ECONOMIC IMPACT STUDY

FOR THE FLORIDA CONCRETE SECTOR

NOVEMBER 2017

Submitted To:

Concrete Coalition of Florida

Submitted By:

The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789

Contact:

Michele Stropoli, Executive Director
Florida Independent Concrete & Associated Products, Inc (FICAP)
P.O. Box 953905
Lake Mary, FL 32795-3905
Ph: 407-302-3316

Contact:

Valerie Seidel, President
Ph: 407-629-2185 x 104
Email: vseidel@balmoralgroup.us

Contents

Tables

Figures

Executive Summary

Concrete Coalition of Florida

The Concrete Coalition of Florida generates substantial economic output in the State of Florida. The Coalition covers three sectors: quarrying and mining of cement-related raw materials; manufacture of cement- and concrete materials and products; and installation and sale, through contractors and retailers, of cement, concrete and concrete products. The Coalition includes the Florida Independent Concrete and Associated Products (FICAP), Florida Concrete & Products Association (FC&PA) and the Masonry Association of Florida (MAF). An economic impact analysis was performed using IMPLAN to identify the statewide spending, income, and employment benefits that accrue to the State of Florida and its residents. The results estimate the annual economic contribution that would not occur without the ongoing business and operations of members of the Coalition[1].

Economic Contributions of the Florida Concrete Coalition

Table 1 shows the total 2017 economic contribution from concrete coalition activities, with a breakdown by sector. The estimated 2017 economic impact is just over $16 billion, generating over $1.6 billion in tax revenue for Florida each year. Importantly, the Coalition's members support just under 88,000 jobs, of which at least 40% require at least vocational training in manufacturing and/or construction skills – an increasingly scarce commodity which has critical implications for an aging workforce.

Table 1. Total Economic Contribution of the Concrete Coalition, 2017

Sector	Economic Output ($ millions)	Employment	Labor Income ($ millions)	Total Value Added ($ millions)	Tax Revenue ($ millions)
Construction	$6,903	44,079	$1,983	$3,335	$714
Manufacturing	$8,939	41,317	$2,248	$3,936	$855
Retail	$279	2,400	$100	$168	$47
Total Annual Value[2]	**$16,122**	**87,795**	**$4,330**	**$7,439**	**$1,616**

Note: Definitions provided on following page

Table 2 provides a breakdown of the direct employment and labor income, as well as the estimated effects of value added activities; the Concrete Coalition's members produced more than $7.4 billion in value added for the State of Florida in 2017.

Table 2. Economic Contribution of Range Expenditures, 2017

	Economic Output ($ millions)	Employment	Labor Income ($ millions)	Total Value Added ($ millions)	Tax Revenue ($ millions)
Direct	$8,361	37,830	$1,899	$3,279	$606
Indirect	$4,400	25,644	$1,370	$2,263	$548
Induced	$3,360	24,321	$1,061	$1,897	$462
Totals	**$16,122**	**87,795**	**$4,330**	**$7,439**	**$1,616**

Source: TBG calculated, using IMPLAN

[1] IMPLAN is an econometric modelling application that generates regional economic impact multipliers with input-output (I-O) models based on Bureau of Economic Analysis data.

[2] See definitions on following page.

Definitions:

- Total Annual Economic Contribution includes the contribution of Coalition-related expenditures to output, labor and proprietor's income, other property type income, employment and tax revenues.
- Output is defined as the value of the additional goods and services produced in the study area due to the industry-related activities.
- Employment includes the number of full-time and part-time jobs created due to the industry-related activities.
- Income is the sum of wages, salaries, proprietor's income, profits, rents, royalties and dividends due to the industry-related activities.
- Tax revenue is the sum of the excise taxes, property taxes, fees, licenses, and sales taxes collected due to the industry-related activities. It excludes taxes on profit and income because these values are included in the income contribution reported in the table.
- Value added is the difference between final industry output and the cost of intermediate inputs; value added includes compensation of employees (inclusive of benefits) and proprietor, other property type income (rents, royalties and dividends), and business taxes on production and imports, less subsidies.
- Direct effects reflect the spending at businesses within the cement and concrete-related industry activities. Spending which leaves the study area (in this case, Florida) is known as leakage and removed, thus reducing direct effects to less than 100% of total spending.
- Indirect effects reflect spending generated when industry-related businesses purchase from other businesses.
- Induced effects reflect spending by households as income increases or decreases based on changes in production of industry-related goods and services.

