

Introduction

The construction industry is the second largest industry in the United States. Because construction is an exciting, dynamic process, which often provides high income for workers and contractors, it provides an appealing career opportunity. However, the seasonal and sporadic nature of construction work often serves to significantly reduce the annual income of many workers. In addition, construction contracting is a very competitive business with a high rate of bankruptcy.

Construction intersects almost all fields of human endeavor, and this diversity is reflected in its projects. Designers of hospitals interact closely with medical professionals to best serve the needs of patients. Educational philosophies and practices take shape in the architecture of schools and colleges, while governments and corporations express their “images” with structures that house their offices and production facilities. The design and construction of refineries, factories, and power plants generally require that the builders be more knowledgeable of the related industrial technologies than the manufacturers and utilities that operate them. Builders of dams, tunnels, bridges, and other civil works today must be geologists, ecologists, and sociologists as well as architects, engineers, and managers. And most of us, in our homes, recognize how intimately the design and quality of our constructed environment either enhance or frustrate our personal lives.

Given this central focus of construction on every individual’s life, this study undertook the analysis of the economic impact that the construction industry has on the State of Georgia. In developing the results presented in this study, data was analyzed from both public and private sources. From the public sector, data from the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the Federal Reserve Board and the U.S. Department of Housing and Urban Development provided initial input for both national and regional construction statistics. From the private sector, data originated from the Construction Market Data (CMD) Group that is responsible for an array of industry tracking reports.

Given this information as a foundation, the research team conducted a survey of a representative sample of projects and participants from those commenced in 1998. Selecting a set of small, medium, and large-scale projects from each of the industry sectors, the research team surveyed 500 participating general contractor, subcontractor, and AE firms. As a follow-up to this survey, a second round of surveys was sent out to 320 additional companies to validate responses and increase response rate to the desired 20%. The responses given in these surveys, together with the data collected from the public and private sources, provided the basis for the conclusions presented in this report.

Construction in the State of Georgia¹

Overall, the construction economy in the State of Georgia and throughout the Southeast continued to be strong in 1998, reflecting the overall strength in the economy within the region.

¹ Parts of this section are adapted from data available from the U.S. Census Bureau and the, “1999-2000 U.S. Markets Construction Update,” FMI Corporation, Sanya King, Editor, 1999.

Inflation remained low at under 4% and economic expansion continued for the 8th consecutive year. Unemployment remained at the lowest rate in more than 30 years and consumer confidence continued at historic high levels. The stock market continued its climb into record territories and high-tech firms, both in Georgia and throughout the country, took their places as dominant players in the new economy.

In addition to these positive aspects, some negative factors influenced the construction market during 1998. First, the craft labor situation remains a primary concern throughout the industry. Specifically, the continued shortage of qualified labor is a concern that registers throughout all the sectors in the construction industry. Although 1998 witnessed a continued climb in the number of companies supporting craft education and construction programs in secondary and post-secondary education institutions, the construction industry continued to face a decline in the number of individuals choosing construction as a career choice. The emergence of new information careers in the high-tech, finance, and service sectors continued to attract new entrants to the workforce and put continued strain on the construction industry. Finally, lack of support from the State and significant marketing of competing industries continued to place construction in a catch-up position to attract top workforce entrants.

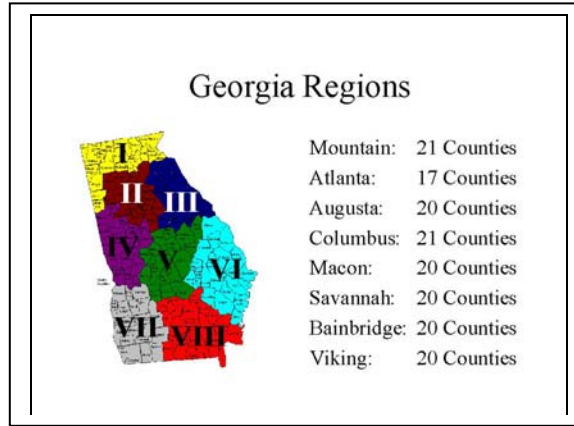
Overall Numbers

Based on the data collected in this study and the data available from research centers related to the construction industry, it is the research team's estimate that construction volume in the State of Georgia increased 5.8% from 1997. This increase translates into a total construction volume of \$14.283 billion. This total corresponds to 15.28% of the \$93.5 billion that was spent in the South Atlantic region and 2.2% of the \$657 billion spent nationally on construction in 1998. Associated with this volume is a direct payroll of 180,000 jobs in Georgia and a payroll of \$5.124 billion as tracked by the Bureau of Labor Statistics.

