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Economic Impacts of Commercial Real Estate

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NAIOP RESEARCH FOUNDATION

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 some 20,000 members in North America. NAIOP advances responsible commercial real estate development and advocates for effective public policy. For more information, visit 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 information about 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 established to support future research. For more information, visit naiop.org/researchfoundation.

About Dodge Data & Analytics

Dodge Data & Analytics is the leading provider of data, analytics, news and intelligence serving the North American construction industry. The company's information enables building product manufacturers, general contractors and subcontractors, architects and engineers to size markets, prioritize prospects, target and build relationships, strengthen market positions and optimize sales strategies. The company's brands include Dodge, Dodge MarketShare™, Dodge BuildShare®, Dodge SpecShare® and Sweets. For more information, visit construction.com.

About the Leeds School of Business

Formed in 1906, the Leeds School of Business is the eighth-oldest business school in the United States. As part of the University of Colorado, the Leeds School embraces the university's research and teaching mission with prominent faculty teaching 4,400 undergraduate and graduate students in accounting, finance, marketing and management degree programs.

The Business Research Division (BRD), a center within the Leeds School of Business, was formed shortly after the school came into existence. Continuing with the inaugural mission, the BRD conducts applied industry and economic research for multiple constituencies external to the school. Faculty and staff who contributed to this report have extensive experience in conducting real estate and economic research. The project team included Brian Lewandowski, Executive Director of the Business Research Division; Richard Wobbekind, PhD, Faculty Director of the BRD and Associate Dean for the Leeds School of Business; Michael P. Kercheval, PhD, Executive Director, CU Real Estate Center; and Jacob Dubbert, Research Economist with the BRD. For more information about the project team or the Business Research Division, visit: colorado.edu/business/brd.

Disclaimer

The data collection measures included in this report should be regarded as guidelines rather than as absolute standards. The analysis was completed in December using partial year data.The data 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 report 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.

Contents

Introduction

Since 2008, NAIOP has conducted this study to estimate the annual economic contribution of commercial real estate development to the U.S. economy. The study uses key data sets from the U.S. Census Bureau, U.S. Bureau of Labor Statistics, the Bureau of Economic Analysis and Dodge Data & Analytics. It applies several estimating and impact-assessment methodologies to take snapshots of the commercial real estate development industry from various perspectives. **The study includes an analysis of the economic contributions of new commercial real estate development and existing commercial building operations and compares these contributions to the broader economic contributions of all building and nonbuilding construction, which includes infrastructure, residential and government building construction.** The study's methodology has been updated since the 2021 report, resulting in minor differences in the estimation of some economic contributions (see Methodology on page 20).

The combined economic contributions of **new commercial building development and the operations of existing commercial buildings in 2021** (see Tables 2 and 3 on pages 3 and 4) resulted in direct expenditures of $434 billion and the following impacts on the U.S. economy:

- Contributed $1.2 trillion to U.S. gross domestic product (GDP);
- Generated $418.7 billion in personal earnings; and
- Supported a total of 8.5 million jobs.

Building and Nonbuilding Construction. The broadest measure taken calculates the contribution of building and nonbuilding construction to the U.S. economy for the year in review. The product types include residential, nonresidential and infrastructure projects in the construction pipeline, based on U.S. Census data on the value of construction put in place. The most recent multipliers from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) and IMPLAN are applied to reflect the effects of construction expenditures on U.S. GDP and the jobs supported by these direct expenditures (Table 1).

TABLE 1 **Economic Contributions from Building and Nonbuilding Construction, 2012–2021**

Year	Direct Expenditures (In Billions of Dollars)	Total Economic Contribution to GDP (In Trillions of Dollars, Includes Multiplier Effect)[1]	Percent Contribution to GDP	Jobs Supported (In Millions, Includes Multiplier Effect)[2]
2021	$1,561	$4.2	18.3%	28.5
2020	1,469	4.0	19.1%	26.8
2019	1,391	3.8	17.6%	25.3
2018	1,277	3.6	18.6%	26.0
2017	1,248	3.4	18.2%	24.0
2016	1,160	3.2	18.3%	23.8
2015	1,104	2.9	17.9%	22.7
2014	993	2.8	16.6%	20.4
2013	911	2.7	16.7%	21.3
2012	857	2.3	16.3%	20.1

Sources: U.S. Census, Annual Value of Construction Put in Place; Bureau of Economic Analysis; IMPLAN; and CU Leeds School of Business.

[1] The total value of goods and services generated directly and indirectly as a result of construction and related expenditures within the U.S.

[2] The jobs supported by the spending and re-spending of direct expenditures for all phases of development and operations.

