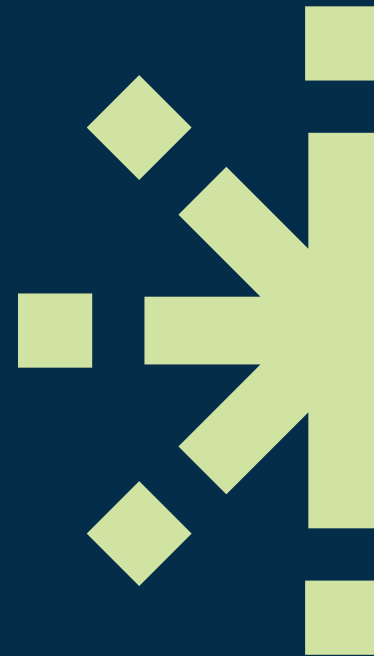


Draft Economic Impact Report for:

# Delta Health System

Greenville, MS



Version 1

March 2022

## About this Report

Ecotone Analytics conducted this economic impact analysis for Delta Health System (DHS) in collaboration with NEOO Partners Inc. This report considers the economic impact of DHS's new facility in Greenville, MS as well as the economic impact from the planned non-hospital development which will be co-located with the new DHS facility.

## About Ecotone Analytics

Ecotone Analytics is an impact accounting organization that does benefit-cost, strategy and portfolio analysis for clients' economic, social and environmental impacts. Results are communicated using a proprietary visualization of the flows of value that result from the initial investment.

## Contact Us

[ecotone-partners.com](http://ecotone-partners.com)

**email:** [seamus@ecotone-partners.com](mailto:seamus@ecotone-partners.com)

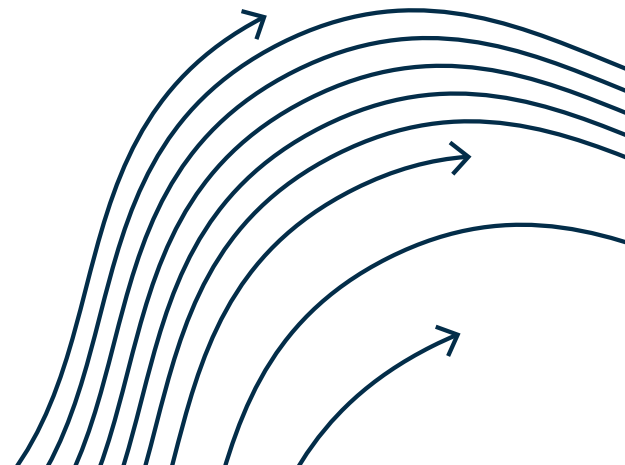
---

Disclaimer: This assessment addresses the impact measurement and management systems, practices, and metrics employed by the impact assessment consultants. It does not address financial performance and is not a recommendation to invest. Each investor must evaluate whether a contemplated investment meets the investor's specific goals and risk tolerance. Ecotone Analytics GBC (Ecotone), its staff, and Ecotone analysts are not liable for any decisions made by any recipient of this assessment.

This assessment relies on the written and oral information provided by the analyst at the time of the Ecotone analysis. Under no circumstances will Ecotone, its staff, or the Ecotone analysts have any liability to any person or entity for any loss of damage in whole or in part caused by, resulting from, or relating to any error (negligent or otherwise) or other circumstances related to this assessment.

# Contents

Summary .....	4
Project Outline.....	4
Economic impact .....	5
Fiscal impact.....	8
Industry impact .....	9
Introduction .....	10
What is Economic Impact?.....	10
Structuring the Analysis .....	11
Economic Impact .....	13
Fiscal Impact.....	18
Industry Impact.....	21
Appendix.....	28
Analysis Methodology .....	28
Review of Market Data .....	32
Glossary .....	36



## SUMMARY

# Project Outline

The project scope was developed in collaboration with NEOO Partners, Delta Health System (DHS) and the Washington County Economic Alliance (WCEA).

**Table 1:** Project Outline

## Development Outline

A new Delta Health System (DHS) Facility is to be developed on the south side of Greenville, MS. It will serve as the new home for existing DHS employees based in Greenville, resulting in minimal operational staffing changes. It is owned by Washington County and operated as a non-profit. The DHS facility will be a part of a larger 150 acre development that will include an assortment of commercial businesses and health care related services.

## Analysis Scope

Analysis of the economic impact of:

1. Development of the new DHS facility
2. Operations of the new DHS facility
3. Development of the non-DHS facilities
4. Operations of the non-DHS facilities

## Scenarios

Economic impact of the above sources of economic impact in 3 geographies:

1. Washington County
2. Delta Region of Mississippi - 13 Counties including Washington County
3. Mississippi State as a whole

The economic impact estimations were made using IMPLAN software and built from the projected annual revenue and construction costs included in Table 2 below.

**Table 2:** Projected Annual Operating Revenues and Construction Costs

Sources of Direct Economic Impact	Projected Annual Operating Revenue	Development Cost (hard and soft costs)
New DHS medical facility	\$87,626,000	\$17,812,500
New Non-DHS facilities to be co-located with the DHS facility	\$71,078,000	\$64,823,750

## SUMMARY

# Economic Impact

**The operations of DHS' new facility in Greenville, MS is projected to contribute and support over \$145 million worth of economic activity in Washington County in 2022 (\$).**

- These activities have an economic multiplier of \$1.65 - for every \$1 in revenues, there is \$1.65 worth of economic output supported in the Washington County economy.
- The development of this new facility is expected to have a one-time total economic impact of over \$25 million (no matter the duration of construction).

**In 2022, there are a projected 767 jobs within DHS in Greenville, which supported the jobs of another 448 people around Washington County** via a combination of jobs supported by supply chain companies and jobs supported by employee spending habits (e.g. housing, grocery stores, etc.).

- This results in a total of 1,215 jobs in Washington County supported by DHS' activities.
- For every 1 job within DHS in Greenville, there are a projected 1.58 jobs supported in Washington County.

When considering **operations of non-hospital sectors** planned for co-location with the new DHS facility, their **economic impact is projected to support over \$105 million of economic activity in Washington County in 2022 (\$).**

- These activities have an economic multiplier of \$1.49 - for every \$1 in revenues, there is \$1.49 worth of value supported in the Washington County economy.
- Further there are a **projected total of 928 jobs supported in Washington County** by the operation of the non-hospital sectors.
- For every 1 job within these non-hospital sectors in Greenville, there are a projected 1.36 jobs supported in Washington County.

Finally, the **development of the non-hospital sectors**, both hard and soft costs included, is projected to **support over \$95 million in economic activity in Washington County.**

- This value is nearly as large as the annual economic impact for the operation of these facilities once built, however, the **impact of construction is a one-time impact while operations of the facilities are an ongoing impact.**
- Similarly, the development is projected to support nearly 900 jobs.

## SUMMARY

Tables 3-4 outline the economic impact of the development and operations of both DHS' new facility and the accompanying non-hospital sectors expected to be co-located. Impacts are shown across three geographies used for this analysis - Washington County, the Delta Region of Mississippi (13 Counties in MS) and the State of Mississippi as a whole.

