



A Report On:
**The Economic Impact of the Arizona
Biosciences Sector**

Prepared by:
Battelle Technology Partnership Practice

Prepared for:
Flinn Foundation

March 2009



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The Economic Impact of the Arizona Biosciences Sector

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Summary of Findings

Based on the growth and changing composition of the Arizona bioscience sector over the past five years, Battelle has prepared an analysis of the economic impact of the bioscience sector on the State of Arizona's economy. This economic impact analysis uses the IMPLAN input-output model, one of the most widely used models in the nation. The IMPLAN model uses input-output analysis to measure how a dollar spent on a specific economic activity, such as health care or research, makes its way through the economy through its linkages to other industries. So, for instance, a portion of research activity goes to purchasing supplies from bioscience companies, services from patent and contract lawyers, cleaning services, etc. The IMPLAN model tailors the national input-output model to local industry conditions and in doing so enables the measurement of direct, indirect and induced economic impacts and their resulting fiscal impacts.

The bioscience sector has become a key contributor to Arizona's economy. For 2007, the economic impact analysis found:

- The bioscience sector contributed \$12.5 billion in economic activity to the Arizona economy.
- 87,415 bioscience workers—accounting for 2.5 percent of total state employment—earned \$5.3 billion in compensation.
- The total impact of the bioscience sector, taking into account the dollars spent on goods and services by bioscience companies and their workers, was \$21.1 billion accounting for more than 155,600 jobs or 4 percent of all employment in the state.
- The result of this total impact of the bioscience sector was the generation of \$765.7 million in state and local taxes.

The bioscience sector grew significantly during the past six years and, correspondingly, its annual economic impact has soared. An analysis of the change in the economic impact of the biosciences from 2002 to 2007 found:

- Annual total economic activity generated by the sector increased 46.6 percent from \$14.5 billion to \$21.2 billion.¹
- Jobs from the total impact of the biosciences sector rose by 14,977 from 140,654 in 2002 to 155,631 in 2007.
- Annual state and local taxes generated by the total impact of the biosciences sector increased by \$198.8 million from \$566.9 million in 2002 to \$765.7 million in 2007.

Significant growth is projected during the 2007–2020 time period if the goals of the Arizona Bioscience Roadmap are attained. In 2020 it is projected that:

- The bioscience sector will generate a total impact on economic activity of \$34.3 billion, 62 percent higher than in 2007.
- 252,676 jobs will result from the total impact of the biosciences sector—an increase of 97,045 jobs or 62 percent higher from 2007 levels.
- The bioscience sector will generate from its total impact more than \$1.2 billion in state and local taxes.

¹ All dollar values are in current dollars.

Introduction

Arizona has been pursuing a strategy designed to grow the state's bioscience industry sector since 2002. A recent report, *Turning the Corner, 2008 Progress on Arizona's Bioscience Roadmap*, documented that significant progress has been made on implementing the Roadmap.

- Bioscience-related Research and Development (R&D) expenditures at Arizona's universities grew by 48.7 percent since 2002 and now total \$415 million.
- NIH funding increased by 24.4 percent from 2002 to 2007.
- Bioscience employment grew 23.3 percent between 2002 and 2007, adding nearly 16,000 jobs.
- The number of bioscience establishments in Arizona increased 21.9 percent during 2002—2007, rising from 639 to 778.
- Bioscience wages increased 34 percent during 2002 to 2007.
- Of the 19 actions included in the Roadmap to achieve over 10 years, progress has been made on 17, including substantial progress on 10.

These are indeed noteworthy accomplishments. They suggest that the bioscience sector is becoming a key contributor to Arizona's economy. To determine the extent of this contribution, Battelle conducted an analysis of the economic impact of Arizona's bioscience sector. The analysis looked at:

1. The economic impact of the biosciences sector in 2007, the most recent year for which detailed employment and research statistics are available.
2. The change in economic impact of the biosciences sector that occurred between 2002, the year in which the *Arizona Biosciences Roadmap* was adopted and 2007.
3. A projection of the economic impact that would be achieved in 2020 assuming that the long-term goals of the *Roadmap* are achieved.

