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Tax Incentive Evaluation

Georgia's Sales Tax Exemption on Waste Management and Remediation Services

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Executive Summary

This study is a review of Georgia's sales tax exemption on waste management and remediation services conducted in accordance with the Tax Expenditures Transparency Act of 2024, also known as Senate Bill 366. Georgia's current sales tax provisions apply to "tangible personal property and certain services" but has never included waste management and remediation services. Consequently, no clear-cut "taxed" v. "tax exempt" periods exist for direct comparison. The research team projected forgone state sales tax revenue attributable to the exemption and compared the estimated ROI of the current tax situation with the counterfactual scenario: what if Georgia collected sales taxes on waste management and remediation services as defined by NAICS 562?

NAICS 562 includes a broad set of activities directly associated with environmental protection and public health, including waste collection, waste treatment and disposal, materials recovery, septic pumping, remediation of contaminated sites, and other specialized environmental services. These services are essential operating inputs for households, businesses, local governments, hospitals, schools, construction firms, and regulated industries. Consequently, the analysis of tax implications must account for these various waste management and remediation services across the state. The research team indicated a significant variance in how states tax these activities. In general, most states operate on the principle that services are not subject to sales tax unless explicitly specified otherwise. Those states that do tax services within NAICS 562 often focus only on a very limited number of narrowly defined exceptions, and neighboring states generally apply either targeted solid waste fees or narrowly defined taxable categories rather than taxing all NAICS 562 services broadly.

The estimated return on investment (ROI) of Georgia's sales tax exemption on waste management and remediation services (Table A) ranges from -38% in 2024 to -48% in 2030. ROI decreases by approximately 3.7 percent per year over this period, indicating that the relative economic benefit of the exemption decreases over time. This result implies that, for every $1 in tax exempted in 2024, only 62 cents in value added economic output accrues to the state's economy. The ROI of the exemption is calculated based on net forgone sales tax revenue; that is, the total or gross amount of forgone revenue to the state, less any additional taxes collected as a result of the exemption.

In the case of the alternate use of forgone revenue, Institute researchers modeled two impacts: the impact of the state of Georgia collecting and spending sales tax revenue from waste management and remediation services and the impact of the reduction in waste management and remediation services output due to reduced demand for these services as the price of waste management and remediation services labor increases. Under the alternate scenario, for every

$1 in sales tax on waste and services collected and spent by the state, $1.32 in value-added impact accrues to the state's economy.

Table A. ROI of Georgia's Sales Tax Exemption on Waste Management and Remediation Services and Alternate Use of Forgone Revenue, 2024-2030

	2024	2025	2026	2027
Gross Forgone State Rev.	$73,300,000	$79,665,079	$86,582,876	$94,101,386
Net Forgone State Rev.	$71,744,439	$78,145,141	$84,984,750	$92,421,050
Exemption Value-Added	$44,147,586	$48,056,847	$50,528,959	$53,128,241
ROI of Exemption[1]	-0.38	-0.39	-0.41	-0.43
Alt. Use Value-Added	$96,545,202	$104,928,801	$114,040,399	$123,943,211
ROI of Alternate Use[2]	0.32	0.32	0.32	0.32
	2028	**2029**	**2030**	
Gross Forgone State Rev.	$102,272,774	$111,153,733	$120,805,879	
Net Forgone State Rev.	$100,506,000	$109,296,073	$118,852,658	
Exemption Value-Added	$55,861,232	$58,734,833	$61,756,216	
ROI of Exemption[1]	-0.44	-0.46	-0.48	
Alt. Use Value-Added	$134,705,943	$146,403,269	$159,116,343	
ROI of Alternate Use[2]	0.32	0.32	0.32	

Source: Institute of Government projections based on Bureau of Economic Analysis (BEA) data and IMPLAN 2023.

1. ROI of the tax exemption is calculated based on Net Forgone State Revenue (i.e., gross forgone revenue less additional state taxes collected).
2. ROI of the alternate use is calculated based on Gross Forgone State Revenue.

Background

Georgia enacted Senate Bill 366 (SB366), which is also known as the Tax Expenditures Transparency Act of 2024. The main goal was to strengthen the reporting of tax expenditures with a focus on how the state catalogs, analyzes, and publicly reports. The bill requires the calculation of forgone tax revenue and the economic impact of the tax incentive on the state economy, as well as the overall return on investment (ROI) of the credit exemption. This act sets the expectation that sizable or long-standing preferences will be examined for fiscal cost, economic effects, transparency, policy rationale. The act also requires assessment of the selected tax preference or exemption's efficiency and impacts and solicits recommendations for improving the ROI. As no code section is assigned with the exemption of services, this study fits directly within this framework's motivation and reviews Georgia's sales tax exemption for these services. This report captures one of the three tax incentive evaluations produced under contract with the Georgia Department of Audits and Accounts by the University of Georgia's Carl Vinson Institute of Government.

HISTORY & PURPOSE

In Georgia, waste management and remediation services are implicitly exempt from state sales tax. There is no specified date or section of the Georgia code associated with this tax exemption. Consequently, there is also no stated or implied purpose of this sales tax exemption. It is assumed that services are tax-exempt because they are analogous to labor, which is taxed through the state's income tax.

HOW IT WORKS

In Georgia, the economy is continuing to shift toward services. However, most of the services are exempt from state and local sales tax, with only a few exceptions. The state primarily focuses on tangible goods for the sales and use tax. Consequently, large service subsectors generate significant receipts that sit outside current taxation. SB366's regular evaluation of these service exemptions in a timely manner produces a fresh, data-driven look and aids the state's expectation for tax expenditure oversight. The Government's Office of Planning and Budget's Tax Expenditure Reports provide estimates for services that are implicitly exempt because they are not tangible personal property. Georgia State University's Fiscal Research Center publishes the tax expenditure estimates for many services and has established that the inclusion of the consumption of services could produce a more thorough estimation of total tax expenditure in the state.

Georgia does not explicitly identify waste management and remediation services as qualifying for taxation at the time of sale. Hence, without having instructions on which specific services within these two categories to consider in this evaluation study, the Institute followed guidance provided by the Department of Accounts and Audit to mirror the annual Georgia Tax

Expenditure Report, which bases the service estimates on NAICS code 562, waste management and remediation services[1] .

According to the definition from the census, the subsector of establishments under NAICS code 562 include industries engaged in the collection, treatment, and disposal of waste materials. These include establishments engaged in local hauling of waste materials, operating materials recovery facilities (that sort recyclable materials from the trash stream), providing remediation services (that provide for the cleanup of contaminated buildings, mine sites, soil, or groundwater), and providing septic pumping and other miscellaneous waste management services. There are three industry groups within the subsector that separate these activities into waste collection, waste treatment and disposal, and remediation and other waste management. Using the more detailed four-digit NAICS codes, there are three sub-sectors in the group of industries described as waste management and remediation services under NAICS 562:

- Waste Collection Services (NAICS 5621)
- Waste Treatment and Disposal Services (NAICS 5622)
- Remediation and Other Waste Management Services (NAICS 5629)

These essential sectors address the environmental impact of economic activity by managing waste and remediating contamination. In a broader view, these establishments provide essential public health and environmental protection services that are necessary for all other sectors of the economy and households to operate sustainably. These sectors manage the entire lifecycle of discarded materials, from initial pickup to final disposal or recycling. While their receipts for these services are generally taxable, the sector's fundamental role is in maintaining a clean environment and restoring contaminated sites, a function that is often closely regulated by government agencies.