**The majority of impact occurs within Washington County with small additional economic impact flowing to the rest of the Delta Region and the rest of Mississippi** (noting that the figures shown are cumulative e.g. the figures for the Delta Region include the impact shown for Washington County alone. For example: \$25.5 million of impact is supported from DHS development in Washington County, with an additional \$425,000 reaching the other 12 counties in the Delta Region).

**This suggests that relative to the Delta Region as a whole, most spending occurs within Washington County itself.** This may be due to a concentration of resources being located in Washington County compared to other counties. If more employees are hired or more services/goods purchased from companies elsewhere in the Delta Region, this will reduce the amount of impact that remains within Washington County and increase the economic impact in other Delta Region counties.

Impacts shown are cumulative of direct, indirect and induced effects.

**Table 3:** Most economic impact occurs within Washington County

Economic Impact Summary		Impact in each Geography		
	Analysis Scope	Washington County	Delta Region of MS (13 Counties)	Mississippi
DHS	Development of new DHS medical facility	\$25,514,503	\$25,939,106	\$26,769,113
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$145,008,486	\$147,578,325	\$150,169,926
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility	\$95,722,918	\$97,256,414	\$100,081,65
	Operating the new non-DHS facilities (annual impact)	\$105,653,591	\$107,807,105	\$110,495,282

## SUMMARY

Table 4 below notes the total jobs supported in each geography. The jobs supported in the Delta region include those supported in Washington County and similarly, the jobs supported in Mississippi include those within the Delta region.<sup>1</sup>

**Table 4:** Most jobs supported are within Washington County

Jobs Impact Summary		Impact in each Geography		
	Analysis Scope	Washington County	Delta Region of MS (13 Counties)	Mississippi
DHS	Development of new DHS medical facility	223	225	229
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	1,215	1,235	1,250
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility	895	905	916
	Operating the new non-DHS facilities (annual impact)	928	944	956

While each job is valuable, different jobs have different expected earnings based on required education level, responsibilities and competencies of the individual filling the role. Reviewing the education levels of jobs supported across each scenario, **DHS operations in Washington County support jobs that require higher education levels as compared to non-hospital sectors projected to co-locate with DHS.** For example, DHS operations support more than double the number of Bachelor's degree and Associate's degree job positions compared to development and operations of non-hospital sectors.

<sup>1</sup>Jobs are the annual average of full and part-time jobs, as used by Bureau of Economic Analysis. Larger proportions of part-time workers will tend to be reflected as lower compensation figures - see page 10 for total compensation impacts.

## SUMMARY

# Fiscal Impact

The development and operations of the DHS facility and non-hospital facilities is projected to have large fiscal effects across each level of government due to the jobs supported and purchasing from businesses. In 2022, **DHS operations in Greenville are projected to support \$454,000 in County Tax revenue, \$2.7 million in State tax revenue, as well as over \$11.5 million in Federal tax revenue.** This amounts to over \$15 million in taxes supported from activities impacted within Washington County.

Approximately **\$440,000 in tax revenue is supported for sub-county special districts in Washington County which includes public school districts and fire districts** (as applicable).

While DHS is a county-owned, non-profit organization, this fiscal effect results from employees paying social insurance, income, and property taxes and from supply chain companies paying sales taxes, customs duties, and corporate profits taxes. Similarly, the suppliers of those companies pay taxes, the restaurants that employees eat at will pay taxes, etc. – all of which are reflected in these estimates.

**Table 5:** Fiscal effects are largely generated from within Washington County

Fiscal Impact Summary		Impact from each Geography		
	Analysis Scope	Washington County	Delta Region of MS (13 Counties)	Mississippi
DHS	Development of new DHS medical facility	\$2,964,613	\$3,007,076	\$3,072,234
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$15,456,404	\$15,750,727	\$16,013,519
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$12,193,555	\$12,352,825	\$12,576,330
	Operating the new non-DHS facilities (annual impact)	\$13,625,434	\$13,848,492	\$14,082,303



## SUMMARY

# Top Industries Impacted

The following industries are those that the new development supports most in Washington County either via its supply chain or household spending. See the 'Industry Impact' section in the body of this report for further details.

Top industries supported by DHS' operations in Washington County, in terms of size of support, include:

1. Other real estate
2. Food and drinking establishments
3. Employment Services
4. Demand for owner-occupied dwellings
5. Medical and diagnostic laboratories
6. Banking services

In comparison, the operation of non-hospital sectors is projected to support the following industries in Washington County:

1. Employment services
2. Management of companies
3. Electric power transmission and distribution
4. Retail - Building materials, garden equipment and supplies stores
5. Radio and television broadcasting
6. Warehousing and storage

**There is strong alignment between the top 20 industries impacted by DHS operations in Washington County and those non-hospital sectors planned for the development.** Of the non-hospital sectors planned, the following appear in the top 20 impacted sectors of DHS operations:

- Banking
- Retail Trade
- New Single-Family Housing Construction
- Medical and Diagnostic Laboratories
- Nursing Care Facilities
- Assisted Living Facilities
- Pharmacies
- Restaurants
- Food and Beverage Stores
- Drinking Places

# Introduction

## What is Economic Impact?

When Delta Health System (DHS) provides jobs and purchases goods and services, it creates an economic impact beyond its own operations. That impact grows as it hires more people and purchases more goods and services from local businesses.

**The total economic impact of an organization can be calculated as direct, indirect and induced effects.** Direct effects are value produced by the organization's activities alone. Indirect effects are value produced by the supply chain of the organization. This includes the flow of spending from each business in a supply chain, as suppliers to a business will purchase goods and services themselves. Lastly, labor income from the organization's jobs and labor income from jobs within their supply chain lead to changes in regional household spending. Those effects that result from household spending are termed induced effects. This can include all those aspects of life people may spend money on, whether it be rent, going to restaurants, buying a car, etc. – the effects on these industries are induced by labor income.

**This report will summarize the economic impact of the planned expansion of DHS in Greenville, MS including the impact from the non-hospital sectors planned to co-locate with the DHS expansion.**



## INTRODUCTION

# Structuring the Analysis

This project was developed over a series of meetings with NEOO partners, Delta Health System (DHS), and Washington County Economic Alliance (WCEA). The following outlines the project scope.

**Table 6:** Project Outline

## Development Outline

A new DHS Facility is to be developed on the south side of Greenville, MS. It will serve as the new home for existing DHS employees based in Greenville, resulting in minimal operational staffing changes. The DHS facility will be a part of a larger 150 acre development that will include an assortment of commercial businesses and health care related services.

## Analysis Scope

Analysis of the economic impact of:

1. Development of the new DHS facility
2. Operations of the new DHS facility
3. Development of the non-DHS facilities
4. Operations of the non-DHS facilities

## Scenarios

Economic impact in 3 geographies:

1. Washington County
2. Delta Region of Mississippi - 13 Counties including Washington County\*
3. Mississippi State as a whole

## Research Questions

For each scenario and area of analysis estimates were sought for:

- Economic impact including economic output, number of jobs, value of jobs, education and competencies in those jobs
- Fiscal impact including tax revenue effects at each level of government in Mississippi
- Industry impact including the type of suppliers supported and amount of support to each industry
- Market data on household and industry demand

\*See appendix for list of the 13 Counties included

# INTRODUCTION

The economic impact estimations were made using IMPLAN software and built from the projected annual revenue and construction costs included in Table 7 below as well as the expected non-hospital sectors outlined in Table 8. All dollar values are in 2022 dollars.

