

The Contribution of Office, Industrial and Retail Development and Construction to the U.S. Economy

2010 Edition

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Prepared for and Funded by
the NAIOP Research Foundation

Construction data provided by
McGraw-Hill Construction

By
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About NAIOP

NAIOP, the Commercial Real Estate Development Association, is the leading organization for developers, owners and related professionals in office, industrial, retail and mixed-use real estate. NAIOP comprises 15,000 members in North America. NAIOP advances responsible commercial real estate development and advocates for effective public policy. For more information, visit www.naiop.org.

The NAIOP Research Foundation was established in 2000 as a 501(c)(3) organization to support the work of individuals and organizations engaged in real estate development, investment and operations. The Foundation's core purpose is to provide these individuals and organizations with the highest level of research information on how real properties, especially office, industrial and mixed-use properties, impact and benefit communities throughout North America. The initial funding for the Research Foundation was underwritten by NAIOP and its Founding Governors with an endowment fund established to fund future research. For more information, visit www.naioprf.org.

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About this Report

It is important to remember that the data collection measures included in this report should be regarded as guidelines rather than as absolute standards. The information readily available may differ according to the geographic area in question, and results may vary accordingly. Local and regional economic performance is a key factor. Further study and evaluation are recommended before any investment decisions are made.

This project is intended to provide information and insight to industry practitioners and does not constitute advice or recommendations. NAIOP disclaims any liability for action taken as a result of this project and its findings.

Executive Summary

Key Terms

Gross Domestic Product (GDP)

— the value of goods and services produced within the economy of the respective geographic area (nation, state).

Hard Costs — a category of construction costs that reflect the outlays for the building construction phase. Costs for labor and materials are two basic types of hard costs. Soft costs, site development and tenant improvement costs are reported independently from hard costs.

Multiplier — A number used to calculate the final economic impact of one dollar spent. Types of multipliers include: Output multiplier, employment multiplier and personal earnings multiplier.

Key Point

- Non-residential building construction outlays continued to increase during the first three years of declining residential construction activity, peaking in 2008. However, with the national economy's accelerating recession, non-residential building construction outlays fell by 20.4 percent in 2009.

The national economy is now in the early stages of recovering from its longest and deepest recession since World War II. Now known as the Great Recession, the 2008-2009 recession started in December 2007 and ended in June 2009. During that period, from peak to trough, the economy declined by a total of 4.1 percent. While the effects of this recession were felt by all segments of the economy, the construction sector was disproportionately impacted by the collapse of the financial markets and subsequent decrease in demand for new housing and non-residential building space. Residential construction peaked in 2005 with starts totaling 2.07 million units and declined to 554,000 housing units in 2009, a decrease of 73 percent. **Non-residential building construction outlays continued to increase during the first three years of declining residential construction activity, peaking in 2008. However, with the national economy's accelerating recession, non-residential building construction outlays fell by 20.4 percent in 2009.**

Construction spending in 2009 totaled more than \$900 billion and accounted for 6.4 percent of GDP, well off of its high in 2007 when construction spending totaled \$1.16 trillion and accounted directly for 8.5 percent of GDP. The importance of the construction sector to the vitality of the national economy is illustrated by this decline of two percentage points. The decline in non-residential construction negatively impacted GDP growth, jobs and personal earnings. To fully understand the importance of the development, construction and property management sectors to the economy's recovery, the full dimensions of this industry need to be identified and measured.

The value of commercial buildings extends well beyond their initial construction value. Even this construction value is often understated. In order to establish the full measure of this value, it is necessary to calculate the following outlays associated with commercial buildings:

- pre-construction
- construction
- post-construction

This base of direct construction spending provides the starting point for calculating its contribution to the national as well as the local economies.

Three phases of development contribute to commercial real estate's ongoing sustainability:

- Hard costs (actual construction costs)
- Soft costs (architecture, engineering, marketing, legal, management), site development and tenant improvements

Note: This executive summary has been prepared solely to provide a general overview. It should not be relied upon for any purpose except that for which it was prepared. Please rely on the full report for detailed information about findings, definitions and discussion points.



Key Points

- Building and non-building (roads, bridges, etc.) construction spending in 2009 totaled more than \$900 billion and accounted for 6.4 percent of GDT, well off its high in 2007 when construction spending totaled \$1.16 trillion and accounted directly for 8.5 percent of GDP.
- While residential construction spending began to decline in 2006, non-residential building construction spending continued to grow through 2008 helping to offset an industry-wide decline that would worsen in 2009 and has continued through 2010.

- Building operations (maintenance, repair, custodial services, utilities and management)

Combined, the three phases of development represent commercial real estate development's enduring financial strength and compounded economic impact. The breakdown:

- \$148.6 billion was spent on hard costs, or actual construction outlays
- Another \$139.4 billion was spent on soft costs, site development and tenant improvements
- Ongoing maintenance and operating costs added another \$2.52 billion to the GDP

The direct spending for construction-related services and materials and the operations of completed buildings all generate additional jobs and payroll which in turn is re-spent within the local and national economies, generating additional economic benefits. The total economic impact of these initial or direct construction-related outlays can be calculated by applying national, state and local multipliers. The multipliers measure the outlays triple impact on the overall U.S. economy:

- total contribution to the Gross Domestic Product (GDP);
- new personal earnings generated; and
- total jobs supported throughout the economy (in addition to the direct construction jobs).

Although construction spending declined in 2009 due to the recession's impact, it still generated a positive contribution to the U.S. economy.

- Building and non-building construction (roads, bridges, etc.) outlays totaled \$907.8 billion in 2009, accounting directly for approximately 6.4 percent of the nation's economy – its GDP.
- Non-residential building construction outlays accounted for 46 percent of all construction spending in 2009, exceeding the share accounted for by residential building construction spending for a second consecutive year.
- Still, total construction spending fell in 2009, reflecting the broader contraction of the national economy.
- **While residential construction spending began to decline in 2006, non-residential building construction spending continued to grow through 2008, helping to offset an industry-wide decline that would worsen in 2009 and has continued through 2010.**

Key Point

- The total economic benefit of office, industrial, warehouse and retail construction spending in 2009 was \$288 billion. This construction spending supported 2.4 million jobs (full-time, year-round equivalent) across all sectors of the economy generating personal earnings totaling \$89.1 billion.

The magnitude of this decline in non-residential building construction activity is seen in comparing the commercial building construction activity for 2007, as reported in NAIOP's 2008 Edition of *"The Contribution of Office, Industrial and Retail Development and Construction to the U.S. Economy,"* with construction spending in 2009. Construction outlays (hard costs) totaled \$89.2 billion in 2007 and accounted for 839 million square feet of new office, industrial, warehouse and retail building space. **In 2009, construction spending for office, industrial, warehouse and retail totaled \$46.6 billion, down 48 percent from 2007. A total of 264.6 million square feet of building space was added to the inventory, which represents a decrease of 68.5 percent.**

Still, this construction spending and its directly related pre- and post-construction outlays generated a significant and positive economic impact, helping to counter the recessionary forces that had undermined the economy's performance dating from December 2007. As shown in the following table, **the combined direct and indirect impacts of \$46.6 billion in building construction (hard costs) outlays added \$148.6 billion to the national economy (GDP) in 2009, as the full impact of the direct construction spending (payroll and purchases) circulated through the economy. This construction spending supported 1.2 million jobs (full-time, year-round equivalent) across all sectors of the economy, generating personal earnings totaling \$44.7 billion.**

This direct construction (hard cost) spending accounted for 51 percent of the total construction budget for the office, industrial, warehouse and retail building space in 2009. The remaining 49 percent came from soft costs, site development costs and outlays for tenant improvements. **This construction-related spending (soft costs, site development and tenant improvements) totaled an estimated \$44.9 billion and contributed \$139.4 billion to the nation's GDP, supported a total of 1.2 million jobs and generated \$44.4 billion in new personal earnings.**

Economic Benefits of Office, Industrial, Warehouse and Retail Construction Spending in 2009
(\$s in billions, jobs in millions)

Sources	Direct Outlays	Total Output	Personal Income	Jobs Supported
Construction	\$91.5	\$288.0	\$89.1	2.4
Hard Costs	46.6	148.6	44.7	1.2
Other*	44.9	139.4	44.4	1.2

*includes soft costs, site development and tenant improvements.



Key Points

- The annual operating outlays associated with the office, warehouse and retail space built in 2009 are estimated to total \$871.2 million. This direct spending for building operations:
 - adds \$2.525 billion to GDP;
 - supports 21,222 new jobs; and
 - generates \$801.4 million in new personal earnings.
- Using standard jobs-per-square-foot estimates, this new space has the capacity to house 674,300 jobs with an annual payroll of \$29.8 billion, as the economy recovers from the recession.

In addition to the significant contribution to GDP and job and income growth nationwide that constructing 264.6 million square feet of new building space represents, these buildings continue to provide economic benefits to their economies after construction is completed. These economic impacts include outlays required to maintain and operate these buildings and the value of the work done in them. **The operating outlays associated with the office, warehouse and retail space built in 2009 are estimated to total \$871.2 million annually. This direct spending for building operations would add \$2.525 billion to GDP, support 21,222 new jobs and generate \$801.4 million in new personal earnings. These operating outlays are annual and recur yearly over the life span of the building.**

Similarly, the potential productive value of these new building spaces represent a significant annual contribution to the local, state and national economies. The actual total output value of this new space is the sum of the value of the work done in these buildings. A partial measure of this total value is represented by the jobs that could be housed in this space and the earnings that these jobs may generate. **Using standard jobs-per-square-foot estimates, this new space — office, industrial, warehouse and retail — has the capacity to house 674,300 jobs with an annual payroll of \$29.8 billion, as the economy recovers from the recession.**

While residential building construction spending is projected to recover in 2011, a year before non-residential building construction spending is projected to increase, the GDP growth rate is not projected to exceed three percent until 2012. Three percent is the rate fast enough to significantly reduce the unemployment rate. The first year that residential and non-residential building construction spending are projected to be both increasing is 2012.

Figure 1
How Commercial Building Construction in 2009 Contributed to the U.S. Economy

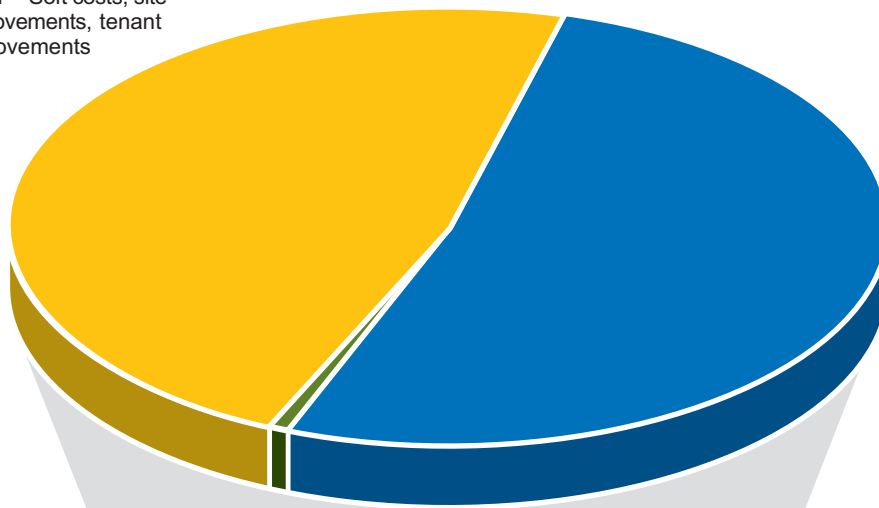
TOTAL IMPACT = \$288 billion

OTHER*
49%, \$139.4 billion

*Other = Soft costs, site improvements, tenant improvements

HARD COSTS
51%, \$148.6 billion

OPERATING COSTS
\$2.52 billion



MULTIPLIER = A number used to calculate the final economic impact of one dollar spent



TOTAL SPENDING

OTHER
49%, \$44.9 billion

HARD COSTS
51%, \$46.6 billion

OPERATING COSTS
\$871.2 million

Introduction

The value of commercial building construction is best understood as a three-phase life span. First comes the pre-construction (soft costs), then the construction outlays (site development, building construction and tenant improvements). Next, the buildings' ongoing operations following construction generate additional value to the state and national economies from the spending of workers and businesses housed there. The full contribution of office, industrial, warehouse and retail development (construction and operations) to the nation's Gross Domestic Product (GDP) consists of this annual direct spending and the cumulative economic benefits resulting from the re-spending of these outlays (the multiplier effect).

While the economic contributions accruing from the actual construction phase of new buildings is widely understood and valued, the pre-construction and post-construction impacts are often overlooked and undervalued. The job growth and income generated and supported by annual building operations represent a continuing flow of expenditures into the local economy that extend over the life of the structures. Additionally, these new buildings represent an expansion of the productive capacity of their economies. The jobs and output associated with the newly built capacity contribute significant annual benefits to the local and national economies. As these post-construction benefits are cumulative, their economic impacts become increasingly significant to the economy's growth, expanding and extending the initial economic benefits of the larger up-front construction outlays.

Understanding the range and magnitude of the industry's contributions to the local and national economies, and their patterns of performance over the business cycle is important for local, state and national government officials as well as investors, developers and builders. The analyses presented in this report define the economic impacts of this industry, highlighting the economic impacts flowing from office, industrial, warehouse and retail construction and operations.

Commercial Construction Trends and Outlook

Key Point

- Increased spending for non-residential construction off-set losses in residential construction spending in 2006 and nearly compensated for the rapid decline in residential construction spending in 2007, with overall construction spending down just 1.3 percent for the year.

The U.S. economy experienced its longest and deepest recession since World War II in 2009, with GDP contracting by 2.6 percent while falling 4.1 percent from peak to trough. The most recent revisions for GDP by the U.S. Department of Commerce, released on July 30, 2010, indicated that GDP did not grow at all in 2008 and GDP growth previously reported for 2007 was scaled back. The recession officially began in December 2007 and GDP declined until the third quarter of 2009. The recession's end was officially dated June 2009, although job growth did not resume until December 2009. During this period, the national economy lost 8.3 million jobs with these losses spread across all but two sectors – government and education and health. The largest job decline occurred in the manufacturing sector (down by 2.2 million jobs), with losses in the construction sector experiencing the second largest decline, and losing 1.8 million jobs.

The construction sector began its contraction in 2006, with a decline of 7.3 percent in the value of residential construction spending. Residential construction spending contracted further in 2007 and 2008, declining by 18.5 percent and 22.9 percent, respectively. During this three-year period, non-residential construction spending continued to grow, increasing in 2006, 2007 and 2008 by 12.5 percent, 19.1 percent and 8.9 percent, respectively. **Increased outlays for non-residential construction off-set losses in residential construction spending in 2006 and nearly compensated for the rapid decline in residential construction spending in 2007, with overall construction spending down just 1.3 percent for the year.** By 2008, the U.S. economy was in a deepening recession and, in spite of increased non-residential construction outlays that year, the financial crisis undermined investment across the broader economy, with total consumption spending declining by 0.2 percent. The declining performance of the U.S. and global economies in 2008 drove the 2009 economy to its poorest one-year performance in 60 years.

These patterns of total construction spending by each major category over the business cycle are shown in Figure 2 for the 1998-2009 period. As residential construction spending accelerated following the 2001 recession, its share of total construction spending increased from 45 percent in 2001 to a high of 56 percent in 2005, after which its share fell each year to the current level of 28 percent. From its peak spending level in 2005, residential construction spending declined 59.1 percent by 2009.

Non-residential building construction spending followed a more gradual upward trend during the 2002-2008 period. The total value of non-residential building construction surpassed the total value of residential construction in 2008, accounting for 44.3 percent of total construction spending. In 2009, even as non-residential building



construction spending began to decline, its total value continued to exceed total residential spending. During this period of increasing non-residential building construction spending (2002 through 2008), the total value of construction put in place increased by 57.2 percent. In 2009, non-residential building construction spending declined from its 2008 peak by 11.8 percent.

Non-residential building construction spending is composed of 10 categories of building types. As shown in Figure 2, construction spending for office, industrial, transportation (warehouse), and commercial (retail) categories have tracked a relatively smooth pattern through their respective growth cycles. However, since 2008, office and commercial (retail) experienced decreased construction spending, while the industrial and warehouse categories sustained small gains.

The impact of the national recession on construction spending during 2009 is reported by major category and building types in Tables 1 and 2.

Figure 2
Construction Spending in the United States, 1998-2009
 (in billions of 2009 dollars)

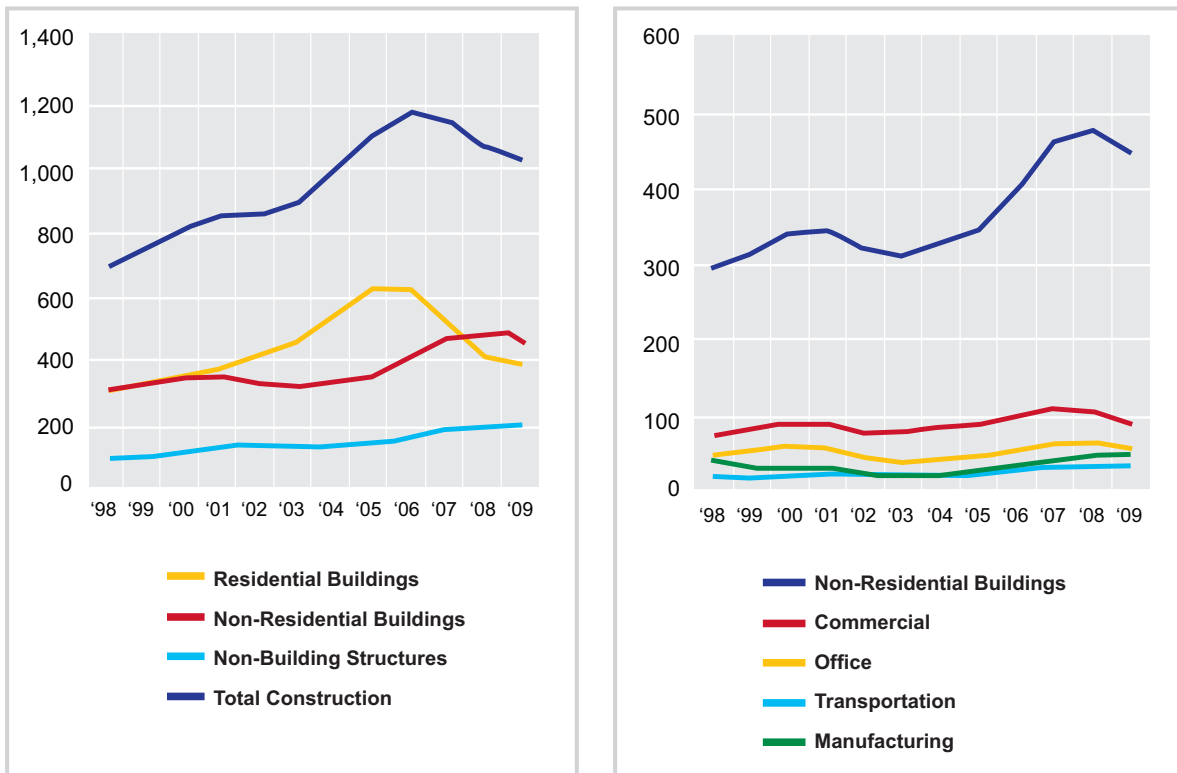


Table 1

U.S. Total Construction Spending, 2009
(in billions of 2009 dollars)

Type	Value	Percent Change*
Residential	\$253.6	-49.3%
Non-residential Building	417.4	-4.2%
Nonbuilding**	236.8	12.6%
Total	\$907.8	-21.2%

Source: U.S. Census, Value of Construction Put In Place

*change in value between 2007 and 2009

**infrastructure such as water and sewer, highways, power.

Table 2

U.S. Non-residential Construction Spending, 2007, 2008 and 2009
(in billions of dollars)

Type	2007	2008	2009	% Change*
Manufacturing**	\$40.6	\$53.2	\$58.5	44.1
Public Safety	10.2	13.1	14.1	38.2
Transportation	31.9	35.5	38.5	20.7
Education	96.8	104.9	102.9	6.3
Healthcare	43.8	46.9	45.1	3.0
Retail	89.7	86.2	55.0	- 38.7
Office	65.3	68.6	52.7	- 19.3
Religious	7.5	7.2	6.2	- 17.3
Lodging	28.7	35.8	25.5	- 11.1
Amusement/Recreation	21.2	21.8	18.9	- 10.8
Total***	\$435.7	\$473.2	\$417.4	- 4.2

Sources: U. S. Census, Value of Construction Put In Place

*change in value between 2007 and 2009

**includes warehouse/flex space

*** totals include some miscellaneous state and local government buildings.



Key Point

- The projected pattern of residential construction spending points to accelerating growth in 2012 and beyond with annual housing starts reaching 1.5 million units in 2013. Non-residential fixed investment is projected to contract further in both 2010 and 2011 before turning positive in 2012.

The residential construction sector began to contract two years before the U.S. economy officially slipped into recession in December 2007. The cycle of non-residential building construction spending has been shown to be different from the residential construction spending cycle. It turned negative three years after the residential building sector started its contraction. Now, with the U.S. economy entering its second year of recovery, there is an expectation that residential building construction spending should begin to rise.