Methodology

To measure the economic impact of the biosciences in Arizona, Battelle tabulated employment for both the hospital and non-hospital biosciences sectors using Bureau of Labor Statistics (BLS) quarterly Census of Employment and Wages (QCEW) data provided by the Minnesota IMPLAN group.² The non-hospital sectors include agricultural feedstocks and chemicals, drugs and pharmaceuticals, medical devices and equipment, and research, testing and medical laboratories. The QCEW provides the most accurate private sector employment data at the sub-national level. The data represent a virtual "census" of workers covered under the Employment Insurance System as reported by employers.

In addition to the employment data, Battelle used R&D expenditure data from the National Science Foundation (NSF) to estimate employment of faculty and researchers associated with academic bioscience R&D at Arizona's universities. This employment is not captured in the IMPLAN data because they are public sector employees.

Using the information on the size and composition of the Arizona bioscience sector, Battelle prepared an analysis of the economic impact of the bioscience sector on the State of Arizona's economy using the IMPLAN input-output model.³ IMPLAN is one of the most widely used models in the nation, and can be used to analyze the impacts of companies, projects, or of entire industries. An input-output analysis examines the relationships among businesses and among businesses and final consumers. Input-output analysis is based on the use of multipliers, which describe the response of an economy to a change in demand or production.

² IMPLAN data are used because they provide estimates for employment in industries and sectors where BLS does not release detailed information due to confidentiality concerns. This allows a more complete analysis of employment.

³ See www.implan.com for a description of the model.

Multipliers measure the effects on an economy from a source of economic activity, in this case the jobs and activities of companies in the bioscience sector in Arizona.

The economic activity generated in a state is greater than the simple total of spending associated with the event or activity being studied. This is because as this money is earned it is, in turn, spent, earned and re-spent by other businesses and workers in the regional economy through successive cycles of spending, earning and spending. However, the spending in each successive cycle is less than in the preceding cycle because a certain portion of spending “leaks” out of the economy in each round of spending. Leakages occur through purchases of goods or services from outside of the region and federal taxation. The IMPLAN multipliers used in this analysis capture the effects of these multiple rounds of spending.

This report measures the economic impact of the bioscience sector using the IMPLAN model. This analysis focuses on three measures of economic impact:

- **Output.** The total value of production or sales in all industries;
- **Employment.** The total number of full and part time jobs in all industries; and
- **Employee Compensation.** The wages and salaries, including benefits, earned by the workers holding the jobs created.

Four measures of the economic activity and impact of the jobs supported by the bioscience sector are included in this report:

- **Direct effects.** The change in economic activity being analyzed—in this case the activities of the bioscience sector;
- **Indirect effects.** The changes in inter-industry purchases, for example the purchase of raw materials by a biotechnology manufacturer, in response to the change in demand from the directly affected industries;
- **Induced effects.** The changes in spending from households as income and population increase due to changes in production; and
- **Total effects.** The combined total of direct, indirect and induced effects.

The economic impact of the Arizona biosciences sector was calculated separately for employment in the non-hospital biosciences sector and in the hospital sector and for bioscience-related R&D.⁴ Because Battelle is analyzing the impact of an entire sector of the economy, estimated indirect and induced impacts were reduced by the share of total State bioscience sector employment in each industry in the model that was included in the direct impacts. This adjustment was made in order to eliminate double counting of impacts. Many bioscience firms purchase goods, services and production inputs from other bioscience firms and many bioscience workers have hospital expenditures. Including these purchases in the indirect or induced effects estimated by IMPLAN would lead to double counting—as the activities of these companies and institutions were already included in the direct impacts.

Three separate economic impact analyses were conducted of current (2007) employment and research; of the baseline historical year of the *Roadmap* (2002) and for projected (2020) sector activity based on achieving the *Roadmap* goals. Each of these analyses is presented below.

⁴ IMPLAN can calculate economic impacts based on either jobs or revenues. The economic impacts of hospital and non-hospital biosciences sector employment were estimated based on employment in each sector, sub-sector and industry and the economic impacts of biosciences-related R&D were estimated based on the research expenditures.

