



Building Better Communities
NAIOP RESEARCH FOUNDATION

The Contribution of Office, Industrial and Retail Development and Construction on Colorado's Economy*

By Stephen S. Fuller, PhD, George Mason University

The value of commercial buildings is much more than the sum of their construction outlays or their assessed valuation. Commercial real estate development, construction and operations create a ripple effect in the economy. This report measures the contribution of office, industrial and retail building development, construction and operations to Colorado's economy in the form of annual direct spending for new development, construction and annual expenditures to operate existing buildings. In addition to direct spending, important economic benefits are derived from re-spending the salary and wages supported by these direct construction and operating outlays and purchases of construction-related materials and services from vendors.

The analyses presented in this report define the economic impacts of commercial buildings on Colorado'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 2005 construction data provided by McGraw-Hill Construction, is part of the larger report issued in January 2007 by Stephen S. Fuller, PhD entitled, The Contribution of Office, Industrial and Retail Development and Construction on the U.S. Economy.

The Contribution of Soft Costs, Site Development and Tenant Improvements on the Economy of Colorado

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

The Contribution of Spending for Soft Costs, Site Development Tenant Improvements and Construction (Hard) Costs on the Economy of Colorado, 2005 (in billions of 2005 dollars)

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings				
Soft Costs	\$0.166	\$0.374	\$0.143	3,887
Site Development*	0.153	0.368	0.120	3,223
Construction Costs	0.479	1.157	0.378	10,118
Tenant Improvement**	0.170	0.412	0.134	3,601
Totals	\$0.968	\$2.312	\$0.775	20,830
Industrial Buildings				
Soft Costs	\$0.068	\$0.153	\$0.059	1,593
Site Development*	0.105	0.253	0.083	2,212
Construction Costs	0.314	0.758	0.247	6,629
Tenant Improvement**	0.077	0.186	0.061	1,629
Totals	\$0.564	\$1.351	\$0.449	12,063
Warehouse Buildings				
Soft Costs	\$0.085	\$0.191	\$0.073	1,984
Site Development*	0.100	0.241	0.079	2,111
Construction Costs	0.326	0.788	0.257	6,893
Tenant Improvement**	0.084	0.202	0.066	1,766
Totals	\$0.594	\$1.422	\$0.475	12,754
Retail Buildings				
Soft Costs	\$0.271	\$0.611	\$0.233	6,347
Site Development*	0.245	0.592	0.193	5,181
Construction Costs	0.800	1.933	0.631	16,902
Tenant Improvement**	0.211	0.510	0.167	4,463
Totals	\$1.520	\$3.646	\$1.224	32,892
Totals Buildings				
Soft Costs	\$0.589	\$1.330	\$0.508	13,811
Site Development*	0.602	1.455	0.475	12,726
Construction Costs	1.919	4.635	1.513	40,542
Tenant Improvement**	0.542	1.310	0.428	11,459
Totals	\$3.646	\$8.731	\$2.924	78,538

Source: The Contribution of Office, Industrial and Retail Development and Construction on the U. S. Economy, NAIOP Research Foundation, February 2007, pp. 33-61.

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, Colorado accounted for \$3.646 billion in direct spending for new office, industrial, warehouse and retail buildings as follows (in billions of 2005 dollars):

Office Buildings	\$0.968
Industrial Buildings	0.564
Warehouse Buildings	0.594
Retail Buildings	1.520
Totals Buildings	\$3.646

On a state level, commercial buildings supported 78,538 full-time-equivalent, year-round jobs.

The Contribution of Operating Costs on the Economy of Colorado

The following table provides the state spending values for the existing buildings (spending for maintenance and repair, cleaning, management and utilities) that will recur annually following the completion of a commercial building. Post-construction spending is only shown for office, warehouse and retail uses. Data could not be generalized for industrial uses due to the great variation in their operating characteristics.

Annual Contribution of Existing Buildings on the Economy of Colorado, 2005 (in millions of 2005 dollars)

Sources	Direct Spending	Total Output ¹	Personal Income ²	Jobs Supported ³
Office Buildings	\$19,781.080	\$42,643.120	\$13,610.910	486
Warehouse Buildings	2,132.500	4,626.740	1,560.070	48
Retail Buildings	23,853.900	53,334.940	18,583.940	729
Totals Buildings	\$45,767.480	\$100,604.800	\$33,754.920	1263

Source: The Contribution of Office, Industrial and Retail Development and Construction on the U. S. Economy, NAIOP Research Foundation, February 2007, p. 63-66.

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, management, and utilities for office and warehouse uses but only maintenance and repair, cleaning and management for retail uses. Operations impacts are not calculated for industrial uses as these vary greatly depending on the manufacturing processes taking place within the buildings.

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 2006 and 2007.

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.

For more information about this report, please contact Mark Riso, Senior Director of State and Local Affairs at riso@naiop.org or (703) 904-7100 and Elizabeth Sherrod, Research Director at sherrod@naiop.org or (703) 904-7100.