

The Contribution of Office, Industrial and Retail Development and Construction to Pennsylvania'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 Pennsylvania'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 Pennsylvania'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 Pennsylvania.

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

(in billions of 2007 dollars)

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings				
Soft Costs	\$0.140	\$0.306	\$0.109	2,778
Site Development*	0.122	0.300	0.088	2,533
Construction Costs	0.403	0.994	0.291	8,379
Tenant Improvement**	0.147	0.363	0.106	3,057
Totals	\$0.812	\$1.963	\$0.594	16,747
Industrial Buildings				
Soft Costs	\$0.116	\$0.253	\$0.090	2,299
Site Development*	0.167	0.411	0.120	3,468
Construction Costs	0.476	1.175	0.344	9,908
Tenant Improvement**	0.121	0.298	0.087	2,510
Totals	\$0.880	\$2.137	\$0.641	18,185
Warehouse Buildings				
Soft Costs	\$0.172	\$0.375	\$0.134	3,410
Site Development*	0.215	0.530	0.155	4,472
Construction Costs	0.660	1.628	0.476	13,731
Tenant Improvement**	0.169	0.417	0.122	3,516
Totals	\$1.216	\$2.951	\$0.887	25,129
Retail Buildings				
Soft Costs	\$0.246	\$0.536	\$0.191	4,867
Site Development*	0.271	0.668	0.195	5,632
Construction Costs	0.730	1.800	0.526	15,177
Tenant Improvement**	0.222	0.548	0.160	4,618
Totals	\$1.468	\$3.551	\$1.073	30,295
Totals Buildings				
Soft Costs	\$0.674	\$1.470	\$0.524	13,354
Site Development*	0.774	1.910	0.559	16,106
Construction Costs	2.269	5.597	1.637	47,196
Tenant Improvement**	0.659	1.625	0.475	13,701
Totals	\$4.376	\$10.602	\$3.195	90,356

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, Pennsylvania accounted for \$4.376 billion in direct spending for new office, industrial, warehouse and retail buildings as follows (in billions of 2007 dollars):

Office Buildings	\$0.812
Industrial Buildings	0.880
Warehouse Buildings	1.216
Retail Buildings	1.468
Totals Buildings	\$4.376

On a state level, commercial buildings supported 90,356 full-time-equivalent, year-round jobs.

The Contribution of Operating Costs on the Economy of Pennsylvania

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 Pennsylvania, 2007 (in millions of 2007 dollars)

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings	\$22,335.89	\$47,928.35	\$14,944.20	485
Industrial Buildings	2,623.76	5,630.07	1,755.47	57
Warehouse Buildings	6,243.31	13,396.89	4,177.19	135
Retail Buildings	20,715.30	44,450.90	13,859.92	450
Totals Buildings	\$51,918.26	\$111,406.21	\$34,736.78	1127

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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