Background and Methodology

Study Purpose

The purpose of the economic impact analysis ("EIA") is to quantify spending, income, and employment benefits that accrue to the State of Florida and its residents that would otherwise not occur without the ongoing business and operations of members of the Concrete Coalition. The Concrete Coalition aims to grow the demand for concrete and concrete products of the cement, aggregates, ready mix concrete, concrete masonry, and pre-stressed concrete industries. The Coalition includes the Florida Independent Concrete and Associated Products (FICAP), Florida Concrete & Products Association (FC&PA) and the Masonry Association of Florida (MAF).

Economic Contribution of the Concrete Coalition

The estimated 2017 economic contribution of the Florida concrete coalition is provided in **Table 3.** The economic impact of concrete coalition expenditures on output in the economy is $16.1 billion. Direct expenditures increase output by $8.4 billion. Indirect impacts generated by the production of these goods and services added an additional $4.4 billion. Finally, induced impacts generated by local spending from higher wage income and business profits resulted in $3.4 billion of additional output. Total concrete coalition employment equals 87,795 people, labor income totals $4.3 billion, and total value added is $7.4 billion. Tax revenue related to the concrete coalition totals $1.6 billion.

Table 3. Economic Contribution of Range Expenditures

	Economic Output ($ millions)	Employment	Labor Income ($ millions)	Total Value Added ($ millions)	Tax Revenue ($ millions)
Direct	$8,361	37,830	$1,899	$3,279	$606
Indirect	$4,400	25,644	$1,370	$2,263	$548
Induced	$3,360	24,321	$1,061	$1,897	$462
Totals	**$16,122**	**87,795**	**$4,330**	**$7,439**	**$1,616**

Source: TBG calculated

By looking at value added by industry in **Table 3**, the effects of the concrete coalition on specific sectors in Florida can be determined. Total value added is a broad measure of income, representing the sum of employee compensation, proprietor income, other property income, indirect business taxes, and capital consumption (depreciation). It does not include the purchase of intermediate goods and services, so is an accurate measure of net new economic activity in each business sector.

The three largest IMPLAN employment sectors in the concrete coalition are: Manufacturing, Construction, and Retail. Modelling these three sectors individually, instead of at the statewide aggregated level, the sector models produced economic output of $6.9 billion for Construction, $8.9 billion for Manufacturing, and $279 million for retail (**Table 4**).

Table 4. Economic Contribution of the Concrete Coalition by Sector, 2017

Model	Economic Output ($ millions)	Employment	Labor Income ($ millions)	Total Value Added ($ millions)	Tax Revenue ($ millions)
Construction	$6,903	44,079	$1,983	$3,335	$714
Manufacturing	$8,939	41,317	$2,248	$3,936	$855
Retail	$279	2,400	$100	$168	$47
Total Annual Value	**$16,122**	**87,795**	**$4,330**	**$7,439**	**$1,616**

Source: TBG calculated

Summing the statewide IMPLAN results instead by NAICS code, **Table 5** shows the largest impact was felt in Manufacturing, generating nearly $5.3 billion in overall output and $1 billion in labor income for 15,959 employees. Other sectors that are affected substantially include the Wholesale Trade, Professional- Scientific & Tech Services, Finance & Insurance, and Transportation & Warehousing sectors.