As Georgia's economy becomes more service-oriented, waste management and remediation services represent a growing share of economic activity that is currently outside the sales and use tax base. Because this sector enables activity in every other industry, any changes to its tax treatment would have wide, system-level implications for business operating costs, households, and local governments. This study evaluates what would happen if Georgia aligned NAICS 562 services with the general base by removing the exemption and applying the state or local sales tax.

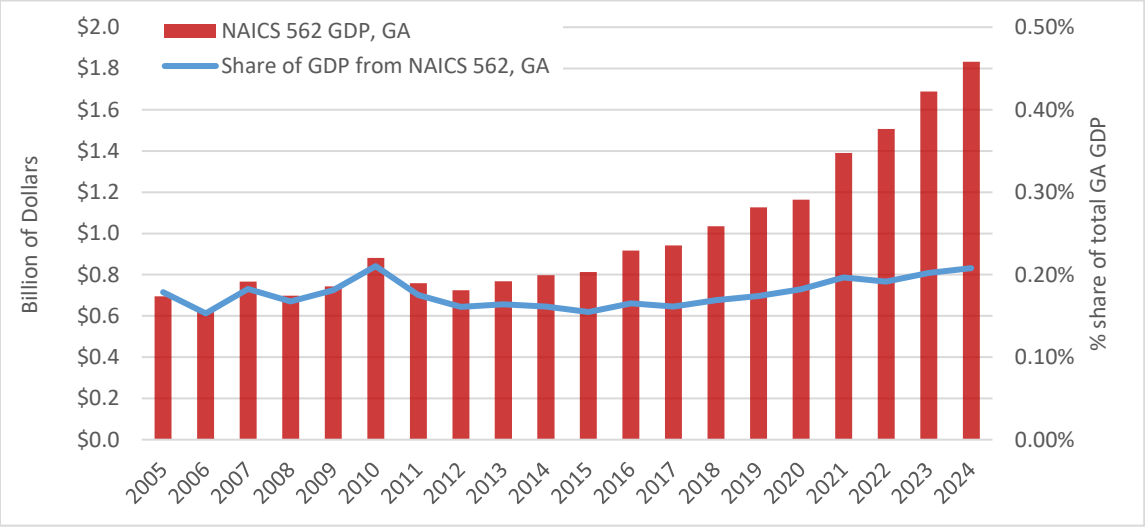
[1] Georgia Tax Expenditure Report for FY 2025, Fiscal Research Center at Georgia State University https://opb.georgia.gov/budget-information/budget-documents/tax-expenditure-reports

UTILIZATION

Utilization of the sales tax exemption of the waste management and remediation services sector is difficult to quantify, as all service providers of these sectors in Georgia have access to the exemption by default. These sectors are deeply embedded in Georgia's business operations and public institutions, making them a critical component of the state's production network. These sectors' involvement in waste collection, treatment, disposal, and remediation activities is essential as intermediate inputs for almost every industry, including manufacturing, construction, utilities, health care, retail, and public institutions. Unlike discretionary business services, waste management activity arises from regulatory requirements, environmental compliance, public health mandates, and operational necessities. These services are non-exportable, geographically tied to local demand, and required regardless of business cycle conditions, making NAICS 562 a structurally important, demand-stable component of Georgia's industrial base. Although not as labor-intensive as other sectors, it is still a major employer and a critical provider of environmental and operational support services. These sectors are consistently growing, and in 2024, more than half of the NAICS 562 wages in Georgia are found in remediation and other waste management services, followed by waste collection services.

The estimated value of the waste management and remediation services industry in Georgia ranged from $0.7 billion in 2005 to $1.8 billion in 2024, with the largest spike occurring in 2010 (Figure 1). The share of value produced by these services in Georgia, throughout the time periods displayed, shows that this sector has a constant rate of contribution towards the total output produced in Georgia. These data imply that Georgia's GDP grew faster, and GDP earned from NAICS 562 also grew at a similar rate throughout the recent period. The stability of its output share reflects the essential and non-cyclical nature of core waste processing activities.

Figure 1. Georgia's Share of Total Value and Estimated Value of the Waste Management and Remediation Services Industry in Georgia, 2005-2024

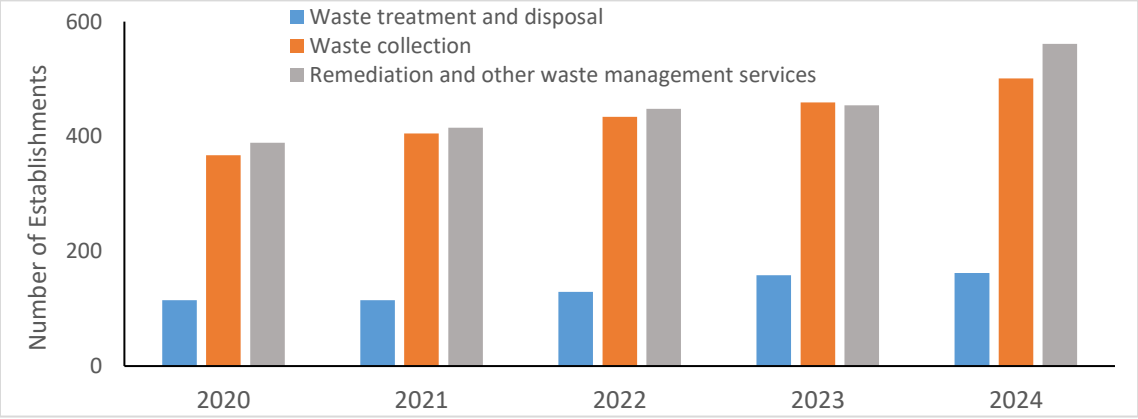


Source: Institute of Government calculation based on BEA data.

In a more detailed way, by breaking down sectors within NAICS 562, Institute researchers observed a variation in the growth of their number of establishments, wages, and employment from 2020 to 2024. In speaking with employment across these services in Georgia, researchers find the highest growth of 28% experienced by waste collection services (NAICS 5621) (QCEW, 2025)[2]. The second-highest employment growth of 24.4% was found in NAICS 5622 (waste treatment and disposal services), followed by remediation and other waste management services (12%, NAICS 5629). These data imply that all sectors experienced growth in employment as well. Appendix A contains detailed information on these data.

Figure 2 shows the number of establishments from all industry sectors included within the waste management and remediation services industry in Georgia from 2020 to 2024. Researchers observed that Georgia's NAICS 562 expansion was led by two large industry groups: services to remediation and other waste management (expanding from 389 to 561 in 2024), and waste treatment and disposal services (increased from 115 to 162 in 2024). Remediation and other waste management services experienced the fastest proportional gain in establishments. Although employment is concentrated in large disposal facilities, establishment growth indicates a broad dispersion of small and mid-sized firms across the state. This pattern suggests that any change to the tax base would affect a wide cross-section of firms and purchasers, not a narrow group of large employers.

