

# THE 2018 ECONOMIC ANALYSIS OF THE OHIO UNIVERSITY INNOVATION CENTER



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**PREPARED FOR:**

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# The Economic Analysis of the Ohio University Innovation Center

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## **Executive Summary**

The purpose of this report is to identify the number of jobs and amount of labor income directly associated with businesses incubated by the Innovation Center and to estimate the indirect and induced effects of these businesses on the Athens County economy.

This study employs the Impact Analysis for Planning (IMPLAN) economic modeling software program. The Innovation Center provides data on the number of full and part-time employees, total annual wages, and the North American Industrial Classification System Codes for each Incubator business.

The total estimated economic activity of all businesses incubated by the Innovation Center on Athens County's economy in 2018 is 297 jobs. These 297 jobs generated an estimated \$12.9 million in employee compensation. Innovation Center businesses also generated an estimated \$2.1 million in state and local tax revenue.

## Introduction

This report presents an assessment of the calculated effect of Ohio University’s Innovation Center on the economy of Athens County in 2018. It identifies the number of jobs and labor income directly associated with the businesses the Center incubated and the total effect on the local economy from these businesses. IMPLAN 3.1, an input-output economic modeling software, is used in this study.<sup>1</sup> For more details, please see the Project Methodology section at the end of this report.

All businesses have “direct,” “indirect,” and “induced” effects on the economy. Direct effects refer to the actual jobs and income created in the local economy from businesses. Indirect effects refer to second round expenditures made by these businesses within the local economy. Induced effects refer to the increased sales of goods and services in the local economy due to employees of these businesses living and working in the county.

Another way of expressing these effects is that a dollar spent in any sector of a local economy will generate additional dollars in other sectors. For example, a newly-employed worker purchases clothes for his or her family at a local clothing store, generating income for the store’s owner. The owner saves some of this money and spends the rest, thereby providing income for another local resident. The third person saves part of this money and spends the rest, which becomes income for a fourth person, and so forth. The sum of the total direct, indirect and induced income is the total income generated in the local economy. Employment works in much the same manner, and hence, a new business bringing several new jobs to the county results in additional employment in the remainder of the local economy.

This study estimates the direct, indirect, and induced employment and labor income of Innovation Center businesses on the Athens County economy. This study also estimates federal, state, and local tax revenues generated as a result of these effects.

**Table 1: Summary of Impact Results**

Effect Type	Employment	Value Added			
		Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes
Direct Effect	204.5	\$10,327,852	\$374,280	\$2,007,845	\$1,388,072
Indirect Effect	37.1	\$940,689	\$346,994	\$865,031	\$202,171
Induced Effect	54.9	\$1,663,203	\$321,994	\$1,285,226	\$418,685
Total Effect	296.4	\$12,931,744	\$1,043,101	\$4,158,102	\$2,008,929

*Employee Compensation includes wage and salary, all benefits and employer paid payroll taxes (e.g., employer side of social security, unemployment taxes, etc.).*

*Proprietor Income consists of payments received by self-employed individuals and unincorporated business owners.*

*Other Property Income represents the amount of corporate profit realized from a business’s own operations, payments for rents, dividends, interest income, etc.*

*Indirect Business Taxes include both federal and state taxes on sales, property, and production, but it excludes employer contributions for social insurance and taxes on income.*

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<sup>1</sup> IMPLAN Group LLC, IMPLAN System (data and software), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078 [www.IMPLAN.com](http://www.IMPLAN.com)

## Economic Analysis of Innovation Center Businesses

**Table 2: Detailed Breakdown – Total Economic Activity of Innovation Center Businesses, 2018**

Industrial Sector	Employment Effect				Labor Income Effect			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Agriculture	0	0	0.2	0.2	\$0	\$28	\$222	\$250
Mining	0	0	0	0.1	\$0	\$250	\$378	\$628
Construction	0	0.6	0.5	1.1	\$0	\$26,119	\$22,938	\$49,057
Government	0	1.3	0.5	1.7	\$0	\$89,453	\$28,578	\$118,031
TIPU*	18	5	1.6	24.5	\$728,266	\$247,415	\$81,770	\$1,057,452
Service	18.5	27.6	40.2	86.3	\$1,565,896	\$792,054	\$1,454,380	\$3,812,330
Trade	82	2.4	11.9	96.3	\$3,492,023	\$125,750	\$395,425	\$4,013,198
Manufacturing	86	0.2	0	86.2	\$4,915,946	\$6,615	\$1,338	\$4,923,898
<b>Total</b>	<b>204.5</b>	<b>37.1</b>	<b>54.9</b>	<b>296.4</b>	<b>\$10,702,132</b>	<b>\$1,287,683</b>	<b>\$1,985,029</b>	<b>\$13,974,845</b>