Current forecasts (IHS Global Insight, September 2010) indicate that residential construction spending will decline slightly in 2010 (-3.9 percent) and then begin to recover in 2011, gaining 7.5 percent for the year. **The projected pattern of residential construction spending points to accelerated growth in 2012 and beyond, with annual housing starts reaching 1.5 million units in 2013. Non-residential construction spending is projected to contract further in both 2010 and 2011 before turning positive in 2012.**

The link between the recovery of the U.S. economy and the recovery of the construction sector is well established. Until residential and non-residential building construction spending are both increasing, the U.S. economy will not achieve a GDP growth rate sufficient to generate the job growth levels required to significantly reduce unemployment and to assure economic sustainability. While residential building construction spending is projected to recover in 2011, a year before non-residential building construction spending is projected to increase, the GDP growth rate is not projected to exceed three percent until 2012. Three percent is the rate fast enough to significantly reduce the unemployment rate. The first year that residential and non-residential building construction spending are projected to be both increasing is 2012.

Economic Impacts of Construction Spending

Key Points

- The total impact of construction spending – direct, indirect and induced – on the U.S. economy accounted for 20.5 percent of all economic activity in 2009.
- In 2009, construction spending for office, industrial, warehouse and retail totaled \$46.6 billion, down 48 percent from 2007, and added 264.6 million square feet of building space to the inventory for a decrease of 68.5 percent.

Even in a recession year, construction spending continues to make an important contribution to the national and local economies as a generator of jobs and personal earnings. The substantial contribution of construction spending to U.S. GDP, as measured by its 3.19 multiplier, reflects inter-industry linkages between construction, manufacturing and retail sales. Construction spending strongly correlates with spending for the manufactured products used in building construction. The retail sales related to the furnishings, fixtures and equipment necessary to make new buildings operationally functional is another linkage.

In 2009, the total value of building and non-building construction spending in the United States was \$907.8 billion and accounted directly for 6.4 percent of the nation's GDP of \$14.11 trillion. With an output multiplier of 3.19, each dollar of this construction spending generated an additional \$2.19 of value to the economy, reflecting the cumulative effects of the initial construction outlay as it is re-spent throughout the economy. Application of this multiplier to the total value of direct construction spending in 2009 increases the value of its overall contribution to GDP to \$2.9 trillion or 20.5 percent. **The total impact of construction spending – direct, indirect and induced – on the U.S. economy accounted for 20.5 percent of all economic activity in 2009.**

The direct construction spending (soft costs, site development costs, hard costs and outlays for tenant improvements) also generates new personal earnings and supports jobs across all sectors of the economy. In 2009, the \$907.8 billion in direct construction spending supported a total of 24 million jobs throughout the U.S. economy and generated personal earnings totaling \$870 billion.

The magnitude of the decline in non-residential building construction activity can be seen in comparing the commercial building construction activity for 2007, as reported in NAIOP's 2008 Edition of *The Contribution of Office, Industrial and Retail Development and Construction to the U.S. Economy*, with construction spending in 2009 (see Table 3). Construction outlays (hard costs) totaled \$89.2 billion in 2007 and accounted for 839 million square feet of new office, industrial, warehouse and retail building space. **In 2009, construction spending for office, industrial, warehouse and retail totaled \$46.6 billion, down 48 percent from 2007, and added 264.6 million square feet of building space to the inventory, for a decrease of 68.5 percent.**

The building category experiencing the greatest reduction in construction spending between 2007 and 2009 was warehouse development. Spending was down 67.4 percent and the amount of square feet delivered declined by 73.7 percent. Retail construction spending declined by more than 50 percent while the amount of square feet delivered



was down 69.2 percent. The category experiencing the smallest decline was office buildings with a decrease in construction spending of 37.4 percent between 2007 and 2009. The square feet delivered declined by 66.7 percent.

Table 3
Comparing Construction (Hard Costs) Outlays in 2007 and 2009
 (in billions of current year dollars)

Building Type	2007*	2009	\$ Change	% Change
Office	\$31.23	\$19.56	- \$11.67	- 37.4
Industrial	16.50	10.00	- 6.50	- 39.4
Warehouse	12.62	4.11	- 8.51	- 67.4
Retail/ Entertainment	28.85	12.93	- 15.92	- 55.2
Total	\$89.20	\$46.60	- \$42.60	- 47.8

Sources: NAIOP, *The Contribution of Office, Industrial and Retail Development and Construction to the U. S. Economy*, 2008 Edition, McGraw-Hill Construction Analytics, GMU Center for Regional Analysis.

* McGraw-Hill Construction Analytics has revised its construction reports for 2007 since publication of the 2008 NAIOP Report; the total value of office, industrial, warehouse, and retail construction in 2007 is now reported at \$96.44 billion, accounting for 878.06 million square feet of building space.

Still, in spite of the continuation of the nation's deepest recession since World War II, non-government office, industrial, warehouse and retail building construction in 2009 added a total of 264.6 million gross square feet of new building space, accounting for outlays totaling \$46.6 billion (see Table 4). The economic impact of this construction activity can be calculated by applying the national construction multipliers for its contribution to GDP (3.19), personal earnings (0.9585) and employment (26.4). State-level direct spending and associated economic impacts for pre-construction, construction and post construction spending are included in the Appendices.

Key Point

- Using standard jobs-per-square-foot estimates, the 264.6 million square feet of new office, industrial, warehouse and retail space constructed in 2009 could house 674,300 jobs with an annual payroll of \$29.8 billion. The new space will require \$871.2 million in annual operating outlay to maintain and service each year going forward. Each year, adjusted for inflation and changes in the level and quality of services, these new operating outlays will contribute \$2.525 billion to the national economy (GDP), support a total of 21,222 jobs and generate total personal earnings of \$801.4 million.

It should be noted that individual state construction multipliers are smaller than the U.S. multipliers. They measure only the share of construction outlays that are retained within the respective state economies. Construction-related spending flows that leak out of each state economy to other states are excluded. The smaller state economies that are less well developed tend to retain less of the benefits from construction spending than states with larger and more complex economies. That is, a greater share of the smaller states' direct construction spending leaks out to other states.

Table 4
Office, Industrial, Warehouse and Retail Construction in the United States, 2009
 (square feet in millions, values in billions of 2009 dollars)

Building Type	Square Feet (in millions)	Construction Value (in billions)
Office	70.69	\$19.56
Industrial	36.03	10.00
Warehouse and Transportation Terminals	62.96	4.11
Retail and Entertainment	94.92	12.93
Total	264.60	\$46.60

Sources: McGraw-Hill Construction Analytics; GMU Center for Regional Analysis

The \$46.6 billion in construction spending (hard costs) for office, industrial, warehouse and retail buildings in 2009 added \$102.06 billion in indirect (and induced) benefits to the national economy, for a total contribution of \$148.66 billion to GDP (see Table 5). Soft costs, site development and tenant improvements totaled \$44.88 billion or 49 percent of total building costs. Adding these direct outlays and their indirect and induced benefits to those generated by the outlays for hard costs increases their total contribution to the nation's GDP to \$288 billion in 2009.

The total direct spending of \$91.48 billion that underlies this contribution to total output also supported:

- 2.4 million jobs (full-time equivalent, year-round) during 2009; and,
- generated new personal earnings totaling \$89.1 billion.



Table 5

**Summary of Office, Industrial, Warehouse and Retail Construction
and Annual Operations Impacts on the U.S. Economy, 2009**
(in billions of 2009 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Construction	\$91.4	\$288.01	\$89.10	2,434,241
Soft Costs	14.68	43.00	15.48	406,536
Site Dev.*	15.55	49.60	14.90	410,499
Hard Costs	46.60	148.66	44.67	1,230,281
Tenant Imp.**	14.65	46.75	14.05	386,925
Operations	\$0.871	\$2.525	\$0.801	21,222

Sources: McGraw-Hill Construction Analytics; GMU Center for Regional Analysis
Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction or building operating outlays within the United States; (2) the additional earnings generated within the United States from the direct outlays during the construction phase and post-construction for building operations; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with building construction or operations.

*Site development includes grading, infrastructure, parking and landscaping

**Tenant improvements exclude furniture and equipment

See Appendices F and G for state-level data.

National Building Space
Inventory, 2009
(in billions of square feet)

Office	8.45
Industrial	17.27
Retail	9.20
Total	34.90

Calculating Economic Impact

The full measure of the economic impact of office, industrial, warehouse and retail construction must include all the outlays associated with the development process – soft costs, site development costs, hard costs and costs associated with tenant improvements. In addition to the wide range of onsite construction services, these outlays also support a wide range of professional and business services, including:

- Architecture and engineering services;
- Legal services;
- Marketing and management services;
- Grading, paving, and landscaping services;
- Site engineering services; and
- Interior design and construction services.

This combination of outlays for pre-construction, construction and post-construction activities required to deliver buildings ready for occupancy represent this industry's total direct contribution to the national, state and local economies. It provides the appropriate basis for calculating the economic impacts of this spending as represented by its contribution to GDP, personal earnings and employment.





Calculating Economic Impact of Soft Costs, Site Development and Outlays for Tenant Improvements

To estimate the non-hard cost expenditures associated with the delivery of new building space, NAIOP surveyed its membership in November 2006 and April 2007. The methodology and results of these two surveys are reported in Appendix I. The findings from these two surveys were combined for use in calculating the distribution of these complementary costs in 2009 by building type relative to their respective outlays for hard costs. In total, the soft costs, site development costs and outlays for tenant improvements in 2009 totaled an estimated \$44.9 billion and accounted for 49 percent of the \$91.48 billion in total construction spending, inclusive of hard costs.

This additional spending that is linked directly to the hard cost outlays is presented in Table 6. The variations in the distribution of these costs by building type reflect differences in building design and function.

Table 6

**Estimated Outlays by Building Category:
Soft Costs, Site Development and Tenant Improvements, 2009**
(in billions of 2009 dollars)

Sources	Soft Costs	Site Development	Tenant Improvements	Total
Office	\$6.82	\$5.91	\$7.14	\$19.86
Industrial	2.44	3.50	2.53	8.47
Warehouse	1.07	1.34	1.05	3.46
Retail	4.36	4.80	3.94	13.09
Total	\$14.68	\$15.55	\$14.66	\$44.88

Sources: NAIOP; GMU Center for Regional Analysis
*Column and row values may not add up to overall totals due to rounding

See Appendices B, C and E for state and building type data.

The direct spending associated with soft costs, site development costs and outlays for tenant improvements generate economic impacts beyond the initial value of these outlays. (Financing fees, insurance and taxes are not included, as these have little immediate economic impact.) These economic impacts are calculated by applying national multipliers to determine their contributions to GDP, personal earnings and employment. Composite multipliers were developed to reflect the mix of services and activities associated with each category of outlay:

Soft Costs:

- For each \$1 of soft cost expenditure, a total contribution to GDP of \$2.93 is generated; and
- For each \$1 million of soft cost outlays, personal earnings increase by \$1,054,500 and 27.7 jobs are supported.

Site Development:

- For each \$1 of site development and tenant improvement spending, a total contribution to GDP of \$3.19 is generated; and
- For each \$1 million of site development and tenant improvement outlays, personal earnings increase by \$958,400 and 26.4 jobs are supported.

Nationwide, the \$14.68 billion in direct soft cost outlays in 2009:

- Added \$43 billion to the nation's economy (GDP);
- Generated \$15.48 billion in new personal earnings for U.S. residents; and
- Supported 406,536 jobs.

Site development outlays of \$15.55 billion in 2009:

- Added \$49.6 billion to the U.S. economy (GDP);
- Generated \$14.9 billion in new personal earnings for U.S. residents; and
- Supported 410,499 jobs.

Tenant improvement outlays of \$14.66 billion in 2009:

- Added \$46.75 billion to the U.S. economy (GDP);
- Generated \$14.05 billion in new personal earnings for U.S. residents; and
- Supported 386,925 jobs.

These economic impacts for office, industrial, warehouse and retail construction in 2009 are shown in Table 7.



Table 7

**The Impacts of Construction Outlays for Soft Costs, Site Development
and Tenant Improvements on the U.S. Economy, 2009**
(in billions of 2009 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Office				
Soft Costs	\$6.81	\$19.96	\$7.19	188,706
Site Dev.*	5.91	18.86	5.67	156,120
Tenant Imp.**	7.14	22.76	6.84	188,385
Total	\$19.86	\$61.58	\$19.70	533,211
Industrial				
Soft Costs	\$2.44	\$7.14	\$2.57	67,464
Site Dev.	3.50	11.16	3.35	92,376
Tenant Imp.	2.53	8.08	2.43	66,881
Total	\$8.47	\$26.38	\$8.35	226,721
Warehouse				
Soft Costs	\$1.07	\$3.14	\$1.13	29,697
Site Dev.	1.34	4.27	1.28	35,319
Tenant Imp.	1.05	3.36	1.01	35,783
Total	\$3.46	\$10.77	\$3.42	92,799
Retail				
Soft Costs	\$4.36	\$12.76	\$4.60	120,669
Site Dev.	4.80	15.31	4.60	126,685
Tenant Imp.	3.94	12.55	3.77	103,876
Total	\$13.09	\$40.62	\$12.97	351,230
Total				
Soft Costs	\$14.68	\$43.00	\$15.48	406,536
Site Dev.	15.55	49.60	14.90	410,499
Tenant Imp.	14.66	46.75	14.05	386,925
Total	\$44.88	\$139.35	\$44.43	1,203,960

Sources: NAIOP; GMU Center for Regional Analysis

*Column and row values may not add up to overall totals due to rounding.

**Tenant improvements exclude furniture and equipment.

Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction outlays within the United States; (2) the additional earnings generated within the United States from direct outlays during the construction phase; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with the outlays for new construction.

See Appendices B, C and E for state and building type data.



Calculating Economic Impact of Hard Costs

The U.S. Census reported that construction spending in 2009 totaled \$907.7 billion (June 2009 seasonally adjusted annual rate) with non-residential building construction outlays totaling \$558.3 billion. Construction spending in 2009 (hard costs only) reported by McGraw-Hill Construction Analytics for office, industrial, warehouse and retail structures totaled \$46.6 billion and represented the addition of 264.6 million square feet of new building space. **By applying the national construction multiplier of 3.19, the full economic impact of this spending (contribution to GDP) can be calculated to have been \$148.7 billion (see Table 8). These direct, indirect and induced benefits supported 1.2 million jobs across all sectors of the economy and generated \$44.7 billion in new personal earnings.**

Table 8

The Impacts of Direct Construction Outlays on the U.S. Economy, 2009 (in billions of 2009 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Office	\$19.56	\$62.40	\$18.75	516,444
Industrial	10.00	31.89	9.58	263,917
Warehouse	4.11	13.11	3.94	108,474
Retail	12.93	41.26	12.40	341,445
Total	\$46.60	\$148.66	\$44.67	1,230,281

Sources: McGraw-Hill Construction Analytics; GMU Center for Regional Analysis. Column values may not add up to overall totals due to rounding.

Notes: (1) the total value of goods and services generated directly and indirectly as a result of the initial construction outlays within the United States; (2) the additional earnings generated within the United States from the direct outlays during the construction phase; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with building construction.

See Appendix D for state-level hard cost data.



Construction Value by State

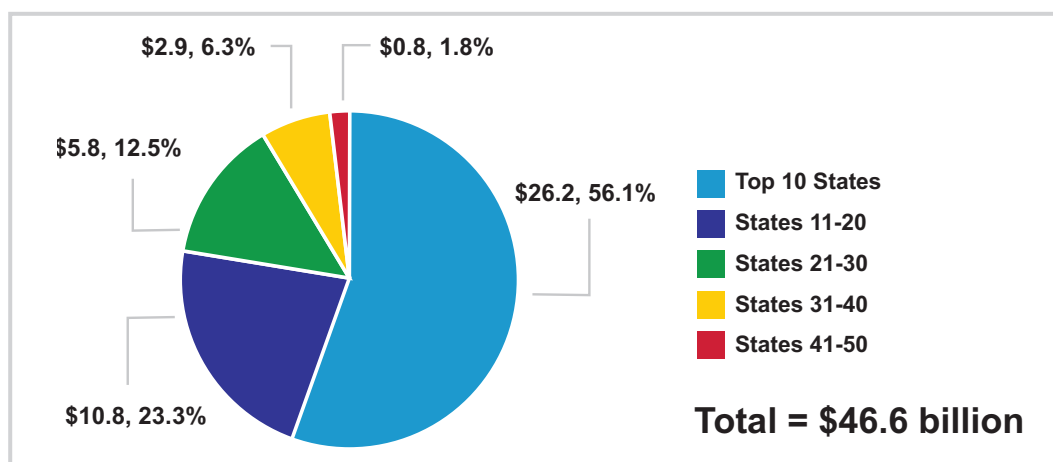
The 10 states with the largest construction values accounted for 56.1 percent of the construction outlays in the United States, while the top 20 states accounted for 79.4 percent. The most populous states and those with the largest or best performing economies tended to rank highest by value of construction outlays, although there were variations depending on building type. This is especially the case with industrial building outlays that was led by Illinois with Ohio ranking second. While many of the traditional industrial states continue to rank high for industrial construction outlays, states that have comparative transportation advantages rank high for warehouse construction outlays. These states are identified and shown in rank order by value of construction in Table 9 and Figure 3. The values for all states are shown in Appendix A, Tables 1-6.

Table 9
Top 10 States by Construction Value, 2009

Ranking	Office	Industrial	Warehouse	Retail	All Categories
1	New York	Illinois	Texas	Texas	New York
2	Virginia	Ohio	California	Florida	Texas
3	California	Texas	Florida	California	California
4	Texas	New York	New York	Illinois	Virginia
5	Florida	Arizona	Pennsylvania	New York	Florida
6	North Carolina	Pennsylvania	Arizona	Georgia	Illinois
7	Washington	California	Georgia	North Carolina	Ohio
8	Maryland	New Mexico	Ohio	Pennsylvania	Pennsylvania
9	Oklahoma	Louisiana	Washington	Ohio	North Carolina
10	DC	Colorado	North Carolina	Washington	Arizona

Sources: McGraw-Hill Construction Analytics; GMU Center for Regional Analysis

Figure 3
Top 10 States by Construction Value in Four Categories, 2009
(hard costs only; in billions of 2009 dollars)





Calculating Economic Impact of Building Operations

The existing stock of built space represents a large and continuing source of economic activities that support job and income growth across the full breadth of local and state economies. While the construction outlays associated with new building in 2009 represent an important contribution to the national economy, once this construction was complete, these benefits end. However, the outlays that support the new buildings' operations generate on-going economic benefits that accumulate over the life span of the buildings. These outlays extend and magnify the economic benefits that the construction of office, industrial, warehouse and retail buildings has on their host economies.

Building operations includes outlays for regular maintenance and repair, custodial (cleaning) services, utilities and management. Management outlays represent a wide range of services including building supervision, marketing, leasing, security, building engineering services, finance and accounting. Each of these services has a multiplier effect on the economy and supports on- and off-site jobs within the local, regional and national economies, generating additional personal earnings to the benefit of local residents. These multipliers vary by type of service and state (see Appendix Tables H-3 to H-7). A sampling of national multipliers is presented in Table 10.

Table 10

Total Output, Income and Employment Multipliers for Selected Categories of Buildings Operations

Categories	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Building Services	2.95	0.9275	34.7
Management	2.97	1.0808	27.1
Utilities	2.53	0.7350	13.6
Repair and Maintenance	3.19	0.9585	26.4

Sources: U.S. Department of Commerce, Bureau of Economic Analysis

Notes: (1) the total value of goods and services generated directly and indirectly as a result of building operating outlays within the United States; (2) the additional earnings generated within the United States from the direct outlays for building operations; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with building operations.

See Appendix H for multipliers by state.



Key Point

- The addition of the 264.6 million square feet built in 2009 to the 2008 inventory would bring total spending in 2009 for building operations to \$114.9 billion.

Maintaining and servicing the 264.4 million square feet of new office, industrial, warehouse and retail building space built in 2009 will require \$871.2 million in annual operating outlay each year going forward.

Each year, adjusted for inflation and changes in the level and quality of services, these new operating outlays will:

- Contribute \$2.52 billion to the national economy (GDP);
- Support 21,222 jobs; and
- Generate total personal earnings of \$801.4 million.

These economic impacts are presented by building type in Table 11.

The cumulative economic impact of these annual outlays for building operations is determined by adding these new operating outlays for buildings new to the stock in 2009 to the operating outlays associated with the total commercial building stock existing in 2008. This existing building stock totaled 34.655 billion square feet and would have generated annual operating expenditures estimated to total \$114 billion. **The addition of the 264.6 million square feet built in 2009 to the 2008 inventory would bring total spending in 2009 for building operations to \$114.9 billion.**

Table 11
Annual Impacts of Post-Construction Outlays on the U.S. Economy, 2009
 (in billions of 2009 dollars)

Sources	Direct Outlays	Total Output (1)	Personal Earnings (2)	Jobs Supported (3)
Office	\$499.2	\$1,466.8	\$459.2	12,159
Industrial	37.8	109.7	34.8	922
Warehouse	48.5	140.5	44.6	1,181
Retail	285.7	828.1	262.8	6,960
Total	\$871.2	\$2,525.1	\$801.4	21,222

Sources: BOMA; ULI, Dollars and Cents of Shopping Centers; GMU Center for Regional Analysis. Column values may not add up to overall totals due to rounding.