**Table 7:** Projected Annual Operating Revenues and Construction Costs

Sources of Direct Economic Impact	Projected Annual Operating Revenue	Development Cost (hard and soft costs)
New DHS medical facility	\$87,626,000	\$17,812,500
New Non-DHS facilities to be co-located with the DHS facility	\$71,078,000	\$64,823,750

**Table 8:** Non-Hospital Sectors and Expected Employment in the Development

Non-Hospital Sectors	Expected jobs for each sector once operating
Banking	30
Retail Trade	30
Bakery	5
Gas Station	5
Hotel	120
New Single-Family Housing Construction	60
Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	15
Medical and Diagnostic Laboratories	5
Constructions of Buildings	60
Nursing Care Facilities	60
Assisted Living Facilities	30
Dentist	10
Optometrist	10
Pharmacies	10
Convenience Stores	40
Restaurants	60
Ambulatory Services	20
Other Health Practitioners	40
Bowling Center	15
Private Mail Centers	10
Food and Beverage Stores	30
Drinking Places	15

# Economic Impact

Development and operations of DHS and non-hospital sectors have an economic impact through their spending and employment. Together these two channels compose the economic activity in an area. The following tables outline the economic impact across dimensions of jobs supported, the compensation paid to employees, and output (i.e. the annual revenues generated).

Table 9 below shows how DHS operations in Greenville have direct effects (facility revenues), indirect effects (supply chain impacts), and induced effects (effect of household spending due to DHS and supply chain operations) on the economy of Washington County. Combined these effects total over \$145 million in annual economic impact and support over 1,200 jobs including those directly employed by DHS.

**Table 9:** Economic Impact in Washington County of DHS operations

	Output	Jobs	Compensation
Facility Operations - Direct Effects	\$87,626,000	767	\$42,706,630
Supply Chain Effects (Indirect)	\$35,696,048	285	\$10,394,125
Household Spending Effects (Induced)	\$21,686,438	162	\$5,882,459
<b>Total</b>	<b>\$145,008,486</b>	<b>1,215</b>	<b>\$58,983,214</b>

While Table 9 above shows the disaggregated economic impacts of DHS operations on Washington County, the following tables provide a summary of the total economic impact by the 4 Analysis Scopes (development and operations of DHS facility and non-hospital facilities) and the 3 geographic areas - Washington County, the Delta Region of Mississippi (including Washington County), and the State of Mississippi (including Delta Region).

**Across each analysis scope, the economic impact of the operations of the DHS facility is the largest area of impact.** The operations of the Non-DHS facilities provide the next largest area of economic impact, followed by the economic impact of the development of the non-DHS facilities. The main distinction here being that **impacts from the development of facilities is a one-time impact whereas the operational impacts, which are annual figures, are expected to be generated year over year.**

Across the three geographic regions, **the majority of economic impact for each analysis scope is projected to occur within Washington County.** In the scenario of the Delta Region, about 98% of the projected impact occurs in Washington County, while in the scenario of the State of Mississippi, about 96.5% of projected impact occurs in Washington County.

# ECONOMIC IMPACT

**Table 10:** Economic Impact in Washington County

		Scenario: Washington County		
	Analysis Scope	Output	Jobs	Compensation
DHS	Development of new DHS medical facility	\$25,514,503	222.8	\$10,623,522.68
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$145,008,486	1,215	\$58,983,214
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$95,722,918	895.11	\$41,917,251
	Operating the new non-DHS facilities (annual impact)	\$105,653,591	928.19	\$36,400,951

**Table 11:** Economic Impact in Delta Region of Mississippi

		Scenario: Delta Region - 13 Counties in MS		
	Analysis Scope	Output	Jobs	Compensation
DHS	Development of new DHS medical facility	\$25,939,106	225.55	\$10,734,480
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$147,578,325	1,235	\$59,665,491
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$97,256,414	905.26	\$42,325,204
	Operating the new non-DHS facilities (annual impact)	\$107,807,105	944.01	\$37,001,528

# ECONOMIC IMPACT

**Table 12:** Economic Impact in Mississippi

		Scenario: State of Mississippi		
	Analysis Scope	Output	Jobs	Compensation
DHS	Development of new DHS medical facility	\$26,769,113	228.89	\$10,894,806
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$150,169,926	1,250.17	\$60,331,062
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$100,081,654	916.41	\$42,861,963
	Operating the new non-DHS facilities (annual impact)	\$110,495,282	956.79	\$37,584,407

**Table 13:** Every \$1 dollar of direct output from development and operations supports \$1.43 - \$1.73 of total economic output

Output Multipliers		Impact in each Geography		
	Analysis Scope	Washington County	Delta Region of MS (13 Counties)	Mississippi
DHS	Development of new DHS medical facility	1.43	1.46	1.5
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	1.65	1.7	1.73
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility	1.48	1.5	1.54
	Operating the new non-DHS facilities (annual impact)	1.49	1.52	1.55

# ECONOMIC IMPACT

**Table 14:** Every 1 direct job created from development and operations supports 1.29 - 1.65 of jobs in the economy

Jobs Multipliers		Scenarios		
		Washington County	Delta Region of MS (13 Counties)	Mississippi State
DHS	Development of new DHS medical facility	1.29	1.31	1.33
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	1.58	1.63	1.65
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility	1.3	1.32	1.33
	Operations of the new non-DHS facilities (annual impact)	1.36	1.39	1.41