Figure 2. Number of Establishments of Waste Management and Remediation Services Industry in Georgia, 2020-2024



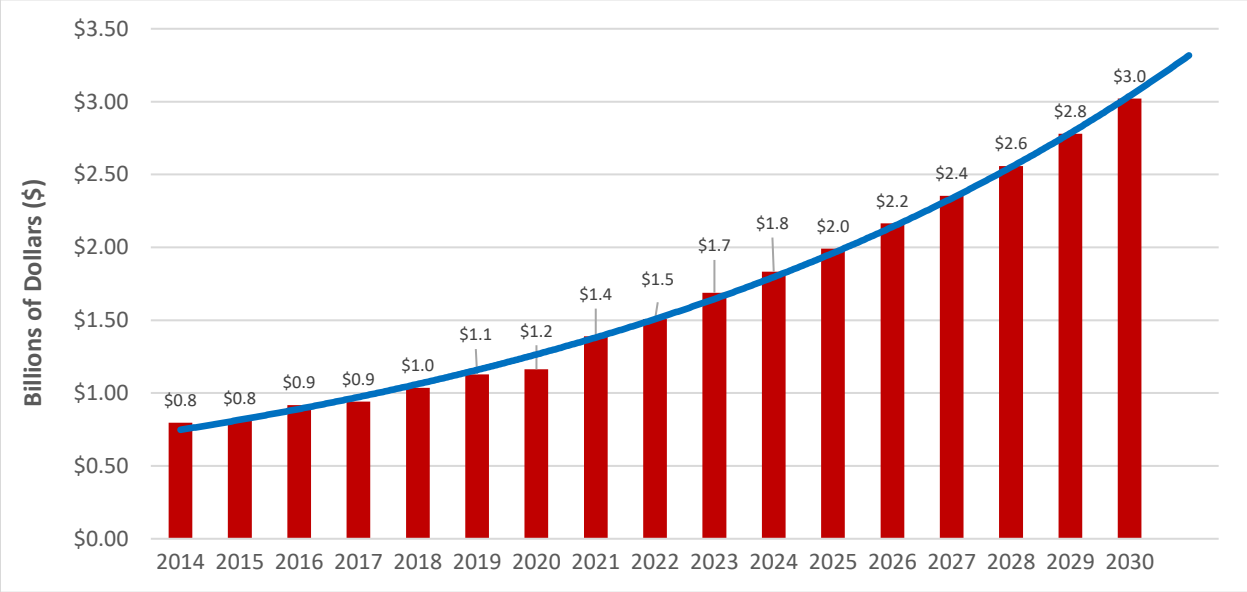
Source: Institute of Government calculation based on Quarterly Census of Employment and Wages (QCEW) data.

[2] QCEW, BLS. https://www.bls.gov/cew/data.htm

Figure 3 shows that, throughout the past decade, the estimated values exhibit a steadily increasing trend, reflecting both rising service demand and the sector's essential role in supporting other industrial, commercial, and residential operations. The upward trajectory is a stable and mild exponential, which allowed the researchers to project values through 2030 using the observed year-to-year growth rates. The projections indicate that the industry's value will continue to expand and is expected to reach approximately $3.02 billion by 2030.

Given this persistent growth and the sector's involvement in Georgia's production network, implementing a uniform sales tax on all NAICS 562 activities would likely have broad implications for service costs, regulatory compliance requirements, and the operational expenses of businesses that rely on waste management inputs. Because the industry encompasses multiple subsectors with different economic functions, including waste collection and treatment, disposal, and remediation, any provision of taxation should consider how specific categories of services affect downstream industries and overall economic activity. These considerations are explored further in the "Other States" section.

Figure 3. Estimated and Projected Value of the Waste Management and Remediation Services Industry in Georgia, 2014-2030



Source: Institute of Government calculation based on BEA data. *Note – 2025-2030 is an estimate based on year-to-year growth rate.*

OTHER STATES

Table 1 summarizes the scale of waste management and remediation services activity across the Southeast. The table shows that, in the most recent year, Georgia accounts for almost $1,833 million in revenue, $898 million in wages, and approximately 6,660 jobs, which are equal to 12% of regional economic activity in the waste management sector. Among the neighboring states, Florida dominates, with about $5,045 million in GDP and $2,414 million in wages, while states such as Arkansas, Mississippi, and West Virginia contribute less than 5% each to GDP. Other related Southeast states' economic activities can be found in the Appendix (Figures A2-A3). These regional differences matter for tax policy design, as understanding the size of the sector helps frame the potential mobility of firms and the competitive tax environment. Given Georgia's position as one of the largest waste management and remediation services markets implies that any modification to the sales tax of NAICS 562 services could have fiscal and competitive effects. Any modest changes in the tax base could generate nontrivial revenue without disproportionately affecting other sectors.

Most states, including Georgia, collect sales taxes only on purchases of tangible personal property and not on services, unless explicitly listed as taxable activities. Only a few states (e.g., Hawaii, New Mexico, South Dakota, and West Virginia) tax all their services by default unless an exemption is provided. States that do not have any form of sales tax include Alaska, Delaware, New Hampshire, and Oregon. All other states' services are generally not taxed by default, but specific enumerated services may be subject to tax, making the rules highly specific to the exact nature of the service provided[3]. Institute of Government researchers found no states that levy a blanket sales tax on all waste management and remediation services, but they identified some states that tax certain narrowly defined waste management related services.

Table 1. Southeast Regional Economic Activity for Waste Management and Remediation Services, 2024

State	Revenue ($m)	Revenue Share (%)	Wages ($m)	Wages Share (%)	Employment Units	Employment Share (%)
Florida	$5,046	25.67	$2,414	25.01	11200	20.26
South Carolina	$2,202	11.2	$1,112	11.53	3303	5.98
North Carolina	$1,912	9.73	$898	9.31	6956	12.58
Tennessee	$1,840	9.36	$942	9.76	3915	7.08
Georgia	**$1,833**	**9.32**	**$898**	**9.31**	**6660**	**12.05**
Virginia	$1,657	8.43	$862	8.93	6570	11.88
Louisiana	$1,572	8.0	$825	8.55	5875	10.63
Alabama	$1,021	5.19	$486	5.04	2322	4.2
Kentucky	$941	4.79	$427	4.42	2030	3.67
Arkansas	$742	3.78	$347	3.6	2863	5.18
Mississippi	$546	2.78	$265	2.74	2165	3.92
West Virginia	$346	1.76	$175	1.81	1423	2.57

Source: BLS Quarterly Census of Employment and Wages (QCEW) and BEA, 2024.