As a comparison, 1997 statistics illustrate that notable industries within the state had revenues as follows: the information and communication industry had revenues of \$18.939 billion, the health care industry had revenues of \$12 billion, and the education industry had revenues of \$413 million. As a further comparison, in 1997, the last year of complete statistics published by the U.S. Census Bureau, the following totals were developed for the industry classifications in Georgia:

Industry	Employees	Payroll
Construction	180,000	\$ 5,124,000,000
Agricultural Services, Forestry, And Fishing	23,355	451,935,000
Mining	6,929	261,329,000
Manufacturing	599,516	18,809,856,000
Transportation And Public Utilities	228,044	8,840,073,000
Wholesale Trade	225,959	8,718,045,000
Retail Trade	669,520	9,757,509,000
Finance, Insurance, And Real Estate	194,991	7,638,412,000
Services	996,320	26,493,067,000
Health Services	276,001	8,631,939,000

Dividing the overall total into geographic sectors, the following table and graphs illustrate the estimated breakdown in the eight regions identified for this report and illustrated in the following graphic.



Region Number	Estimated Revenue	Percent of Total
I	\$ 599,886,000	4.2
II	\$9,641,025,000	67.5
III	\$ 628,452,000	4.4
IV	\$1,399,734,000	9.8
V	\$ 642,735,000	4.5
VI	\$ 799,848,000	5.6
VII	\$ 314,226,000	2.2
VIII	\$ 242,811,000	1.7

Dividing this total by industry sectors, the following table illustrates the estimated breakdown in the industry categories identified for this report.

Sector	Estimated Revenue	Percent of Total
Residential	\$7,859,172,000	55.03
Commercial & Industrial	\$2,676,809,000	41.67
Government	\$2,021,578,000	31.47
Heavy & Highway	\$1,034,236,000	16.10
Utilities	\$ 691,204,000	10.76

Economic Presence of the Construction Industry²

The Georgia Input-Output Impact Model provides estimates of growth likely from economic development opportunities and initiatives. The model estimates new household income, employment, state and local tax revenues, and industrial activity associated with new funds brought into the economy. The 1998 total impact of construction activity on the State of Georgia over 525 industries within the Georgia input-output model can be seen as follows:

Total Revenues:	\$26.589 billion
Total Employment	346,302 jobs
Personal Income:	\$9.728 billion
Business Taxes:	\$849 million

This impact represents a 2 to 1 impact from the initial construction expenditures. However, it should be noted that this impact is from a one-year construction expenditure. The continued expenditure of similar amounts over a continued period of time will have a cumulative effect on the Georgia economy. Similarly, the 2 to 1 ratio identified here represents the impact on Georgia private industries. An expanded impact is in evidence when the impact on industries outside the state are considered and the impact created by additional public sector jobs and services. Estimates for this total impact have been reported to be as high as 4 or 6 to 1 ratios.

As summarized in the economic presence table in Appendix I, the economic presence of the construction industry is spread throughout Georgia's industries. From manufacturing to services, construction revenue is recirculated into both closely related and non-related industries. For example, an illustration of a closely related impact is in the finance and real estate industries where the construction industry has a financial impact of \$1,889,551,510. Similarly, illustrations of non-direct impact occur in the food industry where an impact of \$238,199,213 is contributed and the wholesale and retail trade industries where an economic impact of \$3,135,237,700 is detected.

The overall result of this impact is an industry that is distributed throughout the state in a manner that is greater than that seen through construction sites. Specifically, the construction industry is a direct contributor to the economic health of Georgia through a diverse set of industries and personal expenditures. When combined with the profiles of industry firms that indicate existence in terms of decades, it is clear to see how construction is a primary component of the permanent Georgia economy.

² Parts adapted from: Riall, William (1994). "The Georgia Input-Output Impact Model," Georgia Tech Economic Development Research Program, Economic Development Institute.