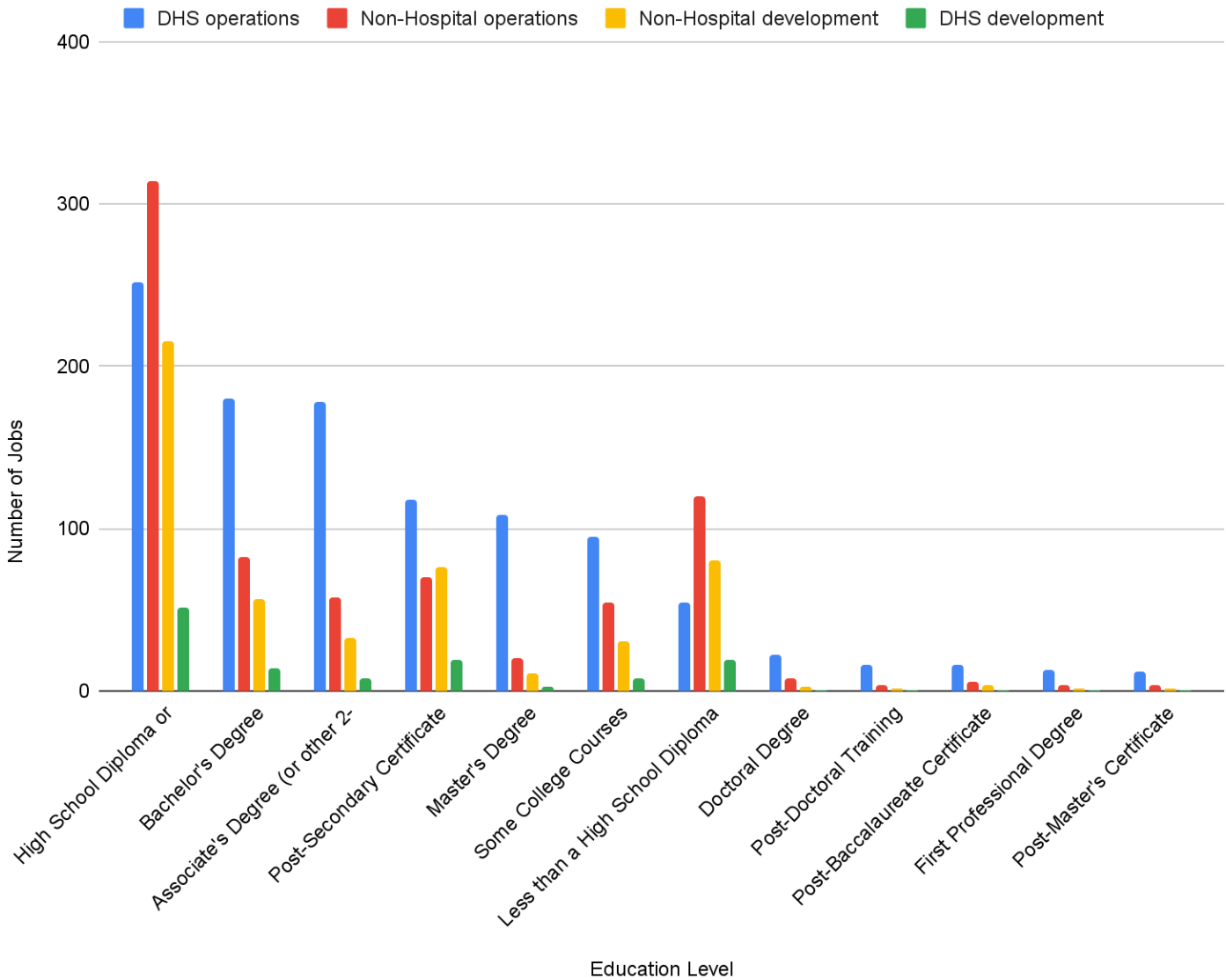
As noted, jobs are supported in each source of economic impact - the development and operations of DHS and non-hospital facilities. However, the types of jobs generated can vary significantly as different industries require different skill sets and often have different educational requirements. Chart 1 below, notes the number of jobs supported for each source of economic impact by the expected educational attainment required for each job. **DHS operations support jobs with much higher educational requirements compared to development and operations of non-DHS facilities.** This may be due to the higher educational requirements associated with the health care and medical field generally. These higher educational requirements are likely to be a large source of employee spending in the Washington County area which support induced effects in the area.



# ECONOMIC IMPACT

**Chart 1:** Education requirements of jobs supported varies by industry

## Education requirements of Jobs Supported by DHS and Non-Hospital Sectors in Washington County



# Fiscal Impact

The fiscal impacts are the net tax revenue supported by each source of economic impact. The fiscal impacts of the development operations of DHS and non-hospital sectors are projected across 5 levels of government. Across all levels of government and all scenarios, **the Federal Government receives the largest amount of tax revenue followed by the State of Mississippi.**

While DHS is a county-owned, non-profit organization, this fiscal effect results from employees paying social insurance, income, and property taxes and from supply chain companies paying sales taxes, customs duties, and corporate profits taxes. Similarly, the suppliers of those companies pay taxes, the restaurants that employees eat at will pay taxes, etc. – all of which are reflected in these estimates.

The non-profit status of the DHS facility does show through when comparing against the fiscal effects of the Non-DHS facilities which are for-profit. While having a smaller economic impact, the Non-DHS facilities support larger local and state tax revenues.

**Table 15:** Fiscal Impact in Washington County

		Scenario: Washington County				
	Analysis Scope	Cities	Special Districts (e.g. schools, fire, etc.)	County	State	Federal
DHS	Development of new DHS medical facility	\$73,016	\$105,241	\$108,424	\$572,503	\$2,105,428
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$305,477	\$440,987	\$454,313	\$2,680,971	\$11,574,655
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$346,366	\$498,840	\$513,933	\$2,532,579	\$8,301,836
	Operating the new non-DHS facilities (annual impact)	\$577,225	\$829,789	\$854,921	\$3,716,474	\$7,647,025

# FISCAL IMPACT

**Table 16:** Fiscal Impact in Delta Region of Mississippi

		Scenario: Delta Region - 13 Counties in MS				
	Analysis Scope	Cities	Special Districts (e.g. schools, fire, etc.)	County	State	Federal
DHS	Development of new DHS medical facility	\$74,449	\$107,930	\$111,081	\$585,389	\$2,128,229
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$316,775	\$462,173	\$475,255	\$2,778,689	\$11,717,834
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$351,877	\$509,178	\$524,149	\$2,581,678	\$8,385,942
	Operating the new non-DHS facilities (annual impact)	\$584,478	\$843,399	\$868,368	\$3,782,279	\$7,769,969

# FISCAL IMPACT

**Table 17:** Fiscal Impact in Mississippi

		Scenario: State of Mississippi				
	Analysis Scope	Cities	Special Districts (e.g. schools, fire, etc.)	County	State	Federal
DHS	Development of new DHS medical facility	\$75,957	\$112,484	\$114,086	\$606,291	\$2,163,417
	Operating the new DHS facility with existing Medical Center and Medical Group employees (annual impact)	\$321,694	\$480,966	\$485,548	\$2,862,709	\$11,862,603
Non-DHS	Development of other real estate opportunities to be co-located with the DHS facility.	\$357,100	\$525,280	\$534,599	\$2,654,726	\$8,504,625
	Operating the new non-DHS facilities (annual impact)	\$589,409	\$859,855	\$878,402	\$3,857,292	\$7,897,345

# Industry Impact

With each source of economic impact, other industries are impacted either through being a part of the value chain of DHS operations or from receiving spending from DHS or DHS supply chain employees.

The following industries are those that the new development supports most in Washington County either via its supply chain or household spending. See the 'Industry Impact' section in the body of this report for further details.

Top industries supported by DHS' operations in Washington County, in terms of size of support, include:

1. Other real estate
2. Food and drinking establishments
3. Employment Services
4. Demand for owner-occupied dwellings
5. Medical and diagnostic laboratories
6. Banking services

