

IMPLAN

The Rise of Data Centers: Economic Impacts of the Digital Infrastructure Boom

May 2025



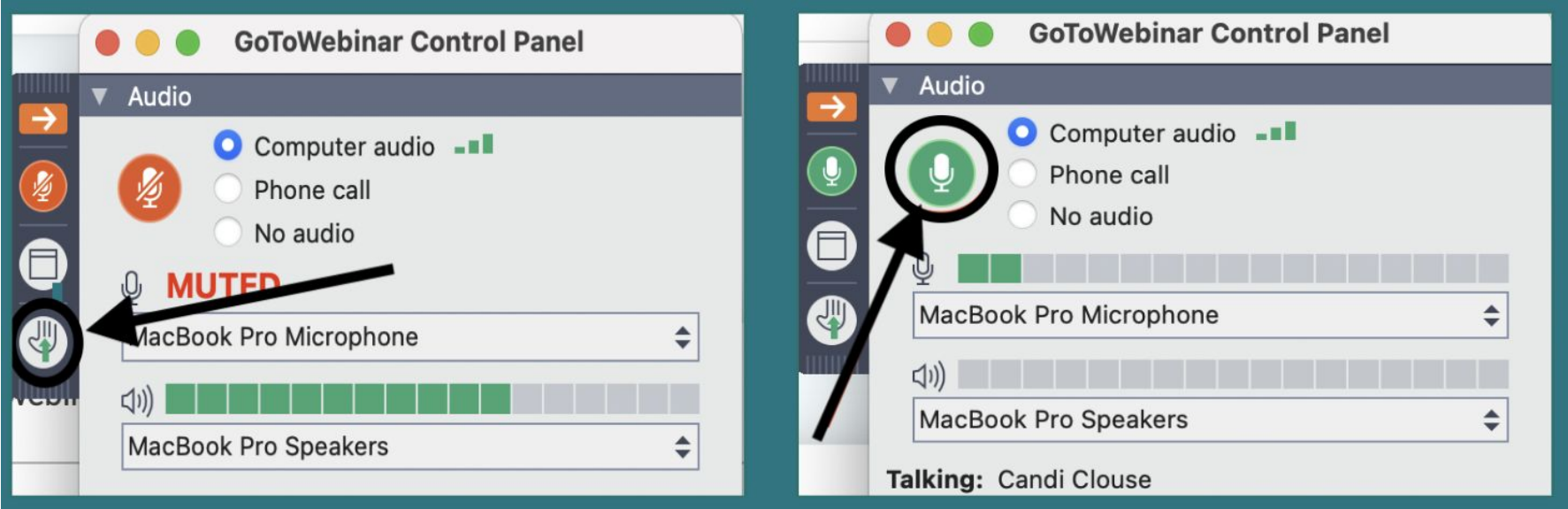
Presenter

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Have a question?



Overview of Today's Discussion



Powering the Digital Age: An overview of how data centers support today's digital infrastructure and why their growth matters economically.



Construction and Investment: Breakdown of spending and job creation during the construction phase of data center development.



Using IMPLAN: Demonstrate a walk-through of this type of analysis in IMPLAN Cloud.

Using **IMPLAN Cloud** to measure indirect and induced effects of data centers paints a fuller picture of the broader economic impact

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Powering the Digital Age

What are data centers?

Data centers are the backbone of digital services.

- ❖ Rapid growth across regions and sectors
 - Digital demand = physical infrastructure
- ❖ Major drivers of investment and local development



Economic Impact Analysis

Using IMPLAN to conduct economic impact analysis

- ❖ Input-Output models have been the industry standard for understanding local economic impacts
- ❖ IMPLAN is a time-tested, easy to use Input-Output based model that allows users to link local events to national impacts



Economic Impact Analysis

What are we estimating when we are conducting EIA on the construction and operations of data centers?

- ❖ Estimating the jobs, income, output with a given level of spending in a particular industry
- ❖ Broader impact through construction and equipment expenditures

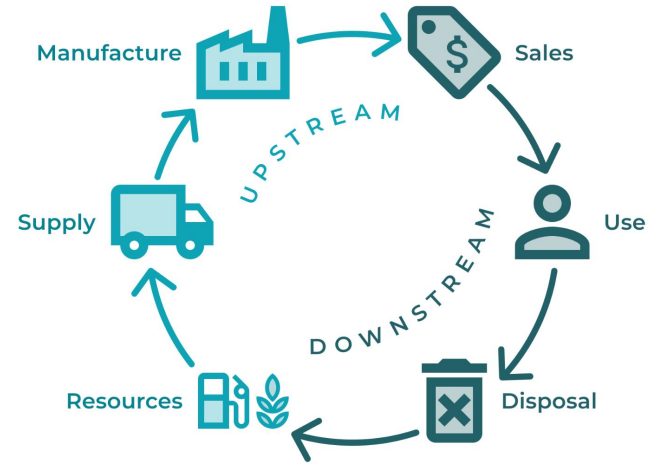


<https://www.businessinsider.com/data-center-job-boom-in-construction-not-big-tech-2025-3>