The Economic Impact of the Biosciences in Arizona in 2007

The Arizona biosciences sector is a key contributor to Arizona's economy. The sector had estimated revenues of \$12.5 billion⁵ and employed 87,417 workers earning an estimated \$5.3 billion in employee compensation in 2007. (See Table 1) As described above, Battelle estimated the economic contribution made by the bioscience sector to the larger Arizona economy using the IMPLAN model. The bioscience sector generated an additional \$4.3 billion in *Indirect Impacts* through its purchases of goods and services from other companies in the State and \$4.4 billion in *Induced Impacts* through local spending by the State residents employed in or impacted by the sector.

In aggregate, in 2007, the biosciences sector in Arizona contributed \$21.2 billion in economic activity in the State, supported 155,631 jobs earning \$7.8 billion in employee compensation, and generated an estimated \$765.7 million in State and local tax revenues. The 155,631 jobs created or supported by the bioscience sector, including both the direct and multiplier (induced and indirect) effect jobs, account for more than 4 percent of all employment in the State in 2007. The non-hospital biosciences sector employment contributed \$3.6 billion in direct and \$5.8 billion in total economic activity (See Table 2); hospitals contributed \$8.5 billion in direct and \$14.6 billion in total economic activity (See Table 3); and biosciences-related R&D contributed \$415.2 million in economic activity and \$773.5 million in total activity in 2007 (See Table 4, next page).

Table 1: The Economic Contribution of the Entire Biosciences Sector Including the Non-Hospital Bioscience Sector, Hospitals and Academic Research to the Arizona Economy in 2007

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$12,539.3	\$4,286.8	\$4,359.0	\$21,185.0
Employment (# of Jobs)	87,417	31,136	37,079	155,631
Employee Compensation (\$M 2007)	\$5,327.5	\$1,239.9	\$1,262.8	\$7,830.2
State and Local Tax Revenues (\$M 2007)	–	–	–	\$765.7

Source: Battelle TPP and IMPLAN

Table 2: The Economic Contribution of the Non-Hospital Bioscience to the Arizona Economy in 2007

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$3,641.2	\$1,308.1	\$893.5	\$5,842.8
Employment (# of Jobs)	13,543	8,526	7,602	29,671
Employee Compensation (\$M 2007)	\$777.8	\$409.7	\$258.4	\$1,445.9
State and Local Tax Revenues (\$M 2007)	–	–	–	\$177.8

Source: Battelle TPP and IMPLAN

Table 3: The Economic Contribution of the Hospital Sector to the Arizona Economy in 2007

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$8,482.9	\$2,814.3	\$3,271.6	\$14,568.8
Employment (# of Jobs)	70,691	21,216	27,838	119,745
Employee Compensation (\$M 2007)	\$4,354.9	\$776.5	\$946.1	\$6,077.6
State and Local Tax Revenues (\$M 2007)	–	–	–	\$561.6

Source: Battelle TPP and IMPLAN

⁵ Revenues consist of the revenues of the biosciences sector, estimated by IMPLAN based on employment plus bioscience-related R&D revenues.

Table 4: The Economic Contribution of Academic Research to the Arizona Economy in 2007

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$415.2	\$164.4	\$193.9	\$773.5
Employment (# of Jobs)	3,183	1,394	1,639	6,215
Employee Compensation (\$M 2007)	\$194.8	\$53.7	\$58.3	\$306.8
State and Local Tax Revenues (\$M 2007)	–	–	–	\$26.3

Source: Battelle TPP and IMPLAN

Economic Impact Results 2002 to 2007

A comparison of the economic impact of the bioscience sector in 2002, when the Arizona Bioscience Roadmap was adopted, and 2007 shows that the sector grew significantly during the past six years. Between 2002 and 2007, direct jobs in the bioscience sector increased by 20 percent from 72,855 to 87,417. This increase was greater than the growth in the total number of jobs in or supported by the biosciences sector, which increased by 14,977 or 10.6 percent. The current dollar economic impact of the biosciences sector grew from \$14.5 billion in 2002 to \$22.2 billion in 2007, an increase of 46.6 percent. Employee compensation increased significantly—by 66.3 percent for the direct bioscience sector and 51.3 percent for the total impact. State and local tax revenues increased by 35.1 percent during this time period. (See Table 5)