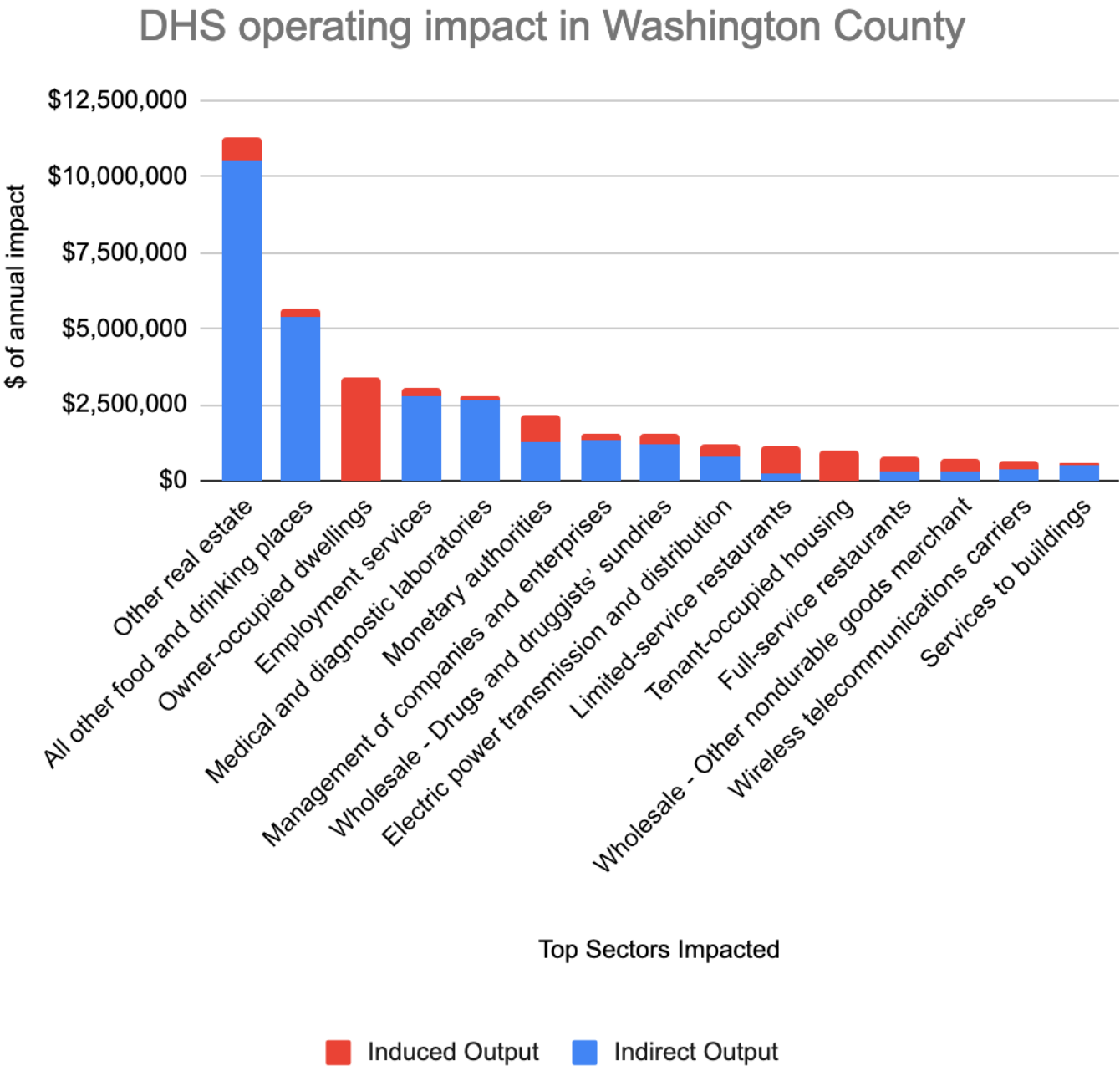
In comparison, the operation of non-hospital sectors is projected to support industries in Washington County of:

1. Employment services
2. Management of companies
3. Electric power transmission and distribution
4. Retail - Building materials, garden equipment and supplies stores
5. Radio and television broadcasting
6. Warehousing and storage

The following charts provide a sense of scale regarding the size (\$) of impact on other industries in Washington county as well as the employment impact (# of jobs) on these industries. The industries most impacted may differ depending on which metric is used (\$ vs. jobs) as some industries are more labor intensive and have lower paying jobs such that more jobs may be created while having less total economic impact. These charts focus on the operating impacts of DHS and Non-DHS sectors as these impacts would be a part of the long-term economic shape of Washington County.

# INDUSTRY IMPACT

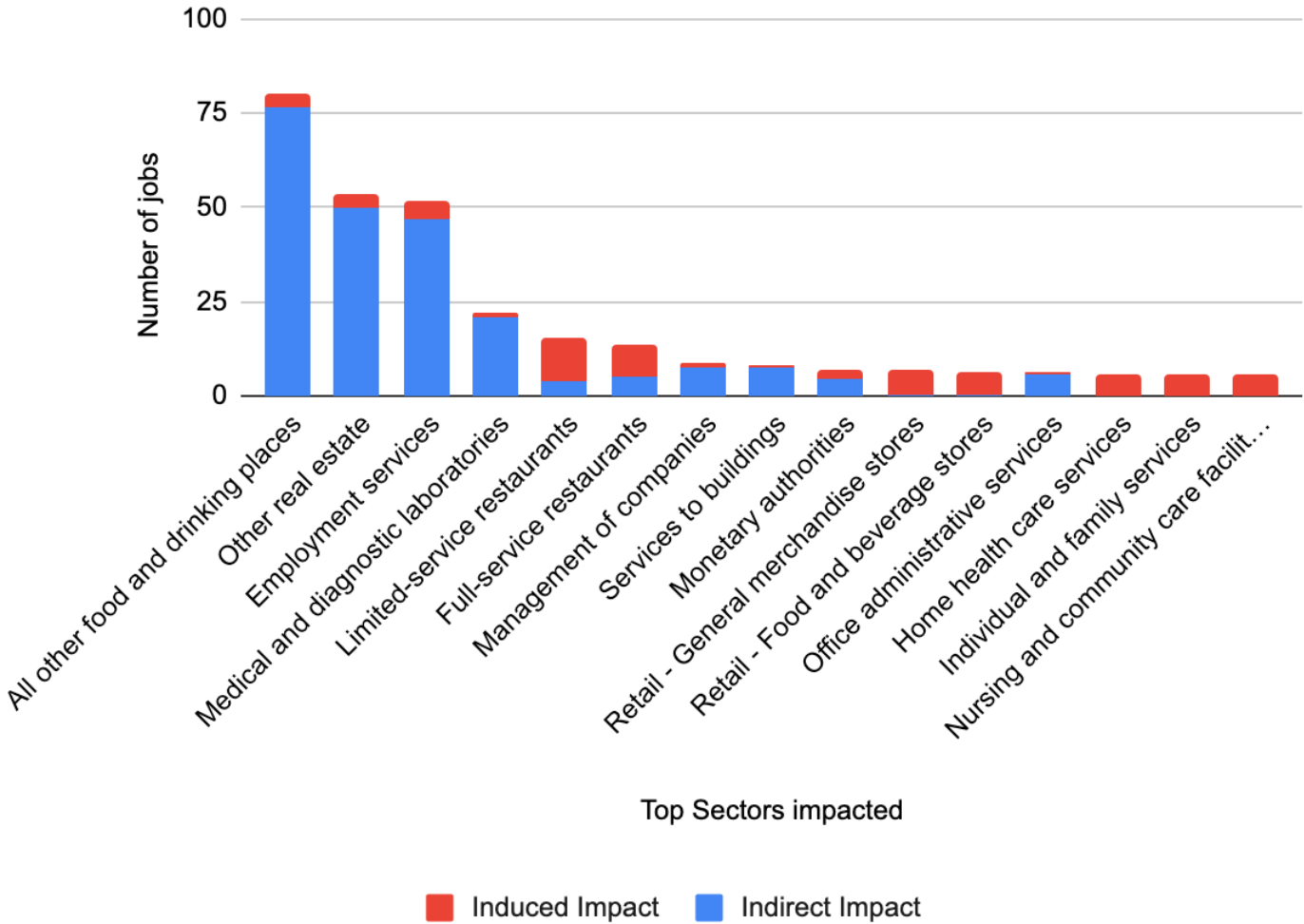
**Chart 2:** DHS operating impact in Washington County