Table 5. Economic Impact of Concrete Coalition by Business Sector

NAICS Sector Number & Description	Economic Output ($ millions)	Employment	Labor Income ($ millions)	Total Value Added ($ millions)
11 Ag, Forestry, Fish & Hunting	$21	265	$8	$11
21 Mining	$484	1,771	$87	$268
22 Utilities	$237	179	$22	$104
23 Construction	$3,782	22,974	$980	$1,627
31-33 Manufacturing	$5,266	15,959	$1,010	$1,778
42 Wholesale Trade	$662	2,620	$217	$422
44-45 Retail Trade	$683	8,267	$285	$446
48-49 Transportation & Warehousing	$582	3,610	$192	$254
51 Information	$396	907	$82	$174
52 Finance & Insurance	$638	3,158	$199	$286
53 Real Estate & Rental	$576	3,041	$76	$380
54 Professional- Scientific & Tech Services	$643	5,270	$327	$385
55 Management of Companies	$259	1,173	$118	$152
56 Administrative & Waste Services	$320	5,096	$167	$204
61 Educational Services	$48	735	$28	$30
62 Health & Social Services	$449	4,332	$249	$279
71 Arts- Entertainment & Recreation	$89	1,090	$34	$53
72 Accommodation & Food Services	$244	3,710	$91	$144
81 Other Services	$294	3,312	$130	$160
92 Government & Non NAICS	$449	327	$28	$282
Totals	**$16,122**	**87,795**	**$4,330**	**$7,439**