Table 5: Total and Percent Change in Direct and Total Impacts of the Bioscience Sector, 2002–2007

Impact	Direct Impact 2002	Direct Impact 2007	Percent Change in Direct Impacts 2002–2007	Total Impact 2002	Total Impact 2007	Percent Change in Total Impact 2002–2007
Output (\$M 2007)	\$7,975.7	\$12,539.3	57.2%	\$14,451.2	\$21,185.0	46.6%
Employment (# of Jobs)	72,855	87,417	20.0%	140,654	155,631	10.6%
Employee compensation (\$M 2007)	\$3,203.6	\$5,327.5	66.3%	\$5,176.6	\$7,830.2	51.3%
State and Local Tax Revenues (\$M 2007)				\$566.9	\$765.7	35.1%

Source: Battelle TPP and IMPLAN

Complete data on the economic contribution of the biosciences sector in 2002 can be found in Appendix A.

Projected 2020 Economic Impact Results

In order to provide an analysis of the importance of the future growth and development of the bioscience sector, Battelle prepare an analysis of the year 2020 economic impact of the sector based on meeting the employment and research goals established in the Roadmap. The core assumptions of the biosciences employment and R&D activity 2020 projections are as follows:

1. Agricultural Feedstock & Chemicals Employment is projected to grow at the 0.2 percent annual rate of growth experienced in the 2002–2007 period and this equates to adding only eleven jobs to the smallest component of the biosciences sector in the State
2. Drugs & Pharmaceuticals Employment is projected to grow at the 3.2 percent annual rate of growth experienced in the 2002–2007 period. This industry is relatively small in Arizona and will grow primarily as a result of expected growth in commercialization activities related to the projected growth in the State’s research base (see below).
3. Medical Devices & Equipment Employment is projected to grow at the level required to attain an “above average” level of specialization in employment in this sector—or a Location Quotient (LQ)⁶

⁶ The location quotient (LQ) measures the concentration of employment in an industry relative to the national (or some other base geography) level. A LQ of 1.00 indicates employment at the national average. A LQ of 0.9 or 1.1 indicates and employment

of 1.20. This will require a 5.5 percent annual rate of employment growth through 2020, which is somewhat higher than the recent historical (2002–2007) annual growth rate of 5.3 percent. The core assumption driving this projected rate of growth is that Arizona will continue to invest in the business research, and training infrastructure required to support the growth of this important sector resulting in the development of an above average level of specialization when compared to the nation in this sector.

4. Research, Testing, & Medical Laboratories Employment is projected to grow at the level required to attain an “above average” level of specialization in employment—or a LQ of 1.20. This will require a 5.2 percent annual rate of employment growth through 2020, which is higher than the recent historical (2002–2007) annual growth rate of 4.4 percent. Two core assumptions drive this projected rate of growth: a) that Arizona will continue to invest in the business research, and training infrastructure required to support the growth of this sector; and b) Arizona will continue to experience growth in commercialization activity resulting from the growth in research activities. Many early state and start-up companies are classified as research companies – driving the projected growth of this sector. These two assumptions are projected to result in the development of an above average level of specialization when compared to the nation in this sector.
5. Hospital Employment is projected to grow at the level required to attain the “average” national level of specialization in employment—or a LQ of 1.00. This will require a 3.5 percent annual rate of employment growth, which is lower than the recent historical (2002–2007) annual growth rate of 4.2 percent. The core assumption behind this growth projection is that Arizona will continue to invest in the business research, and training infrastructure that has facilitated the growth of this sector in the recent past.
6. Arizona Bioscience-related Research growth was projected at two levels: 1) National Institutes of Health R&D was projected to grow at the level necessary to catch up and attain the NIH research funding goals established in the *2002 Roadmap*; and 2) All other Biosciences-related R&D was projected to grow at 7 percent annually, or the recent rate of growth in overall bioscience-related R&D activity.