Note: 2019 and 2020 values are revised, 2021 is estimated.

Development of New Commercial Real Estate Buildings. One subset of total construction is commercial real estate — the focus of this study. The analysis begins with Dodge Data & Analytics data relating to square footage and construction values for office, industrial, warehouse and retail projects. In contrast with the BEA, Dodge Data & Analytics measures a building's full construction value and square feet when the project breaks ground (starts), not when it is completed. These data provide the foundation for estimating expenditures made during four distinct phases of the development process: preconstruction (soft costs), site development, on-site construction (hard costs) and tenant improvements (financing fees, insurance and taxes are not included in this analysis within the soft construction costs category because they have little immediate economic impact). This study also examines the contribution of building operations that are reported as a stand-alone phase that follows development. Additionally, it shows the impacts for the estimated 733 million square feet of commercial buildings that commenced construction over the past year, according to Dodge Data & Analytics.

Multipliers are applied to the direct expenditures to calculate the contribution to U.S. GDP, personal earnings and jobs supported during each distinct development phase. Residential and hotel properties and government buildings are not included in these calculations (see Table 2 on page 3).

The full measure of the economic impact of office, industrial, warehouse and retail development includes all expenditures associated with each phase of the development process. In addition to the wide range of on-site construction services, these expenditures also support 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.

The combined spending for preconstruction, construction and post-construction activities required to deliver buildings ready for occupancy represents the development industry's total direct contribution to 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 (wages and salaries) and employment.

Existing Inventory of Commercial Real Estate Buildings. This study also includes the economic contributions of existing buildings. Based on the existing stock of commercial buildings—totaling 51 billion square feet at the end of the third quarter of 2021—direct expenditures for building operations totaled an estimated $194.5 billion and contributed $531.5 billion to GDP. These direct expenditures also generated $187.2 billion in personal earnings (wages and salaries) and supported 4.2 million jobs (see Table 3 on page 4).

TABLE 2 Economic Contributions to the U.S. Economy from Development of Commercial Real Estate Buildings, 2016-2021

	Development Phases					Operations Phase
	Pre-Construction	Construction			Totals	Post-Construction
	Soft Construction (Soft Costs)	**Site Development**	**Hard Construction (Hard Costs)**	**Tenant Improvements**		**Building Operations**
	architecture, engineering, legal, marketing, management, administration	grading, paving, landscaping, roadway, parking, off-site improvements	labor, materials, construction management	interior design and construction (excludes furniture and equipment)		maintenance, repairs, custodial, utilities, property management
Direct Expenditures (In Billions of Dollars)						
2021	$34.07	$34.47	$125.59	$45.65	**$239.79**	$1.69
2020	29.06	28.23	105.63	38.52	201.43	1.88
2019	39.21	34.49	134.85	46.31	254.87	2.02
2018	31.71	27.88	109.01	38.27	207.77	1.76
2017	28.58	24.73	98.55	35.23	187.09	1.66
2016	25.06	21.42	82.96	30.6	160.04	1.42
Total Economic Contribution to GDP (In Billions of Dollars, Includes Multiplier Effect)[1]						
2021	$95.37	$93.45	$340.47	$123.76	**$653.04**	$4.61
2020	81.33	76.52	286.36	104.41	548.63	5.04
2019	109.76	93.50	365.57	125.55	694.38	5.41
2018	94.66	80.15	315.96	110.03	600.80	4.47
2017	85.33	71.09	283.31	101.28	541.01	4.22
2016	72.19	62.34	241.40	89.06	464.99	3.74
Personal Earnings (In Billions of Dollars, Includes Multiplier Effect)[2]						
2021	$38.91	$32.26	$117.55	$42.73	**$231.46**	$1.62
2020	33.19	26.42	98.87	36.05	194.53	1.65
2019	44.79	32.28	126.22	43.35	246.64	1.77
2018	32.39	25.39	100.08	34.85	192.71	1.39
2017	29.2	22.52	89.74	32.08	173.54	1.32
2016	26.18	19.73	76.39	28.18	150.49	1.07
Jobs Supported (Includes Multiplier Effect)[3]						
2021	540,606	622,779	2,268,999	824,792	**4,257,175**	71,509
2020	461,041	509,975	1,908,408	695,853	3,575,277	47,129
2019	622,159	623,144	2,436,330	836,710	4,518,344	51,870
2018	635,078	535,778	2,111,982	735,786	4,018,323	44,795
2017	572,497	475,171	1,893,727	677,023	3,618,418	42,330
2016	538,680	439,801	1,703,149	628,352	3,309,982	27,833

Sources: NAIOP; Dodge Data and Analytics; CU Leeds School of Business.