Notes: (1) the total value of goods and services generated directly and indirectly as a result of building operating outlays within the United States; (2) the additional earnings generated within the United States from the direct outlays for building operations; (3) the additional new jobs supported nationwide by the spending and re-spending of direct outlays associated with building operations. Building operations include: maintenance and repair, cleaning, utilities, security, building management and administrative expenses.

See Appendix G for state and building type data.

Key Point

- The total post-construction value of this new office, industrial, warehouse and retail space to local, state and national economies includes these buildings' daily operations and the productive capacity they add to the existing building stock.

In addition to the annual operating outlays associated with this new building space, these buildings represent new productive capacity within the national economy. While the value of this increased productive capacity depends on the usage of each building, one measure of the value of this work is the jobs (and payroll) they support. Using a standard jobs-per-square-foot estimate for each category of building, the total number of employees that could be housed within the buildings built in 2009 can be calculated. The total payroll value of these new workers also can be calculated by multiplying this employment estimate by the U.S. average wage earnings per worker respectively, for jobs associated with each category of building.

These calculations are presented in Table 12 and show that the 264,600 million square feet of new commercial space constructed in 2009 has the capacity to house 674,300 new workers, with a total estimated payroll of \$29.8 billion.

Table 12

Employment and Income Impacts of the Office, Industrial, Warehouse and Retail Building Space Constructed in 2009

(square feet in millions; jobs in thousands; payroll in billions of dollars)

Building Category	Square Feet	Sq. Ft. per Job	New Jobs	Average Earnings	Total Earnings
Office	70.69	200	353.4	\$42,801	\$15.13
Industrial	36.03	900	40.0	78,118	3.12
Warehouse	62.96	900	70.0	72,503	5.08
Retail	94.92	450	210.9	30,525	6.44
Total	264.60	392	674.3	\$44,149	\$29.77

Sources: GMU Center for Regional Analysis; NPA Data Services, Inc.

The actual value of this work and its contribution to GDP is a multiple of payroll, as output value must generate sufficient income to cover not only the costs of payroll but also the outlays associated with business operations, payments to vendors, profit and taxes. **The total post-construction value of this new office, industrial, warehouse and retail space to local, state and national economies includes these buildings' daily operations and the productive capacity they add to the existing building stock. These contributions to the economy include jobs, income and the economic activities supported by the spending and re-spending of this new income as it circulates throughout the local, state and national economies.**

Appendix A: Construction Outlays by State (Hard Costs Only)

Appendix A-1
Value of Office Construction in Rank Order, 2009
(hard costs only)

STATE	Direct Spending (in billions of \$s)	STATE	Direct Spending (in billions of \$s)
1 New York	3.088	31 Kentucky	0.131
2 Virginia	1.920	32 Mississippi	0.126
3 California	1.425	33 Nevada	0.125
4 Texas	1.355	34 Kansas	0.123
5 Florida	0.998	35 Minnesota	0.102
6 North Carolina	0.883	36 West Virginia	0.099
7 Washington	0.833	37 Arkansas	0.099
8 Maryland	0.743	38 Hawaii	0.077
9 Oklahoma	0.613	39 Iowa	0.073
10 District of Columbia	0.484	40 Idaho	0.055
TOP 10 STATES	12.342	NEXT 10 STATES (31-40)	1.010
11 Colorado	0.473	41 New Mexico	0.049
12 Georgia	0.448	42 Rhode Island	0.049
13 Pennsylvania	0.427	43 New Hampshire	0.035
14 Massachusetts	0.426	44 South Dakota	0.034
15 New Jersey	0.400	45 Wyoming	0.028
16 Illinois	0.374	46 Maine	0.024
17 Ohio	0.344	47 Alaska	0.020
18 Arizona	0.297	48 Montana	0.017
19 Tennessee	0.290	49 Delaware	0.016
20 South Carolina	0.287	50 Vermont	0.010
NEXT 10 STATES (11-20)	3.766	51 North Dakota	0.009
21 Michigan	0.283	NEXT 11 STATES (41-51)	0.293
22 Indiana	0.278	USA Total	19.562
23 Nebraska	0.255		
24 Alabama	0.246		
25 Louisiana	0.243		
26 Missouri	0.225		
27 Connecticut	0.164		
28 Utah	0.160		
29 Wisconsin	0.156		
30 Oregon	0.141		
NEXT 10 STATES (21-30)	2.152		

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix A-2
Value of Industrial Construction in Rank Order, 2009
(hard costs only)

STATE	Direct Spending (in billions of \$s)	STATE	Direct Spending (in billions of \$s)
1 Illinois	1.191	31 New Jersey	0.042
2 Ohio	1.143	32 Iowa	0.036
3 Texas	0.899	33 Maryland	0.035
4 New York	0.743	34 West Virginia	0.031
5 Arizona	0.707	35 Delaware	0.020
6 Pennsylvania	0.654	36 Minnesota	0.020
7 California	0.563	37 Connecticut	0.019
8 New Mexico	0.551	38 Wyoming	0.015
9 Louisiana	0.370	39 Nebraska	0.012
10 Colorado	0.352	40 Hawaii	0.012
TOP 10 STATES	7.173	NEXT 10 STATES (31-40)	0.243
11 Tennessee	0.269	41 New Hampshire	0.010
12 North Carolina	0.258	42 Idaho	0.006
13 Virginia	0.250	43 Alaska	0.004
14 Oklahoma	0.242	44 Vermont	0.004
15 Georgia	0.241	45 South Dakota	0.003
16 Massachusetts	0.170	46 Nevada	0.003
17 Kansas	0.157	47 Rhode Island	0.001
18 Missouri	0.127	48 North Dakota	0.001
19 Indiana	0.120	49 Montana	0.001
20 South Carolina	0.111	50 Maine	0.000
NEXT 10 STATES (11-20)	1.946	51 District of Columbia	0.000
21 Alabama	0.108	NEXT 11 STATES (41-51)	0.034
22 Wisconsin	0.083	USA Total	9.997
23 Kentucky	0.067		
24 Mississippi	0.059		
25 Utah	0.051		
26 Florida	0.049		
27 Oregon	0.049		
28 Michigan	0.047		
29 Washington	0.046		
30 Arkansas	0.044		
NEXT 10 STATES (21-30)	0.601		

Source: CRA, McGraw-Hill Construction, BEA and NAIOP



Appendix A-3
Value of Warehouse and Transportation Terminal Construction in Rank Order, 2009
 (hard costs only)

STATE	Direct Spending (in billions of \$s)	STATE	Direct Spending (in billions of \$s)
1 Texas	0.489	31 Virginia	0.034
2 California	0.407	32 Nebraska	0.030
3 Florida	0.312	33 Nevada	0.029
4 New York	0.241	34 New Mexico	0.023
5 Pennsylvania	0.202	35 Idaho	0.017
6 Arizona	0.155	36 South Dakota	0.016
7 Georgia	0.138	37 Alaska	0.016
8 Ohio	0.136	38 Minnesota	0.016
9 Washington	0.131	39 Mississippi	0.015
10 North Carolina	0.122	40 District of Columbia	0.015
TOP 10 STATES	2.334	NEXT 10 STATES (31-40)	0.212
11 South Carolina	0.117	41 Hawaii	0.012
12 Indiana	0.114	42 Delaware	0.009
13 Illinois	0.111	43 Arkansas	0.006
14 Massachusetts	0.106	44 Rhode Island	0.005
15 Tennessee	0.099	45 Vermont	0.005
16 Louisiana	0.098	46 Wyoming	0.004
17 Oregon	0.096	47 New Hampshire	0.004
18 Oklahoma	0.095	48 Montana	0.004
19 Missouri	0.083	49 West Virginia	0.003
20 Wisconsin	0.076	50 North Dakota	0.003
NEXT 10 STATES (11-20)	0.995	51 Maine	0.002
21 Colorado	0.066	NEXT 11 STATES (41-51)	0.058
22 Maryland	0.063	USA Total	4.109
23 Michigan	0.061		
24 Connecticut	0.057		
25 Alabama	0.051		
26 Kansas	0.046		
27 Iowa	0.046		
28 Kentucky	0.042		
29 Utah	0.041		
30 New Jersey	0.038		
NEXT 10 STATES (21-30)	0.510		

Source: CRA, McGraw-Hill Construction, BEA and NAIOP

Appendix A-4
Value of Retail and Entertainment Construction in Rank Order, 2009
 (hard costs only)

STATE	Direct Spending (in billions of \$s)	STATE	Direct Spending (in billions of \$s)
1 Texas	1.332	31 Connecticut	0.127
2 Florida	1.005	32 Iowa	0.124
3 California	0.952	33 Arkansas	0.114
4 Illinois	0.606	34 Nevada	0.107
5 New York	0.601	35 Mississippi	0.101
6 Georgia	0.557	36 New Hampshire	0.091
7 North Carolina	0.431	37 Nebraska	0.083
8 Pennsylvania	0.428	38 West Virginia	0.081
9 Ohio	0.413	39 Idaho	0.074
10 Washington	0.403	40 New Mexico	0.071
TOP 10 STATES	6.729	NEXT 10 STATES (31-40)	0.972
11 Maryland	0.355	41 Maine	0.049
12 Massachusetts	0.326	42 Hawaii	0.048
13 Virginia	0.320	43 Rhode Island	0.042
14 Arizona	0.294	44 Alaska	0.031
15 Alabama	0.294	45 Montana	0.031
16 South Carolina	0.288	46 Delaware	0.028
17 Colorado	0.285	47 Wyoming	0.025
18 Indiana	0.283	48 District of Columbia	0.019
19 Tennessee	0.270	49 South Dakota	0.019
20 Wisconsin	0.250	50 Vermont	0.009
NEXT 10 STATES (11-20)	2.964	51 North Dakota	0.004
21 Missouri	0.248	NEXT 11 STATES (41-51)	0.305
22 Louisiana	0.235	USA Total	12.934
23 Michigan	0.232		
24 Oklahoma	0.222		
25 Kentucky	0.195		
26 Oregon	0.181		
27 New Jersey	0.177		
28 Utah	0.167		
29 Minnesota	0.166		
30 Kansas	0.139		
NEXT 10 STATES (21-30)	1.963		

Source: CRA, McGraw-Hill Construction, BEA and NAIOF



Appendix A-5
Value of Construction in Four Categories in Rank Order, 2009
 (hard costs only)

STATE		Direct Spending (in billions of \$s)	STATE		Direct Spending (in billions of \$s)
1	New York	4.673	31	Utah	0.419
2	Texas	4.075	32	Nebraska	0.379
3	California	3.347	33	Connecticut	0.367
4	Virginia	2.524	34	Minnesota	0.304
5	Florida	2.364	35	Mississippi	0.301
6	Illinois	2.282	36	Iowa	0.279
7	Ohio	2.037	37	Nevada	0.265
8	Pennsylvania	1.712	38	Arkansas	0.262
9	North Carolina	1.693	39	West Virginia	0.214
10	Arizona	1.453	40	Idaho	0.153
TOP 10 STATES		26.160	NEXT 10 STATES (31-40)		2.942
11	Washington	1.413	41	Hawaii	0.149
12	Georgia	1.385	42	New Hampshire	0.140
13	Maryland	1.195	43	Rhode Island	0.097
14	Colorado	1.176	44	Maine	0.075
15	Oklahoma	1.172	45	Delaware	0.074
16	Massachusetts	1.028	46	South Dakota	0.073
17	Louisiana	0.947	47	Wyoming	0.072
18	Tennessee	0.928	48	Alaska	0.071
19	South Carolina	0.802	49	Montana	0.053
20	Indiana	0.796	50	Vermont	0.028
NEXT 10 STATES (11-20)		10.840	51	North Dakota	0.017
21	Alabama	0.699	NEXT 11 STATES (41-51)		0.850
22	New Mexico	0.695	USA Total		46.602
23	Missouri	0.683			
24	New Jersey	0.658			
25	Michigan	0.623			
26	Wisconsin	0.565			
27	District of Columbia	0.519			
28	Oregon	0.467			
29	Kansas	0.466			
30	Kentucky	0.435			
NEXT 10 STATES (21-30)		5.809			

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix A-6
Top 10 States by Construction Value, All Categories, 2009
 (hard costs only in billions of \$s)

Groupings of States	Office		Industrial		Warehouse		Retail		Total	
	Value	%	Value	%	Value	%	Value	%	Value	%
Top 10	12.3	63.1	7.2	71.8	2.3	56.8	6.7	52.0	26.2	56.1
Next 10 (11-20)	3.8	19.3	1.9	19.5	1.0	24.2	3.0	22.9	10.8	23.3
Next 10 (21-30)	2.2	11.0	0.6	6.0	0.5	12.4	2.0	15.2	5.8	12.5
Next 10 (31-40)	1.0	5.2	0.2	2.4	0.2	5.2	1.0	7.5	2.9	6.3
Next 11 (41-51)	0.3	1.5	0.0	0.3	0.1	1.4	0.3	2.4	0.8	1.8
Totals	19.6	100.0	10.0	100.0	4.1	100.0	12.9	100.0	46.6	100.0



Appendix A-7
**New Personal Income Generated by All Four Categories of
 Construction Outlays by State in Rank Order, 2009**

STATE	Personal Earnings (in billions of \$s)	STATE	Personal Earnings (in billions of \$s)
1 Texas	6.796	31 Nebraska	0.527
2 New York	5.798	32 Connecticut	0.476
3 California	5.434	33 Minnesota	0.465
4 Florida	3.555	34 Mississippi	0.404
5 Illinois	3.478	35 Iowa	0.379
6 Virginia	3.471	36 Arkansas	0.364
7 Ohio	3.038	37 Nevada	0.346
8 Pennsylvania	2.603	38 West Virginia	0.264
9 North Carolina	2.531	39 Idaho	0.213
10 Georgia	2.228	40 Hawaii	0.207
TOP 10 STATES	38.931	NEXT 10 STATES (31-40)	3.646
11 Washington	2.170	41 New Hampshire	0.188
12 Arizona	2.043	42 District of Columbia	0.168
13 Colorado	1.874	43 Rhode Island	0.116
14 Oklahoma	1.756	44 Maine	0.107
15 Maryland	1.601	45 South Dakota	0.095
16 Massachusetts	1.387	46 Alaska	0.091
17 Tennessee	1.377	47 Wyoming	0.085
18 Louisiana	1.304	48 Montana	0.074
19 South Carolina	1.183	49 Delaware	0.066
20 Indiana	1.179	50 Vermont	0.035
NEXT 10 STATES (11-20)	15.875	51 North Dakota	0.021
21 Alabama	1.050	NEXT 10 STATES (41-51)	1.046
22 Michigan	0.949	State totals	67.587
23 Missouri	0.946	Interstate spillovers	21.516
24 New Jersey	0.936	USA Total	89.103
25 New Mexico	0.880		
26 Wisconsin	0.822		
27 Utah	0.666		
28 Oregon	0.655		
29 Kansas	0.593		
30 Kentucky	0.591		
NEXT 10 STATES (21-30)	8.089		

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Key Term

Interstate Spillovers — economic impacts that are generated by direct construction spending outlays in a given state that are realized by another state due to workers commuting across state lines (earning wages in one state and spending these earnings in their home state) and the importation of building materials from another state. These economic impacts are not reflected in the benefiting states' multipliers but are captured in the U.S. multipliers and reported in the U.S. totals.

Appendix B: Soft Costs Impacts by State

Appendix B-1
Impacts of Office Soft Costs on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.086	0.156	0.062	2,058
Alaska	0.007	0.014	0.005	175
Arizona	0.103	0.193	0.075	2,884
Arkansas	0.034	0.071	0.028	827
California	0.496	1.152	0.438	11,416
Colorado	0.165	0.372	0.145	3,874
Connecticut	0.057	0.111	0.041	976
Delaware	0.006	0.008	0.001	21
District of Columbia	0.169	0.289	0.087	2,193
Florida	0.348	0.742	0.290	8,448
Georgia	0.156	0.359	0.133	3,436
Hawaii	0.027	0.054	0.021	753
Idaho	0.019	0.036	0.014	531
Illinois	0.130	0.248	0.096	3,786
Indiana	0.097	0.222	0.082	2,032
Iowa	0.025	0.051	0.019	633
Kansas	0.043	0.084	0.029	983
Kentucky	0.046	0.090	0.032	1,053
Louisiana	0.085	0.164	0.063	2,161
Maine	0.008	0.017	0.006	152
Maryland	0.259	0.532	0.188	4,966
Massachusetts	0.148	0.281	0.107	3,898
Michigan	0.098	0.200	0.077	2,118
Minnesota	0.036	0.077	0.029	835
Mississippi	0.044	0.089	0.030	897
Missouri	0.078	0.144	0.054	2,066
Montana	0.006	0.011	0.005	180
Nebraska	0.089	0.188	0.071	2,106
Nevada	0.044	0.079	0.029	1,133
New Hampshire	0.012	0.023	0.009	321
New Jersey	0.139	0.272	0.098	2,746
New Mexico	0.017	0.037	0.013	310
New York	1.075	2.066	0.814	28,601
North Carolina	0.307	0.578	0.221	5,841
North Dakota	0.003	0.006	0.002	51
Ohio	0.120	0.257	0.096	2,878
Oklahoma	0.213	0.443	0.168	6,403
Oregon	0.049	0.100	0.037	1,288
Pennsylvania	0.149	0.324	0.116	2,944
Rhode Island	0.017	0.032	0.011	366
South Carolina	0.100	0.201	0.076	2,497
South Dakota	0.012	0.021	0.008	299
Tennessee	0.101	0.221	0.079	2,364
Texas	0.472	1.110	0.413	10,661
Utah	0.056	0.123	0.047	1,720
Vermont	0.004	0.007	0.003	66
Virginia	0.669	1.235	0.472	16,050
Washington	0.290	0.618	0.235	7,163
West Virginia	0.035	0.069	0.026	904
Wisconsin	0.054	0.095	0.037	1,333
Wyoming	0.010	0.016	0.006	255
State totals	6.813	13.890	5.244	161,649
Interstate spillovers	0.000	6.069	1.943	27,057
USA Total	6.813	19.959	7.187	188,706

Source: CRA, McGraw-Hill Construction, BEA and NAIOP



Appendix B-2
Impacts of Industrial Soft Costs on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.026	0.048	0.019	630
Alaska	0.001	0.002	0.001	23
Arizona	0.172	0.321	0.124	4,805
Arkansas	0.011	0.022	0.009	257
California	0.137	0.319	0.121	3,156
Colorado	0.086	0.194	0.076	2,014
Connecticut	0.005	0.009	0.003	80
Delaware	0.005	0.007	0.001	18
District of Columbia	[a]	[a]	[a]	[a]
Florida	0.012	0.025	0.010	288
Georgia	0.059	0.135	0.050	1,294
Hawaii	0.003	0.006	0.002	82
Idaho	0.002	0.003	0.001	43
Illinois	0.290	0.553	0.214	8,443
Indiana	0.029	0.067	0.025	616
Iowa	0.009	0.018	0.007	220
Kansas	0.038	0.075	0.026	877
Kentucky	0.016	0.032	0.011	373
Louisiana	0.090	0.174	0.067	2,297
Maine	[b]	[b]	[b]	2
Maryland	0.009	0.018	0.006	163
Massachusetts	0.041	0.079	0.030	1,090
Michigan	0.012	0.023	0.009	248
Minnesota	0.005	0.011	0.004	114
Mississippi	0.014	0.029	0.010	295
Missouri	0.031	0.057	0.021	819
Montana	[b]	[b]	[b]	7
Nebraska	0.003	0.006	0.002	69
Nevada	0.001	0.001	0.001	21
New Hampshire	0.002	0.005	0.002	64
New Jersey	0.010	0.020	0.007	203
New Mexico	0.134	0.290	0.102	2,416
New York	0.181	0.348	0.137	4,816
North Carolina	0.063	0.118	0.045	1,193
North Dakota	[b]	[b]	[b]	4
Ohio	0.278	0.597	0.222	6,683
Oklahoma	0.059	0.122	0.046	1,767
Oregon	0.012	0.024	0.009	310
Pennsylvania	0.159	0.347	0.124	3,156
Rhode Island	[b]	[b]	[b]	5
South Carolina	0.027	0.054	0.020	674
South Dakota	0.001	0.001	0.001	21
Tennessee	0.066	0.143	0.051	1,534
Texas	0.219	0.515	0.192	4,950
Utah	0.012	0.027	0.010	380
Vermont	0.001	0.002	0.001	17
Virginia	0.061	0.113	0.043	1,465
Washington	0.011	0.024	0.009	276
West Virginia	0.008	0.015	0.006	198
Wisconsin	0.020	0.035	0.014	493
Wyoming	0.004	0.006	0.002	98
State totals	2.436	5.043	1.894	59,067
Interstate spillovers	0.000	2.092	0.675	8,396
USA Total	2.436	7.136	2.569	67,464

Source: CRA, McGraw-Hill Construction, BEA and NAIOP

[a] There were no construction outlays reported in 2009.

[b] Value is less than \$1 million and is included in state and USA totals.