# INDUSTRY IMPACT

**Chart 3:** DHS operating impact on employment in Washington County

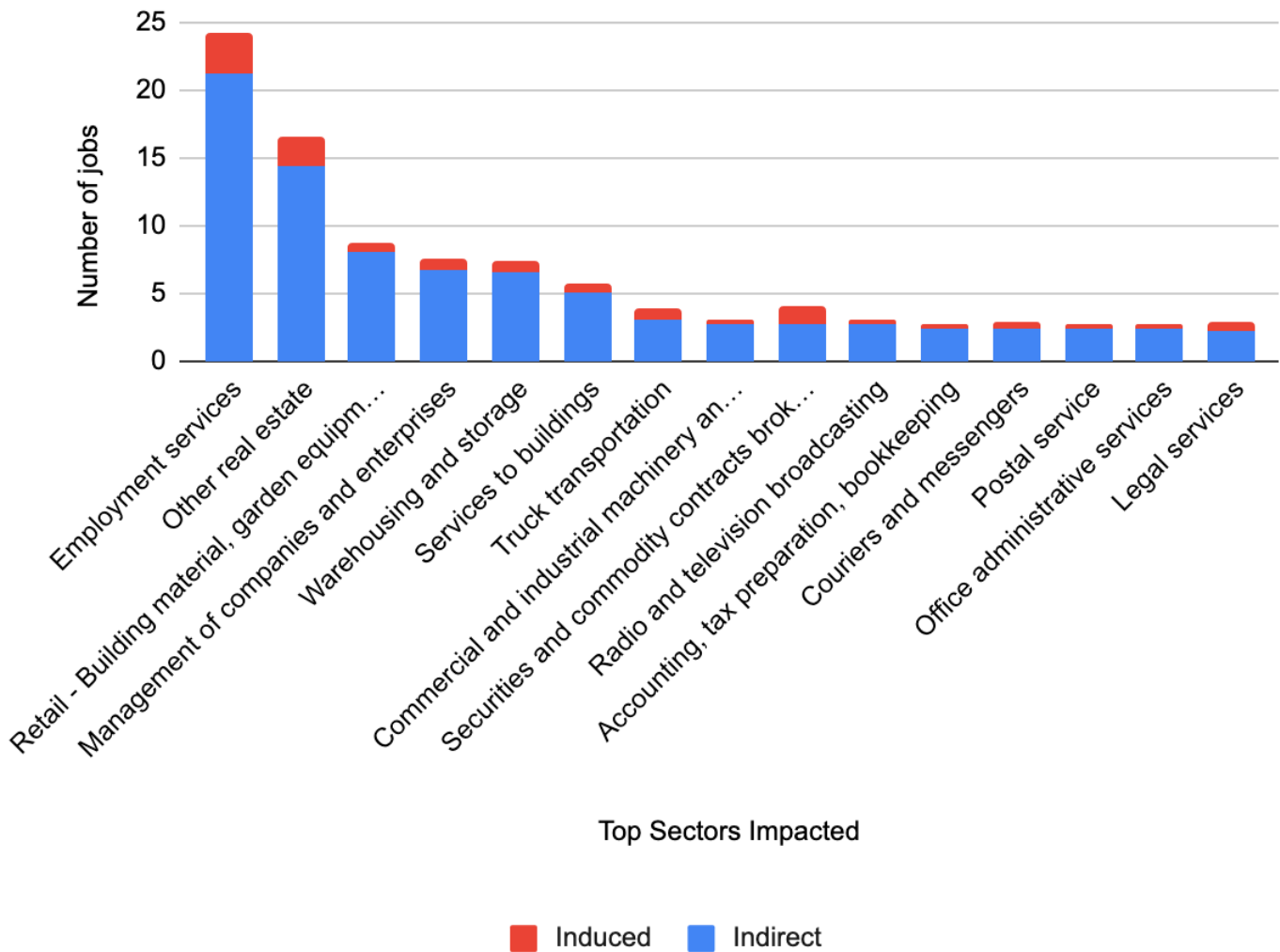
## DHS operating impact on employment in Washington County