An Industry Profile

The data collected in this study provides a foundation for creating a profile of a typical construction-related organization within Georgia. In this profile, the characteristics of a typical organization were developed based on a sample of organizations responsible for over \$2 billion in construction-related revenue in the State of Georgia in 1998.

Project Size

Projects within Georgia vary widely in size as is typical throughout the United States. The organizations profiled in the current study follow the national pattern of both large companies and small businesses operating together in a single geographical area. These companies were involved in annual installed construction totals that ranged from \$70,000 to \$394,000,000. This variance is significant for one central point, the construction industry permits both sole proprietors and large organizations to pursue opportunities in the construction domain. In contrast to industries such as the manufacturing domain and many facets of the high-tech domain, the construction industry provides abundant opportunities for an array of organizations and entrepreneurs.

Company Size, Demographics, and Experience

As stated earlier, the size of construction-related organizations within the State of Georgia varies widely from one or two employees to several hundred employees. However, the profile of a construction-related organization within Georgia reflects an average size of 15 salaried employees and 45 hourly employees for contracting organizations and 36 salaried employees for design and engineering firms. While significant attention has been paid to the economic boom in Georgia during the last decade and the influx of new industries, the construction industry remains a core industry in Georgia. The average time for a company being in business in the State is 24 years. This length of time is significant because it represents stability in both employment opportunities and generated revenue for the State. Although construction is a cyclical business, the industry does not evaporate during low points in the cycle. Rather, construction industries attempt to retain employees for extended careers and in turn have provided the State of Georgia with a stable tax base for many decades.

Public vs. Private Projects

Images of construction in Georgia often focus on the large amount of commercial development that is occurring throughout the State. While that is definitely true, a large percentage of construction projects remain in the public sector. Specifically, the profile of a contractor in Georgia reflects that 75% of the number of projects started in 1998 were publicly funded, while design firms had 48% of their projects publicly funded. Residential projects deviate from these facts with 94% of projects being privately funded. Of particular note in public sector projects is the number of small projects from public entities such as local school boards, which support the smaller construction-related organizations within the State. Although these projects may not be as large as many of the privately funded projects under development, the frequency and availability of these projects form the backbone of many organization work portfolios.

Labor Posture

Union and non-union projects are always an issue in the construction industry. The results received in this survey should be read as they are being provided, as a profile of the industry and not necessarily as a comprehensive summary. With this as a caveat, the following profile can be summarized. First, as an overall industry, contractors in Georgia tend to use a non-union format to a greater degree than a union format, with commercial and residential general contractors each

reporting over 90% of their projects conducted in an open-shop format. However, it is important to note that there is a difference when specialty or sub-contractors are considered. For example, electrical contractors ... The conclusion from this data should thus be interpreted that Georgia is still open to both labor postures and further studies will be required to monitor the trends within the industry.

Revenue and Profit

Revenue within Georgia firms can be as varied as the size of firms. Gross revenue from surveyed firms ranged from \$70,000 to \$409,000,000. This wide variation makes it difficult to create a "typical" profile of a given firm since an average is an inaccurate measure for this data. However, a better measure of financial data is a comparison between net and gross revenue and an analysis of the change in profits for 1998. In relation to these data points, net revenues for 1998 ranged from \$34,000 to \$1,856,585. Focusing on projected revenues for 1999, these same organizations project a general increase in revenues, with the average organization projecting an increase of gross revenue of approximately 10%. However, these same organizations are predicting a drop in net revenue due to increases in salary and other overhead considerations.

Part V - Implications

The development of the GCEIS data and report provides a basis for developing several conclusions on the implications of the current direction of the construction industry within the State of Georgia.

First, an implication relating to education is a significant element of the construction industry. The continued issue of lack of qualified personnel is one that must be addressed before the construction industry finds itself unable to keep pace with the demand for construction. If this occurs, a greater number of out-of-state organizations will begin to fill the void, thus leading to a greater percentage of revenues leaving the state for other locations. Addressing this education need should become a priority for state authorities. Specifically, a greater emphasis on introductory courses at a high school level, professional courses at a university level, and lifelong learning opportunities at a professional level should be pursued and implemented. While it is true that new industries such as telecommunications and computing are creating large opportunities for Georgia, it should not be forgotten that the construction industry has traditionally played, and will continue to play, a significant role in the Georgia economy.

