628,215**	**92**	**$3,292,815**	**$680,447**	**252%**
Radiology Technician	$125,936	2	$62,299	$224,282	3	$92,434		
Respiratory Therapy	$75,685	1	$37,440	$134,788	2	$55,550		
RN Program	$1,157,663	15	$572,677	$2,061,699	23	$849,691		
LPN Program	$727,277	11	$359,772	$1,295,219	16	$533,801		
Dental Hygienist	$520,111	7	$329,612	$935,420	11	$467,437		
Dental Assisting	$56,104	4	$35,555	$100,903	4	$50,422		
Med Lab Tech	$84,094	1	$41,600	$149,765	2	$61,723		
Aviation	$660,992	12	$354,146	$1,203,839	17	$553,380		
Trucking	$889,734	7	$394,534	$1,522,301	13	$628,377		
Law Enforcement	$0	0	$0	$0	0	$0		
Biotech	$0	0	$0	$0	0	$0		
2014-15	**$8,869,441**	**73**	**$2,857,438**	**$14,700,443**	**125**	**$4,556,484**	**$717,183**	**357%**
Electric Utility Technology	$343,172	1	$31,788	$476,971	2	$55,595		
Radiology Technician	$0	0	$0	$0	0	$0		
Respiratory Therapy	$223,794	3	$105,810	$376,103	4	$148,651		
RN Program	$1,905,526	18	$900,933	$3,202,375	30	$1,265,712		
LPN Program	$912,925	12	$431,631	$1,534,237	18	$606,394		
Dental Hygienist	$364,118	5	$235,976	$651,874	8	$316,209		
Dental Assisting	$145,566	4	$94,338	$260,605	5	$126,413		
Med Lab Tech	$73,314	1	$42,244	$127,176	1	$57,402		
Aviation	$1,998,574	11	$343,646	$3,359,301	24	$774,743		
Truck Driving	$2,373,328	10	$545,532	$3,748,929	22	$964,056		
Electrician	$80,091	5	$26,196	$114,225.87	5	$35,797		
Law Enforcement	$263,714	2	$58,344	$498,404	4	$120,694		
Fire Science Academy	$185,319	1	$41,000	$350,243	2	$84,815		
2015-16	**$7,340,566**	**61**	**$2,238,759**	**$12,111,274**	**104**	**$3,630,920**	**$734,381**	**257%**
Fire Science Academy	$0	0	$0	$0	0	$0		
Electric Utility Technology	$561,373	1	$52,000	$780,247	2	$90,945		
Radiology Technician	$44,433	2	$21,008	$74,673	2	$29,514		
Respiratory Therapy	$222,331	4	$105,118	$373,643	5	$147,679		
RN Program	$1,180,947	12	$558,352	$1,984,668	19	$784,423		
LPN Program	$742,151	12	$350,889	$1,247,238	17	$492,961		
Dental Hygienist	$334,559	5	$216,819	$598,954	7	$290,539		
Dental Assisting	$80,177	2	$51,961	$143,540	3	$69,628		
Biotech Research	$13,537	1	$7,800	$23,482	1	$10,599		
Aviation	$2,306,851	12	$396,653	$3,877,469	27	$894,246		
Med Lab Tech	$154,371	3	$88,949	$267,783	4	$120,867		
Truck Driving	$1,524,214	6	$350,355	$2,407,662	14	$619,142		
Law Enforcement	$175,621	1	$38,854	$331,914	2	$80,377		
Engineering	$0	0	$0	$0	0	$0		
2016-17	**$8,738,759**	**74**	**$2,583,516**	**$15,342,967**	**129**	**$4,780,371**	**$784,920**	**271%**
Fire Science Academy	$93,509	1	$20,688	$159,798	2	$41,831		
Electric Utility Technology	$0	0	$0	$0	0	$0		
Radiology Technician	$338,372	5	$159,982	$593,586	7	$240,121		
Respiratory Therapy	$190,161	4	$89,908	$333,588	5	$134,945		
RN Program	$1,146,897	12	$542,253	$2,011,934	19	$813,880		
LPN Program	$503,194	8	$237,910	$882,725	11	$357,085		
Dental Hygienist	$362,032	4	$234,624	$655,148	6	$324,117		
Dental Assisting	$28,047	1	$18,177	$50,755	1	$25,110		
Aviation	$4,053,578	19	$696,995	$7,248,674	46	$1,800,161		
Med Lab Tech	$227,924	4	$131,331	$396,944	5	$184,674		
Truck Driving	$1,038,720	7	$238,760	$1,795,649	13	$490,390		
Electrician	$225,247	5	$73,674	$330,139	6	$106,317		
Surgical Tech	$96,785	1	$45,760	$169,784	2	$68,682		
Law Enforcement	$347,200	2	$76,814	$593,330	4	$155,319		
Welding	$87,094	1	$16,640	$120,912	1	$37,738		

	Direct Impacts			Total Impacts			Total Annual	Return on
	Output	Jobs	Income[1]	Output	Jobs	Income	Expenditures	Investment[2]
2017-18	**$11,496,540**	**90**	**$3,572,194**	**$19,938,509**	**159**	**$6,278,336**	**$911,208**	**342%**
Fire Science Academy	$200,970	1	$43,000	$347,914	2	$90,981		
Electric Utility Technology	$0	0	$0	$0	0	$0		
Radiology Technician	$703,610	5	$129,921	$1,219,255	9	$291,587		
Respiratory Therapy	$281,444	2	$51,440	$487,702	4	$116,107		
RN Program	$4,362,382	31	$1,442,599	$7,559,380	57	$2,444,930		
LPN Program	$1,829,386	13	$564,870	$3,170,063	24	$985,203		
Dental Hygienist	$304,811	5	$205,680	$544,019	7	$278,492		
Dental Assisting	$132,439	4	$89,367	$236,374	5	$121,004		
Aviation	$1,325,510	8	$285,891	$2,379,654	17	$651,582		
Med Lab Tech	$110,526	2	$66,404	$191,550	3	$91,874		
Truck Driving	$1,747,790	16	$582,397	$2,987,872	26	$993,689		
Surgical Tech	$140,722	1	$36,504	$243,851	2	$68,837		
Law Enforcement	$220,287	1	$47,133	$381,354	2	$99,726		
Welding	$136,661	1	$26,988	$189,519	1	$44,323		

Source: JobPath; Applied Economics, 2024.