Economic Impact Analysis

Backward Linkage

- ❖ Backward Linkage = Upstream
- ❖ Input-Output is a demand-side model, quantifying the backward linkage effects of production



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Construction & Initial Investment

Construction & Initial Investment

Often, the first visible stage of a data center project.

- ❖ Land acquisition
- ❖ Building construction
- ❖ Installation of servers and infrastructure
- ❖ Large capital expenditures before operations begin



The Construction Phase

Often, the first visible stage of a data center project.

- ❖ 4.7M U.S. jobs in 2023 tied to data center construction
(PwC via IMPLAN Cloud)
- ❖ Construction phase spans 1-5 years
- ❖ Major capital spending:
 - Construction (20-32%)
 - Equipment (68%)

Figure E-1. The data center industry's total contribution: employment, 2023

(Thousands of jobs; with the cross-state spillover effects)

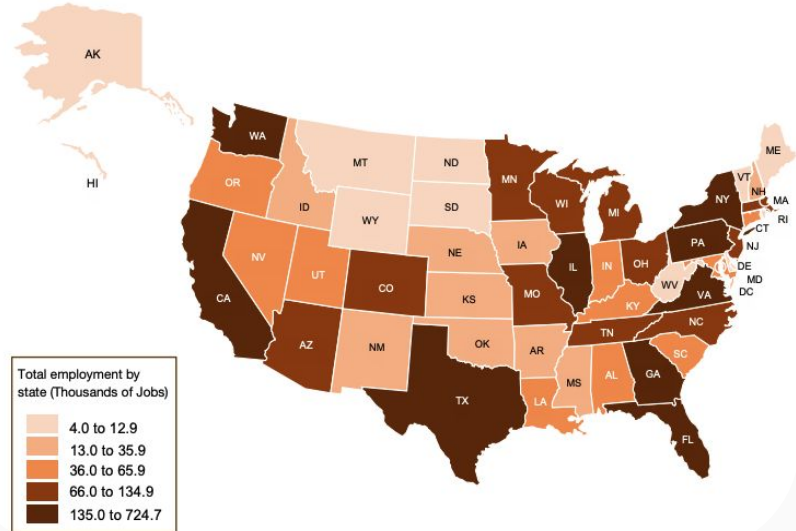


Photo: [PwC Report](#) Using IMPLAN Cloud

Setting Up Your Construction Analysis

Example: IMPLAN Data Ranch

- ❖ Total project: \$880M
- ❖ Total construction: \$200M
(Industry 50 - Construction of New Commercial Structures)
- ❖ Total Equipment: \$680M
(Industry 287 - Electronic Computer Manufacturing)

Construction Industry Impact A... 50 - Con... NAICS Enter Value(s) Below

Industry Impact Analysis (Detailed)

Wage & Salary Employment Enter a value	Employee Compensation Enter a value	Total Output \$200,000,000	
Proprietor Employment Enter a value	Proprietor Income Enter a value	Taxes on Production and Imports... Enter a value	Other Property Income Enter a value
Total Employment Enter a value	Total Labor Income Enter a value	Intermediate Inputs Enter a value	SPENDING PATTERN

Servers Industry Impact A... 287 - Ele... NAICS Enter Value(s) Below

Industry Impact Analysis (Detailed)

Wage & Salary Employment Enter a value	Employee Compensation Enter a value	Total Output \$680,000,000	
Proprietor Employment Enter a value	Proprietor Income Enter a value	Taxes on Production and Imports... Enter a value	Other Property Income Enter a value
Total Employment Enter a value	Total Labor Income Enter a value	Intermediate Inputs Enter a value	SPENDING PATTERN

* Both of these Events are added to the 2025 Data Year.