Appendix B-3
Impacts of Warehouse Soft Costs on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.013	0.024	0.010	322
Alaska	0.004	0.008	0.003	105
Arizona	0.041	0.076	0.029	1,130
Arkansas	0.002	0.003	0.001	37
California	0.106	0.246	0.094	2,441
Colorado	0.017	0.039	0.015	403
Connecticut	0.015	0.029	0.011	254
Delaware	0.002	0.003	[a]	9
District of Columbia	0.004	0.007	0.002	51
Florida	0.081	0.174	0.068	1,977
Georgia	0.036	0.083	0.031	792
Hawaii	0.003	0.007	0.003	92
Idaho	0.005	0.009	0.003	127
Illinois	0.029	0.055	0.021	844
Indiana	0.030	0.069	0.025	626
Iowa	0.012	0.024	0.009	298
Kansas	0.012	0.024	0.008	276
Kentucky	0.011	0.021	0.008	252
Louisiana	0.026	0.050	0.019	654
Maine	0.001	0.001	[a]	10
Maryland	0.016	0.034	0.012	313
Massachusetts	0.028	0.052	0.020	727
Michigan	0.016	0.032	0.012	341
Minnesota	0.004	0.009	0.003	98
Mississippi	0.004	0.008	0.003	83
Missouri	0.022	0.040	0.015	570
Montana	0.001	0.002	0.001	29
Nebraska	0.008	0.016	0.006	183
Nevada	0.008	0.014	0.005	197
New Hampshire	0.001	0.002	0.001	30
New Jersey	0.010	0.019	0.007	196
New Mexico	0.006	0.013	0.005	110
New York	0.063	0.121	0.048	1,673
North Carolina	0.032	0.060	0.023	603
North Dakota	0.001	0.002	0.001	12
Ohio	0.035	0.076	0.028	851
Oklahoma	0.025	0.052	0.020	747
Oregon	0.025	0.051	0.019	657
Pennsylvania	0.053	0.115	0.041	1,045
Rhode Island	0.001	0.002	0.001	28
South Carolina	0.030	0.061	0.023	761
South Dakota	0.004	0.008	0.003	108
Tennessee	0.026	0.056	0.020	602
Texas	0.128	0.300	0.112	2,885
Utah	0.011	0.023	0.009	326
Vermont	0.001	0.002	0.001	22
Virginia	0.009	0.016	0.006	211
Washington	0.034	0.073	0.028	846
West Virginia	0.001	0.002	0.001	22
Wisconsin	0.020	0.034	0.013	483
Wyoming	0.001	0.002	0.001	31
State totals	1.072	2.250	0.846	25,490
Interstate spillovers	0.000	0.891	0.285	4,206
USA Total	1.072	3.141	1.131	29,697

Source: CRA, McGraw-Hill Construction, BEA and NAIOP
[a] Value is less than \$1 million and is included in state and USA totals.



Appendix B-4
Impacts of Retail and Entertainment Soft Costs on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.099	0.180	0.072	2,373
Alaska	0.010	0.021	0.008	257
Arizona	0.099	0.185	0.072	2,764
Arkansas	0.038	0.080	0.031	926
California	0.321	0.745	0.283	7,376
Colorado	0.096	0.217	0.085	2,254
Connecticut	0.043	0.083	0.030	730
Delaware	0.010	0.013	0.002	35
District of Columbia	0.007	0.011	0.003	85
Florida	0.338	0.723	0.282	8,225
Georgia	0.188	0.431	0.160	4,126
Hawaii	0.016	0.032	0.013	452
Idaho	0.025	0.048	0.018	694
Illinois	0.204	0.389	0.150	5,943
Indiana	0.095	0.219	0.080	2,001
Iowa	0.042	0.083	0.031	1,037
Kansas	0.047	0.092	0.032	1,075
Kentucky	0.066	0.129	0.046	1,511
Louisiana	0.079	0.153	0.059	2,020
Maine	0.016	0.034	0.013	299
Maryland	0.120	0.246	0.087	2,297
Massachusetts	0.110	0.208	0.080	2,886
Michigan	0.078	0.159	0.061	1,682
Minnesota	0.056	0.121	0.046	1,314
Mississippi	0.034	0.069	0.023	696
Missouri	0.084	0.153	0.057	2,207
Montana	0.010	0.020	0.008	310
Nebraska	0.028	0.059	0.022	660
Nevada	0.036	0.065	0.024	940
New Hampshire	0.031	0.059	0.023	810
New Jersey	0.060	0.116	0.042	1,174
New Mexico	0.024	0.052	0.018	431
New York	0.203	0.389	0.153	5,388
North Carolina	0.145	0.273	0.104	2,759
North Dakota	0.001	0.003	0.001	21
Ohio	0.139	0.299	0.111	3,342
Oklahoma	0.075	0.155	0.059	2,239
Oregon	0.061	0.124	0.046	1,596
Pennsylvania	0.144	0.314	0.112	2,855
Rhode Island	0.014	0.026	0.009	302
South Carolina	0.097	0.196	0.074	2,425
South Dakota	0.007	0.011	0.004	164
Tennessee	0.091	0.199	0.071	2,131
Texas	0.449	1.056	0.393	10,139
Utah	0.056	0.124	0.048	1,736
Vermont	0.003	0.006	0.002	57
Virginia	0.108	0.199	0.076	2,583
Washington	0.136	0.289	0.110	3,353
West Virginia	0.027	0.055	0.021	712
Wisconsin	0.084	0.147	0.057	2,064
Wyoming	0.008	0.014	0.006	219
State totals	4.356	9.073	3.418	103,672
Interstate spillovers	0.000	3.690	1.178	16,997
USA Total	4.356	12.763	4.596	120,669

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix B-5
Impacts of Soft Costs in Four Categories on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.224	0.408	0.162	5,382.330
Alaska	0.023	0.045	0.017	559.202
Arizona	0.415	0.775	0.300	11,584.343
Arkansas	0.085	0.177	0.069	2,046.950
California	1.060	2.462	0.936	24,388.996
Colorado	0.364	0.821	0.321	8,544.368
Connecticut	0.119	0.231	0.085	2,039.635
Delaware	0.022	0.031	0.004	83.195
District of Columbia	0.179	0.307	0.093	2,329.368
Florida	0.779	1.664	0.650	18,938.109
Georgia	0.439	1.007	0.374	9,648.004
Hawaii	0.049	0.098	0.038	1,377.946
Idaho	0.050	0.096	0.036	1,395.283
Illinois	0.653	1.246	0.482	19,016.364
Indiana	0.251	0.577	0.212	5,275.884
Iowa	0.088	0.175	0.065	2,188.473
Kansas	0.140	0.274	0.096	3,211.891
Kentucky	0.139	0.271	0.098	3,189.106
Louisiana	0.280	0.540	0.209	7,132.686
Maine	0.025	0.053	0.020	462.992
Maryland	0.403	0.830	0.292	7,739.353
Massachusetts	0.327	0.621	0.237	8,601.594
Michigan	0.204	0.414	0.160	4,388.535
Minnesota	0.100	0.218	0.082	2,360.105
Mississippi	0.096	0.195	0.065	1,970.405
Missouri	0.214	0.393	0.147	5,662.123
Montana	0.018	0.033	0.013	525.133
Nebraska	0.127	0.269	0.101	3,018.432
Nevada	0.088	0.159	0.059	2,291.430
New Hampshire	0.046	0.089	0.034	1,224.449
New Jersey	0.219	0.428	0.154	4,319.141
New Mexico	0.181	0.393	0.138	3,266.401
New York	1.522	2.923	1.152	40,477.819
North Carolina	0.547	1.028	0.393	10,396.415
North Dakota	0.006	0.011	0.004	87.084
Ohio	0.573	1.229	0.457	13,755.151
Oklahoma	0.372	0.771	0.292	11,155.595
Oregon	0.147	0.300	0.111	3,851.209
Pennsylvania	0.505	1.100	0.393	9,999.562
Rhode Island	0.033	0.061	0.022	700.091
South Carolina	0.254	0.513	0.193	6,356.887
South Dakota	0.024	0.041	0.015	591.299
Tennessee	0.283	0.620	0.222	6,630.429
Texas	1.267	2.982	1.110	28,635.202
Utah	0.135	0.296	0.114	4,161.003
Vermont	0.009	0.018	0.006	160.986
Virginia	0.846	1.563	0.598	20,308.503
Washington	0.471	1.004	0.381	11,638.375
West Virginia	0.070	0.141	0.054	1,835.187
Wisconsin	0.179	0.312	0.120	4,373.715
Wyoming	0.023	0.039	0.015	602.189
State totals	14.676	30.256	11.402	349,878.926
Interstate spillovers	0.000	12.743	4.082	56,656.625
USA Total	14.676	42.999	15.484	406,535.551

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix C: Site Development Impacts by State

Appendix C-1
Impacts of Office Site Development on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.074	0.184	0.057	1,767
Alaska	0.006	0.012	0.004	100
Arizona	0.090	0.200	0.066	1,683
Arkansas	0.030	0.066	0.020	659
California	0.431	1.082	0.351	8,433
Colorado	0.143	0.353	0.115	2,932
Connecticut	0.050	0.101	0.032	758
Delaware	0.005	0.009	0.003	64
District of Columbia	0.146	0.185	0.013	300
Florida	0.302	0.674	0.224	5,993
Georgia	0.136	0.353	0.110	3,017
Hawaii	0.023	0.047	0.016	417
Idaho	0.017	0.036	0.012	385
Illinois	0.113	0.295	0.091	2,203
Indiana	0.084	0.205	0.062	1,804
Iowa	0.022	0.049	0.015	472
Kansas	0.037	0.084	0.024	749
Kentucky	0.040	0.093	0.027	876
Louisiana	0.074	0.162	0.052	1,520
Maine	0.007	0.015	0.005	167
Maryland	0.224	0.487	0.148	3,646
Massachusetts	0.129	0.279	0.087	2,072
Michigan	0.085	0.201	0.065	1,783
Minnesota	0.031	0.074	0.023	629
Mississippi	0.038	0.085	0.026	849
Missouri	0.068	0.165	0.048	1,400
Montana	0.005	0.011	0.004	123
Nebraska	0.077	0.167	0.052	1,608
Nevada	0.038	0.075	0.025	620
New Hampshire	0.011	0.023	0.007	190
New Jersey	0.121	0.286	0.087	2,067
New Mexico	0.015	0.030	0.010	313
New York	0.933	1.835	0.561	13,313
North Carolina	0.267	0.654	0.204	6,236
North Dakota	0.003	0.006	0.002	56
Ohio	0.104	0.264	0.081	2,351
Oklahoma	0.185	0.439	0.140	4,581
Oregon	0.043	0.099	0.030	853
Pennsylvania	0.129	0.337	0.102	2,586
Rhode Island	0.015	0.029	0.009	232
South Carolina	0.087	0.211	0.065	2,012
South Dakota	0.010	0.021	0.007	228
Tennessee	0.088	0.224	0.066	1,961
Texas	0.409	1.105	0.347	8,837
Utah	0.048	0.120	0.039	1,152
Vermont	0.003	0.006	0.002	65
Virginia	0.581	1.332	0.398	10,562
Washington	0.252	0.603	0.192	4,846
West Virginia	0.030	0.060	0.018	577
Wisconsin	0.047	0.113	0.036	1,018
Wyoming	0.008	0.015	0.005	150
State totals	5.914	13.560	4.183	111,218
Interstate spillovers	0.000	5.305	1.485	44,902
USA Total	5.914	18.864	5.668	156,120

Appendix C-2
Impacts of Industrial Site Development on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.038	0.093	0.029	896
Alaska	0.001	0.003	0.001	22
Arizona	0.247	0.550	0.182	4,642
Arkansas	0.015	0.034	0.010	339
California	0.197	0.495	0.161	3,859
Colorado	0.123	0.304	0.099	2,523
Connecticut	0.007	0.014	0.004	103
Delaware	0.007	0.013	0.004	92
District of Columbia	[a]	[a]	[a]	[a]
Florida	0.017	0.038	0.013	338
Georgia	0.084	0.220	0.069	1,880
Hawaii	0.004	0.008	0.003	75
Idaho	0.002	0.005	0.002	52
Illinois	0.417	1.088	0.335	8,132
Indiana	0.042	0.103	0.031	906
Iowa	0.013	0.028	0.009	272
Kansas	0.055	0.124	0.036	1,107
Kentucky	0.023	0.055	0.016	514
Louisiana	0.129	0.284	0.092	2,673
Maine	[b]	[b]	[b]	3
Maryland	0.012	0.027	0.008	199
Massachusetts	0.060	0.129	0.040	960
Michigan	0.017	0.039	0.013	345
Minnesota	0.007	0.017	0.005	142
Mississippi	0.021	0.046	0.014	461
Missouri	0.045	0.109	0.032	919
Montana	[b]	0.001	[b]	7
Nebraska	0.004	0.009	0.003	87
Nevada	0.001	0.002	0.001	19
New Hampshire	0.004	0.008	0.002	63
New Jersey	0.015	0.035	0.011	253
New Mexico	0.193	0.388	0.128	4,030
New York	0.260	0.511	0.156	3,710
North Carolina	0.090	0.221	0.069	2,109
North Dakota	[b]	0.001	[b]	6
Ohio	0.400	1.013	0.312	9,034
Oklahoma	0.085	0.201	0.064	2,092
Oregon	0.017	0.039	0.012	340
Pennsylvania	0.229	0.598	0.181	4,589
Rhode Island	[b]	0.001	[b]	5
South Carolina	0.039	0.094	0.029	899
South Dakota	0.001	0.002	0.001	26
Tennessee	0.094	0.240	0.071	2,106
Texas	0.315	0.849	0.267	6,791
Utah	0.018	0.044	0.014	421
Vermont	0.001	0.003	0.001	27
Virginia	0.088	0.201	0.060	1,595
Washington	0.016	0.038	0.012	309
West Virginia	0.011	0.022	0.006	209
Wisconsin	0.029	0.069	0.022	623
Wyoming	0.005	0.010	0.003	95
State totals	3.499	8.426	2.632	70,901
Interstate spillovers	0.000	2.736	0.722	21,475
USA Total	3.499	11.162	3.354	92,376

Source: CRA, McGraw-Hill Construction, BEA and NAIOIP

[a] There were no construction outlays reported in 2009.

[b] Value is less than \$1 million and is included in the state and USA totals.



Appendix C-3
Impacts of Warehouse Site Development on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.017	0.041	0.013	397
Alaska	0.005	0.010	0.003	86
Arizona	0.051	0.112	0.037	948
Arkansas	0.002	0.004	0.001	43
California	0.132	0.333	0.108	2,593
Colorado	0.021	0.053	0.017	439
Connecticut	0.019	0.038	0.012	284
Delaware	0.003	0.006	0.002	40
District of Columbia	0.005	0.006	[a]	10
Florida	0.102	0.227	0.075	2,016
Georgia	0.045	0.117	0.036	1,000
Hawaii	0.004	0.008	0.003	73
Idaho	0.006	0.012	0.004	132
Illinois	0.036	0.094	0.029	706
Indiana	0.037	0.091	0.027	799
Iowa	0.015	0.033	0.010	320
Kansas	0.015	0.034	0.010	303
Kentucky	0.014	0.032	0.009	301
Louisiana	0.032	0.070	0.023	661
Maine	0.001	0.001	[a]	16
Maryland	0.020	0.044	0.013	331
Massachusetts	0.035	0.075	0.023	556
Michigan	0.020	0.046	0.015	413
Minnesota	0.005	0.012	0.004	106
Mississippi	0.005	0.011	0.003	112
Missouri	0.027	0.066	0.019	556
Montana	0.001	0.003	0.001	29
Nebraska	0.010	0.021	0.007	201
Nevada	0.009	0.019	0.006	155
New Hampshire	0.001	0.003	0.001	25
New Jersey	0.012	0.029	0.009	212
New Mexico	0.008	0.015	0.005	159
New York	0.079	0.154	0.047	1,120
North Carolina	0.040	0.097	0.030	926
North Dakota	0.001	0.002	0.001	19
Ohio	0.044	0.112	0.034	1,000
Oklahoma	0.031	0.074	0.024	768
Oregon	0.031	0.073	0.022	626
Pennsylvania	0.066	0.172	0.052	1,320
Rhode Island	0.002	0.003	0.001	25
South Carolina	0.038	0.093	0.028	881
South Dakota	0.005	0.011	0.004	118
Tennessee	0.032	0.082	0.024	718
Texas	0.159	0.430	0.135	3,438
Utah	0.013	0.033	0.011	314
Vermont	0.001	0.003	0.001	30
Virginia	0.011	0.025	0.008	200
Washington	0.043	0.102	0.033	823
West Virginia	0.001	0.002	0.001	20
Wisconsin	0.025	0.059	0.019	531
Wyoming	0.001	0.003	0.001	26
State totals	1.338	3.197	1.002	26,922
Interstate spillovers	0.000	1.071	0.280	8,396
USA Total	1.338	4.268	1.282	35,319

Source: CRA, McGraw-Hill Construction, BEA and NAIOP
[a] Value is less than \$1 million and is included in state and USA totals.

Appendix C-4
Impacts of Retail and Entertainment Site Development on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.109	0.269	0.084	2,586
Alaska	0.011	0.022	0.007	186
Arizona	0.109	0.243	0.080	2,048
Arkansas	0.042	0.094	0.029	937
California	0.353	0.887	0.288	6,915
Colorado	0.106	0.261	0.085	2,164
Connecticut	0.047	0.096	0.030	720
Delaware	0.011	0.020	0.005	139
District of Columbia	0.007	0.009	0.001	15
Florida	0.373	0.833	0.276	7,404
Georgia	0.207	0.537	0.168	4,597
Hawaii	0.018	0.036	0.012	318
Idaho	0.028	0.059	0.019	639
Illinois	0.225	0.587	0.181	4,389
Indiana	0.105	0.256	0.077	2,254
Iowa	0.046	0.101	0.031	981
Kansas	0.052	0.116	0.034	1,040
Kentucky	0.072	0.170	0.050	1,595
Louisiana	0.087	0.192	0.062	1,803
Maine	0.018	0.038	0.013	416
Maryland	0.132	0.286	0.087	2,140
Massachusetts	0.121	0.262	0.082	1,947
Michigan	0.086	0.202	0.066	1,798
Minnesota	0.062	0.148	0.047	1,256
Mississippi	0.037	0.084	0.025	836
Missouri	0.092	0.224	0.065	1,897
Montana	0.011	0.024	0.008	269
Nebraska	0.031	0.066	0.021	639
Nevada	0.040	0.079	0.026	652
New Hampshire	0.034	0.074	0.022	608
New Jersey	0.066	0.155	0.047	1,122
New Mexico	0.026	0.053	0.017	551
New York	0.223	0.439	0.134	3,182
North Carolina	0.160	0.392	0.122	3,737
North Dakota	0.001	0.003	0.001	29
Ohio	0.153	0.388	0.119	3,464
Oklahoma	0.082	0.195	0.062	2,032
Oregon	0.067	0.156	0.047	1,342
Pennsylvania	0.159	0.414	0.125	3,182
Rhode Island	0.016	0.030	0.009	243
South Carolina	0.107	0.260	0.080	2,480
South Dakota	0.007	0.015	0.005	159
Tennessee	0.100	0.256	0.076	2,243
Texas	0.494	1.334	0.419	10,665
Utah	0.062	0.154	0.049	1,476
Vermont	0.003	0.007	0.002	71
Virginia	0.119	0.272	0.081	2,157
Washington	0.150	0.358	0.114	2,879
West Virginia	0.030	0.060	0.018	576
Wisconsin	0.093	0.221	0.070	2,001
Wyoming	0.009	0.017	0.005	164
State totals	4.799	11.455	3.586	96,944
Interstate spillovers	0.000	3.853	1.014	29,741
USA Total	4.799	15.308	4.600	126,685

Source: CRA, McGraw-Hill Construction, BEA and NAIOIP



Appendix C-5
Impacts of Site Development in Four Categories on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.238	0.587	0.183	5,647
Alaska	0.024	0.046	0.015	393
Arizona	0.497	1.105	0.366	9,321
Arkansas	0.089	0.199	0.061	1,979
California	1.114	2.797	0.908	21,799
Colorado	0.393	0.970	0.316	8,057
Connecticut	0.122	0.248	0.079	1,865
Delaware	0.025	0.049	0.013	335
District of Columbia	0.159	0.200	0.014	325
Florida	0.793	1.771	0.588	15,750
Georgia	0.472	1.227	0.383	10,495
Hawaii	0.049	0.100	0.034	883
Idaho	0.052	0.112	0.036	1,209
Illinois	0.791	2.065	0.636	15,430
Indiana	0.268	0.653	0.198	5,763
Iowa	0.096	0.212	0.065	2,045
Kansas	0.159	0.358	0.103	3,199
Kentucky	0.149	0.350	0.102	3,286
Louisiana	0.322	0.708	0.228	6,657
Maine	0.026	0.056	0.018	603
Maryland	0.389	0.844	0.256	6,316
Massachusetts	0.344	0.744	0.233	5,535
Michigan	0.208	0.488	0.159	4,339
Minnesota	0.105	0.252	0.079	2,133
Mississippi	0.101	0.226	0.069	2,258
Missouri	0.232	0.564	0.164	4,771
Montana	0.018	0.038	0.013	428
Nebraska	0.122	0.263	0.082	2,536
Nevada	0.088	0.175	0.058	1,446
New Hampshire	0.049	0.107	0.032	886
New Jersey	0.214	0.505	0.153	3,654
New Mexico	0.242	0.487	0.160	5,053
New York	1.495	2.940	0.899	21,326
North Carolina	0.557	1.365	0.425	13,007
North Dakota	0.006	0.011	0.003	110
Ohio	0.702	1.777	0.547	15,849
Oklahoma	0.383	0.909	0.290	9,473
Oregon	0.158	0.367	0.112	3,161
Pennsylvania	0.583	1.521	0.460	11,676
Rhode Island	0.032	0.063	0.019	505
South Carolina	0.270	0.659	0.202	6,273
South Dakota	0.024	0.049	0.016	532
Tennessee	0.314	0.802	0.238	7,028
Texas	1.378	3.719	1.168	29,732
Utah	0.141	0.352	0.113	3,363
Vermont	0.009	0.019	0.006	194
Virginia	0.798	1.831	0.547	14,514
Washington	0.460	1.102	0.351	8,857
West Virginia	0.072	0.143	0.042	1,382
Wisconsin	0.194	0.461	0.146	4,173
Wyoming	0.024	0.044	0.014	435
State totals	15.549	36.637	11.403	305,986
Interstate spillovers	0.000	12.965	3.501	104,514
USA Total	15.549	49.602	14.904	410,499