[3] State-by-state guide to charging sales tax on services.
https://www.avalara.com/us/en/learn/whitepapers/service-taxability-by-state.html

Within NAICS 562, several states impose explicit sales tax on waste collection and disposal services. These services are not uniformly taxed across states, and they remain exempt in Georgia. In Texas, waste removal and collection are treated as taxable "real property services" under the state sales and use tax; taxpayers are required to charge sales tax on waste removal services billed to the responsible party at the 6.25 percent state rate plus any local add-ons[4]. In Iowa, cities must collect state sales tax on charges to nonresidential commercial customers, while residential garbage fees are generally not taxed, which implies that in some states, solid-waste collection looks much like any other taxable utility or real-property service[5].

Other states rely on dedicated solid-waste excise or disposable taxes instead of or in addition to sales tax, depending on the state legislation or department of revenue guidelines. Washington imposes a separate tax on the collection, transfer, storage, or disposal of solid waste, in addition to its business and occupation and retail sales tax system[6]. All states neighboring Georgia, including Alabama, Florida, North Carolina, South Carolina, and Tennessee, have different provisions for applying tax on waste management and remediation services. These states mostly follow a mix of sales tax and per-ton disposal fees as well as solid waste excise taxes rather than a uniform structure.

Florida generally treats waste collection as a nontaxable service, although providers pay sales or use tax on equipment such as trucks and containers. Their collection charge itself is not subject to sales tax[7]. Alabama also does not rely on the general sales tax for these services; instead, Alabama imposes a $1 per ton solid waste disposal fee on permitted landfill and disposal facilities, with additional environmental fees for hazardous waste[8].

Tennessee takes a different approach, with waste collection explicitly listed among taxable services, so charges for these services are subject to the state's 7% sales and use tax (plus local add-on rates)[9]. Similarly, North Carolina imposes a statewide solid waste disposal tax of $2 per ton on municipal solid waste and construction and demolition debris disposed of in landfills or sent through transfer stations, with revenues allocated for local solid waste programs and cleanup funds[10]. South Carolina combines the general 6% state sales tax with a solid waste

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[4] Texas Taxable Service. https://comptroller.texas.gov/taxes/publications/

[5] Sales Taxes Charged by Cities, Iowa. https://iowaleague.org/resource/sales-taxes-charged-by-cities/

[6] Taxes on nontraditional things. https://www.avalara.com/blog/en/north-america/2022/06/taxes-on-nontraditional-things.html

[7] Florida Department of Revenue. https://floridarevenue.com/taxes/tips/documents/TIP_98A01-01.pdf

[8] Alabama Department of Revenue. https://www.revenue.alabama.gov/faq-categories/environmental-taxes/?

[9] State-by-state guide to charging sales tax on services. https://www.avalara.com/us/en/learn/whitepapers/service-taxability-by-state.html

[10] North Carolina Dept. of Revenue. https://www.ncdor.gov/taxes-forms/other-taxes-and-fees/solid-waste-disposal-tax?

excise tax on items, such as motor oil, tires, lead acid batteries, and other goods, like refrigerators and televisions, that support recycling and waste-reduction programs[11].

In contrast, Georgia entirely exempts NAICS 562 services from state sales and use tax and does not impose a statewide per ton disposal tax, relying instead on local service fees and contracts. Georgia's exemption policy places waste management and remediation services outside the state sales-tax base, while nearby states either tax the service directly (Tennessee) or levy dedicated solid waste disposal or excise taxes (Alabama, North Carolina, South Carolina, and, to some extent, Florida).

Economic Impact

This section presents the economic activity attributed to Georgia's sales tax exemption for waste management and remediation services. The analysis begins with estimates of gross economic activity generated by the sales tax exemption for waste management and remediation services projected from 2025 to 2030. Next, this section presents calculations of net economic activity generated by the exemption and calculates the return on investment for the exemption. In the following section, these results are compared with the economic activity that would have been generated under an alternate-use scenario in which the state collects sales taxes on waste management and remediation services and spends that revenue in a manner similar to all other tax revenues. These calculations allow for a direct comparison between the return on investment of the Georgia sales tax exemption for waste management and remediation services (NAICS 562) and the counterfactual situation in which the state is assumed to collect sales tax on waste management and remediation services. For more information on the methodology and IMPLAN, see Appendix B.

GROSS ECONOMIC ACTIVITY

Institute researchers projected waste management and remediation services output with and without the sales tax exemption from 2025 through 2030 based on the historical trend in NAICS 562 data reported by the United States Bureau of Economic Analysis (BEA). Results are displayed in Table 2. Under the current scenario in which the sales tax exemption exists, Institute researchers estimated that waste management and remediation services generated $1.99 billion in revenue in 2025, increasing to $3.02 billion in 2030. Total waste management and remediation services output with the tax exemption amounted to $14.86 billion over the six-year period from 2025 to 2030.

[11] South Carolina department of Revenue. https://dor.sc.gov/sales-use-tax-index/solid-waste?

To project waste management and remediation sector output with a sales tax on these services, projected output under the current "no tax" scenario must be reduced to account for the higher management costs resulting from the imposition of the sales tax. This estimated reduction is accounted for by the application of a price elasticity of demand for services. Price elasticity of demand is a measure of the change in demand for goods or services in response to a change in price. Institute researchers utilized –0.33% for the price elasticity of demand for waste management and remediation services based on a review of available literature on the demand for solid waste management services. For more detailed information on elasticity, see Appendix C. Based on the assumption that a state tax on waste management and remediation services would be accompanied by a local sales tax as well, a 7.4% (state and local combined) increase in the cost of waste management services would amount to a reduction in the demand for waste management and remediation services by 2.8%. Under the counterfactual scenario in which these services are taxed, the industry sector would generate $1.94 billion in revenue in 2025, increasing to $2.95 billion by 2030. The lost output between the current (tax-exempt) and counterfactual (taxed) scenarios increases from $49.39 million in 2025 to $74.89 million by 2030. Over a six-year period, the total reduction in waste management and remediation services output as a result of a sales tax on waste management and remediation services would be $0.41 billion.

Table 2. Projected Waste Management and Remediation Services Output, Modeled with and Without Tax Exemption, 2025-2030

Year	Value of Waste Management and Remediation Services w/Exemption	Value of Waste Management and Remediation Services w/o Exemption	Increase in Value of Waste Management and Remediation Services Due to Exemption	% Change Due to Exemption
2025	$1,991,626,971	$1,942,234,622	$49,392,349	2.48%
2026	$2,164,571,892	$2,110,890,509	$53,681,383	2.48%
2027	$2,352,534,658	$2,294,191,798	$58,342,860	2.48%
2028	$2,556,819,359	$2,493,410,239	$63,409,120	2.48%
2029	$2,778,843,326	$2,709,928,012	$68,915,314	2.48%
2030	$3,020,146,967	$2,945,247,322	$74,899,645	2.48%
Total	$16,697,043,173	$16,282,956,503	$414,086,671	2.48%

Source: Institute of Government projections based on BEA data.