# INDUSTRY IMPACT

**Chart 4:** Non-hospital Sector operating impact in Washington County

## Non-hospital Sector impact on employment in Washington County

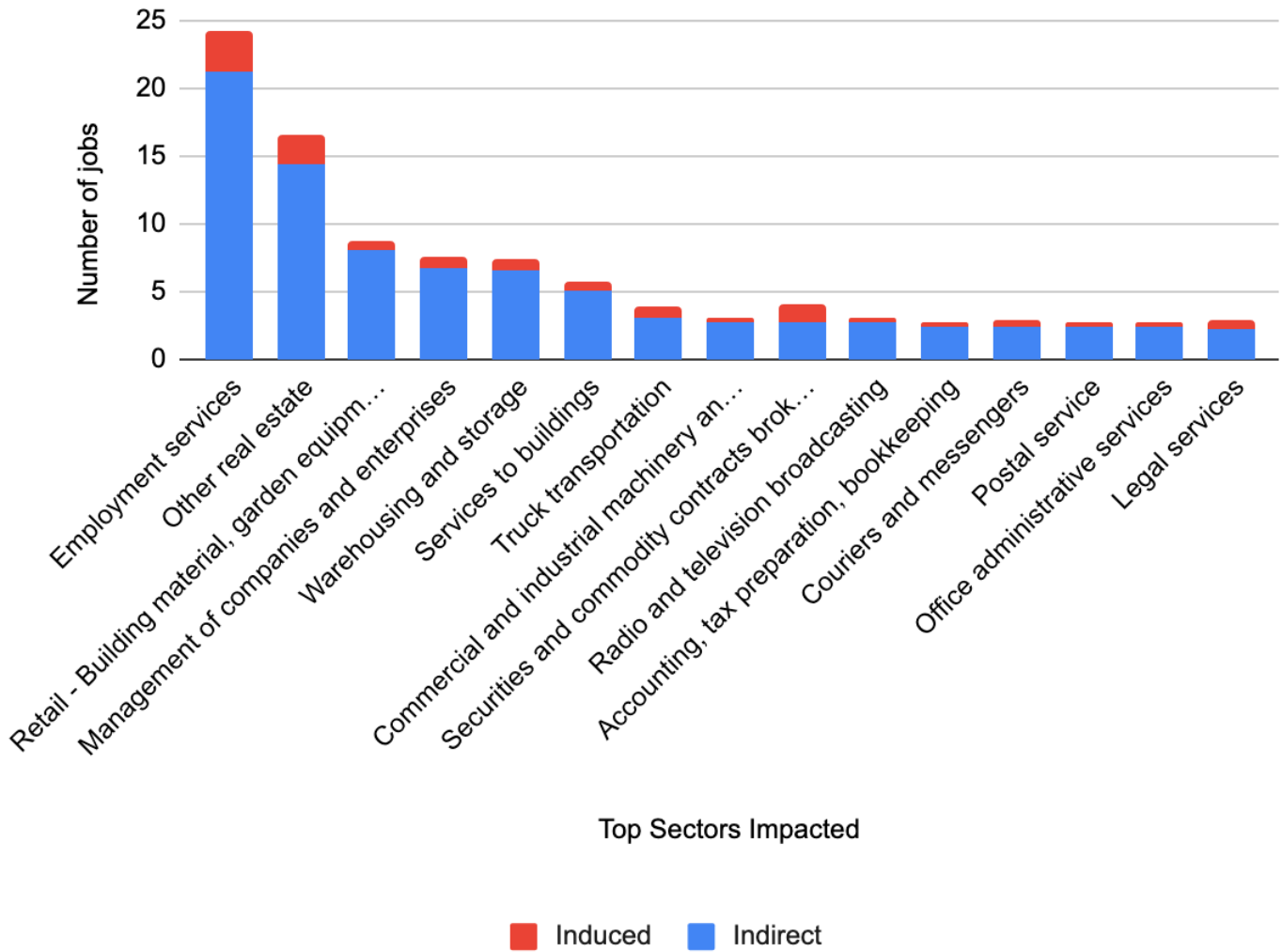




# INDUSTRY IMPACT

**Chart 5:** Non-hospital Sector operating impact on employment in Washington County

## Non-hospital Sector impact on employment in Washington County



## INDUSTRY IMPACT

The projected industries impacted by DHS operations can be mapped to the industries planned to be co-located with the new DHS facility. This shows the extent DHS operations are expected to support the output of those industries. Table 18 below lists off all Non-DHS sectors planned for development and aligns their employment and sales figures with those amounts to be impacted by DHS in Washington County. **Ten of the twenty-one planned non-DHS sectors appear within the top 20 sectors impacted by DHS operations.** In most cases, DHS' impact is projected to make up a portion of the economic activity of planned non-DHS sectors. In a few instances (Food and Beverage Stores, Drinking places, and Medical & Diagnostic Laboratories), DHS operations generate more impact on the sectors than what is planned for new construction. This is likely a signal of the extent those sectors already exist within Washington County, with the new development supplementing existing supply.



# INDUSTRY IMPACT

**Table 18:** Mapping planned non-hospital sectors to DHS industries supported

	Sectors planned for development	Direct jobs from non-Hospital sectors	Annual projected sales/output for non-Hospital sectors	Output supported by DHS operations	Jobs supported by DHS operations
1	Banking	30	\$5,712,055	\$2,130,629	
2	Retail Trade	30	\$2,862,943		6.73
3	New Single-Family Housing Construction	60	\$12,071,389	\$3,381,121	
4	Medical and Diagnostic Laboratories	5	\$952,982	\$2,764,438	
5	Nursing Care Facilities	60	\$4,973,951		17.57
6	Assisted Living Facilities	30	\$2,000,436		
7	Pharmacies	10	\$1,841,459	\$1,514,612	
8	Restaurants	60	\$3,209,093	\$1,868,986	
9	Food and Beverage Stores	30	\$2,343,142	\$5,666,920	80.38
10	Drinking Places	15	\$974,014		
11	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	15	\$6,378,068		
12	Dentist	10	\$1,935,134		
13	Optometrist	10	\$1,676,151		
14	Constructions of Buildings	60	\$10,529,425		
15	Convenience Stores	40	\$5,423,834		
16	Ambulatory Services	20	\$2,378,967		
17	Other Health Practitioners	40	\$4,811,483		
18	Bowling Center	15	\$1,092,481		
19	Private Mail Centers	10	\$957,995		
20	Bakery	5	\$1,735,741		
21	Gas Station	5	\$549,576		

# Appendix

## Analysis Methodology

### Data Used

Data used for the estimations included:

1. DHS Facility Operating Revenue
2. Expected Non-Hospital sectors and employment in each sector
3. Projected Development costs (soft and hard) of DHS and Non-hospital sector facilities

**Table 19:** DHS Facility Operating Revenue

	<b>Annual Operating Revenue</b>
Outpatient Medical*	\$86,626,000
Physician Offices**	\$1,000,000

\*This number includes these services: pharmacy, lab, surgery, sleep lab, physical therapy, ambulatory care, occupational therapy, speech therapy, MRI clinic, radiology. Remember that these services will be transitioning to the new location and will not be new services.

\*\*Assumes 1 physician office - Average output per Physician in Mississippi is approximately \$1 million per year

**Table 20:** DHS Facility Development Costs

	<b>Total Development Costs (hard and soft costs)</b>
DHS Facility - IMPLAN's Construction of new health care structures	\$17,812,500

# APPENDIX

**Table 21:** Non-Hospital Sectors and Expected Employment in the Development

	Expected jobs for each sector once operating
Banking	30
Retail Trade	30
Bakery	5
Gas Station	5
Hotel	120
New Single-Family Housing Construction	60
Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers	15
Medical and Diagnostic Laboratories	5
Constructions of Buildings	60
Nursing Care Facilities	60
Assisted Living Facilities	30
Dentist	10
Optometrist	10
Pharmacies	10
Convenience Stores	40
Restaurants	60
Ambulatory Services	20
Other Health Practitioners	40
Bowling Center	15
Private Mail Centers	10
Food and Beverage Stores	30
Drinking Places	15

# APPENDIX

**Table 22:** Non-Hospital Sector Construction Costs for the New Development

<b>IMPLAN Construction Sector</b>	<b>Total Development Cost</b>
Construction of new health care structures	\$2,628,125
Construction of new commercial structures, including farm structures	\$30,153,625
Construction of new manufacturing structures	\$920,000
Construction of new single-family residential structures	\$19,872,000
Construction of new multifamily residential structures including assisted living	\$11,250,000
<b>Total</b>	<b>\$64,823,750</b>

There are 16 Counties considered a part of the Delta Region. This analysis focused on only those that are within the geography of Mississippi. These include the following:

1. Washington
2. Sunflower
3. Bolivar
4. Chicot- AR (not included)
5. Humphreys
6. Leflore
7. Coahoma
8. Desha-AR (not included)
9. Tallahatchie
10. Tunica
11. Quitman
12. Panola
13. Tate
14. Desoto
15. Marshall
16. Philips-AR (not included)

# Tool Used

This analysis was completed using the IMPLAN economic impact model. IMPLAN is an input-output model. Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added and imports are equal to the value of the commodities produced.

The IMPLAN model here uses a view of the 2019 economy in Mississippi. This avoids the large economic distortions that occurred in 2020 due to shutdowns and government stimulus. Future analyses may use 2022 and 2023 economic data for updated snapshots of the economic structure of the state.

All dollar values are communicated in 2022 values.

### IMPLAN background:

The IMPLAN model is used by more than 1,000 universities and government agencies to estimate the economic and fiscal impacts of investments and/or changes in industry, and to forecast tax revenue and employment generation. IMPLAN was developed as a cost-effective means to develop regional input-output models, following accounting conventions of the U.S. Bureau of Economic Analysis.