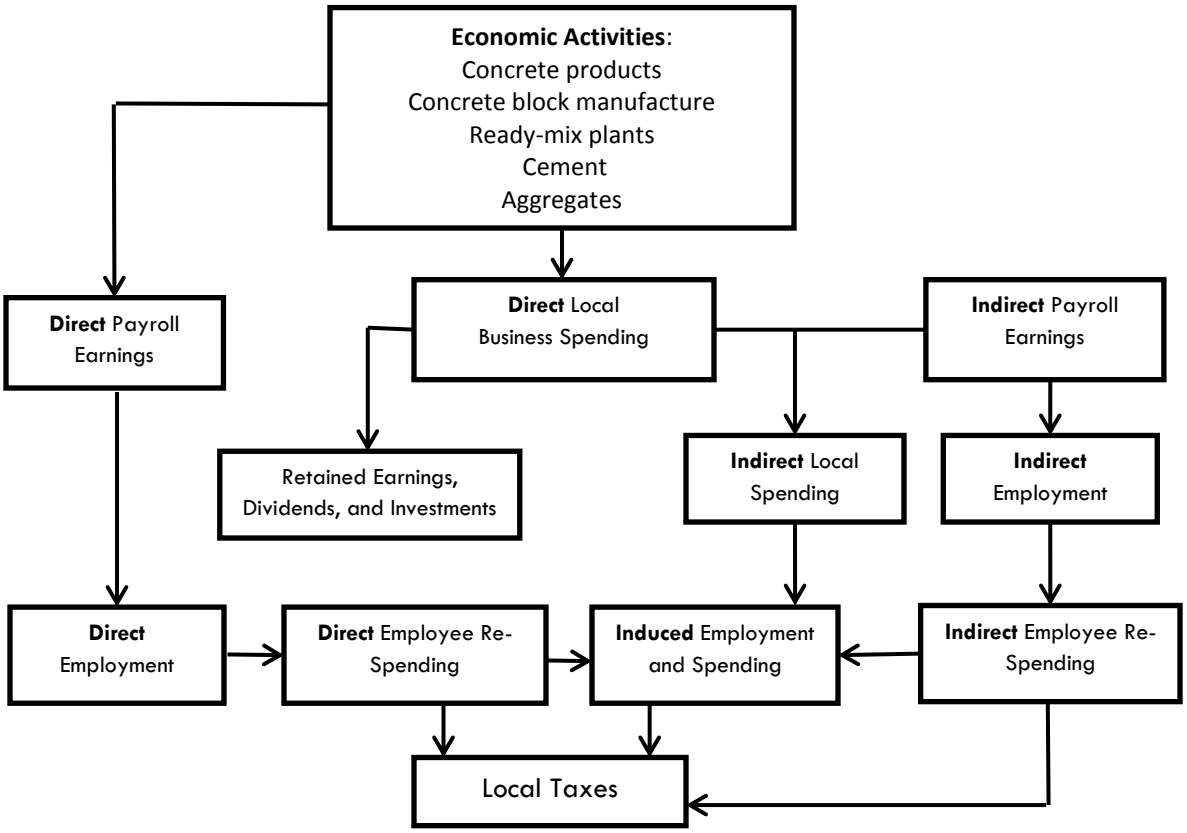
Source: TBG calculated

Input-Output (I-O) Model

Activity at Florida concrete plants generates **direct local business spending** in the communities they service. The business spending is then dispersed throughout the local economy in several ways: to hire workers that facilitate the supply of service to plants and pay those workers their incomes and wages, to purchase other local goods and services that are then used as input in the provision of goods and services to plants, and finally to pay local property and sales tax revenues associated with the plants. In addition those suppliers provide the **indirect employment benefits and spending on payroll and purchases** of goods and services by those firms. The remaining spending is used to make dividend payments, for debt service, reinvestment, or held as retained earnings.

Additionally, concrete plants make **direct payroll and employment impacts** through the employment of workers and managers. Those direct workers then re-spend portions of their incomes and wages in the local economy. Furthermore, employees at those local firms supplying the plants also re-spend portions of their income and wages locally. The re-spending provides the economy with **induced business spending, employment, and income and wages**. **Figure 1** illustrates this process.

Figure 1. Economic Impact Analysis Flow Chart



The economic impacts estimated in this study are based on IMPLAN®, an econometric modelling application that generates regional economic impact multipliers with input-output (I-O) models. I-O analysis is a standard technique for

estimating the secondary (indirect and induced) economic consequences, or impacts, that occur when there is a change in the flow of dollars and jobs into or out of a regional economy. I-O models are mathematical representations of an economy formulated in terms of transactions between industries, governments, employees, and households (Schaffer, 1999).

The models are based on detailed business and demographic data collected by agencies of the Federal and State governments. From these models, industry level and aggregate economic multipliers are calculated, and then used to estimate indirect and induced impacts or effects. Indirect effects occur as businesses change the amount of inputs purchased through the supply chain to produce the goods and services purchased in the initial (direct) transactions. Additional induced effects occur as household spending responds to changes in employee and proprietor earnings.

The types of economic impacts typically estimated with I-O models include output (calculated from gross sales), employment (total number of jobs added), and total value-added (which excludes the purchase of intermediate inputs). Total value added, is comparable to GDP, and includes the sum of labor income (wages and salaries), other property income (profits, rents, dividends and royalties), and business taxes (excise, sales, property taxes and fees). Each of these measures represents a different way of assessing the size or contribution of a particular activity or event to a regional or national economy. Detailed definitions of these types of impacts or effects can be found in the Glossary and Defined Acronyms at the end of this report.