Predicting future levels of employment and research activity are difficult, especially in today’s uncertain economic environment. The long-range employment and research growth projections and assumption described above and presented in Tables 6 and 7 are based on Battelle’s long-term involvement in analyzing the growth, importance and role of biosciences in the State and with the *Roadmap*. While these projections are long-term in nature, they are clearly dependent on the near-term recovery in national economic activity. These projections were based on the historical performance of biosciences in the State, on the goals established in the *Roadmap*, and on the experience of Battelle’s staff. These projections combine historical data with Battelle’s own national projections and understanding of the goals established in the *Roadmap*. They combine economic data with the *Roadmap*’s goals and analyze what **could** happen if the goals of the *Roadmap* are attained, **not what will happen**. They are predicated on both continued support of and investment in bioscience sector development by the State of Arizona as well as national and local economic conditions.

Table 6: Arizona Life Sciences Employment Historical Data and 2020 Roadmap Goal Attainment Projections

Item	2002	2007	2020	% Change		CAGR		Location Quotient		
				2002-07	2007-20	2002-07	2007-20	2002	2007	2020
Total Biosciences	68,305	84,235	136,057	23.3%	61.5%	4.3%	3.8%	0.74	0.75	0.97
Non-Hospital Biosciences	10,895	13,544	25,608	24.3%	89.1%	4.4%	5.0%	0.52	0.54	0.88
Agricultural Feedstock & Chemicals	555	559	570	0.8%	2.0%	0.2%	0.2%	0.27	0.26	0.34
Drugs & Pharmaceuticals	946	1,108	1,671	17.1%	50.8%	3.2%	3.2%	0.18	0.19	0.21
Medical Devices & Equipment	3,824	4,955	9,938	29.6%	100.6%	5.3%	5.5%	0.54	0.61	1.20
Research, Testing, & Medical Laborato	5,570	6,922	13,428	24.3%	94.0%	4.4%	5.2%	0.83	0.78	1.20
Hospitals	57,410	70,691	110,449	23.1%	56.2%	4.2%	3.5%	0.80	0.80	1.00

Source: Battelle analysis of and projections based on Bureau of Labor Statistics QCEW data from the Minnesota IMPLAN Group.

Table 7: Arizona Bioscience-Related R&D Historical Data and 2020 Roadmap Goal Attainment Projections (Thousand of Dollars)

Item	2002	2007	2020	% Change		CAGR	
				2002-07	2007-20	2002-07	2007-20
Total	\$290,797	\$415,185	\$1,250,349	42.8%	201.2%	7.4%	8.9%
Agricultural Sciences	\$60,920	\$76,478		25.5%		4.7%	
Bioengineering/Biomedical Engineering	\$9,837	\$24,571	Not	149.8%	Not	20.1%	Not
Biological Sciences	\$88,796	\$145,919	Estimated	64.3%	Estimated	10.4%	Estimated
Medical Sciences	\$98,428	\$115,021	In	16.9%	In	3.2%	In
Other Life Sciences	\$4,944	\$10,199	Detail	106.3%	Detail	15.6%	Detail
Psychology	\$18,195	\$16,979		-6.7%		-1.4%	
Chemistry	\$9,677	\$26,018		168.9%		21.9%	

Source: Battelle analysis of and projections based on NIH and NSF Data.

By 2020 the Arizona biosciences sector is projected to grow to total estimated revenues of \$20.3 billion⁷ and employ 142,018 workers earning an estimated \$8.6 billion in employee compensation. (See Table 8). Including IMPLAN estimated multiplier impacts, the biosciences sector is projected to generated an additional \$6.9 billion in *Indirect Impacts* through its purchases of goods and services from other companies in the State and \$7.1 billion in *Induced Impacts* through local spending by the State residents employed in or impacted by the sector. In aggregate, in 2020, the biosciences sector in Arizona is projected to grow to contribute \$34.3 billion in economic activity in the State, support 252,676 jobs earning \$12.7 billion in employee compensation, and generate an estimated \$1.2 billion in State and local tax revenues. Between 2007 and 2020, the total number of jobs in or supported by the biosciences sector is projected to increase by 97,045. Of the \$34.3 billion in economic activity, \$10.1 billion will result from the non-hospital bioscience sector; \$22.8 will result from the hospital sector; and \$1.45 billion will result from academic bioscience R&D (See Tables 9, 10 and 11).

⁷ All 2020 projections are presented in constant 2007 dollars in order to assess the growth in the sector as compared to current conditions.

