



# THE 2015 ECONOMIC ANALYSIS OF OHIO UNIVERSITY INNOVATION CENTER

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**The Economic Analysis of Ohio University’s 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 employed the Impact Analysis for Planning (IMPLAN) economic modeling software program. 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 were provided by the Innovation Center.

The total economic activity of all businesses incubated by the Innovation Center on Athens County's economy in 2015 was estimated to be 176 jobs. These 176 jobs generated an estimated \$7.2 million in employee compensation. Innovation Center businesses also generated an estimated \$837,543 in state and local tax revenues.

# Introduction

This report presents an assessment of the calculated effect of Ohio University’s Innovation Center on the economy of Athens County in 2015. 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, was 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” effect 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 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	118.5	\$5,666,844	\$574,184	\$363,612	\$233,958
Indirect Effect	23.6	\$578,444	\$137,916	\$417,501	\$126,832
Induced Effect	34.2	\$933,666	\$168,308	\$867,232	\$243,474
Total Effect	176.3	\$7,178,955	\$880,405	\$1,648,344	\$604,265

*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.*

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

## Economic Analysis of Innovation Center Businesses

**Table 2: Detailed Breakdown – Total Economic Activity of Innovation Center Businesses, 2015**

Industrial Sector	Employment Effect				Labor Income Effect			
	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Manufacturing	65.5	0.3	0.0	65.8	\$3,264,043	\$14,300	\$830	\$3,279,173
Construction	26.0	0.2	0.3	26.5	\$1,314,207	\$6,135	\$12,280	\$1,332,622
TIPU	21.0	3.7	1.4	26.1	\$950,976	\$123,448	\$66,589	\$1,141,013
Service	6.0	14.6	24.8	45.4	\$711,802	\$391,937	\$774,328	\$1,878,066
Agriculture	0.0	0.0	0.1	0.1	\$0	\$265	\$1,247	\$1,513
Mining	0.0	0.0	0.0	0.1	\$0	\$208	\$201	\$409
Trade	0.0	4.3	7.2	11.4	\$0	\$140,241	\$225,753	\$365,993
Government	0.0	0.5	0.3	0.8	\$0	\$39,826	\$20,745	\$60,571
<b>Total</b>	<b>118.5</b>	<b>23.6</b>	<b>34.1</b>	<b>176.2</b>	<b>\$6,241,028</b>	<b>\$716,360</b>	<b>\$1,101,973</b>	<b>\$8,059,360</b>

- The total effect of all businesses incubated by the Innovation Center on Athens County’s economy in 2015 is estimated to be 176.2 jobs and \$8.1 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 118.5 jobs.
- An estimated 23.6 jobs were indirectly supported in Athens County by businesses that supplied goods and services to the Innovation Center businesses.
- An estimated 34.1 additional jobs were supported in Athens County due to the induced effects of employees of Innovation Center businesses spending part of their wages at businesses in the county.
- Employment directly from within Innovation Center businesses generated approximately \$6.2 million in labor income. An estimated \$716,360 in labor income was generated by Athens County businesses that supplied goods and services to the Innovation Center businesses.
- An estimated \$1.1 million in labor income was generated in Athens County due to the induced effects of employees of Innovation Center businesses spending part of their wages within the county.

## Tax Impact of Innovation Center Businesses

An estimated \$837,493 was generated in state and local taxes in 2015 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					\$1,167
Social Ins Tax- Employee Contribution	\$31,338	\$0			
Social Ins Tax- Employer Contribution	\$61,207				
Tax on Production and Imports: Sales Tax			\$259,237		
Tax on Production and Imports: Property Tax			\$214,835		
Tax on Production and Imports: Motor Vehicle Licenses			\$5,330		
Tax on Production and Imports: Severance Tax			\$148		
Tax on Production and Imports: Other Taxes			\$50,600		
Tax on Production and Imports: S/L Non Taxes			\$3,876		
Corporate Profits Tax					\$3,464
Personal Tax: Income Tax				\$170,415	
Personal Tax: Non Taxes (Fines- Fees)				\$23,598	
Personal Tax: Motor Vehicle License				\$7,611	
Personal Tax: Property Taxes				\$2,977	
Personal Tax: Other Tax (Fish/Hunt)				\$1,690	
Total State and Local Tax	\$92,545	\$0	\$534,026	\$206,291	\$4,631

Overall, an estimated \$1.3 million in federal taxes was generated in 2014. The total effect includes direct, indirect, and induced effect. These tax revenues were generated as a result of 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	\$311,499	\$39,399			
Social Ins Tax- Employer Contribution	\$306,738				
Tax on Production and Imports: Excise Taxes			\$47,568		
Tax on Production and Imports: Custom Duty			\$17,654		
Tax on Production and Imports: Fed Non Taxes			\$5,017		
Corporate Profits Tax					\$123,293
Personal Tax: Income Tax				\$501,610	
Total Federal Tax	\$618,237	\$39,399	\$70,239	\$501,610	\$123,293

## Project Methodology

This study employs the Impact Analysis for Planning (IMPLAN) economic modeling software and 2014 datasets created by IMPLAN Group, LLC. The Innovation Center provided 2015 information on the number of full and part-time employees, 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 that are used to calculate indirect and induced effects for each industrial sector. A multiplier known as the Type Social Accounting Matrix (SAM) multiplier was 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 employment level and/or 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.



# OHIO

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