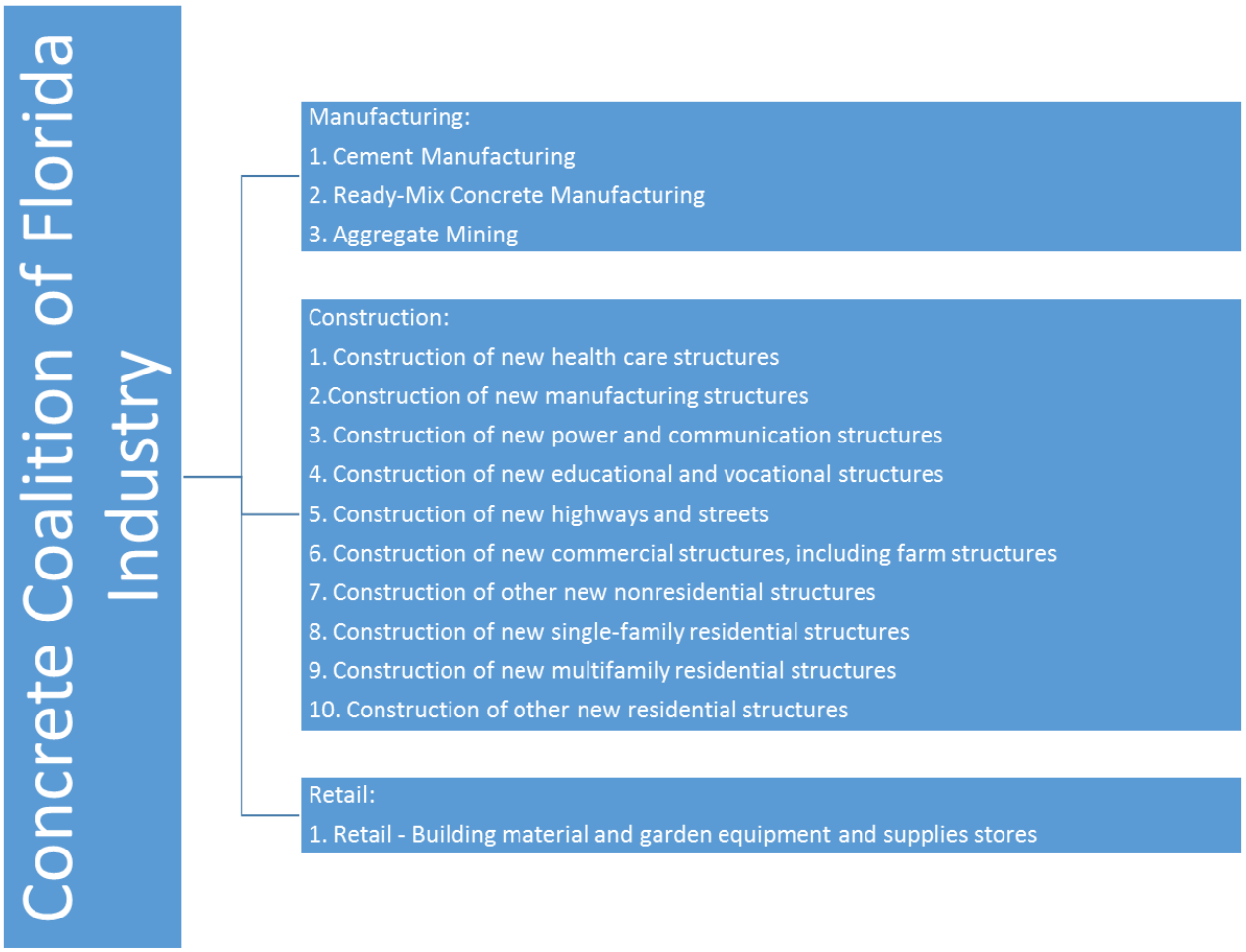
Model Inputs

Statewide IMPLAN employment values for each of the sectors analyzed are derived from numerous sources including:

1. U.S. Bureau of Labor Statistics (BLS) including CEW and Consumer Expenditure Survey
2. U.S. Bureau of Economic Analysis (BEA) including REA data, Benchmark I/O accounts, and Output estimates
3. U.S. Census Bureau County Business Programs (CBP) and Decennial Census and Population Surveys
4. U.S. Department of Agriculture Census

The base values were adjusted with industry reports from market research firm IBISWorld to include only concrete and concrete product employment and revenue. Several assumptions were made to calculate the concrete coalition's share of employment in the Construction, Manufacturing, and Retail sectors (**Figure 2**).

Figure 2. Concrete Coalition Industry Sectors



Employment statistics from the Portland Cement Association (PCA) were used to calibrate estimates for the Construction sector (**Table 6**). Concrete Contractors and Masonry and Stone Contractors were added together and apportioned based on industry reports of Concrete Contractor major market segmentations[3].

Table 6. PCA Employment Estimates, 2015

Industry	Employees
Cement Industry	905
Ready-Mix Industry	4,182
Other Cement Products	6,478
Concrete Contractors	13,449
Masonry and Stone Contractors	8,587
Total	**33,601**

For Manufacturing, the IMPLAN sector descriptions were specific enough to ensure that only concrete related employment is being accounted for. As a result, the actual IMPLAN values were used for the cement manufacturing, ready-

[3] IBIS World Concrete Contractors, Major Market Segmentation, 2017.

mix concrete manufacturing, concrete block and brick manufacturing, concrete pipe manufacturing, and other concrete product manufacturing sectors.