Source: CRA, McGraw-Hill Construction, BEA and NAIOIP

Appendix D: Hard Costs Impacts by State

Appendix D-1
Impacts of Office Construction on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.246	0.608	0.189	5,847
Alaska	0.020	0.038	0.013	330
Arizona	0.297	0.660	0.219	5,569
Arkansas	0.099	0.219	0.067	2,181
California	1.425	3.579	1.162	27,898
Colorado	0.473	1.168	0.380	9,698
Connecticut	0.164	0.333	0.106	2,509
Delaware	0.016	0.031	0.008	211
District of Columbia	0.484	0.611	0.042	993
Florida	0.998	2.229	0.740	19,824
Georgia	0.448	1.167	0.364	9,981
Hawaii	0.077	0.156	0.053	1,380
Idaho	0.055	0.117	0.038	1,273
Illinois	0.374	0.976	0.301	7,289
Indiana	0.278	0.677	0.205	5,968
Iowa	0.073	0.162	0.050	1,562
Kansas	0.123	0.278	0.080	2,479
Kentucky	0.131	0.309	0.090	2,897
Louisiana	0.243	0.534	0.172	5,028
Maine	0.024	0.051	0.017	554
Maryland	0.743	1.611	0.489	12,061
Massachusetts	0.426	0.922	0.289	6,856
Michigan	0.283	0.664	0.216	5,900
Minnesota	0.102	0.246	0.077	2,080
Mississippi	0.126	0.281	0.085	2,807
Missouri	0.225	0.547	0.160	4,630
Montana	0.017	0.036	0.012	406
Nebraska	0.255	0.551	0.173	5,319
Nevada	0.125	0.248	0.082	2,051
New Hampshire	0.035	0.076	0.023	628
New Jersey	0.400	0.946	0.287	6,837
New Mexico	0.049	0.100	0.033	1,034
New York	3.088	6.071	1.856	44,041
North Carolina	0.883	2.164	0.674	20,629
North Dakota	0.009	0.019	0.006	184
Ohio	0.344	0.872	0.268	7,776
Oklahoma	0.613	1.453	0.465	15,153
Oregon	0.141	0.327	0.100	2,822
Pennsylvania	0.427	1.114	0.337	8,554
Rhode Island	0.049	0.096	0.029	767
South Carolina	0.287	0.699	0.215	6,657
South Dakota	0.034	0.070	0.022	755
Tennessee	0.290	0.740	0.220	6,488
Texas	1.355	3.656	1.149	29,234
Utah	0.160	0.398	0.128	3,812
Vermont	0.010	0.021	0.007	215
Virginia	1.920	4.407	1.316	34,940
Washington	0.833	1.995	0.635	16,031
West Virginia	0.099	0.197	0.059	1,908
Wisconsin	0.156	0.373	0.118	3,369
Wyoming	0.028	0.050	0.016	497
State totals	19.562	44.855	13.838	367,909
Interstate spillovers	0.000	17.549	4.912	148,535
USA Total	19.562	62.404	18.750	516,444

Source: CRA, McGraw-Hill Construction, BEA and NAIOP



Appendix D-2
Impacts of Industrial Construction on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.108	0.266	0.083	2,558
Alaska	0.004	0.007	0.002	62
Arizona	0.707	1.572	0.521	13,263
Arkansas	0.044	0.097	0.030	969
California	0.563	1.414	0.459	11,024
Colorado	0.352	0.868	0.283	7,208
Connecticut	0.019	0.039	0.012	295
Delaware	0.020	0.038	0.010	263
District of Columbia	[a]	[a]	[a]	[a]
Florida	0.049	0.109	0.036	965
Georgia	0.241	0.628	0.196	5,372
Hawaii	0.012	0.024	0.008	214
Idaho	0.006	0.014	0.004	149
Illinois	1.191	3.110	0.958	23,233
Indiana	0.120	0.293	0.089	2,588
Iowa	0.036	0.080	0.025	777
Kansas	0.157	0.354	0.102	3,162
Kentucky	0.067	0.156	0.046	1,468
Louisiana	0.370	0.812	0.261	7,636
Maine	[b]	0.001	[b]	10
Maryland	0.035	0.076	0.023	567
Massachusetts	0.170	0.369	0.115	2,741
Michigan	0.047	0.111	0.036	986
Minnesota	0.020	0.048	0.015	406
Mississippi	0.059	0.132	0.040	1,318
Missouri	0.127	0.310	0.090	2,625
Montana	0.001	0.002	0.001	21
Nebraska	0.012	0.026	0.008	250
Nevada	0.003	0.007	0.002	55
New Hampshire	0.010	0.022	0.007	180
New Jersey	0.042	0.100	0.030	724
New Mexico	0.551	1.110	0.365	11,514
New York	0.743	1.461	0.447	10,600
North Carolina	0.258	0.632	0.197	6,024
North Dakota	0.001	0.002	0.001	19
Ohio	1.143	2.894	0.890	25,811
Oklahoma	0.242	0.573	0.183	5,976
Oregon	0.049	0.113	0.034	972
Pennsylvania	0.654	1.707	0.517	13,109
Rhode Island	0.001	0.002	0.001	16
South Carolina	0.111	0.270	0.083	2,570
South Dakota	0.003	0.007	0.002	75
Tennessee	0.269	0.686	0.204	6,017
Texas	0.899	2.427	0.762	19,402
Utah	0.051	0.126	0.040	1,204
Vermont	0.004	0.008	0.002	77
Virginia	0.250	0.575	0.172	4,558
Washington	0.046	0.110	0.035	884
West Virginia	0.031	0.062	0.018	597
Wisconsin	0.083	0.197	0.062	1,780
Wyoming	0.015	0.028	0.009	272
State totals	9.997	24.073	7.519	202,563
Interstate spillovers	0.000	7.817	2.063	61,354
USA Total	9.997	31.890	9.582	263,917

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

[a] There were no construction outlays reported in 2009.

[b] Value is less than \$1 million and is included in state and USA totals.

Appendix D-3
Impacts of Warehouse Construction on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.051	0.127	0.039	1,220
Alaska	0.016	0.031	0.010	263
Arizona	0.155	0.345	0.114	2,912
Arkansas	0.006	0.013	0.004	131
California	0.407	1.022	0.332	7,963
Colorado	0.066	0.162	0.053	1,348
Connecticut	0.057	0.116	0.037	872
Delaware	0.009	0.018	0.005	123
District of Columbia	0.015	0.019	0.001	31
Florida	0.312	0.696	0.231	6,191
Georgia	0.138	0.359	0.112	3,071
Hawaii	0.012	0.025	0.009	224
Idaho	0.017	0.038	0.012	407
Illinois	0.111	0.290	0.089	2,168
Indiana	0.114	0.278	0.084	2,454
Iowa	0.046	0.102	0.031	983
Kansas	0.046	0.104	0.030	930
Kentucky	0.042	0.098	0.029	924
Louisiana	0.098	0.216	0.070	2,031
Maine	0.002	0.004	0.001	48
Maryland	0.063	0.136	0.041	1,015
Massachusetts	0.106	0.230	0.072	1,708
Michigan	0.061	0.143	0.046	1,268
Minnesota	0.016	0.038	0.012	325
Mississippi	0.015	0.035	0.010	345
Missouri	0.083	0.202	0.059	1,706
Montana	0.004	0.008	0.003	89
Nebraska	0.030	0.064	0.020	617
Nevada	0.029	0.058	0.019	476
New Hampshire	0.004	0.009	0.003	77
New Jersey	0.038	0.090	0.027	650
New Mexico	0.023	0.047	0.015	489
New York	0.241	0.474	0.145	3,439
North Carolina	0.122	0.298	0.093	2,843
North Dakota	0.003	0.006	0.002	58
Ohio	0.136	0.344	0.106	3,071
Oklahoma	0.095	0.226	0.072	2,360
Oregon	0.096	0.223	0.068	1,922
Pennsylvania	0.202	0.528	0.160	4,053
Rhode Island	0.005	0.010	0.003	78
South Carolina	0.117	0.284	0.087	2,707
South Dakota	0.016	0.034	0.011	363
Tennessee	0.099	0.252	0.075	2,204
Texas	0.489	1.321	0.415	10,560
Utah	0.041	0.101	0.032	963
Vermont	0.005	0.009	0.003	93
Virginia	0.034	0.077	0.023	614
Washington	0.131	0.315	0.100	2,528
West Virginia	0.003	0.006	0.002	61
Wisconsin	0.076	0.180	0.057	1,630
Wyoming	0.004	0.008	0.003	80
State totals	4.109	9.818	3.078	82,687
Interstate spillovers	0.000	3.289	0.860	25,787
USA Total	4.109	13.107	3.938	108,474

Source: CRA, McGraw-Hill Construction, BEA and NAIOF



Appendix D-4
Impacts of Retail and Entertainment Construction on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.294	0.725	0.225	6,971
Alaska	0.031	0.058	0.019	501
Arizona	0.294	0.654	0.217	5,519
Arkansas	0.114	0.254	0.077	2,526
California	0.952	2.391	0.776	18,637
Colorado	0.285	0.702	0.229	5,833
Connecticut	0.127	0.257	0.082	1,939
Delaware	0.028	0.054	0.015	374
District of Columbia	0.019	0.025	0.002	40
Florida	1.005	2.244	0.745	19,955
Georgia	0.557	1.449	0.452	12,391
Hawaii	0.048	0.097	0.033	857
Idaho	0.074	0.159	0.052	1,723
Illinois	0.606	1.583	0.488	11,828
Indiana	0.283	0.689	0.209	6,075
Iowa	0.124	0.274	0.084	2,645
Kansas	0.139	0.314	0.091	2,802
Kentucky	0.195	0.458	0.134	4,299
Louisiana	0.235	0.517	0.166	4,859
Maine	0.049	0.104	0.034	1,121
Maryland	0.355	0.771	0.234	5,769
Massachusetts	0.326	0.706	0.221	5,249
Michigan	0.232	0.545	0.178	4,847
Minnesota	0.166	0.400	0.126	3,386
Mississippi	0.101	0.226	0.069	2,253
Missouri	0.248	0.604	0.176	5,113
Montana	0.031	0.065	0.021	724
Nebraska	0.083	0.179	0.056	1,723
Nevada	0.107	0.213	0.070	1,758
New Hampshire	0.091	0.198	0.060	1,640
New Jersey	0.177	0.418	0.127	3,023
New Mexico	0.071	0.143	0.047	1,484
New York	0.601	1.182	0.362	8,577
North Carolina	0.431	1.057	0.329	10,073
North Dakota	0.004	0.008	0.002	77
Ohio	0.413	1.047	0.322	9,337
Oklahoma	0.222	0.525	0.168	5,478
Oregon	0.181	0.420	0.128	3,617
Pennsylvania	0.428	1.117	0.338	8,577
Rhode Island	0.042	0.082	0.024	654
South Carolina	0.288	0.702	0.215	6,684
South Dakota	0.019	0.040	0.013	428
Tennessee	0.270	0.690	0.205	6,046
Texas	1.332	3.595	1.129	28,745
Utah	0.167	0.416	0.133	3,978
Vermont	0.009	0.019	0.006	192
Virginia	0.320	0.733	0.219	5,813
Washington	0.403	0.965	0.307	7,759
West Virginia	0.081	0.160	0.048	1,553
Wisconsin	0.250	0.596	0.188	5,392
Wyoming	0.025	0.045	0.014	442
State totals	12.934	30.874	9.665	261,287
Interstate spillovers	0.000	10.384	2.732	80,158
USA Total	12.934	41.258	12.397	341,445

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix D-5
Impacts of Construction in Four Categories on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.699	1.727	0.537	16,597
Alaska	0.071	0.134	0.045	1,156
Arizona	1.453	3.232	1.070	27,262
Arkansas	0.262	0.583	0.178	5,808
California	3.347	8.406	2.729	65,521
Colorado	1.176	2.900	0.944	24,086
Connecticut	0.367	0.745	0.236	5,615
Delaware	0.074	0.141	0.038	971
District of Columbia	0.519	0.655	0.045	1,064
Florida	2.364	5.278	1.752	46,935
Georgia	1.385	3.603	1.123	30,816
Hawaii	0.149	0.302	0.102	2,675
Idaho	0.153	0.328	0.107	3,552
Illinois	2.282	5.959	1.836	44,517
Indiana	0.796	1.937	0.587	17,085
Iowa	0.279	0.617	0.190	5,967
Kansas	0.466	1.049	0.303	9,373
Kentucky	0.435	1.022	0.299	9,588
Louisiana	0.947	2.079	0.669	19,555
Maine	0.075	0.160	0.053	1,733
Maryland	1.195	2.594	0.787	19,412
Massachusetts	1.028	2.226	0.697	16,553
Michigan	0.623	1.463	0.476	13,000
Minnesota	0.304	0.732	0.230	6,197
Mississippi	0.301	0.673	0.205	6,724
Missouri	0.683	1.662	0.485	14,074
Montana	0.053	0.111	0.037	1,240
Nebraska	0.379	0.819	0.257	7,910
Nevada	0.265	0.526	0.173	4,340
New Hampshire	0.140	0.306	0.092	2,525
New Jersey	0.658	1.554	0.471	11,234
New Mexico	0.695	1.400	0.460	14,521
New York	4.673	9.189	2.809	66,657
North Carolina	1.693	4.151	1.294	39,568
North Dakota	0.017	0.035	0.010	337
Ohio	2.037	5.156	1.586	45,995
Oklahoma	1.172	2.778	0.888	28,967
Oregon	0.467	1.083	0.330	9,333
Pennsylvania	1.712	4.467	1.352	34,293
Rhode Island	0.097	0.190	0.056	1,514
South Carolina	0.802	1.955	0.600	18,618
South Dakota	0.073	0.151	0.048	1,622
Tennessee	0.928	2.368	0.703	20,755
Texas	4.075	10.999	3.455	87,940
Utah	0.419	1.041	0.334	9,957
Vermont	0.028	0.056	0.018	577
Virginia	2.524	5.792	1.730	45,925
Washington	1.413	3.385	1.078	27,201
West Virginia	0.214	0.425	0.127	4,120
Wisconsin	0.565	1.346	0.425	12,171
Wyoming	0.072	0.131	0.042	1,291
State totals	46.602	109.620	34.100	914,447
Interstate spillovers	0.000	39.039	10.568	315,834
USA Total	46.602	148.659	44.668	1,230,281

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix E: Tenant Improvement Impacts by State

Appendix E-1
Impacts of Office Tenant Improvement on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.090	0.222	0.069	2,133
Alaska	0.007	0.014	0.005	120
Arizona	0.108	0.241	0.080	2,031
Arkansas	0.036	0.080	0.024	796
California	0.520	1.306	0.424	10,176
Colorado	0.173	0.426	0.139	3,537
Connecticut	0.060	0.121	0.039	915
Delaware	0.006	0.011	0.003	77
District of Columbia	0.177	0.223	0.015	362
Florida	0.364	0.813	0.270	7,231
Georgia	0.164	0.426	0.133	3,641
Hawaii	0.028	0.057	0.019	503
Idaho	0.020	0.043	0.014	464
Illinois	0.136	0.356	0.110	2,659
Indiana	0.101	0.247	0.075	2,177
Iowa	0.027	0.059	0.018	570
Kansas	0.045	0.101	0.029	904
Kentucky	0.048	0.113	0.033	1,057
Louisiana	0.089	0.195	0.063	1,834
Maine	0.009	0.019	0.006	202
Maryland	0.271	0.588	0.178	4,399
Massachusetts	0.155	0.336	0.105	2,501
Michigan	0.103	0.242	0.079	2,152
Minnesota	0.037	0.090	0.028	759
Mississippi	0.046	0.102	0.031	1,024
Missouri	0.082	0.199	0.058	1,689
Montana	0.006	0.013	0.004	148
Nebraska	0.093	0.201	0.063	1,940
Nevada	0.046	0.091	0.030	748
New Hampshire	0.013	0.028	0.008	229
New Jersey	0.146	0.345	0.105	2,494
New Mexico	0.018	0.036	0.012	377
New York	1.126	2.215	0.677	16,065
North Carolina	0.322	0.789	0.246	7,525
North Dakota	0.003	0.007	0.002	67
Ohio	0.126	0.318	0.098	2,837
Oklahoma	0.224	0.530	0.169	5,527
Oregon	0.051	0.119	0.036	1,030
Pennsylvania	0.156	0.406	0.123	3,120
Rhode Island	0.018	0.035	0.010	280
South Carolina	0.105	0.255	0.078	2,428
South Dakota	0.012	0.026	0.008	276
Tennessee	0.106	0.270	0.080	2,366
Texas	0.494	1.334	0.419	10,664
Utah	0.058	0.145	0.047	1,390
Vermont	0.004	0.008	0.002	78
Virginia	0.700	1.607	0.480	12,745
Washington	0.304	0.728	0.232	5,848
West Virginia	0.036	0.072	0.021	696
Wisconsin	0.057	0.136	0.043	1,229
Wyoming	0.010	0.018	0.006	181
State totals	7.136	16.362	5.048	134,203
Interstate spillovers	0.000	6.401	1.792	54,182
USA Total	7.136	22.763	6.840	188,385

Source: CRA, McGraw-Hill Construction, BEA and NAIOP

Appendix E-2
Impacts of Industrial Tenant Improvement on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.027	0.067	0.021	648
Alaska	0.001	0.002	0.001	16
Arizona	0.179	0.398	0.132	3,361
Arkansas	0.011	0.025	0.008	246
California	0.143	0.358	0.116	2,794
Colorado	0.089	0.220	0.072	1,827
Connecticut	0.005	0.010	0.003	75
Delaware	0.005	0.010	0.003	67
District of Columbia	[a]	[a]	[a]	[a]
Florida	0.012	0.028	0.009	245
Georgia	0.061	0.159	0.050	1,361
Hawaii	0.003	0.006	0.002	54
Idaho	0.002	0.003	0.001	38
Illinois	0.302	0.788	0.243	5,888
Indiana	0.031	0.074	0.023	656
Iowa	0.009	0.020	0.006	197
Kansas	0.040	0.090	0.026	801
Kentucky	0.017	0.040	0.012	372
Louisiana	0.094	0.206	0.066	1,935
Maine	[b]	[b]	[b]	3
Maryland	0.009	0.019	0.006	144
Massachusetts	0.043	0.093	0.029	695
Michigan	0.012	0.028	0.009	250
Minnesota	0.005	0.012	0.004	103
Mississippi	0.015	0.033	0.010	334
Missouri	0.032	0.079	0.023	665
Montana	[b]	[b]	[b]	5
Nebraska	0.003	0.007	0.002	63
Nevada	0.001	0.002	0.001	14
New Hampshire	0.003	0.006	0.002	46
New Jersey	0.011	0.025	0.008	184
New Mexico	0.140	0.281	0.092	2,918
New York	0.188	0.370	0.113	2,686
North Carolina	0.065	0.160	0.050	1,527
North Dakota	[b]	[b]	[b]	5
Ohio	0.290	0.733	0.226	6,541
Oklahoma	0.061	0.145	0.046	1,514
Oregon	0.012	0.029	0.009	246
Pennsylvania	0.166	0.433	0.131	3,322
Rhode Island	[b]	[b]	[b]	4
South Carolina	0.028	0.068	0.021	651
South Dakota	0.001	0.002	0.001	19
Tennessee	0.068	0.174	0.052	1,525
Texas	0.228	0.615	0.193	4,917
Utah	0.013	0.032	0.010	305
Vermont	0.001	0.002	0.001	20
Virginia	0.063	0.146	0.044	1,155
Washington	0.012	0.028	0.009	224
West Virginia	0.008	0.016	0.005	151
Wisconsin	0.021	0.050	0.016	451
Wyoming	0.004	0.007	0.002	69
State totals	2.533	6.101	1.905	51,333
Interstate spillovers	0.000	1.981	0.523	15,548
USA Total	2.533	8.081	2.428	66,881

Source: CRA, McGraw-Hill Construction, BEA and NAIOIP

[a] There were no construction outlays reported in 2009.

[b] Value of direct spending is less than \$1 million and is included in state and USA totals.