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Operations

The Operations Phase

- ❖ Fewer jobs, but often higher wages
- ❖ Energy-intensive operations
- ❖ Use *Industry 418 - Data Processing, Hosting and Related Services* in IMPLAN Cloud



Setting Up Your Operations Analysis

Example: IMPLAN Data Ranch

- ❖ 50 employees at \$100k/year
- ❖ Energy is 40% of spend
- ❖ Dollar Year: 2026

The screenshot displays the IMPLAN software interface for setting up an operations analysis. The top navigation bar includes 'Operations', 'Industry Impact A...', '418 - Dat...', 'NAICS', and 'Enter Value(s) Below'. The main section is titled 'Industry Impact Analysis (Detailed)' and contains several input fields for various economic indicators.

Wage & Salary Employment	Employee Compensation	Total Output
Enter a value	Enter a value	Total Output = EC + PI + TOPI + OPI + II

Proprietor Employment	Proprietor Income	Taxes on Production and Imports ...	Other Property Income
0	\$0	Enter a value	Enter a value

Total Employment	Total Labor Income	Intermediate Inputs
50	\$5,000,000	Enter a value

A 'SPENDING PATTERN' button is located to the right of the input fields.

Below this, a section titled '- Data processing, hosting, and related services Industry Impact A...' (edited) contains a search bar and a table of commodities with their respective percentages and SAM codes.

Commodities +	Percentage	LPP SAM
<input type="checkbox"/> 3020 Natural gas and crude petroleum	0.00%	SAM
<input type="checkbox"/> 3022 Copper, nickel, lead, and zinc ore	0.02%	SAM
<input type="checkbox"/> 3042 Electricity transmission and distribution	40%	SAM
<input type="checkbox"/> 3043 Natural gas distribution	0.00%	SAM
<input type="checkbox"/> 3044 Water, sewage and other systems	0.02%	SAM
<input type="checkbox"/> 3055 Maintained and repaired nonresidential structures	0.10%	SAM
<input type="checkbox"/> 3112 Carpets and rugs	0.00%	SAM

At the bottom of the commodities table, it shows 'Number of Commodities: 217' and 'Sum of Percentages: 100.00%'. There are 'CANCEL' and 'SAVE' buttons at the bottom right of this section.

On the right side of the interface, there is a 'Title' field set to 'US 2026'. Below it are dropdown menus for 'Dollar Y...' (2026), 'Data Year' (2023), and 'Scale' (1). A 'Region' dropdown is set to 'United States (US Totals)'. There is a 'HIDE EVENTS' button with a '1' indicator and an upward arrow. At the bottom right, there is another 'Scale' dropdown set to '1' with a lock icon and a minus sign.

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The Results

Total Impact Results: Construction

Construction Phase Output

- ❖ Total output: \$2.2B
 - Multiplier: 3.2
- ❖ Total jobs supported: 6,738
 - Multiplier: 4.1

Impact	Employment	Labor Income	Value Added	Output
1 - Direct	1,638.43	\$300,749,734.91	\$405,172,481.53	\$880,000,000.00
2 - Indirect	2,011.88	\$204,776,361.10	\$335,790,264.12	\$691,992,538.23
3 - Induced	3,088.26	\$212,735,850.79	\$394,764,900.86	\$662,989,096.18
Totals	6,738.57	\$718,261,946.80	\$1,135,727,646.50	\$2,234,981,634.41

Total Impact Results: Operations

Operations Phase Output

- ❖ Total output: \$32.7M
- ❖ Total jobs supported: 122
- ❖ Multiplier: 2.4

Impact	Employment	Labor Income	Value Added	Output
1 - Direct	50.00	\$4,995,410.71	\$7,947,786.45	\$13,527,020.59
2 - Indirect	26.37	\$2,546,478.62	\$5,042,742.17	\$9,382,009.46
3 - Induced	45.58	\$3,139,528.63	\$5,826,047.58	\$9,784,664.41
Totals	121.94	\$10,681,417.96	\$18,816,576.21	\$32,693,694.46

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Tax Implications

Tax Revenue Impacts

Tax Implications to Consider

- ❖ Nearly \$50M in state taxes from construction alone
- ❖ Use the *Tax Dashboard* in IMPLAN Cloud for a detailed view

Summary OUTPUT EMPLOYMENT VALUE ADDED **TAX** OCCUPATION ENVIRONMENTAL DOWNLOAD

Tax Impact Results just now

Dollar Year * 2025 Region Impact Group Name Event Name Event Tag

is any value is any value is US 2025 (2023) is any value No matches found More • 1