An IMPLAN impact analysis involves specifying a series of expenditures or other changes and applying them to the region's economic multipliers in alignment with the IMPLAN sectoring scheme which is derived from the North American Industry Classification System (NAICS) codes. The multiplier represents the difference between the initial effect (e.g. the annual spending by DHS) and the total effects resulting from that. The total effects include those direct, indirect and induced effects previously described whereby the buying of goods and services between producers and households continues until the value initially catalyzed by DHS 'leaks' from the region (through imports, outsourced work, etc.) and eventually stops the cycle of regional economic impact until another direct effect occurs (in this case, another year of DHS operations).

(This description was adapted from: Olson, Doug and Scott Lindall, "IMPLAN Professional Software, Analysis, and Data Guide"; Minnesota IMPLAN Group, Inc., 1725 Tower Drive West, Suite 140, Stillwater, MN 55082)

# Market Data

Market data was pulled to gain a better understanding of the market structure in Washington County, MS. The following tables highlight prominent data points that may guide future decision-making by DHS and the County. Further data may be pulled upon request.

**Table 23:** Household Demand in Washington County: Top Ten Sectors

	<b>Sector</b>	<b>Annual Demand</b>
1	Owner-occupied dwellings	\$124,214,918
2	State/Local Govt Hospital & Health Services	\$104,694,540
3	Tenant-occupied housing	\$48,784,296
4	Offices of physicians	\$48,348,795
5	Limited-service restaurants	\$32,091,478
6	Nursing and community care facilities	\$23,003,960
7	Monetary authorities and depository credit intermediation	\$21,902,592
8	Retail - General merchandise stores	\$20,010,263
9	Retail - Food and beverage stores	\$18,805,463
10	Full-service restaurants	\$15,324,198



## APPENDIX

**Table 24:** Top Employment Sectors in Washington County

Sector	Employment	Average Employee Compensation per Wage and Salary Employee
Employment and payroll of local govt, education	1,437	\$52,866
Limited-service restaurants	1,119	\$14,362
Religious organizations	952	\$36,110
Employment and payroll of local govt, other services	819	\$43,833
Employment services	749	\$30,601
Individual and family services	580	\$21,099
Retail - General merchandise stores	578	\$26,125
Dry-cleaning and laundry services	577	\$28,400
Other real estate	516	\$38,793
Nursing and community care facilities	508	\$39,791

# APPENDIX

**Table 25:** Education requirements of Jobs in Washington County

Description	Employee Count	Employee Count Share of Total	Location Quotient
High School Diploma - or the equivalent (for example, GED)	6,854	37.70%	1.03
Bachelor's Degree	3,082	16.95%	0.95
Less than a High School Diploma	2,127	11.70%	1.05
Post-Secondary Certificate - awarded for training completed after high school	1,503	8.27%	0.96
Associate's Degree (or other 2-year degree)	1,501	8.26%	0.94
Some College Courses	1,318	7.25%	1.03
Master's Degree	973	5.35%	1.07
Post-Baccalaureate Certificate - awarded for completion of an organized program of study	282	1.55%	1.02
Doctoral Degree	211	1.16%	0.81
Post-Master's Certificate - awarded for completion of an organized program of study	118	0.65%	1.11
First Professional Degree	109	0.60%	0.87
Post-Doctoral Training	101	0.55%	0.84

## APPENDIX

**Table 26:** Top Ten Most Used Areas of Expertise in Washington County

	Description	Competency Points
1	Customer and Personal Service	175,252
2	English Language	142,314
3	Education and Training	102,516
4	Mathematics	100,153
5	Administration and Management	99,049
6	Clerical	98,341
7	Computers and Electronics	96,743
8	Public Safety and Security	81,953
9	Psychology	66,912
10	Sales and Marketing	63,697

# Glossary

## DHS Activities / Direct Effects

Direct effects are value produced by DHS activities alone.

## Supply Chain / Indirect Effects

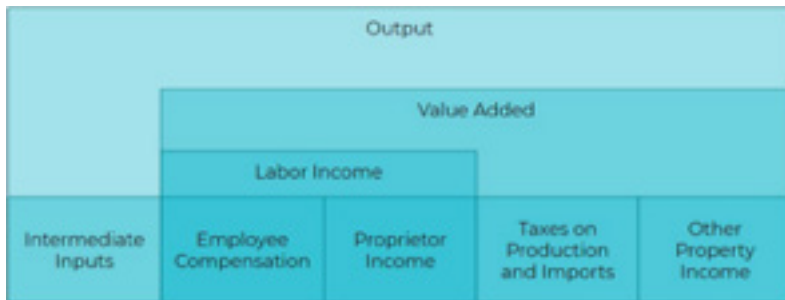
Indirect effects are value produced by the supply chain of DHS.

## Household Spending / Induced Effects

Induced effects are those effects that result from household spending due to the income received by DHS jobs and the jobs within DHS' supply chain.

## Output

Represents the value of all goods and services produced by all of the industries within the study region and may be either direct, indirect or induced. Direct total output is the value of goods and services produced by DHS alone. By aggregating the changes in each sector associated with the direct activity of DHS, we are able to calculate the total output value (e.g. the total impact on the economy of Mississippi).



(Source: IMPLAN)

## Jobs

Jobs reported by IMPLAN represent full and part-time annual averages. Employment data in IMPLAN follows the same definition as Bureau of Economic Analysis Regional Economic Accounts (BEA REA) and Bureau of Labor Statistics Census of Employment and Wages (BLS CEW) data, which is full-time/part-time annual average. Thus, 1 job lasting 12 months = 2 jobs lasting 6 months each = 3 jobs lasting 4 months each. A job can be either full-time or part-time. As a result, jobs figures reported here are distinct from Full-Time Equivalents (FTEs). Note that a person can hold more than one job, so the job count is not necessarily the same as the count of employed persons.

# APPENDIX

## Direct Jobs

In this report, direct jobs are those jobs that are paid for by DHS

## Direct Labor Income

The wages and benefits associated with the direct jobs.

## Household Level Spending

Encompasses all of the purchases made by individuals and families for items such as food, clothing, durable and non-durable goods and other retail of any kind. It also includes spending on personal services such as home repair, dry cleaning, restaurants, automotive repair, etc.

## Indirect Jobs

Jobs supported by industries purchasing from industries. For example, DHS purchases supplies from vendors within the region. Those vendors employ workers to meet the demand of DHS (and other customers). Further, the vendors have vendors who also provide jobs. This cycle may have many iterations between different industry sectors. Indirect jobs are calculated using the IMPLAN model.

## Indirect Labor Income

The earnings associated with the indirect jobs. This amount can include both wages and benefits paid to workers as well as income earned by business owners. Indirect earnings are calculated using the IMPLAN model.

## Induced Jobs

Induced jobs are those positions supported by household level purchasing, or the spending on goods and services by individuals. Induced jobs are calculated using the IMPLAN model.

## Induced Labor Income

The earnings associated with the induced jobs. This amount can include both wages and benefits paid to workers as well as income earned by business owners. In this report, induced earnings are calculated using the IMPLAN model.

## Multipliers

All Multiplier derivations are based off of Output. The multipliers describe the change of output for each regional industry caused by a one-dollar change in final demand for any given industry.

## Type Social Accounting Matrix (SAM) multiplier

Calculated by dividing the sum of the Direct Effects, Indirect Effects, and Induced Effects by the Direct Effects. This is the multiplier used in the report.

ecotone 