[1] The total value of goods and services generated directly and indirectly as a result of construction and related expenditures within the U.S.

[2] The additional earnings (wages and salaries) generated from construction and related expenditures.

[3] The jobs supported by the spending and re-spending of direct expenditures for all phases of development and operations.

Note: Data include office, industrial, warehouse/flex and retail buildings under construction in the year indicated and exclude existing inventory.

Operations figures are based on buildings delivered in the year indicated.

Column totals may not add up due to rounding.

TABLE 3 **Economic Contribution to the U.S. Economy from Operations of Existing Buildings, 2012-2021**

Year	Total Square Feet (In Billions)	Direct Expenditures for Building Operations (In Billions of Dollars)	Total Economic Contribution to GDP (In Billions of Dollars)[1]	Personal Earnings (In Billions of Dollars)[2]	Jobs Supported (In Millions)[3]
2021	50.92	$194.5	$531.5	$187.2	4.202
2020	50.18	183.3	500.8	176.4	3.959
2019	49.55	173.0	464.0	151.7	4.448
2018	49.19	168.2	427.2	133.2	4.285
2017	46.38	155.2	394.1	112.9	3.952
2016	45.82	150.1	396.0	113.9	2.944
2015	45.07	145.6	384.1	110.1	2.856
2014	44.01	138.1	381.3	120.1	3.023
2013	43.93	134.3	370.9	116.8	2.941
2012	43.21	134.5	371.5	117.00	2.945

Sources: BOMA; Newmark Group Inc.; CU Leeds School of Business.

[1] The total value of goods and services generated directly and indirectly as a result of construction and related expenditures within the U.S.

[2] The additional earnings (wages and salaries) generated from construction and related expenditures.

[3] The jobs supported by the spending and re-spending of direct expenditures for all phases of development and operations.

Note: Building operations include maintenance repair, cleaning, utilities, security, building management, and administrative expenses; see Appendices for state and building type data.

Economic Contributions

Building and Nonbuilding Expenditures

In March and April 2020, the construction industry lost 1.1 million jobs, or 14.6% of employment; by November 2021, it added back 1 million jobs, leaving a deficit of 115,000 (1.5%) from the pre-recession peak. Aside from the impact on labor, the construction industry at large was spared the impact from the pandemic recession. Nearly 1.5 million residential building permits were issued in 2020—the highest number since 2006 and the 11th consecutive annual increase in permits. Overall value of construction put in place increased 5.6% in 2020, posting the fastest growth since 2016. Similar to the broader economy, though, construction subcomponent performance varied widely in 2020. The value of residential construction put in place increased 15.3%, but nonresidential values decreased 1.2%[1]; the subsectors of public safety and health care construction increased 48.8% and 4%, respectively, in 2020, while manufacturing and lodging decreased 10.9% and 13.2%. Disparities continued into 2021—data year-to-date through October show residential increased 23.8%, manufacturing increased 2.8% and retail increased 1.9%; while public safety decreased 32.5% and lodging decreased 31.9% (Table 4).

TABLE 4 **Nonresidential Construction Spending, 2019, 2020 and 2021**

	Spending (In Billions of Dollars)			Spending (In Billions of Dollars)		
Type of Structure	**2019**	**2020**	**Percent Change 2019-2020**	**YTD October 2020**	**YTD October 2021**	**Percent Change 2020-2021**
Transportation	$57	$60	3.9	$50.0	$47.0	-6.0
Health Care	46	48	4.0	40.4	40.6	0.5
Retail	84	87	2.9	73.4	74.7	1.9
Manufacturing	81	72	-10.9	60.7	62.5	2.8
Amusement/ Recreation	30	28	-9.4	23.3	21.0	-9.9
Education	109	107	-1.4	91.9	83.4	-9.2
Public Safety	12	18	48.8	15.3	10.3	-32.5
Office	89	87	-1.5	74.3	68.4	-7.9
Religious	4	4	-6.2	2.9	2.5	-13.7
Lodgings	33	29	-13.2	24.9	17.0	-31.9
Total	**$546**	**$540**	**-1.2**	**$457.3**	**$427.5**	**-6.5**

Sources: U.S. Census, Annual Value of Construction Put in Place 2009 – 2020, https://www.census.gov/construction/c30/historical_data.html, retrieved November 2, 2021.

Note: Totals include some miscellaneous state and local government buildings but exclude spending for nonbuilding construction on items relating to communication, power, highway and street, sewage and waste disposal, water supply, and conservation and development.

[1] Excluding communication, power, highway and street, sewage and waste disposal, water supply, and conservation and development.

