

The Contribution of Office, Industrial and Retail Development and Construction to Arizona's Economy*

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The value of commercial buildings is much more than the sum of pre-construction (soft costs) and construction outlays (site development, building construction and tenant improvements). Commercial buildings generate continuing post-construction value within the local and state economies as a result of the spending associated with their operations and the value of output generated by the workers and businesses they house. This report measures the contribution of office, industrial and retail building development, construction and operations to Arizona's economy in the form of annual direct spending for new development, construction and annual expenditures to operate existing buildings.

The analyses presented in this report define the economic impacts of commercial buildings on Arizona's economy, highlighting the economic impacts from office, industrial, warehouse and retail buildings, during the three life stages: development, construction and maintenance.

The Three Stages in the Life of a Commercial Building



Soft Costs/Site Development/Tenant Improvements

Architects, engineers, developers and marketing/design professionals working during the development phase begin the life span of a commercial building.



Hard Costs

During the construction phase, new commercial projects employ workers who spend their paychecks in the local economy and contribute to the tax base.



Operating Costs

After new commercial buildings are completed and occupied, they add to the productive capacity of their host economies. The outlays that support the new buildings' operations add ongoing annual sources of economic impact that accumulates over the life span of commercial buildings.

* This report, prepared for the National Association of Industrial and Office Properties Research Foundation with 2007 construction data provided by McGraw-Hill Construction, is part of the larger report issued in October 2008 by Stephen S. Fuller, PhD entitled, The Contribution of Office, Industrial and Retail Development and Construction to the U.S. Economy, 2008 Edition.

The following table provides the soft costs, site development, tenant improvements and construction (hard) costs for the state of Arizona.

**The Impacts of Construction Spending for Soft Costs, Site Development,
Tenant Improvements and Construction (Hard) Costs on the Economy of Arizona, 2007
(in billions of 2007 dollars)**

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings				
Soft Costs	\$0.399	\$0.745	\$0.288	11,136
Site Development*	0.346	0.761	0.239	7,727
Construction Costs	1.146	2.516	0.792	25,557
Tenant Improvement**	0.418	0.918	0.289	9,323
Totals	\$2.310	\$4.940	\$1.608	53,743
Industrial Buildings				
Soft Costs	\$0.063	\$0.117	\$0.045	1,748
Site Development*	0.090	0.198	0.062	2,007
Construction Costs	0.257	0.564	0.178	5,734
Tenant Improvement**	0.065	0.143	0.045	1,453
Totals	\$0.475	\$1.022	\$0.330	10,941
Warehouse Buildings				
Soft Costs	\$0.192	\$0.357	\$0.138	5,343
Site Development*	0.239	0.525	0.165	5,332
Construction Costs	0.734	1.612	0.507	16,368
Tenant Improvement**	0.188	0.413	0.130	4,191
Totals	\$1.353	\$2.906	\$0.941	31,234
Retail Buildings				
Soft Costs	\$0.366	\$0.683	\$0.264	10,205
Site Development*	0.403	0.885	0.278	8,985
Construction Costs	1.086	2.384	0.750	24,212
Tenant Improvement**	0.330	0.725	0.228	7,368
Totals	\$2.185	\$4.676	\$1.521	50,769
Totals Buildings				
Soft Costs	\$1.019	\$1.902	\$0.736	28,432
Site Development*	1.078	2.368	0.745	24,050
Construction Costs	3.223	7.076	2.227	71,871
Tenant Improvement**	1.002	2.199	0.692	22,335
Totals	\$6.323	\$13.544	\$4.400	146,687

Source: The Contribution of Office, Industrial and Retail Development and Construction to the U. S. Economy, 2008 Edition, NAIOP Research Foundation, October 2008, pp. 27-63.

Notes: ¹ the total value of goods and services generated directly and indirectly as a result of the initial construction spending within the state; ² the additional earnings generated within the state from direct spending during the construction phase; ³ the additional new jobs supported by the spending and re-spending of direct spending associated with the spending for new construction. *Site development includes grading, infrastructure, parking and landscaping. **Tenant improvements exclude furniture and equipment.

On a state level, Arizona accounted for \$6.323 billion in direct spending for new office, industrial, warehouse and retail buildings as follows (in billions of 2007 dollars):

Office Buildings	\$2.310
Industrial Buildings	0.475
Warehouse Buildings	1.353
Retail Buildings	2.185
Totals Buildings	\$6.323

On a state level, commercial buildings supported 146,687 full-time-equivalent, year-round jobs.

The Contribution of Operating Costs on the Economy of Arizona

The following table provides the state spending values for the existing buildings (spending for maintenance and repair, cleaning, utilities, security and administrative expenses) that will recur annually following the completion of a commercial building.

Annual Impacts of Existing Buildings on the Economy of Arizona, 2007 (in millions of 2007 dollars)

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings	\$70,990.90	\$143,091.63	\$48,226.49	1,680
Industrial Buildings	364.25	734.19	247.44	9
Warehouse Buildings	5,676.64	11,442.02	3,856.33	134
Retail Buildings	53,085.97	107,001.85	36,063.07	1,256
Totals Buildings	\$130,117.76	\$262,269.69	\$88,393.33	3079

Source: The Contribution of Office, Industrial and Retail Development and Construction to the U. S. Economy, 2008 Edition, NAIOP Research Foundation, October 2008, p. 65-69.

Notes: ¹ the total value of goods and services generated directly and indirectly as a result of building operating spending within the state; ² the additional earnings generated within the state from spending for building operations; ³ the additional new jobs supported by the spending and re-spending of spending associated with building operations. Operations impacts include maintenance and repair, cleaning, utilities, roads and grounds, security and administrative expenses.

Commercial Construction Counterbalances Residential

Another important contribution of commercial buildings is that the long-term pattern of commercial real estate development, construction and operations spending lags residential spending, helping to cushion the negative economic impact of slower residential construction outlays in 2007 and 2008.

The magnitude and significance of commercial buildings is clear. Changes in construction activity during the business cycle are directly reflected in GDP growth rates. The combined impact of development, commercial construction and building operations spending is a major source and closely watched barometer of economic vitality at the national and local levels.

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