The research team also projected forgone state revenue as a percentage of total waste management and remediation services, and modeled the estimated economic impact to the state economy of the sales tax exemption using IMPLAN[12]. Results are shown in Table 3. Net forgone state revenue ranges from $71.74 million in 2024 to $118.85 billion in 2030. Increased spending

[12] IMPLAN® model, 2021 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (data and software), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078 www.IMPLAN.com

on management services as a result of the sales tax exemption on waste management and remediation services is estimated to add $44.15 million in value-added economic activity to the state's economy in 2024, growing to $61.76 million by 2030.

The economic ROI of the exemption is calculated as the return to net forgone tax revenue (i.e., gross forgone revenue less additional taxes collected due to an expanded waste management and remediation services sector) from the value-added impact of the exemption. Projected ROI ranges from -38% in 2024 to -48% in 2030. ROI declines by approximately 3.7% per year due to projected increases in net forgone tax revenue relative to the economic value added to the sector by waste management and remediation services. Overall ROI for the 2024-2030 time period is projected to be -.43 meaning that for each dollar of forgone tax revenue, about 57 cents in value added economic impact accrues to the state's economy.

Table 3. Reduction in Economic Impact of Waste Management and Remediation Services without the Sales Tax Exemption, 2024-2030

	2024	2025	2026	2027
Net Forgone State Rev.	$71,744,439	$78,145,141	$84,984,750	$92,421,050
Exemption Value-Added	$44,147,586	$48,056,847	$50,528,959	$53,128,241
ROI of Exemption[1]	-0.38	-0.39	-0.41	-0.43

	2028	2029	2030
Net Forgone State Rev.	$100,506,000	$109,296,073	$118,852,658
Exemption Value-Added	$55,861,232	$58,734,833	$61,756,216
ROI of Exemption[1]	-0.44	-0.46	-0.48

Source: Institute of Government projections based on BEA data and IMPLAN 2023.

1. ROI of the tax exemption is calculated based on Net Forgone State Revenue (i.e., gross forgone revenue less additional state taxes collected).

Table 4 shows the overall increase in employment, labor income, value added to the state economy, and waste management and remediation services output for the sample year 2025. The sales tax exemption for waste management and remediation services is estimated to support an additional total of 405 waste management and remediation services-related jobs. Table 4 shows a reduction of 127 direct jobs, an additional 131 indirect jobs in industries that supply inputs to the waste management and remediation services sector, and another 100 induced jobs as workers in those direct and indirect jobs spend their earnings on additional goods and services. Labor income figures in Table 3 represent the additional salary dollars associated with the jobs, while value-added represents the additional value added to the state

economy as a result of increased waste management and remediation services. Output figures capture the total amount of additional output attributable to the tax exemption.

Table 4. Economic Impact Detail of the Sales Tax Exemption for Waste Management and Remediation Services for 2025

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
DIRECT	127	$12,532,106	$20,858,747	$49,392,349
INDIRECT	131	$9,448,063	$15,371,959	$28,156,935
INDUCED	100	$5,882,023	$11,826,140	$19,292,544
TOTAL	405	$27,862,192	$48,056,847	$96,841,828

Source: Institute of Government projections based on BEA data and IMPLAN 2023.

ALTERNATE USE OF FORGONE REVENUE

As part of this tax incentive evaluation, the research team estimated how much economic activity would be generated if the current exemption for waste management and remediation services did not exist and a tax on services was collected and spent by the state of Georgia. To compare the ROI of the counterfactual scenario to the current scenario, the research team modeled the economic impact of the alternate use of forgone revenue. The alternate use of forgone revenue assumes that the state collects sales tax on waste management and remediation services and spends that revenue on goods and services that the state typically provides to taxpayers. Forgone revenue is modeled in IMPLAN as the direct output of state spending.

The forgone revenue becomes the direct output of state spending, and IMPLAN traces the effects throughout Georgia's economy via direct, indirect, and induced channels. This method does not evaluate the performance of the NAICS 562 industry itself but instead estimates the economic benefits that could be supported if the state redirected additional tax revenue into its standard spending mix. The analysis begins with an estimate of the gross forgone revenue for 2025. Based on the taxable base and available state sale tax rates, Georgia would forgo approximately $79.67 million in potential sales tax revenue if the exemption for NAICS 562 services is maintained. In the alternate-use scenario, this full amount is treated as additional state spending and injected into IMPLAN as direct output. IMPLAN then traces how that spending supports jobs and production directly in government and government-funded activities, indirectly through suppliers, and also induced through household spending of wages.

Table 5 reports on the economic impact associated with collecting and spending $79.67 million in sales taxes collected on waste management and remediation services in 2025. According to IMPLAN estimates, $79.67 million in taxes on waste management and remediation services would support the equivalent of 1,326 state jobs, 110 indirect jobs generated through the

supplier network, and 306 induced jobs arising from household labor income. In total, the expanded state spending would support a total of 1,742 jobs across Georgia. In 2024, these jobs are concentrated in waste treatment and disposal sectors, not spread evenly across other subsectors, which reflects the structure of state and local government budgets. State and local government budgets allocate a substantial share toward payroll, education, public safety, health services, and contracted operations. The counterfactual model indicates that for each additional $1 million in state spending, 17 state jobs are created. Each additional $1 million in state spending also supports one indirect job and four induced jobs. In other words, each $1 million of additional state and local government spending financed by taxing NAICS 562 services is associated with about 22 total jobs, combining all effects.

Based on IMPLAN estimates, $79.67 million in state spending would add $83.7 million in labor income, $104.9 million in value-added, and $157.1 million in total economic output impact to Georgia's GDP. Comparing value-added to spending implies that each dollar of additional government spending in 2024 generates about $1.32 in Georgia GDP. These results should be interpreted with extreme caution because IMPLAN's multiplier-based algorithms simply apply percentages of a state's salary budget to all additional state revenues. IMPLAN scales public-sector employment based on historical spending patterns. It is highly unlikely that the state would add 1,326 new employees based solely on the results of such a tax. A more appropriate interpretation is that the model projects additional tax revenue sufficient to support that level of expanded employment The most likely case is that such a tax would result in some marginal expansion of state employment and an additional state budget surplus that would be directed towards other uses. Thus, the correct interpretation should be that the tax would generate sufficient revenue to support the equivalent of 1,326 state jobs. A large percentage of indirect and induced jobs may be attributed to the increased tax revenue would be offset by job losses attributed to a reduced service sector. An important point to note is that IMPLAN predicts that 127 waste management and remediation services sector jobs (Table 4) would be lost due to a tax on waste management and remediation services. The net effect of Tables 4 and 5 would amount to a net gain of 21 indirect jobs and 206 induced jobs.

Table 5. Economic Impact of $79.67 Million in State Taxes on Waste Management and Remediation Services, 2025

IMPACT	EMPLOYMENT	LABOR INCOME	VALUE ADDED	OUTPUT
DIRECT	1,326	$59,647,471	$58,706,038	$79,665,079
INDIRECT	110	$6,680,205	$11,763,499	$21,819,055
INDUCED	306	$17,401,661	$34,459,264	$55,640,035
TOTAL	1,742	$83,729,337	$104,928,801	$157,124,169

Source: Institute of Government projections and IMPLAN 2023. Note: Refer to the prior paragraph for guidance on the interpretation of results in Table 5.