Second, an implication relating to government regulations is an important component of the construction industry. Although it is important to protect the interests of construction consumers, regulatory bodies too often create environments where the individual constituents within the construction industry must spend more time in conflict with each other than they do on developing better solutions for the general public. The State of Georgia is not immune to this tendency. Continued attempts to legislate advantages for one constituency over another within the industry such as in the context of insurance, environmental protection, or bonding regulations, is leading to an ever increasing antagonism within the construction industry. This is not productive for the general public. Rather than legislating antagonism, the State of Georgia should look at ways to work collaboratively with the construction industry to ensure that the concerns of both consumers and providers are equally addressed.

Finally, an implication regarding the need for greater data has become evident in this study. While a segment of industries enjoy significant data banks to support their efforts, the construction industry is lacking comparable data. Many theories exist for why this lack of data exists including lack of support by the industry, lack of interest by the government, and lack of participation in elected bodies. However, the actual reason is less important than the conclusion that greater data is required in this industry. Whether this data is sponsored by the State or through private efforts, the construction industry deserves to have its voice heard through statistics and through recognition by public officials.

Appendix I – Economic Presence Data

Description	Business Revenue	Employment	Employee Compensation	Business Taxes	Personal Income
Construction	14,476,705,418	182,877	4,028,866,835	106,374,259	5,211,809,337
Agriculture	130,835,709	2,837	25,723,139	2,500,686	53,406,267
Mining	14,263,613	123	4,225,576	505,853	4,443,401
Food	238,199,213	1,140	36,581,437	1,987,174	37,615,751
Tobacco	47,484,774	37	3,492,982	8,381,036	3,750,907
Textiles and Apparel	77,498,598	902	19,328,959	399,513	20,166,438
Lumber and Wood Products	895,262,925	7,145	209,370,881	7,074,229	252,572,229
Furniture and Fixtures	44,165,255	558	14,338,266	173,370	15,349,604
Paper and paper Products	42,364,755	217	9,044,914	422,483	9,279,510
Printing and Publishing	94,819,747	928	30,716,474	2,143,215	34,705,010
Chemicals and allied Products	130,491,891	489	23,865,887	1,166,519	25,109,834
Petroleum Refining	90,662,731	270	13,079,841	2,176,646	12,851,751
Rubber and Plastics	4,314,589	30	955,957	19,206	973,598
Leather Products	3,612,782	67	1,417,041	23,899	1,452,302
Stone, Clay, and Glass	27,680,414	246	8,253,863	283,174	8,622,338
Primary and Fabricated Metals	98,520,659	666	23,084,583	814,902	24,553,036
Machinery Manufacturing	239,728,814	1,385	50,145,077	4,295,714	52,364,811
Electrical Machinery	204,249,964	1,103	52,524,913	1,565,085	54,107,578
Transportation Equipment	48,287,300	165	8,466,063	573,931	9,012,508
Miscellaneous Manufacturing	49,270,570	562	19,619,005	360,677	20,255,415
Transportation and Utilities	1,250,389,039	9,137	333,294,669	67,453,062	382,474,758
Wholesale and Retail Trade	3,135,237,700	65,070	1,330,701,090	434,381,830	1,413,619,580
Finance, insurance, and real estate	1,889,551,510	9,843	320,544,280	162,510,869	340,102,000
Hotels and Lodging Places	120,805,400	2,175	39,313,000	8,653,720	45,778,880
Personal and Business Services	935,371,546	18,983	332,518,737	20,954,129	407,260,495
Entertainment	122,018,158	2,777	37,612,888	3,879,084	42,756,225
Professional Services	966,810,230	14,026	478,258,710	5,553,708	615,565,910
Education	109,210,830	2,891	57,089,048	371,125	59,199,551
Child and Social Services	58,927,594	1,832	30,991,970	109,537	30,991,970
Organizations	64,793,790	2,328	31,949,041	122,223	31,903,631
Consulting Services	778,874,740	11,655	360,986,847	3,460,848	408,944,995
Government Services	198,093,835	3,823	96,815,940	0	96,815,940
TOTALS	26,588,504,104	346,302	8,033,177,924	848,691,719	9,727,815,570