Appendix E-3
Impacts of Warehouse Tenant Improvement on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.013	0.033	0.010	313
Alaska	0.004	0.008	0.003	67
Arizona	0.040	0.088	0.029	746
Arkansas	0.002	0.003	0.001	34
California	0.104	0.262	0.085	2,039
Colorado	0.017	0.042	0.014	345
Connecticut	0.015	0.030	0.009	223
Delaware	0.002	0.005	0.001	31
District of Columbia	0.004	0.005	[a]	8
Florida	0.080	0.178	0.059	1,586
Georgia	0.035	0.092	0.029	787
Hawaii	0.003	0.006	0.002	57
Idaho	0.004	0.010	0.003	104
Illinois	0.028	0.074	0.023	555
Indiana	0.029	0.071	0.022	629
Iowa	0.012	0.026	0.008	252
Kansas	0.012	0.027	0.008	238
Kentucky	0.011	0.025	0.007	237
Louisiana	0.025	0.055	0.018	520
Maine	0.001	0.001	[a]	12
Maryland	0.016	0.035	0.011	260
Massachusetts	0.027	0.059	0.018	437
Michigan	0.016	0.037	0.012	325
Minnesota	0.004	0.010	0.003	83
Mississippi	0.004	0.009	0.003	88
Missouri	0.021	0.052	0.015	437
Montana	0.001	0.002	0.001	23
Nebraska	0.008	0.016	0.005	158
Nevada	0.007	0.015	0.005	122
New Hampshire	0.001	0.002	0.001	20
New Jersey	0.010	0.023	0.007	167
New Mexico	0.006	0.012	0.004	125
New York	0.062	0.121	0.037	881
North Carolina	0.031	0.076	0.024	728
North Dakota	0.001	0.002	[a]	15
Ohio	0.035	0.088	0.027	786
Oklahoma	0.024	0.058	0.019	604
Oregon	0.025	0.057	0.017	492
Pennsylvania	0.052	0.135	0.041	1,038
Rhode Island	0.001	0.003	0.001	20
South Carolina	0.030	0.073	0.022	693
South Dakota	0.004	0.009	0.003	93
Tennessee	0.025	0.064	0.019	565
Texas	0.125	0.338	0.106	2,705
Utah	0.010	0.026	0.008	247
Vermont	0.001	0.002	0.001	24
Virginia	0.009	0.020	0.006	157
Washington	0.034	0.081	0.026	648
West Virginia	0.001	0.002	[a]	16
Wisconsin	0.019	0.046	0.015	417
Wyoming	0.001	0.002	0.001	21
State totals	1.052	2.515	0.788	21,178
Interstate spillovers	0.000	0.842	0.220	6,605
USA Total	1.052	3.357	1.009	27,783

Source: CRA, McGraw-Hill Construction, BEA and NAIOIP

[a] Value of direct spending is less than \$1 million and it is included in state and USA totals.

Appendix E-4
Impacts of Retail and Entertainment Tenant Improvement on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.089	0.221	0.069	2,121
Alaska	0.009	0.018	0.006	152
Arizona	0.089	0.199	0.066	1,679
Arkansas	0.035	0.077	0.024	768
California	0.290	0.727	0.236	5,670
Colorado	0.087	0.214	0.070	1,775
Connecticut	0.039	0.078	0.025	590
Delaware	0.009	0.017	0.004	114
District of Columbia	0.006	0.007	0.001	12
Florida	0.306	0.683	0.227	6,071
Georgia	0.169	0.441	0.137	3,770
Hawaii	0.014	0.029	0.010	261
Idaho	0.023	0.048	0.016	524
Illinois	0.184	0.482	0.148	3,598
Indiana	0.086	0.210	0.063	1,848
Iowa	0.038	0.083	0.026	805
Kansas	0.042	0.095	0.028	853
Kentucky	0.059	0.139	0.041	1,308
Louisiana	0.072	0.157	0.051	1,478
Maine	0.015	0.032	0.010	341
Maryland	0.108	0.234	0.071	1,755
Massachusetts	0.099	0.215	0.067	1,597
Michigan	0.071	0.166	0.054	1,474
Minnesota	0.051	0.122	0.038	1,030
Mississippi	0.031	0.069	0.021	686
Missouri	0.075	0.184	0.054	1,556
Montana	0.009	0.020	0.006	220
Nebraska	0.025	0.054	0.017	524
Nevada	0.033	0.065	0.021	535
New Hampshire	0.028	0.060	0.018	499
New Jersey	0.054	0.127	0.039	920
New Mexico	0.022	0.044	0.014	452
New York	0.183	0.360	0.110	2,609
North Carolina	0.131	0.321	0.100	3,064
North Dakota	0.001	0.002	0.001	24
Ohio	0.126	0.318	0.098	2,840
Oklahoma	0.067	0.160	0.051	1,666
Oregon	0.055	0.128	0.039	1,100
Pennsylvania	0.130	0.340	0.103	2,609
Rhode Island	0.013	0.025	0.007	199
South Carolina	0.088	0.214	0.066	2,034
South Dakota	0.006	0.012	0.004	130
Tennessee	0.082	0.210	0.062	1,839
Texas	0.405	1.094	0.344	8,745
Utah	0.051	0.126	0.041	1,210
Vermont	0.003	0.006	0.002	58
Virginia	0.097	0.223	0.067	1,769
Washington	0.123	0.294	0.094	2,360
West Virginia	0.025	0.049	0.015	473
Wisconsin	0.076	0.181	0.057	1,641
Wyoming	0.008	0.014	0.004	134
State totals	3.935	9.393	2.940	79,490
Interstate spillovers	0.000	3.159	0.831	24,386
USA Total	3.935	12.552	3.771	103,876

Source: CRA, McGraw-Hill Construction, BEA and NAIOF



Appendix E-5
Impacts of Tenant improvement in Four Categories on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.220	0.542	0.169	5,214
Alaska	0.022	0.041	0.014	356
Arizona	0.417	0.927	0.307	7,817
Arkansas	0.083	0.185	0.056	1,843
California	1.056	2.653	0.861	20,679
Colorado	0.365	0.901	0.293	7,484
Connecticut	0.118	0.239	0.076	1,803
Delaware	0.022	0.042	0.011	289
District of Columbia	0.186	0.235	0.016	382
Florida	0.762	1.702	0.565	15,132
Georgia	0.430	1.118	0.348	9,559
Hawaii	0.049	0.099	0.033	876
Idaho	0.049	0.104	0.034	1,131
Illinois	0.651	1.700	0.524	12,700
Indiana	0.247	0.602	0.182	5,309
Iowa	0.085	0.189	0.058	1,823
Kansas	0.139	0.313	0.090	2,796
Kentucky	0.135	0.317	0.093	2,973
Louisiana	0.279	0.613	0.197	5,768
Maine	0.024	0.052	0.017	558
Maryland	0.404	0.876	0.266	6,558
Massachusetts	0.325	0.703	0.220	5,230
Michigan	0.201	0.473	0.154	4,201
Minnesota	0.097	0.233	0.073	1,975
Mississippi	0.095	0.213	0.065	2,132
Missouri	0.211	0.513	0.150	4,347
Montana	0.017	0.035	0.012	396
Nebraska	0.129	0.278	0.087	2,686
Nevada	0.087	0.172	0.057	1,419
New Hampshire	0.044	0.096	0.029	793
New Jersey	0.220	0.521	0.158	3,764
New Mexico	0.185	0.373	0.123	3,872
New York	1.559	3.066	0.937	22,241
North Carolina	0.550	1.347	0.420	12,844
North Dakota	0.006	0.011	0.003	110
Ohio	0.576	1.458	0.448	13,005
Oklahoma	0.377	0.893	0.285	9,313
Oregon	0.143	0.333	0.101	2,868
Pennsylvania	0.504	1.314	0.398	10,090
Rhode Island	0.032	0.063	0.019	503
South Carolina	0.250	0.610	0.187	5,806
South Dakota	0.023	0.048	0.015	518
Tennessee	0.281	0.718	0.213	6,295
Texas	1.252	3.381	1.062	27,030
Utah	0.133	0.329	0.106	3,152
Vermont	0.009	0.017	0.005	180
Virginia	0.870	1.996	0.596	15,826
Washington	0.472	1.130	0.360	9,080
West Virginia	0.069	0.138	0.041	1,336
Wisconsin	0.173	0.413	0.131	3,738
Wyoming	0.023	0.041	0.013	405
State totals	14.656	34.370	10.682	286,205
Interstate spillovers	0.000	12.384	3.366	100,721
USA Total	14.656	46.753	14.048	386,925

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix F: Total Impacts by State

Appendix F-1
Impacts of Office Soft Costs, Site Development, Hard Costs
and Tenant Improvement on State Economies, 2009

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.496	1.170	0.377	11,805
Alaska	0.041	0.078	0.027	725
Arizona	0.598	1.294	0.439	12,168
Arkansas	0.199	0.437	0.139	4,463
California	2.872	7.119	2.375	57,923
Colorado	0.954	2.319	0.779	20,040
Connecticut	0.330	0.666	0.217	5,158
Delaware	0.032	0.059	0.015	373
District of Columbia	0.976	1.309	0.158	3,849
Florida	2.012	4.459	1.523	41,497
Georgia	0.904	2.304	0.740	20,075
Hawaii	0.154	0.313	0.109	3,053
Idaho	0.110	0.232	0.078	2,653
Illinois	0.753	1.874	0.597	15,937
Indiana	0.560	1.350	0.423	11,981
Iowa	0.147	0.320	0.102	3,237
Kansas	0.248	0.547	0.163	5,116
Kentucky	0.265	0.604	0.183	5,882
Louisiana	0.491	1.055	0.350	10,543
Maine	0.048	0.103	0.034	1,076
Maryland	1.497	3.219	1.002	25,072
Massachusetts	0.858	1.819	0.589	15,327
Michigan	0.570	1.306	0.438	11,953
Minnesota	0.206	0.487	0.158	4,302
Mississippi	0.253	0.557	0.172	5,577
Missouri	0.453	1.055	0.320	9,785
Montana	0.035	0.072	0.024	856
Nebraska	0.514	1.107	0.358	10,974
Nevada	0.252	0.493	0.165	4,552
New Hampshire	0.070	0.150	0.047	1,367
New Jersey	0.807	1.848	0.576	14,144
New Mexico	0.100	0.203	0.068	2,034
New York	6.222	12.187	3.909	102,020
North Carolina	1.779	4.185	1.345	40,230
North Dakota	0.019	0.038	0.012	357
Ohio	0.694	1.710	0.543	15,842
Oklahoma	1.235	2.866	0.942	31,664
Oregon	0.284	0.646	0.204	5,993
Pennsylvania	0.860	2.181	0.678	17,203
Rhode Island	0.099	0.192	0.059	1,644
South Carolina	0.578	1.367	0.434	13,595
South Dakota	0.069	0.138	0.045	1,558
Tennessee	0.585	1.455	0.446	13,179
Texas	2.730	7.205	2.328	59,395
Utah	0.323	0.787	0.260	8,074
Vermont	0.021	0.042	0.014	424
Virginia	3.870	8.582	2.667	74,297
Washington	1.678	3.943	1.294	33,888
West Virginia	0.200	0.398	0.124	4,086
Wisconsin	0.315	0.716	0.233	6,950
Wyoming	0.056	0.100	0.033	1,083
State totals	39.424	88.667	28.313	774,979
Interstate spillovers	0.000	35.324	10.132	274,676
USA Total	39.424	123.991	38.445	1,049,655

Source: CRA, McGraw-Hill Construction, BEA and NAIOP



Appendix F-2
**Impacts of Industrial Soft Costs, Site Development, Hard Costs
and Tenant Improvement on State Economies, 2009**

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.199	0.475	0.152	4,732
Alaska	0.007	0.013	0.005	123
Arizona	1.306	2.842	0.959	26,071
Arkansas	0.081	0.178	0.056	1,811
California	1.040	2.586	0.857	20,832
Colorado	0.650	1.585	0.529	13,571
Connecticut	0.036	0.072	0.023	553
Delaware	0.037	0.068	0.017	440
District of Columbia	[a]	[a]	[a]	[a]
Florida	0.090	0.199	0.068	1,836
Georgia	0.446	1.142	0.364	9,908
Hawaii	0.022	0.045	0.015	426
Idaho	0.012	0.025	0.008	282
Illinois	2.200	5.539	1.750	45,695
Indiana	0.223	0.538	0.167	4,766
Iowa	0.067	0.146	0.046	1,466
Kansas	0.290	0.643	0.190	5,947
Kentucky	0.123	0.283	0.085	2,727
Louisiana	0.683	1.475	0.487	14,541
Maine	0.001	0.002	0.001	18
Maryland	0.065	0.139	0.043	1,073
Massachusetts	0.314	0.670	0.215	5,486
Michigan	0.087	0.201	0.067	1,828
Minnesota	0.037	0.088	0.028	766
Mississippi	0.109	0.241	0.074	2,408
Missouri	0.235	0.554	0.166	5,028
Montana	0.002	0.003	0.001	40
Nebraska	0.022	0.048	0.015	470
Nevada	0.006	0.012	0.004	109
New Hampshire	0.019	0.040	0.012	354
New Jersey	0.078	0.181	0.056	1,365
New Mexico	1.018	2.070	0.687	20,877
New York	1.373	2.691	0.853	21,811
North Carolina	0.476	1.131	0.361	10,853
North Dakota	0.002	0.004	0.001	33
Ohio	2.111	5.237	1.649	48,070
Oklahoma	0.446	1.041	0.340	11,348
Oregon	0.090	0.205	0.064	1,868
Pennsylvania	1.208	3.085	0.953	24,176
Rhode Island	0.002	0.004	0.001	30
South Carolina	0.205	0.487	0.153	4,795
South Dakota	0.006	0.013	0.004	141
Tennessee	0.497	1.244	0.378	11,181
Texas	1.661	4.406	1.414	36,060
Utah	0.094	0.229	0.075	2,310
Vermont	0.007	0.014	0.004	141
Virginia	0.463	1.034	0.318	8,772
Washington	0.085	0.200	0.065	1,693
West Virginia	0.057	0.114	0.035	1,155
Wisconsin	0.152	0.351	0.113	3,346
Wyoming	0.028	0.050	0.017	534
State totals	18.465	43.643	13.950	383,864
Interstate spillovers	0.000	14.626	3.984	106,774
USA Total	18.465	58.269	17.934	490,638

Source: CRA, McGraw-Hill Construction, BEA and NAIOF
[a] There were no construction outlays reported in 2009.

Appendix F-3
**Impacts of Warehouse Soft Costs, Site Development, Hard Costs
and Tenant Improvement on State Economies, 2009**

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.095	0.225	0.072	2,252
Alaska	0.030	0.057	0.019	521
Arizona	0.286	0.622	0.210	5,737
Arkansas	0.011	0.024	0.008	245
California	0.750	1.862	0.618	15,036
Colorado	0.121	0.295	0.099	2,535
Connecticut	0.105	0.212	0.069	1,634
Delaware	0.017	0.032	0.008	203
District of Columbia	0.028	0.037	0.004	100
Florida	0.574	1.275	0.433	11,769
Georgia	0.254	0.651	0.208	5,650
Hawaii	0.023	0.047	0.016	446
Idaho	0.032	0.068	0.023	770
Illinois	0.205	0.514	0.163	4,273
Indiana	0.211	0.509	0.158	4,508
Iowa	0.085	0.185	0.059	1,853
Kansas	0.085	0.188	0.056	1,747
Kentucky	0.077	0.177	0.053	1,714
Louisiana	0.181	0.391	0.129	3,867
Maine	0.004	0.008	0.003	86
Maryland	0.115	0.248	0.077	1,919
Massachusetts	0.195	0.416	0.134	3,428
Michigan	0.112	0.258	0.086	2,347
Minnesota	0.029	0.070	0.022	611
Mississippi	0.028	0.063	0.019	628
Missouri	0.153	0.358	0.108	3,269
Montana	0.007	0.014	0.005	170
Nebraska	0.055	0.117	0.038	1,159
Nevada	0.054	0.105	0.035	950
New Hampshire	0.008	0.017	0.005	152
New Jersey	0.070	0.162	0.050	1,224
New Mexico	0.043	0.088	0.029	883
New York	0.444	0.871	0.277	7,113
North Carolina	0.224	0.531	0.170	5,100
North Dakota	0.006	0.011	0.003	104
Ohio	0.251	0.621	0.196	5,708
Oklahoma	0.176	0.410	0.134	4,480
Oregon	0.177	0.404	0.127	3,697
Pennsylvania	0.373	0.950	0.294	7,456
Rhode Island	0.009	0.018	0.005	151
South Carolina	0.215	0.511	0.161	5,042
South Dakota	0.030	0.061	0.020	682
Tennessee	0.182	0.454	0.138	4,088
Texas	0.902	2.390	0.768	19,589
Utah	0.075	0.182	0.060	1,849
Vermont	0.008	0.017	0.005	169
Virginia	0.062	0.139	0.043	1,182
Washington	0.242	0.571	0.186	4,845
West Virginia	0.006	0.012	0.004	118
Wisconsin	0.139	0.320	0.103	3,061
Wyoming	0.008	0.015	0.005	158
State totals	7.571	17.779	5.715	156,278
Interstate spillovers	0.000	6.094	1.645	44,994
USA Total	7.571	23.873	7.360	201,273

Source: CRA, McGraw-Hill Construction, BEA and NAIOF



Appendix F-4
**Impacts of Retail and Entertainment Soft Costs, Site Development,
 Hard Costs and Tenant Improvement on State Economies, 2009**

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	0.591	1.395	0.449	14,051
Alaska	0.062	0.118	0.040	1,096
Arizona	0.592	1.281	0.435	12,009
Arkansas	0.230	0.505	0.161	5,157
California	1.916	4.750	1.583	38,597
Colorado	0.573	1.393	0.468	12,026
Connecticut	0.255	0.514	0.167	3,978
Delaware	0.057	0.104	0.026	662
District of Columbia	0.039	0.052	0.006	152
Florida	2.022	4.482	1.530	41,655
Georgia	1.120	2.858	0.916	24,883
Hawaii	0.096	0.194	0.067	1,887
Idaho	0.149	0.314	0.105	3,581
Illinois	1.220	3.042	0.968	25,758
Indiana	0.569	1.373	0.430	12,179
Iowa	0.249	0.541	0.172	5,468
Kansas	0.280	0.617	0.184	5,770
Kentucky	0.393	0.896	0.271	8,713
Louisiana	0.473	1.018	0.338	10,161
Maine	0.098	0.208	0.070	2,177
Maryland	0.715	1.537	0.478	11,962
Massachusetts	0.656	1.391	0.450	11,679
Michigan	0.467	1.072	0.359	9,802
Minnesota	0.334	0.791	0.257	6,986
Mississippi	0.203	0.447	0.138	4,471
Missouri	0.499	1.165	0.352	10,773
Montana	0.062	0.128	0.044	1,522
Nebraska	0.166	0.358	0.116	3,547
Nevada	0.216	0.422	0.142	3,885
New Hampshire	0.183	0.391	0.123	3,556
New Jersey	0.356	0.817	0.254	6,238
New Mexico	0.143	0.291	0.097	2,917
New York	1.210	2.370	0.759	19,757
North Carolina	0.867	2.043	0.656	19,633
North Dakota	0.008	0.016	0.005	150
Ohio	0.832	2.052	0.650	18,984
Oklahoma	0.446	1.035	0.340	11,416
Oregon	0.364	0.827	0.260	7,655
Pennsylvania	0.861	2.186	0.679	17,224
Rhode Island	0.084	0.164	0.050	1,397
South Carolina	0.579	1.372	0.435	13,623
South Dakota	0.039	0.078	0.026	882
Tennessee	0.544	1.355	0.415	12,259
Texas	2.680	7.078	2.285	58,293
Utah	0.337	0.820	0.271	8,400
Vermont	0.019	0.038	0.012	378
Virginia	0.643	1.427	0.443	12,322
Washington	0.811	1.907	0.625	16,351
West Virginia	0.162	0.323	0.101	3,314
Wisconsin	0.503	1.146	0.372	11,098
Wyoming	0.050	0.089	0.030	959
State totals	26.023	60.794	19.609	541,394
Interstate spillovers	0.000	21.086	5.755	151,281
USA Total	26.023	81.880	25.364	692,675

Appendix F-5
**Impacts of Soft Costs, Site Development, Hard Costs and
 Tenant Improvement in Four Categories on State Economies, 2009**