For mining and quarrying, employment estimates for cement and concrete-specific activities were calculated by scaling base IMPLAN value with industry shares.

For retail, the concrete retail sector was estimated at 1.6% of the total building material and garden equipment and supplies stores retail market, based on IBISWorld industry reports.

Table 7 details the employment estimates by sector that were included in the analysis, as well as the IMPLAN-generated local purchase percentages (LLP) applied to each sector. The LLP calculations result in multipliers or coefficients that are based on trade flows into and out of the area of interest, local production capacity, and consumer spending patterns. In other words, IMPLAN software calculates the amount of money that leaves the local economy through “leakage” from one geographic area to another, and how wages and profits are subsequently generated in the local economy.

Adjusting the employment values in IMPLAN produces I-O model input estimates for industry sales, employee compensation, and proprietor income. These four industry metrics are then processed through the I-O model to produce direct, indirect, and induced impacts by sector.

Table 7. Calibrated Concrete Coalition Employment

Sector Code	Description	Statewide Florida Employment[4]	Concrete Coalition – related Employment	Local Purchase Percentage
Construction				
52	Construction of new health care structures	14,730	614	100.00%
53	Construction of new manufacturing structures	34,107	1,224	100.00%
54	Construction of new power and communication structures	42,618	1,530	100.00%
55	Construction of new educational and vocational structures	26,402	1,100	100.00%
56	Construction of new highways and streets	33,768	3,610	100.00%
57	Construction of new commercial structures, including farm structures	54,460	2,270	100.00%
58	Construction of other new nonresidential structures	103,549	4,316	100.00%
59	Construction of new single-family residential structures	87,369	3,843	100.00%
60	Construction of new multifamily residential structures	18,614	819	100.00%
61	Construction of other new residential structures	52,062	2,290	100.00%
62	Maintenance and repair construction of nonresidential structures	87,996	183	99.85%
63	Maintenance and repair construction of residential structures	35,540	78	99.68%
64	Maintenance and repair construction of highways, streets, bridges, and tunnels	29,666	159	96.22%
Manufacturing				
30	Stone mining and quarrying	1,392	898	47.20%
31	Sand and gravel mining	1,469	1,119	37.52%
205	Cement manufacturing	679	679	67.03%
206	Ready-mix concrete manufacturing	5,769	5,769	98.22%
207	Concrete block and brick manufacturing	2,502	2,502	98.85%
208	Concrete pipe manufacturing	509	509	92.32%
209	Other concrete product manufacturing	5,025	5,025	89.10%
Retail				
399	Retail - Building material and garden equipment and supplies stores	88,426	1,415	99.95%
Total		726,651	39,951	-

[4] Per IMPLAN base sector estimates, 2017.

Glossary of Defined Terms & Acronyms

BLS – U.S. Bureau of Labor Statistics

FY – Fiscal Year

Indirect Business Taxes: Include sales, excise, and property taxes as well as fees and licenses paid by firms during normal operations, not including taxes on profits or income.

Indirect effects/impacts: Indirect effects occur when businesses use revenues originating from outside the region, or study area, to purchase inputs (goods and services) from local suppliers. This secondary, or indirect business, generates additional revenues, income, jobs and taxes for the area economy.

Induced effects/impacts: Induced effects or impacts occur when new dollars, originating from outside the study area, are introduced into the local economy. Induced economic impacts occur as the households of business owners and employees spend their earnings from these enterprises to buy consumer goods and services from other businesses within the region. This induced effect generates additional revenues, income, jobs and taxes.

Input–Output (I–O) model and Social Accounting Matrix (SAM) together are a representation of the transactions between industry sectors within a region that captures what each sector purchases from every other sector in order to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced backwards through the supply chain.

Other property income represents income received from investments, such as corporate dividends, royalties, property rentals, or interest on loans.

TBG – The Balmoral Group

Value Added – a broad measure of income, representing the sum of employee compensation, proprietor income, other property income, indirect business taxes, and capital consumption (depreciation). Value added is a commonly used measure of the contribution of an industry because it avoids double counting of intermediate sales.