NET ECONOMIC ACTIVITY

Under the counterfactual scenario, state sales tax was calculated on projected waste management and remediation services. Forgone state revenue is estimated at $79.67 million in 2025, increasing to $120.8 million in 2030 (Table 6). Over the six years from 2025 to 2030, total forgone state revenue amounts to $594.9 million. Table 6 also displays the value-added economic impact (GDP) of waste management and remediation services spending attributable to the exemption, which ranges from $48.06 million in 2025 to $61.76 million in 2030. The estimated ROI of Georgia's sales tax exemption on waste management and remediation services (Table 6), ranges from -38% in 2025 to -48% in 2030. In the counterfactual scenario, where the state collects and spends sales tax revenue on waste management and remediation services, the value-added impact ranges from $104.92 million in 2025 to $159.12 million in 2030. The ROI of the counterfactual scenario is 32% over the projected time period.

Table 6. Forgone State Revenue Due to the Sales Tax Exemption Waste Management and Remediation Services and Value-Added Economic Impact of Alternate Use Scenario, 2024-2030

	2024	2025	2026	2027
Gross Forgone State Rev.	$73,300,000	$79,665,079	$86,582,876	$94,101,386
Net Forgone State Rev.	$71,744,439	$78,145,141	$84,984,750	$92,421,050
Exemption Value-Added	$44,147,586	$48,056,847	$50,528,959	$53,128,241
ROI of Exemption[1]	-0.38	-0.39	-0.41	-0.43
Alt. Use Value-Added	$96,545,202	$104,928,801	$114,040,399	$123,943,211
ROI of Alternate Use[2]	0.32	0.32	0.32	0.32
	2028	**2029**	**2030**	
Gross Forgone State Rev.	$102,272,774	$111,153,733	$120,805,879	
Net Forgone State Rev.	$100,506,000	$109,296,073	$118,852,658	
Exemption Value-Added	$55,861,232	$58,734,833	$61,756,216	
ROI of Exemption[1]	-0.44	-0.46	--0.48	
Alt. Use Value-Added	$134,705,943	$146,403,269	$159,116,343	
ROI of Alternate Use[2]	0.32	0.32	0.32	

Source: Institute of Government projections based on Bureau of Economic Analysis (BEA) data and IMPLAN 2023.

1. ROI of the tax exemption is calculated based on Net Forgone State Revenue (i.e., gross forgone revenue less additional state taxes collected).
2. ROI of the alternate use is calculated based on Gross Forgone State Revenue.

Fiscal Impact

SB366 tax incentive evaluations are required to calculate the fiscal impact of credits and exemptions as well as the economic impact. The fiscal impact of tax exemption sums forgone state revenue, increased state tax collections, and any cost to the state of administering the exemption. Forgone revenue was calculated as 4.0% of taxable waste management and remediation services. The research team modeled additional state revenue generated by the exemption using IMPLAN. The research team could identify no recent examples of states that have established such a complex tax collection program as would be required to collect sales tax on waste management and remediation services. However, the cost of hiring and training additional staff, developing new tax forms, and programing software for a collection and auditing program would be substantial.

The difference in state tax between the current (with exemption) and counterfactual (without exemption) scenarios is displayed in Table 7. Increased state tax collections due to the exemption range from $1.5 million in 2025 to $1.95 million in 2030 for a total increase of $10.38 million over the six-year period. The fiscal impact of Georgia's tax exemption for waste management and remediation services ranges from -$78.15 million in 2025 to -$118.85 million in 2030. Fiscal impact of the exemption over the six-year period from 2025 to 2030 totaled to -$584.21 million in state revenue.

Table 7. Forgone State Revenue Due to the Sales Tax Exemption on Waste Management and Remediation Services, Increased State Tax Collections Due to the Exemption, and Fiscal Impact of the Exemption, 2025-2030

YEAR	FORGONE STATE REVENUE	INCREASED STATE TAX COLLECTIONS	FISCAL IMPACT
2025	-$79,665,079	$1,519,938	-$78,145,141
2026	-$86,582,876	$1,598,126	-$84,984,750
2027	-$94,101,386	$1,680,336	-$92,421,050
2028	-$102,272,774	$1,766,775	-$100,506,000
2029	-$111,153,733	$1,857,660	-$109,296,073
2030	-$120,805,879	$1,953,221	-$118,852,658
TOTAL	-$594,581,727	$10,376,056	-$584,205,671

Source: Institute of Government projections and IMPLAN 2023.

Ancillary Impacts

Although the intent of exempting services in general, and waste management and remediation services in particular, from sales tax in Georgia is not explicitly identified, it is assumed that it is because services are implicitly taxed as labor under the state's income tax. This sales tax

exemption for waste management and remediation services marginally stimulates economic development, and, though overlooked, plays a significant role in shaping business costs and economic activity across Georgia. The exemption for NAICS 562 services influences Georgia's economy through its effect on the operating costs of firms, local governments, and institutions, and households that rely on waste collection, treatment, disposal, and remediation. Because these services function as recurring, non-discretionary operating inputs for nearly every industry, exempting them from sales tax reduces the cost of compliance with environmental and public-health obligations across the state of Georgia.

This exemption plays an indirect role in supporting business operations by keeping the cost of required waste services lower for industries such as manufacturing, construction, hospitals, food services, logistics, utilities, and public institutions. Waste collection and disposal are essential, regulatory-driven services, and many businesses depend on remediation, hazardous-waste handling, septic services, and materials recovery to meet federal, state, and local environmental standards. Imposing sales tax on these services would raise the cost of waste removal, disposal contracts, environmental cleanup, and contamination-prevention work, which could translate into higher overhead costs for both private firms and public agencies.

Adopting a blanket sales tax on waste management and remediation services in Georgia would broaden Georgia's tax base, but it would also raise the cost of essential recurring services used by both households and firms. The impact of tax could vary across subsectors. Waste collection (NAICS 5621) tends to be relatively price-inelastic in the short run, meaning that demand would respond minimally to taxation because collection is required by regulation or necessity. Waste treatment and disposal (NAICS 5622), where activity is concentrated, may also show limited consumption changes, but costs would rise for industrial, municipal, and commercial generators. Remediation services (NAICS 5629) could see more variable responses, as some voluntary or discretionary cleanup activities, non-urgent remediation, or environmental consulting could be delayed or scaled back if costs increase. Large institutions, such as universities, hospitals, and local governments, would also experience cost increases, which could translate into budget shifts rather than expanded service demand.

There are both advantages and disadvantages to including NAICS 562 services in the sales-tax base. On one hand, a tax on these services could generate substantial revenue and broaden the tax base in line with Georgia's service-oriented economy. Because waste management and remediation services are necessary across sectors, extending from industrial waste streams to household garbage, demand is relatively stable. On the other hand, virtually all industries, local governments, school districts, hospitals, and utilities would face higher operating costs, since waste removal and environmental compliance are fixed components of their budgets. These increased costs would ultimately be distributed across businesses, residents, and public institutions. IMPLAN estimates of state spending impacts should be interpreted with caution;

the projected change in state and local government jobs reflects the budget equivalent effect of added revenue, not the number of workers Georgia is likely to hire in practice.