Table 8: The Economic Contribution of the Entire Biosciences Sector Including the Non-Hospital Bioscience Sector, Hospitals and Academic Research to the Arizona Economy in 2020

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$20,298.0	\$6,901.8	\$7,082.0	\$34,281.8
Employment (# of Jobs)	142,018	50,419	60,238	252,676
Employee Compensation (\$M 2007)	\$8,630.6	\$2,009.3	\$2,052.2	\$12,692.1
State and Local Tax Revenues (\$M 2007)	–	–	–	\$1,238.7

Source: Battelle TPP and IMPLAN

Table 9: The Economic Contribution of the Non-Hospital Bioscience Sector to the Arizona Economy in 2020

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$6,266.6	\$2,196.9	\$1,607.3	\$10,070.7
Employment (# of Jobs)	25,609	14,660	13,675	53,944
Employee Compensation (\$M 2007)	\$1,461.5	\$695.5	\$464.8	\$2,621.9
State and Local Tax Revenues (\$M 2007)	–	–	–	\$311.8

Source: Battelle TPP and IMPLAN

Table 10: The Economic Contribution of the Hospital Sector to the Arizona Economy in 2020

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$13,253.9	\$4,397.1	\$5,111.6	\$22,762.5
Employment (# of Jobs)	110,449	33,149	43,493	187,091
Employee Compensation (\$M 2007)	\$6,804.2	\$1,213.2	\$1,478.3	\$9,495.7
State and Local Tax Revenues (\$M 2007)	–	–	–	\$877.6

Source: Battelle TPP and IMPLAN

Table 11: The Economic Contribution of Academic Research to the Arizona Economy in 2020

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2007)	\$777.6	\$307.9	\$363.1	\$1,448.6
Employment (# of Jobs)	5,960	2,611	3,069	11,640
Employee Compensation (\$M 2007)	\$364.8	\$100.6	\$109.1	\$574.5
State and Local Tax Revenues (\$M 2007)	–	–	–	\$49.3

Source: Battelle TPP and IMPLAN

Appendix A: Economic Impact Data 2002

Table A-1: The Economic Contribution of the Entire Biosciences Sector Including the Non-Hospital Bioscience Sector, Hospitals and Academic Research to the Arizona Economy in 2002

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2002)	\$7,975.7	\$3,052.9	\$3,422.6	\$14,451.2
Employment (# of Jobs)	72,855	30,165	37,632	140,653
Employee Compensation (\$M 2002)	\$3,203.6	\$960.8	\$1,012.2	\$5,176.6
State and Local Tax Revenues (\$M 2002)	–	–	–	\$566.9

Source: Battelle TPP and IMPLAN

Table A-2: The Economic Contribution of the Non-Hospital Bioscience Sector to the Arizona Economy in 2002

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2002)	\$2,147.3	\$775.2	\$692.8	\$3,615.3
Employment (# of Jobs)	10,895	6,715	7,621	25,231
Employee Compensation (\$M 2002)	\$494.1	\$250.9	\$204.6	\$949.5
State and Local Tax Revenues (\$M 2002)	–	–	–	\$132.5

Source: Battelle TPP and IMPLAN

Table A-3: The Economic Contribution of the Hospital Sector to the Arizona Economy in 2002

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2002)	\$5,537.7	\$2,203.8	\$2,509.5	\$10,251.0
Employment (# of Jobs)	57,410	22,697	27,609	107,716
Employee Compensation (\$M 2002)	\$2,522.6	\$685.6	\$741.0	\$3,949.2
State and Local Tax Revenues (\$M 2002)	–	–	–	\$409.1

Source: Battelle TPP and IMPLAN

Table A-4: The Economic Contribution of the Academic Research to the Arizona Economy in 2002

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output (\$M 2002)	\$290.8	\$73.9	\$220.3	\$584.9
Employment (# of Jobs)	4,550	754	2,402	7,706
Employee Compensation (\$M 2002)	\$187.0	\$24.3	\$66.6	\$277.9
State and Local Tax Revenues (\$M 2002)	–	–	–	\$25.3

Source: Battelle TPP and IMPLAN