State	Direct Spending (in billions of \$s)	Total Output (in billions of \$s)	Personal Earnings (in billions of \$s)	Jobs Supported
Alabama	1.380	3.264	1.050	32,840
Alaska	0.140	0.267	0.091	2,465
Arizona	2.782	6.039	2.043	55,985
Arkansas	0.520	1.144	0.364	11,676
California	6.578	16.318	5.434	132,389
Colorado	2.298	5.593	1.874	48,171
Connecticut	0.726	1.464	0.476	11,323
Delaware	0.144	0.263	0.066	1,678
District of Columbia	1.043	1.398	0.168	4,101
Florida	4.698	10.415	3.555	96,756
Georgia	2.724	6.955	2.228	60,517
Hawaii	0.295	0.598	0.207	5,812
Idaho	0.304	0.639	0.213	7,286
Illinois	4.377	10.970	3.478	91,663
Indiana	1.562	3.770	1.179	33,433
Iowa	0.548	1.193	0.379	12,024
Kansas	0.905	1.995	0.593	18,580
Kentucky	0.858	1.960	0.591	19,036
Louisiana	1.828	3.939	1.304	39,112
Maine	0.151	0.320	0.107	3,356
Maryland	2.391	5.143	1.601	40,026
Massachusetts	2.023	4.295	1.387	35,920
Michigan	1.237	2.838	0.949	25,929
Minnesota	0.606	1.435	0.465	12,665
Mississippi	0.593	1.307	0.404	13,085
Missouri	1.340	3.133	0.946	28,854
Montana	0.106	0.217	0.074	2,589
Nebraska	0.757	1.630	0.527	16,150
Nevada	0.528	1.032	0.346	9,496
New Hampshire	0.280	0.598	0.188	5,430
New Jersey	1.311	3.007	0.936	22,971
New Mexico	1.303	2.652	0.880	26,712
New York	9.249	18.118	5.798	150,701
North Carolina	3.347	7.891	2.531	75,816
North Dakota	0.034	0.069	0.021	644
Ohio	3.888	9.620	3.038	88,604
Oklahoma	2.303	5.352	1.756	58,908
Oregon	0.915	2.082	0.655	19,213
Pennsylvania	3.303	8.402	2.603	66,058
Rhode Island	0.194	0.378	0.116	3,222
South Carolina	1.577	3.737	1.183	37,054
South Dakota	0.145	0.290	0.095	3,263
Tennessee	1.807	4.508	1.377	40,708
Texas	7.972	21.080	6.796	173,337
Utah	0.828	2.018	0.666	20,633
Vermont	0.055	0.111	0.035	1,112
Virginia	5.038	11.182	3.471	96,573
Washington	2.816	6.621	2.170	56,777
West Virginia	0.425	0.847	0.264	8,672
Wisconsin	1.110	2.532	0.822	24,455
Wyoming	0.142	0.255	0.085	2,733
State totals	91.483	210.883	67.587	1,856,516
Interstate spillovers	0.000	77.131	21.516	577,725
USA Total	91.483	288.013	89.103	2,434,241

Source: CRA, McGraw-Hill Construction, BEA and NAIOF

Appendix G: Operating Impacts by State

Appendix G-1
Impacts of Office Operations on State Economies, 2009

State	Direct Spending (in thousands of \$s)	Output Impacts (in thousands of \$s)	Earnings Impact (in thousands of \$s)	Jobs Supported
Alabama	10,225.86	22,018.33	7,027.21	218
Alaska	280.55	507.03	167.82	5
Arizona	5,923.80	12,112.39	4,011.00	105
Arkansas	2,404.32	4,763.20	1,496.45	48
California	30,903.39	71,692.77	23,307.34	561
Colorado	12,420.41	28,368.21	9,260.66	235
Connecticut	4,195.65	8,036.35	2,557.25	60
Delaware	690.39	1,233.66	330.42	9
District of Columbia	12,762.40	16,238.88	1,024.82	32
Florida	38,604.53	80,115.98	26,687.31	707
Georgia	11,929.24	27,913.23	8,803.78	232
Hawaii	1,209.31	2,364.20	792.70	22
Idaho	1,388.05	2,706.00	888.77	28
Illinois	7,496.28	17,702.47	5,531.51	134
Indiana	9,721.99	20,602.85	6,332.91	184
Iowa	2,279.81	4,534.53	1,417.13	45
Kansas	5,160.19	10,460.23	3,116.76	94
Kentucky	6,100.80	12,637.81	3,772.73	117
Louisiana	7,852.49	15,814.13	5,172.43	162
Maine	1,324.55	2,610.42	866.65	27
Maryland	28,269.34	57,881.48	17,580.70	443
Massachusetts	8,043.16	16,421.72	5,183.01	123
Michigan	10,382.30	21,805.95	7,102.53	191
Minnesota	4,923.96	10,774.60	3,430.03	90
Mississippi	4,577.24	9,072.08	2,862.60	94
Missouri	7,174.80	15,640.35	4,581.11	130
Montana	415.93	799.95	265.73	11
Nebraska	7,056.86	13,887.19	4,380.19	134
Nevada	5,280.77	9,728.23	3,205.96	81
New Hampshire	809.60	1,608.68	492.97	15
New Jersey	9,688.30	21,034.27	6,313.87	150
New Mexico	1,787.18	3,365.62	1,117.53	36
New York	42,350.40	79,436.64	23,199.55	554
North Carolina	16,507.26	36,015.54	11,396.61	336
North Dakota	238.19	441.64	136.55	5
Ohio	11,035.71	24,568.80	7,663.20	216
Oklahoma	12,009.89	25,656.72	8,286.82	265
Oregon	3,327.80	6,924.15	2,152.09	62
Pennsylvania	14,660.35	33,737.87	10,404.45	260
Rhode Island	1,886.45	3,538.23	1,070.37	34
South Carolina	8,867.87	18,902.74	5,890.04	205
South Dakota	866.36	1,594.19	500.50	20
Tennessee	10,096.16	22,821.37	6,956.26	194
Texas	42,701.12	103,366.60	32,794.46	871
Utah	6,151.19	13,870.31	4,484.22	141
Vermont	372.35	690.78	217.45	8
Virginia	31,951.68	67,130.48	20,190.27	540
Washington	27,940.19	60,127.29	19,010.51	487
West Virginia	1,232.97	2,238.46	691.08	26
Wisconsin	4,794.86	10,098.94	3,237.97	92
Wyoming	877.97	1,561.73	508.26	20
State totals	499,152.21	1,057,175.29	327,872.52	8,852
Interstate spillovers	0.00	389,617.39	131,297.60	3,307
USA total	499,152.21	1,446,792.69	459,170.12	12,159

Source: CRA, BOMA and BEA

Appendix G-2
Impacts of Industrial Operations on State Economies, 2009

State	Direct Spending (in thousands of \$s)	Output Impacts (in thousands of \$s)	Earnings Impact (in thousands of \$s)	Jobs Supported
Alabama	688.28	1,481.99	472.98	15
Alaska	27.51	49.72	16.46	[b]
Arizona	697.62	1,426.42	472.36	12
Arkansas	475.55	942.10	295.98	10
California	1,720.64	3,991.70	1,297.70	31
Colorado	920.96	2,103.46	686.66	17
Connecticut	226.28	433.41	137.91	3
Delaware	[a]	[a]	[a]	[a]
District of Columbia	[a]	[a]	[a]	[a]
Florida	484.16	1,004.77	334.70	9
Georgia	3,718.26	8,700.36	2,744.08	72
Hawaii	14.07	27.51	9.22	[b]
Idaho	61.11	119.13	39.13	1
Illinois	1,030.37	2,433.21	760.31	18
Indiana	2,272.31	4,815.47	1,480.18	43
Iowa	176.72	351.49	109.85	3
Kansas	2,001.51	4,057.26	1,208.91	37
Kentucky	620.03	1,284.38	383.42	12
Louisiana	1,789.94	3,604.75	1,179.03	37
Maine	5.46	10.76	3.57	[b]
Maryland	234.26	479.64	145.68	4
Massachusetts	683.34	1,395.18	440.34	10
Michigan	315.42	662.48	215.78	6
Minnesota	256.10	560.39	178.40	5
Mississippi	463.05	917.77	289.59	9
Missouri	547.37	1,193.20	349.49	10
Montana	3.26	6.26	2.08	[b]
Nebraska	159.71	314.28	99.13	3
Nevada	40.95	75.44	24.86	1
New Hampshire	59.33	117.88	36.12	1
New Jersey	97.55	211.78	63.57	2
New Mexico	184.07	346.63	115.10	4
New York	1,473.05	2,762.99	806.93	19
North Carolina	2,135.07	4,658.30	1,474.05	43
North Dakota	10.40	19.27	5.96	[b]
Ohio	1,351.46	3,008.74	938.45	26
Oklahoma	234.89	501.78	162.07	5
Oregon	489.51	1,018.52	316.57	9
Pennsylvania	1,634.43	3,761.31	1,159.95	29
Rhode Island	7.56	14.18	4.29	[b]
South Carolina	1,051.79	2,241.98	698.60	24
South Dakota	3.05	5.60	1.76	[b]
Tennessee	3,701.57	8,367.02	2,550.38	71
Texas	2,709.21	6,558.18	2,080.67	55
Utah	703.40	1,586.09	512.77	16
Vermont	37.28	69.15	21.77	1
Virginia	587.27	1,233.84	371.09	10
Washington	654.15	1,407.73	445.08	11
West Virginia	74.34	41.67	1,538.84	2
Wisconsin	982.17	2,068.65	663.26	19
Wyoming	19.95	35.49	11.55	[b]
State totals	37,835.60	82,479.31	27,356.65	718
Interstate spillovers	0.00	27,187.16	7,448.32	203
USA total	37,835.60	109,666.47	34,804.96	922

Source: CRA, Delta Associates and BEA

[a] There were no construction outlays reported in 2009.

[b] Less than one full-time job is supported.



Appendix G-3
Impacts of Warehouse Operations on State Economies, 2009

State	Direct Spending (in thousands of \$s)	Output Impacts (in thousands of \$s)	Earnings Impact (in thousands of \$s)	Jobs Supported
Alabama	539.08	1,160.74	370.45	11
Alaska	92.32	166.86	55.23	2
Arizona	1,952.03	3,991.31	1,321.72	35
Arkansas	68.99	136.68	42.94	1
California	4,244.55	9,846.93	3,201.24	77
Colorado	588.97	1,345.21	439.14	11
Connecticut	650.27	1,245.52	396.34	9
Delaware	43.51	77.74	20.82	1
District of Columbia	25.41	32.33	2.04	[a]
Florida	4,118.81	8,547.76	2,847.33	75
Georgia	1,531.15	3,582.73	1,129.99	30
Hawaii	166.86	326.21	109.38	3
Idaho	244.55	476.75	156.59	5
Illinois	1,278.35	3,018.83	943.30	23
Indiana	2,088.16	4,425.24	1,360.23	39
Iowa	678.29	1,349.12	421.63	13
Kansas	528.84	1,072.00	319.42	10
Kentucky	639.41	1,324.53	395.41	12
Louisiana	956.26	1,925.82	629.89	20
Maine	23.25	45.83	15.22	[a]
Maryland	829.98	1,699.39	516.17	13
Massachusetts	1,447.06	2,954.46	932.49	22
Michigan	652.88	1,371.25	446.64	12
Minnesota	186.42	407.92	129.86	3
Mississippi	206.13	408.55	128.91	4
Missouri	569.95	1,242.44	363.92	10
Montana	38.81	74.64	24.79	1
Nebraska	314.47	618.84	195.19	6
Nevada	372.99	687.12	226.44	6
New Hampshire	55.52	110.31	33.80	1
New Jersey	352.43	765.16	229.68	5
New Mexico	352.81	664.42	220.61	7
New York	2,070.99	3,884.56	1,134.49	27
North Carolina	1,299.30	2,834.81	897.04	26
North Dakota	42.66	79.10	24.46	1
Ohio	1,381.00	3,074.51	958.96	27
Oklahoma	1,469.70	3,139.72	1,014.09	32
Oregon	1,346.88	2,802.46	871.03	25
Pennsylvania	2,130.36	4,902.60	1,511.92	38
Rhode Island	89.94	168.68	51.03	2
South Carolina	1,571.80	3,350.45	1,043.99	36
South Dakota	180.26	331.69	104.13	4
Tennessee	1,489.10	3,365.97	1,025.99	29
Texas	6,190.65	14,985.70	4,754.42	126
Utah	519.90	1,172.33	379.01	12
Vermont	38.65	71.71	22.57	1
Virginia	379.92	798.21	240.07	6
Washington	1,625.47	3,498.01	1,105.97	28
West Virginia	23.87	43.34	13.38	[a]
Wisconsin	734.73	1,547.50	496.17	14
Wyoming	53.75	95.60	31.11	1
State totals	48,477.43	105,249.58	33,306.61	906
Interstate spillovers	0.00	35,262.25	11,287.78	275
USA totals	48,477.43	140,511.83	44,594.39	1,181

Source: CRA, Delta Associates and BEA
[a] Less than one full-time job is supported.

Appendix G-4
Impacts of Retail Operations on State Economies, 2009

State	Direct Spending (in thousands of \$s)	Output Impacts (in thousands of \$s)	Earnings Impact (in thousands of \$s)	Jobs Supported
Alabama	7,958.14	17,135.46	5,468.83	170
Alaska	246.82	446.08	147.65	4
Arizona	6,571.43	13,436.61	4,449.52	117
Arkansas	2,128.07	4,215.92	1,324.51	43
California	19,349.18	44,888.17	14,593.15	351
Colorado	6,686.72	15,272.46	4,985.61	126
Connecticut	2,635.26	5,047.57	1,606.19	38
Delaware	399.13	713.20	191.02	5
District of Columbia	307.02	390.65	24.65	1
Florida	20,760.57	43,084.42	14,351.78	380
Georgia	12,776.55	29,895.84	9,429.09	249
Hawaii	262.77	513.72	172.25	5
Idaho	2,061.85	4,019.58	1,320.20	42
Illinois	12,667.59	29,914.50	9,347.41	226
Indiana	6,391.43	13,544.73	4,163.38	121
Iowa	2,265.03	4,505.13	1,407.94	44
Kansas	2,958.83	5,997.84	1,787.13	54
Kentucky	4,902.09	10,154.67	3,031.45	94
Louisiana	5,653.38	11,385.35	3,723.88	117
Maine	1,378.28	2,716.31	901.81	28
Maryland	8,208.87	16,807.67	5,105.10	129
Massachusetts	7,047.01	14,387.88	4,541.09	108
Michigan	6,997.35	14,696.53	4,786.89	129
Minnesota	3,742.03	8,188.31	2,606.70	68
Mississippi	2,067.27	4,097.33	1,292.87	42
Missouri	6,293.31	13,718.78	4,018.28	114
Montana	1,213.33	2,333.60	775.20	31
Nebraska	2,283.39	4,493.48	1,417.30	43
Nevada	3,417.25	6,295.26	2,074.61	53
New Hampshire	2,023.62	4,020.94	1,232.18	37
New Jersey	4,079.75	8,857.55	2,658.78	63
New Mexico	1,057.11	1,990.75	661.01	21
New York	11,210.75	21,027.99	6,141.25	147
North Carolina	10,325.81	22,528.84	7,128.94	210
North Dakota	77.66	143.99	44.52	2
Ohio	8,275.39	18,423.51	5,746.43	162
Oklahoma	4,110.16	8,780.52	2,836.01	91
Oregon	2,715.02	5,649.14	1,755.80	51
Pennsylvania	11,521.08	26,513.45	8,176.51	204
Rhode Island	1,362.33	2,555.18	772.98	24
South Carolina	7,257.41	15,469.90	4,820.37	168
South Dakota	673.94	1,240.12	389.33	15
Tennessee	6,418.52	14,508.43	4,422.36	123
Texas	25,057.65	60,657.05	19,244.27	511
Utah	4,631.79	10,444.22	3,376.57	106
Vermont	235.08	436.12	137.29	5
Virginia	9,773.47	20,534.06	6,175.86	165
Washington	6,253.88	13,458.34	4,255.14	109
West Virginia	2,747.53	4,988.14	1,539.99	57
Wisconsin	5,937.53	12,505.62	4,009.61	114
Wyoming	322.07	572.90	186.45	7
State totals	285,697.46	617,603.81	194,757.16	5,321
Interstate spillovers	0.00	210,490.28	68,055.94	1,638
USA totals	285,697.46	828,094.09	262,813.09	6,960

Source: CRA, Urban Land Institute and BEA



Appendix G-5
Impacts of Office, Industrial, Warehouse and
Retail Operations on State Economies, 2009

State	Direct Spending (in thousands of \$s)	Output Impacts (in thousands of \$s)	Earnings Impact (in thousands of \$s)	Jobs Supported
Alabama	19,411.36	41,796.53	13,339.48	414
Alaska	647.20	1,169.68	387.15	11
Arizona	15,144.88	30,966.73	10,254.60	269
Arkansas	5,076.93	10,057.90	3,159.88	102
California	56,217.76	130,419.57	42,399.43	1,020
Colorado	20,617.05	47,089.34	15,372.07	390
Connecticut	7,707.45	14,762.84	4,697.69	110
Delaware	1,133.02	2,024.60	542.26	14
District of Columbia	13,094.83	16,661.86	1,051.51	32
Florida	63,968.06	132,752.92	44,221.12	1,171
Georgia	29,955.19	70,092.15	22,106.93	583
Hawaii	1,653.01	3,231.64	1,083.55	29
Idaho	3,755.56	7,321.47	2,404.69	76
Illinois	22,472.58	53,069.01	16,582.52	401
Indiana	20,473.89	43,388.28	13,336.69	387
Iowa	5,399.84	10,740.28	3,356.54	106
Kansas	10,649.37	21,587.33	6,432.22	195
Kentucky	12,262.32	25,401.39	7,583.02	235
Louisiana	16,252.07	32,730.04	10,705.24	335
Maine	2,731.54	5,383.32	1,787.25	56
Maryland	37,542.45	76,868.17	23,347.65	588
Massachusetts	17,220.57	35,159.24	11,096.94	263
Michigan	18,347.95	38,536.21	12,551.84	337
Minnesota	9,108.50	19,931.22	6,344.98	167
Mississippi	7,313.68	14,495.72	4,573.98	150
Missouri	14,585.43	31,794.77	9,312.80	263
Montana	1,671.32	3,214.45	1,067.81	43
Nebraska	9,814.42	19,313.80	6,091.81	186
Nevada	9,111.96	16,786.05	5,531.87	141
New Hampshire	2,948.07	5,857.81	1,795.08	54
New Jersey	14,218.03	30,868.76	9,265.89	220
New Mexico	3,381.18	6,367.43	2,114.25	67
New York	57,105.18	107,112.19	31,282.22	747
North Carolina	30,267.43	66,037.49	20,896.64	616
North Dakota	368.90	684.01	211.49	8
Ohio	22,043.55	49,075.56	15,307.04	431
Oklahoma	17,824.63	38,078.75	12,298.99	393
Oregon	7,879.21	16,394.28	5,095.49	147
Pennsylvania	29,946.22	68,915.23	21,252.83	531
Rhode Island	3,346.27	6,276.27	1,898.67	60
South Carolina	18,748.86	39,965.08	12,452.99	433
South Dakota	1,723.60	3,171.60	995.73	39
Tennessee	21,705.36	49,062.79	14,954.99	417
Texas	76,658.62	185,567.53	58,873.82	1,564
Utah	12,006.27	27,072.95	8,752.57	276
Vermont	683.36	1,267.77	399.08	15
Virginia	42,692.33	89,696.59	26,977.28	721
Washington	36,473.69	78,491.38	24,816.70	635
West Virginia	4,078.71	7,311.60	3,783.29	84
Wisconsin	12,449.29	26,220.70	8,407.01	238
Wyoming	1,273.73	2,265.72	737.36	29
State totals	871,162.70	1,862,508.00	583,292.93	15,798
Interstate spillovers	0.00	662,557.08	218,089.63	5,424
State totals	871,162.70	2,525,065.08	801,382.56	21,222

Source: CRA, BOMA, Delta Associates, Urban Land Institute and BEA

Appendix H: National and State Multipliers

Appendix H-1

Output, Earnings and Employment Multipliers: Construction

What is a Multiplier?

A number used to calculate the final economic impact of one dollar spent.