State Tax Impacts

	Type Code Paying	Type Description Paying	5001	8001	10001	10002	10003	10004	10005	10006	10007	10008	10009	13001	Total
		Description	Employee C...	Tax on Prod...	Households...	Households...	Households...	Households...	Households...	Households...	Households...	Households...	Households...	Enterprises...	
1	15014	Social Insurance Tax - Employee Contr...	\$454,419.18	0	0	0	0	0	0	0	0	0	0	0	\$454,419.18
2	15015	Social Insurance Tax - Employer Contr...	\$534,321.64	0	0	0	0	0	0	0	0	0	0	0	\$534,321.64
3	15020	TORP: Sales Tax	0	\$23,951.62	0	0	0	0	0	0	0	0	0	0	\$23,951.62
4	15021	TORP: Property Tax	0	\$857,284.17	0	0	0	0	0	0	0	0	0	0	\$857,284.17
5	15022	TORP: Motor Vehicle License	0	\$477,832.83	0	0	0	0	0	0	0	0	0	0	\$477,832.83
6	15023	TORP: Severance Tax	0	\$816,719.66	0	0	0	0	0	0	0	0	0	0	\$816,719.66
7	15024	TORP: Other Taxes	0	\$1,771,284.00	0	0	0	0	0	0	0	0	0	0	\$1,771,284.00
8	15025	TORP: Special Assessments	0	\$912.39	0	0	0	0	0	0	0	0	0	0	\$912.39
9	15026	OPI: Corporate Profits Tax	0	0	0	0	0	0	0	0	0	0	0	0	\$5,538,085.00
10	15027	Personal Tax: Income Tax	0	0	\$1,038,840	\$796,000	\$19,990.35	\$81,449.69	\$500,363.59	\$1,012,242.00	\$2,786,785.00	\$2,545,043.00	\$7,146,636.00	0	\$14,092,644.00
11	15030	Personal Tax: Motor Vehicle License	0	0	\$7,091.34	\$2,718.26	\$14,877.53	\$20,562.89	\$62,038.99	\$83,644.74	\$154,551.68	\$95,188.75	\$174,099.60	0	\$556,112.00
12	15031	Personal Tax: Property Taxes	0	0	\$11.73	\$117.86	\$393.99	\$620.62	\$1,762.08	\$1,909.31	\$4,735.73	\$2,972.26	\$3,689.63	0	\$16,213.17
13	15032	Personal Tax: Other Tax (Fish/Hunt)	0	0	\$4.79	\$1,821.76	\$486.67	\$815.11	\$70,776.71	\$19,782.93	\$20,826.42	\$46,745.23	\$180,581.08	0	\$341,817.00
~			\$988,740.82	\$2,875,662.00	\$669.42	\$8,861.67	\$35,718.55	\$103,447.43	\$635,841.38	\$1,117,579.4	\$2,966,899.2	\$2,689,049.5	\$7,447,846.5	\$5,538,085.1	\$40,000,000.00

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Energy Demands

Energy Demands

Powering the Powerhouses

- ❖ Data centers require massive energy supplies
- ❖ Example:
 - Three- Mile Island is expected to reopen for Microsoft
- ❖ Use *Industry 36 - Electric Power Generation - Nuclear* for generation impact

Economic Indicators by Impact

Impact	^	Employment	Labor Income	Value Added	Output
1 - Direct		1,000.00	\$270,921,539.30	\$725,244,187.65	\$1,171,929,740.90
2 - Indirect		1,489.32	\$173,189,808.59	\$385,194,912.44	\$739,799,341.49
3 - Induced		2,703.76	\$186,215,298.71	\$345,365,290.43	\$579,966,912.71
Totals		5,193.08	\$630,326,646.61	\$1,455,804,390.51	\$2,491,695,995.11

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Refresh Cycles

Refresh Cycles


Server Replacement: A Recurring Boost

- ❖ Servers are replaced every 3-5 years
- ❖ Create future IIA Event in dollar year 2029
- ❖ The stream for business is strong for server manufacturing