A key policy consideration is that imposing tax on waste management and remediation services would distribute costs very differently from taxing goods. Waste management and remediation services are heavily purchased by regulated industries, construction projects, health care facilities, and municipal governments. As a result, a new tax would raise operating costs broadly and could lead to a shift in institutional budgets, fee adjustments by local governments, or cost pass-through to businesses and households. Another consideration is cyclicality; remediation and environmental cleanup activity can vary with construction cycles, industrial investment, and environmental hazards, while routine waste collection and disposal remain comparatively stable. Any reliance on this category for revenue must therefore account for both stable and cyclical components of the sector.

In sum, imposing sales tax on NAICS 562 services would expand the tax base and increase state revenue, but it would also raise operating costs for businesses, local governments, and essential public facilities. Because these services are widely used and tied to regulatory and environmental requirements, the economic effects would be broad and distributed across many sectors. Policymakers evaluating this change would need to weigh the revenue benefits against the widespread cost increases and the downstream effects on industries and communities that depend on waste management and remediation services.

Appendix

A. INFORMATION ON NAICS SECTOR 562 AS DEFINED BY THE US CENSUS BUREAU[13]

According to the census's North American Industry Classification System, industries in the Waste Management and Remediation Services subsector group establishments engaged in the collection, treatment, and disposal of waste materials. These establishments include those engaged in local hauling of waste materials, operating materials recovery facilities (i.e., those that sort recyclable materials from the trash stream), providing remediation services (i.e., those that provide for the cleanup of contaminated buildings, mine sites, soil, or groundwater), and providing septic pumping and other miscellaneous waste management services. There are three industry groups within the subsector that separate these activities into waste collection, waste treatment and disposal, and remediation and other waste management.

Excluded from this subsector are establishments primarily engaged in collecting, treating, and disposing waste through sewer systems or sewage treatment facilities that are classified in Industry 22132, Sewage Treatment Facilities, and establishments primarily engaged in long-distance hauling of waste materials that are classified in Industry 48423, Specialized Freight (except Used Goods) Trucking, Long-Distance. Also, there are some activities that appear to be related to waste management, but that are not included in this subsector. For example, establishments primarily engaged in providing waste management consulting services are classified in Industry 54162, Environmental Consulting Services.

B. ECONOMIC MODELING USING IMPLAN

Economic impact modeling is a technique used to estimate how a new firm, facility, or policy change will affect a region's economy. Such estimates are often produced using an input-output model that first calculates a baseline forecast of economic activity for the geographic region and then estimates how shocks (inputs) to the economy alter economic activity (output). In this report, Institute of Government researchers estimated the economic impact of a tax on waste management and remediation services.

Institute researchers use IMPLAN, a widely used county-level economic model of the United States, to estimate the economic impact of the special deduction[14]. This model produces a baseline economic forecast using data from the US Census Bureau, the North American

[13] https://www.census.gov/naics/?input=562&year=2022&details=562

[14] IMPLAN® model, 2021 Data, using inputs provided by the user and IMPLAN Group LLC, IMPLAN System (data and software), 16905 Northcross Dr., Suite 120, Huntersville, NC 28078 www.IMPLAN.com

Industry Classification System (NAICS), the Bureau of Economic Analysis, and the Bureau of Labor Statistics as well as other data from the US Department of Commerce.

In IMPLAN, an input, or change to the economy, is added to the model. Inputs can be new jobs, labor income, increased demand for goods and services, or policy changes, such as tax deductions. IMPLAN estimates the increase or decrease in economic activity resulting from the change. The economic measures reported by the model include the number of jobs supported, the labor income associated with those jobs, the value added (or lost) to the economy in the geographic region being studied, and the total economic output added (or lost) because of the change. IMPLAN provides estimates of the direct, indirect, and induced effects of an economic event – in this case, the waste management and remediation services sales tax exemption. Direct, indirect, and induced effects are estimated for employment, labor income, value-added impact, and total output impact.

C. PRICE ELASTICITY OF DEMAND

The central question in most tax exemption studies is commonly referred to as the "but for" question. It seeks to answer the question, "But for the tax exemption, how would taxpayers behave, and thus, would resultant tax collections be different?" As there doesn't exist any evidence, in case of taxation on the waste management and remediation services, a question might be asked, similar to giving a counterfactual example, "How would new waste management and remediation services-related taxes might be different if any tax on these services were enacted?"

In the field of economics, this amounts to estimating the price elasticity of demand for waste management and remediation services. By definition, the price elasticity of demand for any good implies a percentage change in the quantity demanded given a 1% change in its own price. To apply this concept to the case of waste management and remediation services, it can be said that if the price of waste management labor (services) were to rise by 1% in the absence of sales tax exemption, the demand could be expected to either decrease or stay the same, depending on the buyer's sensitivity to price (i.e., elasticity). If, due to a price increase, the demand for these services is responding negatively and is falling, the demand for waste management and remediation services can be referred to as elastic. If the demand stays at the same level, it would be termed inelastic. So concisely, "but for" is similar to estimating the price elasticity of demand. In this section, researchers explore what would happen if the sales tax were collected *and also define challenges linked to estimating the economic impact of the exemption.*

When considering imposing a tax on waste management and remediation services, understanding the price elasticity of any waste disposal service-related demand is important. Researchers hypothesize that a tax on services will raise the overall price of services provided by any sector. If the cost of necessary services increases, several outcomes are possible. For essential and regulatory-driven activities, such as routine collection, landfill disposal, hazardous waste handling, or mandated cleanups, quantities are unlikely to change substantially because consumers cannot easily reduce or avoid these services. In contrast, discretionary or flexible activities, such as elective remediation projects or non-urgent environmental consulting, may show small reductions or delays. To the Institute researchers' knowledge, there are no direct, publicly available estimates of price elasticity of demand for NAICS 562. So, this study considers derived or assumed elasticity, not empirically published for NAICS 562. The Institute calibrated its elasticity assumption using evidence from closely related waste-service markets that have been studied in economic literature.

Meta-analysis of municipal solid waste pricing done by Bel and Gradus (2016), reports an average elasticity of -0.34 with most estimates falling between 0 and -0.7 in absolute value[15].

[15] Effects of Unit-based Pricing on Household Waste Collection Demand: A Meta-Regression Analysis. https://www.sciencedirect.com/science/article/pii/S0928765516000269

Another study by Fullerton and Kinnaman (1996) estimates an elasticity of 0.23 for municipal solid waste under per-bag pricing[16]. Recent European studies (2022-2024) on weight-based residual waste tariffs find elasticities of approximately -0.20 to -0.24[17]. Sigman (1996) found very inelastic disposal behavior, with only small reductions even under meaningful taxes[18]. Across these studies, it is consistent that waste-related services, especially those tied to regulation, environmental compliance, and public health, exhibit limited responsiveness to price. Users cannot easily avoid routine collection, required disposal, or mandated cleanups.