State	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	2.4706	0.7681	23.7
Alaska	1.8870	0.6260	16.2
Arizona	2.2239	0.7366	18.8
Arkansas	2.2246	0.6775	22.1
California	2.5113	0.8152	19.6
Colorado	2.4669	0.8033	20.5
Connecticut	2.0325	0.6448	15.3
Delaware	1.9155	0.5171	13.1
District of Columbia	1.2621	0.0874	2.1
Florida	2.2331	0.7412	19.9
Georgia	2.6018	0.8111	22.3
Hawaii	2.0293	0.6853	18.0
Idaho	2.1441	0.6975	23.2
Illinois	2.6111	0.8046	19.5
Indiana	2.4349	0.7376	21.5
Iowa	2.2131	0.6829	21.4
Kansas	2.2511	0.6502	20.1
Kentucky	2.3482	0.6869	22.0
Louisiana	2.1958	0.7072	20.7
Maine	2.1261	0.6987	23.0
Maryland	2.1698	0.6581	16.2
Massachusetts	2.1667	0.6783	16.1
Michigan	2.3474	0.7645	20.9
Minnesota	2.4094	0.7583	20.4
Mississippi	2.2361	0.6804	22.3
Montana	2.0935	0.6913	23.5
Missouri	2.4338	0.7100	20.6
Nebraska	2.1595	0.6760	20.8
Nevada	1.9840	0.6526	16.4
New Hampshire	2.1785	0.6581	18.0
New Jersey	2.3626	0.7161	17.1
New Mexico	2.0145	0.6621	20.9
New York	1.9664	0.6012	14.3
North Carolina	2.4515	0.7639	23.4
North Dakota	2.0049	0.6017	19.4
Ohio	2.5315	0.7788	22.6
Oklahoma	2.3715	0.7579	24.7
Oregon	2.3197	0.7072	20.0
Pennsylvania	2.6097	0.7900	20.0
Rhode Island	1.9626	0.5822	15.6
South Carolina	2.4375	0.7482	23.2
South Dakota	2.0558	0.6573	22.1
Tennessee	2.5516	0.7580	22.4
Texas	2.6992	0.8480	21.6
Utah	2.4849	0.7972	23.8
Vermont	2.0046	0.6298	20.6
Virginia	2.2948	0.6854	18.2
Washington	2.3954	0.7629	19.3
West Virginia	1.9890	0.5923	19.3
Wisconsin	2.3837	0.7531	21.6
Wyoming	1.8108	0.5823	17.9
USA Total	3.1900	0.9585	26.4

Source: BEA



Appendix H-2
Output, Earnings and Employment Multipliers: Soft Costs

State	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	1.8182	0.7233	24.0
Alaska	2.0015	0.7617	24.7
Arizona	1.8663	0.7220	27.9
Arkansas	2.0825	0.8175	24.1
California	2.3219	0.8827	23.0
Colorado	2.2589	0.8819	23.5
Connecticut	1.9407	0.7143	17.1
Delaware	1.3689	0.1635	3.7
District of Columbia	1.7153	0.5179	13.0
Florida	2.1352	0.8338	24.3
Georgia	2.2970	0.8527	22.0
Hawaii	2.0051	0.7858	28.2
Idaho	1.9034	0.7236	27.8
Illinois	1.9066	0.7369	29.1
Indiana	2.2982	0.8442	21.0
Iowa	1.9952	0.7430	24.9
Kansas	1.9557	0.6815	22.9
Kentucky	1.9578	0.7034	23.0
Louisiana	1.9300	0.7477	25.5
Maine	2.0755	0.7719	18.2
Maryland	2.0581	0.7255	19.2
Massachusetts	1.8983	0.7251	26.3
Michigan	2.0276	0.7841	21.5
Minnesota	2.1694	0.8190	23.5
Mississippi	2.0280	0.6779	20.5
Missouri	1.8342	0.6845	26.4
Montana	1.8924	0.7505	29.8
Nebraska	2.1142	0.7948	23.7
Nevada	1.8076	0.6717	26.0
New Hampshire	1.9281	0.7358	26.4
New Jersey	1.9512	0.7043	19.7
New Mexico	2.1631	0.7589	18.0
New York	1.9210	0.7571	26.6
North Carolina	1.8785	0.7176	19.0
North Dakota	1.9338	0.6519	15.4
Ohio	2.1447	0.7966	24.0
Oklahoma	2.0743	0.7857	30.0
Oregon	2.0427	0.7581	26.2
Pennsylvania	2.1790	0.7772	19.8
Rhode Island	1.8611	0.6688	21.4
South Carolina	2.0172	0.7590	25.0
South Dakota	1.7581	0.6450	25.1
Tennessee	2.1886	0.7835	23.4
Texas	2.3532	0.8762	22.6
Utah	2.1947	0.8429	30.8
Vermont	2.0605	0.7136	18.2
Virginia	1.8471	0.7064	24.0
Washington	2.1314	0.8095	24.7
West Virginia	2.0133	0.7679	26.2
Wisconsin	1.7473	0.6722	24.5
Wyoming	1.6855	0.6682	26.3
USA Total	2.9298	1.0550	27.7

Source: BEA

Appendix H-3
Output, Earnings and Employment Multipliers: Services to Buildings

State	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	2.0975	0.6775	34.4
Alaska	1.8321	0.6008	30.2
Arizona	2.0584	0.6833	28.1
Arkansas	1.9132	0.6129	33.1
California	2.3535	0.7663	29.4
Colorado	2.2777	0.7479	31.0
Connecticut	1.9464	0.6174	25.3
Delaware	1.8023	0.4965	22.7
District of Columbia	1.2929	0.1529	8.0
Florida	2.1033	0.7024	29.1
Georgia	2.3587	0.7518	30.1
Hawaii	2.0086	0.6747	29.3
Idaho	1.9370	0.6378	32.4
Illinois	2.3271	0.7368	28.9
Indiana	2.0655	0.6541	30.7
Iowa	1.9191	0.6069	32.6
Kansas	1.9513	0.5761	27.7
Kentucky	2.0265	0.6163	31.5
Louisiana	2.0034	0.6599	34.6
Maine	1.9959	0.6603	34.0
Maryland	2.0918	0.6438	26.6
Massachusetts	2.0838	0.6579	26.7
Michigan	2.1323	0.7044	31.6
Minnesota	2.1581	0.6959	30.7
Mississippi	1.9172	0.6099	33.2
Missouri	2.1309	0.6301	28.4
Montana	1.8770	0.6234	34.6
Nebraska	1.9224	0.6162	32.9
Nevada	1.8369	0.6142	26.1
New Hampshire	1.9960	0.6158	27.7
New Jersey	2.2382	0.6762	26.6
New Mexico	1.8796	0.6291	30.7
New York	1.9674	0.5976	24.5
North Carolina	2.2130	0.7087	33.3
North Dakota	1.8100	0.5652	31.3
Ohio	2.2444	0.7088	32.4
Oklahoma	2.1067	0.6920	35.1
Oregon	2.1028	0.6654	30.1
Pennsylvania	2.2577	0.7002	28.4
Rhode Island	1.9263	0.5916	25.7
South Carolina	2.1153	0.6653	33.2
South Dakota	1.8224	0.5924	33.0
Tennessee	2.2733	0.7025	29.0
Texas	2.4045	0.7681	33.5
Utah	2.2785	0.7361	36.9
Vermont	1.8561	0.5901	31.7
Virginia	2.1167	0.6405	28.5
Washington	2.1849	0.7079	29.3
West Virginia	1.7931	0.5522	29.2
Wisconsin	2.0699	0.6747	32.5
Wyoming	1.6389	0.5386	30.7
USA Total	2.9520	0.9275	34.7

Source: BEA



Appendix H-4
Output, Earnings and Employment Multipliers: Management Services

State	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	2.1081	0.8047	17.7
Alaska	1.8445	0.7331	15.0
Arizona	2.0499	0.7938	16.6
Arkansas	1.9597	0.7400	15.9
California	2.3602	0.8841	15.9
Colorado	2.3382	0.8830	15.8
Connecticut	1.9584	0.7401	11.5
Delaware	1.7441	0.5451	9.9
District of Columbia	1.3313	0.0688	1.0
Florida	2.1151	0.8234	15.9
Georgia	2.3691	0.8621	16.5
Hawaii	2.0277	0.7937	16.3
Idaho	1.9499	0.7621	15.8
Illinois	2.3933	0.8689	14.9
Indiana	2.0269	0.7288	15.4
Iowa	1.9846	0.7423	17.0
Kansas	2.0248	0.7261	15.5
Kentucky	2.0196	0.7143	14.4
Louisiana	1.9745	0.7799	18.4
Maine	2.0104	0.7927	18.2
Maryland	2.0838	0.7279	13.2
Massachusetts	2.1203	0.7878	13.1
Michigan	2.0742	0.7884	14.6
Minnesota	2.2313	0.8288	15.3
Mississippi	1.9432	0.7461	17.3
Missouri	2.1935	0.7520	15.3
Montana	1.9662	0.7759	19.5
Nebraska	1.9908	0.7462	16.0
Nevada	1.8725	0.7425	12.3
New Hampshire	1.9122	0.6504	11.3
New Jersey	2.1768	0.7463	12.3
New Mexico	1.9045	0.7581	18.4
New York	1.8966	0.5896	9.3
North Carolina	2.1401	0.8001	16.0
North Dakota	1.9040	0.7258	17.8
Ohio	2.1801	0.8035	15.6
Oklahoma	2.1177	0.8019	18.3
Oregon	2.0773	0.7684	15.9
Pennsylvania	2.2814	0.8296	15.1
Rhode Island	1.8936	0.6660	11.8
South Carolina	2.1128	0.7854	18.6
South Dakota	1.8132	0.6410	15.0
Tennessee	2.2544	0.8097	17.0
Texas	2.4039	0.8835	17.7
Utah	2.2833	0.8624	21.2
Vermont	1.9287	0.7507	18.0
Virginia	2.1097	0.7350	13.2
Washington	2.1226	0.7687	14.2
West Virginia	1.7959	0.6833	16.4
Wisconsin	2.0708	0.7835	15.7
Wyoming	1.6773	0.6870	13.5
USA Total	2.9735	1.0808	27.1

Appendix H-5
Output, Earnings and Employment Multipliers: Utilities

State	MULTIPLIERS		
	Output	Earnings	Employment
Alabama	1.9326	0.5125	14.2
Alaska	1.6843	0.4496	9.7
Arizona	1.8648	0.5131	11.4
Arkansas	1.8158	0.4716	13.6
California	2.0846	0.5736	11.9
Colorado	2.0690	0.5674	12.7
Connecticut	1.7487	0.4547	8.8
Delaware	1.6960	0.3720	7.5
District of Columbia	1.2166	0.0389	0.7
Florida	1.8753	0.5195	12.4
Georgia	2.0583	0.5502	12.9
Hawaii	1.7875	0.4921	11.9
Idaho	1.7758	0.4795	14.0
Illinois	2.1218	0.5592	12.0
Indiana	1.9413	0.5002	12.3
Iowa	1.8277	0.4656	12.3
Kansas	1.8676	0.4690	13.2
Kentucky	1.8883	0.4698	13.2
Louisiana	1.8864	0.5040	13.9
Maine	1.7752	0.4853	12.2
Maryland	1.8737	0.4797	10.6
Massachusetts	1.8288	0.4758	9.4
Michigan	1.8737	0.5030	11.3
Minnesota	1.9622	0.5211	11.4
Mississippi	1.8206	0.4757	13.8
Missouri	1.9619	0.4754	11.7
Montana	1.8062	0.4934	14.8
Nebraska	1.7972	0.4595	11.1
Nevada	1.6863	0.4391	10.7
New Hampshire	1.7805	0.4462	9.8
New Jersey	1.9459	0.4918	9.9
New Mexico	1.7442	0.4695	13.5
New York	1.7156	0.4298	8.3
North Carolina	1.9486	0.5122	13.4
North Dakota	1.7731	0.4578	12.5
Ohio	1.9723	0.5090	12.3
Oklahoma	1.9524	0.5251	14.8
Oregon	1.8475	0.4695	12.6
Pennsylvania	2.0589	0.5335	11.3
Rhode Island	1.6905	0.3968	8.6
South Carolina	1.9040	0.4729	12.7
South Dakota	1.7251	0.4587	13.1
Tennessee	1.9865	0.5083	12.1
Texas	2.1864	0.5899	13.6
Utah	2.0006	0.5415	15.1
Vermont	1.6690	0.3959	11.4
Virginia	1.9031	0.4844	11.7
Washington	1.9313	0.5073	11.2
West Virginia	1.6930	0.4193	10.5
Wisconsin	1.9020	0.5062	11.6
Wyoming	1.6143	0.4241	11.3
USA Total	2.5266	0.7350	13.6

Source: BEA



Appendix H-6
Output, Earnings and Employment Multipliers

State	MULTIPLIERS		
	Output	Earnings	Jobs
Alabama	2.1532	0.6872	21.3
Alaska	1.8073	0.5982	16.5
Arizona	2.0447	0.6771	17.7
Arkansas	1.9811	0.6224	20.0
California	2.3199	0.7542	18.1
Colorado	2.2840	0.7456	18.9
Connecticut	1.9154	0.6095	14.2
Delaware	1.7869	0.4786	12.4
District of Columbia	1.2724	0.0803	2.5
Florida	2.0753	0.6913	18.3
Georgia	2.3399	0.7380	19.5
Hawaii	1.9550	0.6555	17.8
Idaho	1.9495	0.6403	20.3
Illinois	2.3615	0.7379	17.8
Indiana	2.1192	0.6514	18.9
Iowa	1.9890	0.6216	19.6
Kansas	2.0271	0.6040	18.3
Kentucky	2.0715	0.6184	19.2
Louisiana	2.0139	0.6587	20.6
Maine	1.9708	0.6543	20.6
Maryland	2.0475	0.6219	15.7
Massachusetts	2.0417	0.6444	15.3
Michigan	2.1003	0.6841	18.4
Minnesota	2.1882	0.6966	18.3
Mississippi	1.9820	0.6254	20.5
Missouri	2.1799	0.6385	18.0
Montana	1.9233	0.6389	25.5
Nebraska	1.9679	0.6207	18.9
Nevada	1.8422	0.6071	15.4
New Hampshire	1.9870	0.6089	18.3
New Jersey	2.1711	0.6517	15.5
New Mexico	1.8832	0.6253	19.9
New York	1.8757	0.5478	13.1
North Carolina	2.1818	0.6904	20.4
North Dakota	1.8542	0.5733	22.3
Ohio	2.2263	0.6944	19.6
Oklahoma	2.1363	0.6900	22.1
Oregon	2.0807	0.6467	18.6
Pennsylvania	2.3013	0.7097	17.7
Rhode Island	1.8756	0.5674	17.8
South Carolina	2.1316	0.6642	23.1
South Dakota	1.8401	0.5777	22.8
Tennessee	2.2604	0.6890	19.2
Texas	2.4207	0.7680	20.4
Utah	2.2549	0.7290	22.9
Vermont	1.8552	0.5840	21.5
Virginia	2.1010	0.6319	16.9
Washington	2.1520	0.6804	17.4
West Virginia	1.8155	0.5605	20.7
Wisconsin	2.1062	0.6753	19.1
Wyoming	1.7788	0.5789	22.4
USA Total	2.8985	0.9199	24.4

Source: BEA
Average of operating costs for management consulting services; water, sewage, and other systems; and building and dwelling services

Appendix I: NAIOP Survey of Members

NAIOP developed and administered two surveys to determine the values of soft costs, site development costs and outlays for tenant improvements. Respondents were principal members of NAIOP throughout the United States who are mainly commercial real estate developers and owners. Participants were asked if they were involved in the construction of office, warehouse, manufacturing or retail facilities and what the percentage breakdown of costs were for soft costs, site development costs, construction (hard) costs and tenant improvements.

The first survey was conducted in 2006. Questionnaires were sent by e-mail to 4,956 NAIOP members on November 29, 2006. Responses were collected until December 3, 2006. A total of 188 responses were received, for a response rate of 3.79 percent. Responses were delivered to the George Mason University Center for Regional Analysis for analysis after the survey was completed. Results of cost distribution in percentages are as follows:

Sample Set 1: 2006 Survey				
	Soft Costs	Site Development Costs	Building Construction Costs	Tenant Improvement
Office	17.13	15.76	49.49	17.62
Manufacturing	12.05	18.58	55.69	13.68
Warehouse	14.23	16.81	54.90	14.07
Retail	17.72	16.06	52.39	13.83
Combined	16.29	16.40	52.47	14.84

A second questionnaire was sent by e-mail to 2,700 NAIOP members on April 8, 2008. Responses were collected until April 25, 2008. A total of 101 responses were received, for a response rate of 3.74 percent. Sixty-four of those who responded indicated that they developed office buildings. Sixty-one of those who responded indicated that they developed warehouse/flex buildings. Eighteen of those who responded indicated that they developed retail properties. Seventeen of those who responded indicated that they developed manufacturing facilities. Responses were delivered to the George Mason University Center for Regional Analysis for analysis on July 8, 2008, after the survey was completed. Results of cost distribution in percentages are as follows:



Sample Set 2: 2008 Survey				
	Soft Costs	Site Development Costs	Building Construction Costs	Tenant Improvement
Office	17.43	14.24	49.74	18.58
Manufacturing	14.34	19.32	52.59	13.75
Warehouse	14.09	18.54	53.64	13.73
Retail	15.76	20.82	47.00	16.41
Combined	15.62	17.19	51.24	15.94

In order to increase the sample size and smooth the variation in responses across the building types and service categories, the two survey samples were averaged as follows:

2008 Average of Two Surveys				
	Soft Costs	Site Development Costs	Building Construction Costs	Tenant Improvement
Office	17.28	15.00	49.62	18.10
Manufacturing	13.19	18.95	54.14	13.72
Warehouse	14.16	17.68	54.27	13.90
Retail	16.74	18.44	49.70	15.12
Combined	15.95	16.79	51.86	15.39

To calculate the soft costs, site development costs and outlays for tenant improvement in this report, the hard costs provided by McGraw-Hill Construction Analytics were used for the hard cost component of the construction budget and the other cost categories were derived by applying the percentage distributions calculated by averaging the results of the two surveys as shown in the above table.

Appendix J: Definitions

Area of Analysis — the geographic unit of analysis, normally a political unit, for which economic, demographic, and fiscal information is reported.

Building Value — construction value would include hard costs (costs of the structure) and soft costs (management, engineering, design, taxes, fees); the finished commercial value would reflect cash flow potential or current performance; assessed valuation for tax purposes may be accepted as an appropriate substitute for actual market value.

Construction Costs — includes all of the construction-related outlays associated with developing a new building and normally would include site preparation, building construction (labor and materials), landscaping, roadway and parking facilities and any off-site improvements required to support the new facility. Tenant improvements may be included although these would exclude furniture and equipment provided by the tenant.

Direct Outlays — all spending associated with the construction and operation of a building including hard and soft costs. For a completed structure, direct outlays are those annual expenditures associated with building operations including management, maintenance and repairs, and operations (security, cleaning services, utilities, taxes). *See Hard Costs and Soft Costs.*

Economic Impact — the generation of new spending (\$s) within a jurisdiction as a result of investing in and operating new economic activity, in this case, office, industrial, warehouse and retail buildings.

Fiscal Impact — the effect of real estate development on the revenues and expenditures of the jurisdiction within which the building is located.

Gross Domestic Product (GDP), Gross State Product (GSP), Gross County Product (GCP) — the value of goods and services produced within the economy of the respective geographic area (nation, state, county/city).

Gross Square Feet — a measure of an individual building size or aggregate inventory of building space reflecting the total envelope of the structures and not the occupied or usable building area.

Hard Costs — a category of construction costs that reflect the outlays for the building construction phase. Costs for labor and materials are two basic types of hard costs. Soft costs, site development and tenant improvement costs are reported independently from hard costs.



Indirect Benefit — the additional economic benefits (measured in dollars or jobs) resulting from the accumulated additional value generated by the direct outlays or expenditures, as these dollars are re-spent within the economy. Indirect effects are calculated using **Multipliers** and include sales and purchases by businesses supplying goods and services in support of building construction and operation as well as the re-spending of payroll by workers (**Induced Effects**) associated with the new building.

Induced Effects — the impacts of the payroll spending by workers in the specific industry or sector on local businesses providing goods and services to households.

Infrastructure — utilities, roads, parking lots, storm drainage structures; other site improvements could be included in estimating these costs if not included elsewhere; if these improvements are financed by the private sector, whether on-site or off-site, their costs should be reflected in the base values for calculating industry economic impacts.

Interstate Spillovers — economic impacts that are generated by direct construction spending outlays in a given state that are realized by another state due to workers commuting across state lines (earning wages in one state and spending these earnings in their home state) and the importation of building materials from another state. These economic impacts are not reflected in the benefiting states' multipliers but are captured in the U.S. multipliers and reported in the U.S. totals.

Land Value — either assessed land value exclusive of structures or purchase price.

Multiplier — a number used to calculate the final economic impact of one dollar spent. Types of multipliers include:

output multiplier measures the contribution (impact) of a direct outlay on the overall economy (gross domestic product or gross state product);

employment multiplier measures the total number of jobs that can be supported by a direct outlay (expressed in jobs supported per \$1,000,000 in direct spending);

personal earnings multiplier measures the total personal earnings (wages and salaries) generated within the state or nation as a result of a direct outlay and the jobs it supports.

Operating Costs — Costs (expenditures) associated with the day-to-day operation of an office, industrial, warehouse or retail building including building management, utilities, normal maintenance and repair, custodial services and security. These costs do not include the operating costs incurred by building tenants.

Output — the goods and services produced for sale to other firms or industries as intermediate goods or services or for sale to consumers as final goods or services.

Sector — industries or firms grouped by similar characteristics of operations (e.g., retail trade sector, manufacturing sector, construction sector, services sector, government sector).

Site Development — a category of construction costs that reflect improvements made to the site before a building can be constructed. These costs include grading, infrastructure, landscaping, surface and structured parking and other costs to prepare the site to support the functions of the building constructed on the site.

Soft Costs — a category of construction costs that reflect the professional services and administrative and management processes required to support the construction project. They may precede actual on-site construction by several years and include legal and other consultant services, architectural and engineering services, management and administration, inspections, loan origination fees, real estate taxes and other governmental fees and insurance required to support the construction of the building.

Tenant Improvements — a category of construction costs that reflect improvements made to the interior of a building to meet the needs of a specific tenant. Costs may include interior walls and partitions, floor coverings, shelves, windows, bathrooms, etc. The builder or the tenant may pay for these improvements.

Total Output — the sum of the direct and indirect benefits (outlays) reflecting the combination of the initial expenditures by a firm and its subsequent accumulated value as this spending is recycled through the economy inclusive of benefits (induced) generated by the re-spending of personal earnings. Represents the total contribution to gross domestic product or gross state product.

Value Added — a measure of the incremental dollar value created by an industry, firm or individual employee as a result of its production process (work performed); the value created beyond the value of the individual inputs.

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