Title
US 2029 ⋮

Dollar Y...
2029 ▼



Data Year
2023 ▼

Scale
1 

Region
United States (US Totals) ▼

HIDE EVENTS 1 

Refresh Cycle

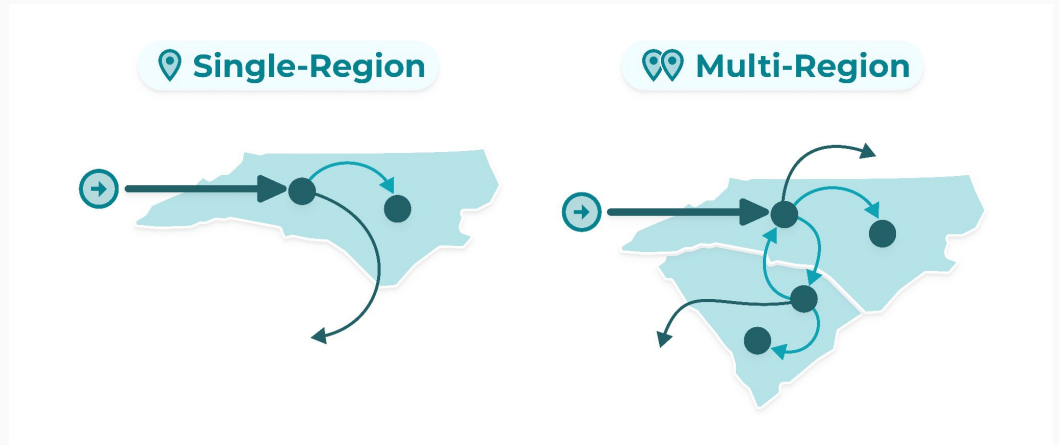
Scale
1  

8

Regional Considerations

Why Does Location Matter?

- ❖ Impacts vary across all states and cities
- ❖ In IMPLAN Cloud, use MRIO for multi-region comparisons
- ❖ Inform not only data center ownership, but also state/local officials



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Environmental Impacts

Resource Consumption

- ❖ Recent IMPLAN data shows a promising downward trend due to investments in clean energy and efficiency
- ❖ Data centers have eliminated direct water use between 2019 and 2023
- ❖ Increasing use of liquid cooling, which offers better heat management than traditional air-cooling methods



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Final Thoughts

Unlocking the Digital Future

- ❖ Data centers drive economic growth, innovation and digital infrastructure
- ❖ Analyze construction and operations separately
- ❖ Maximize impact through informed planning



Questions?

Additional Resources

- ❖ Check out our latest blog:
How IMPLAN Helps You Understand the Economic Impact of Data Centers

<https://blog.implan.com/data-centers>

How IMPLAN Helps You Understand the Economic Impact of Data Centers

May 2, 2025 by [Chandler West](#)

The world runs on data. From streaming movies to managing finances and storing business information, everything relies on digital infrastructure. At the heart of this infrastructure? Data centers.

These high-tech facilities are popping up across the country, not just in big cities. Communities of all sizes are seeing increased interest from companies looking to build or expand data centers. But what does that mean for local economies?

That's where IMPLAN comes in.

Why Data Centers Matter

Data centers do more than house servers and store data—they drive economic activity. Building one requires construction crews, materials, and equipment. Operating one creates jobs and demands energy, maintenance, and ongoing services. In short, data centers create ripple effects throughout the economy.

Understanding those ripple effects is key for decision-makers. Whether you're in local government, economic development, or public utilities, you need solid data to answer questions like:

- How many jobs will a new data center create?
- What kind of tax revenue will it generate?

WHY IMPLAN?

Put simply, IMPLAN is built for everyone.

Together, our software and data give you a window into your region of study — like one gigantic transaction log for the local economy. Chances are that if your project or business has a financial component, then IMPLAN can reveal some sometimes surprising detail about how your project relates to the local, state, or national economy.

What used to take economists weeks can be done in minutes. By anyone!

But you're not alone, IMPLAN's best benefits go beyond the work done in the tool:

- Easy to learn and use
- Outstanding customer support
- Access to orientations, trainings, and project consultations
- Instills confidence in your analyses

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READY TO MAKE AN IMPACT?


We'll contact you within one business day to schedule your personalized demo.

- ✓ Discover the effect on your community
- ✓ Stay ahead of trends
- ✓ Build stakeholder confidence with trusted, transparent data




"We use IMPLAN Cloud for all of our Economic Impact Analyses because it offers us advantages over other economic impact models. Other models do not show a breakdown of impacts by industry, and do not include information needed to estimate tax impacts on; counties, municipalities, special tax districts, or state and federal government. Impacts by industry and tax impacts allow us to demonstrate bottom-line ROI to our clients' stakeholders and investors. IMPLAN Cloud also allows us to conduct multi-regional modeling."

National Community Development Services



96%
Average customer satisfaction, reflecting our commitment to our client's success.



120+
Comprehensive data sources for robust economic modeling and analysis.

First Name*

Last Name*

Email*

Phone Number*

Organization*

Which of these best describes you?*

Message

Submit

- ❖ Contact us at implan.com/demo-request/ to learn how IMPLAN can add value to your organization.
- ❖ After you submit the form, schedule a time that's most convenient for you

Thank You!