Across all these studies, the dominant and most reliable general range for waste-service elasticities falls between -0.20 to -0.40, reflecting the essential and regulated nature of waste services. As NAICS 562 combines highly inelastic activities with some partially discretionary activities, the Institute selected a representative estimate near the midpoint of this available literature range. The researchers took a midpoint (-0.30) of the primary range of -0.20 to -0.40, because NAICS 562 mostly consists of required, regulated waste services similar to the markets in these studies. Part of NAICS 562 (5629) includes non-urgent remediation, which is comparatively price sensitive. Hence, to reflect these issues, researchers adjust the midpoint slightly to downward (more elastic). Finally, this study considers the elasticity value of -0.33.

In empirical terms, an elasticity of -0.33 means that a 1% increase in the price of NAICS 562 services is expected to reduce quantity demanded by approximately 0.33% percent. This small response is consistent with the inelastic behavior observed in the waste service literature and implies that many NAICS 562 services are required for environmental compliance and cannot easily be reduced.

Using the 0.33 elasticity assumption, the study calculates revenue and demand effects by modelling the price increase induced by a new sales tax incorporating the existing state sales tax of 4% and then estimating the reduction in quantity demanded of NAICS 562 services. The reduction in quantity is then used to adjust the projected tax base downward, yielding revenue forecasts and informed insights into industry impacts and competitiveness risks.

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[16] The Economics of Residential Solid Waste Management.
https://www.nber.org/system/files/working_papers/w7326/w7326.pdf

[17] Toshiaki Sasao, Simon De Jaeger, Loïc De Weerdt (2021). Does weight-based pricing for municipal waste collection contribute to waste reduction? A dynamic panel analysis in Flanders, Waste Management, Volume 128, Pages 132-141.
https://www.sciencedirect.com/science/article/pii/S0956053X21002543

[18] Sigman, Hilary (1996). The Effects of Hazardous Waste Taxes on Waste Generation and Disposal. J. of Environmental Economics and Management.
https://www.sciencedirect.com/science/article/pii/S0095069696900145

D. APPENDIX

Table A1. Industry Description of NAICS 562

NAICS	Sector Name	Description
56211	**Waste Collection**	Includes solid waste, recyclable material, and yard waste collection services.
562111	Solid Waste Collection	
562112	Hazardous Waste Collection	
562119	Other Waste Collection	
56221	**Waste Treatment and Disposal**	Specializes in treatment and disposal of both hazardous and nonhazardous waste.
562211	Hazardous Waste Treatment and Disposal	
562212	Solid Waste Landfill	
562213	Solid Waste Combustors and Incinerators	
562219	Other Nonhazardous Waste Treatment and Disposal	
56291	**Remediation Services**	Performs environmental cleanup of contaminated sites, including soil and groundwater.
562910	Remediation Services	
56292	**Materials Recovery Facilities**	Operates facilities for sorting and recovering recyclable materials from mixed waste.
62920	Materials Recovery Facilities	
56299	**All Other Waste Management Services**	
562991	Septic Tank and Related Services	Services related to septic systems, including pumping and maintenance.
562998	All Other Miscellaneous Waste Management Services	Covers miscellaneous waste management services such as grease trap cleaning or portable toilet rental.

Source: North American Industry Classification System, Census Bureau[19].

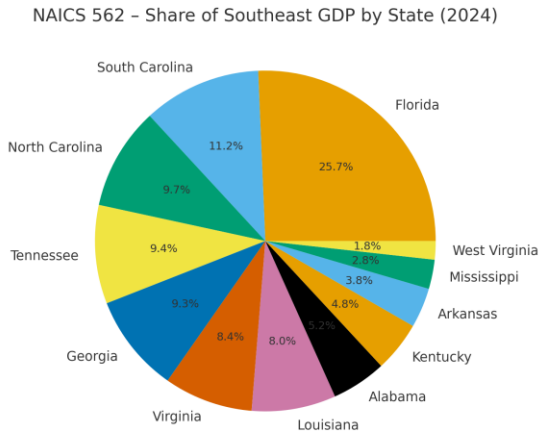
Table A2. Employment by Waste Management and Remediation Services Sub-sector in Georgia, 2020-2024

NAICS	Industry	2020	2021	2022	2023	2024
5622	Waste treatment and disposal	6129	6358	6717	7080	7622
5629	Remediation and other waste management	1320	1334	1535	1519	1483
5621	Waste Collection	3241	3434	3613	3977	4178

Source: Institute of Government calculation based on QCEW, 2025 data.

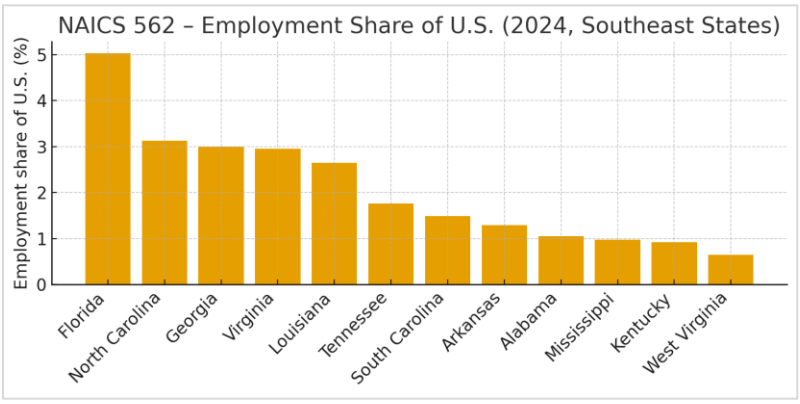
[19] https://www.census.gov/naics/?input=562&year=2017&details=562

Figure A1. Share of GDP by Southeast States for NAICS 562



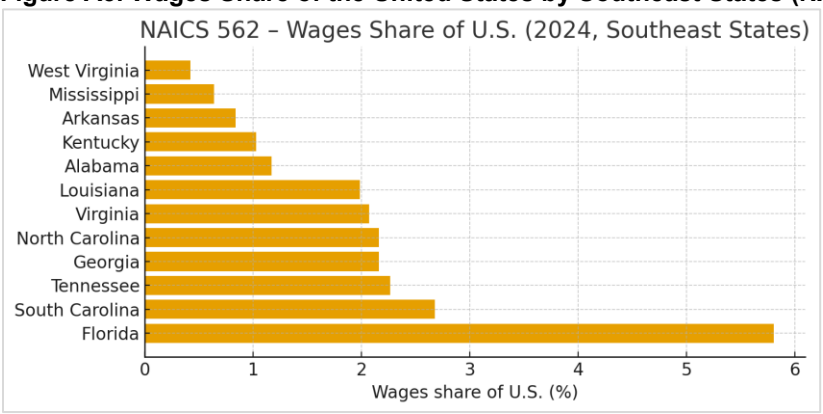
Source: Institute of Government projections based on QCEW data.

Figure A2. Employment Share of the United States by Southeast States (NAICS 562), 2024



Source: Institute of Government projections based on QCEW data.

Figure A3. Wages Share of the United States by Southeast States (NAICS 562), 2024



Source: Institute of Government projections based on QCEW data.