\*Transportation, Information, and Public Utilities

- The estimated total effect of all businesses incubated by the Innovation Center on Athens County’s economy in 2018 is 297 jobs and nearly \$14 million in labor income. It should be noted that these effects will be repeated for each year in which these jobs exist.
- These businesses directly created an estimated 205 jobs.
- Businesses that supplied goods and services to Innovation Center businesses indirectly supported an estimated 38 jobs in Athens County.
- The induced effects of Innovation Center businesses’ employees spending part of their wages at businesses in Athens County supported an estimated 55 additional jobs in the County.
- Employment directly from within Innovation Center businesses generated approximately \$10.7 million in labor income. Athens County businesses that supplied goods and services to Innovation Center businesses generated an estimated \$1.3 million in labor income.
- Induced effects of Innovation Center businesses’ employees spending part of their wages within Athens County generated an estimated \$1.9 million in labor income in the County.

## Tax Impact of Innovation Center Businesses

An estimated \$2.1 million was generated in state and local taxes in 2018 as a result of Innovation Center businesses. This represents a total effect, which includes direct, indirect, and induced effect. See Table 3 for detail.

**Table 3: Estimated State and Local Taxes**

	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations
Dividends					\$3,914
Social Ins Tax- Employee Contribution	\$11,217				
Social Ins Tax- Employer Contribution	\$22,442				
Tax on Production and Imports: Sales Tax			\$1,028,689		
Tax on Production and Imports: Property Tax			\$675,081		
Tax on Production and Imports: Motor Vehicle Licenses			\$16,926		
Tax on Production and Imports: Severance Tax			\$2,149		
Tax on Production and Imports: Other Taxes			\$80,656		
Tax on Production and Imports: S/L Non Taxes			\$6,331		
Corporate Profits Tax					\$9,951
Personal Tax: Income Tax				\$192,812	
Personal Tax: Non Taxes (Fines- Fees)				\$54,305	
Personal Tax: Motor Vehicle License				\$12,061	
Personal Tax: Property Taxes				\$4,744	
Personal Tax: Other Tax (Fish/Hunt)				\$2,552	
Total State and Local Tax	\$33,659		\$1,809,831	\$266,474	\$13,864

Overall, an estimated \$2.3 million in federal taxes was generated in 2018. The total effect includes direct, indirect, and induced effect. These tax revenues were generated as a result of the Innovation Center businesses' activity. See Table 4 for detail.

**Table 4: Estimated Federal Taxes**

	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations
Social Ins Tax- Employee Contribution	\$519,914	\$42,226			
Social Ins Tax- Employer Contribution	\$493,224				
Tax on Production and Imports: Excise Taxes			\$134,559		
Tax on Production and Imports: Custom Duty			\$55,806		
Tax on Production and Imports: Fed Non Taxes			\$8,733		
Corporate Profits Tax					\$188,126
Personal Tax: Income Tax				\$878,224	
Total Federal Tax	\$1,013,138	\$42,226	\$199,098	\$878,224	\$188,126

## Project Methodology

This study employs the Impact Analysis for Planning (IMPLAN) economic modeling software and 2017 datasets created by IMPLAN Group, LLC. The Innovation Center provided 2018 information on the number of full and part-time employees or independent contractors, total annual wages, and the North American Industrial Classification System Codes for each business.

The total effect on the local economy by each industrial sector can be calculated through an economic model known as a “multiplier.” The multiplier expresses the number of additional jobs or amount of additional income created by each new job or each extra dollar earned. For example, if a new business bringing ten new jobs to the county created an additional seven jobs in the local economy through indirect and induced effects, the multiplier would be 1.7. For each new job brought to the county, an additional 0.7 jobs ( $1 + 0.7 = 1.7$ ) would be created in existing industries in the local economy.

The IMPLAN model generates the multipliers to calculate indirect and induced effects for each industrial sector. A multiplier known as the Type Social Accounting Matrix (SAM) multiplier is used in this study. The Type SAM multiplier estimates the indirect and induced effects on each industrial sector in the local economy as well as business, household and government transactions. In this study, the NAICS code for each business was cross-walked to one of 536 corresponding IMPLAN sectors. The number employed and wages were inputted for each sector. The model then calculated the direct, indirect, and induced impacts based on the Type SAM multipliers for Athens County. Results of the model were aggregated within IMPLAN to avoid aggregation bias for sector-level results. State and federal tax revenue estimates were generated using IMPLAN.







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