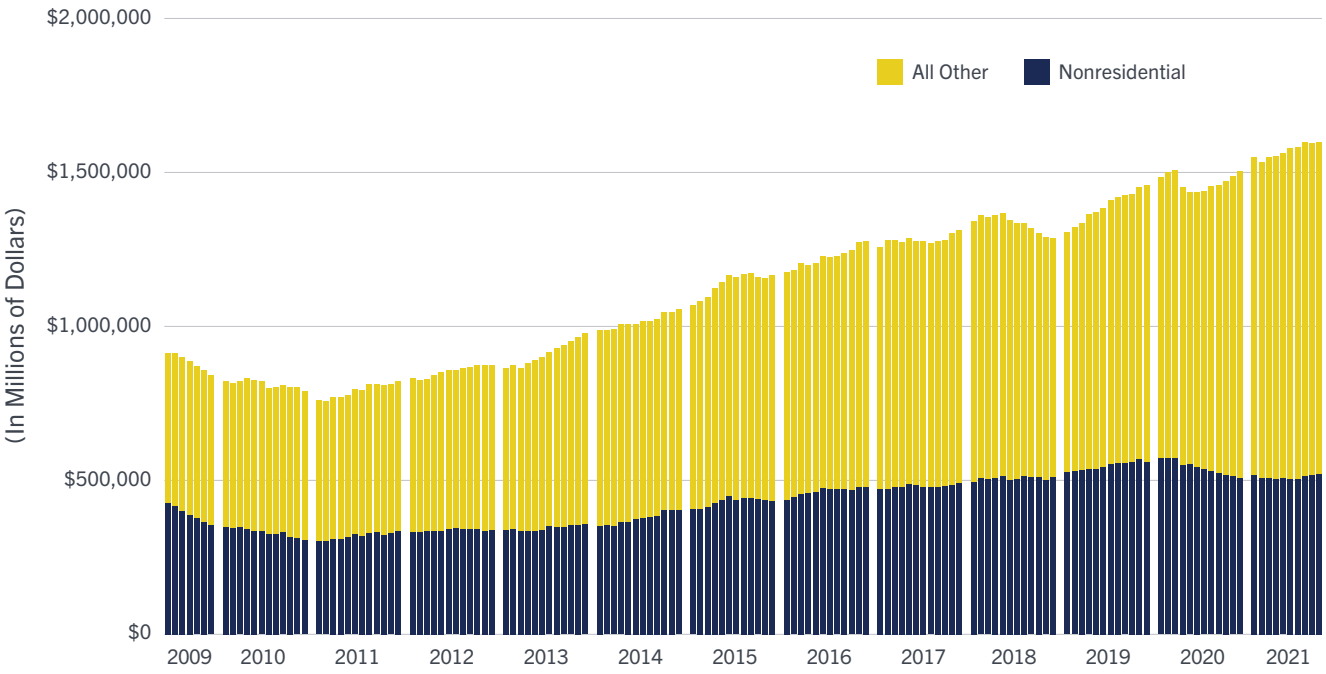
Construction Activity in Long-Run Expansion. During the economic expansion (mid-year 2009 to February 2020), the growth of total construction spending exceeded the GDP growth rate each year beginning in 2011, gaining 65% from June 2009 to February 2020 (Figure 1). For comparison, nominal GDP grew 49% from Q2 2009 through Q1 2020, and real (inflation-adjusted) GDP grew 25%. As of October 2021, total construction spending was up 8.6% year-over-year, while nominal GDP grew 9.7% year-over-year in Q3 2021, and real GDP grew 4.9%.

The value of **nonresidential construction** declined 1.2% in 2020 and 6.5% year-to-date through October 2021 when compared with the same period in 2020.[2] This decrease in nonresidential construction value reflected a mixed performance among the building categories, as shown in Table 4. This is consistent with the differential impacts on those sectors of pandemic-related shutdowns and lost business. Lodging, public safety, religious and amusement and recreation were among the building types that experienced the greatest declines in year-to-date construction spending in 2021. Manufacturing, commercial and health care posted gains. Although down from 2020, nonresidential construction spending stabilized over the first 10 months of 2021.

Residential construction spending gained 23.8% for the 12-month period ending in October 2021, effectively reaching record levels in nominal values. For 2021, projections show that residential permits will total 1.58 million units,[3] up nearly 15% from 2020, marking the most production since 2006 (see Figure 2 on page 7).

The construction industry was deemed an essential business in most areas of the country, allowing for continued production despite the pandemic. Personal income increased during the pandemic, meaning that consumers could continue to make mortgage and rent payments; and even as federal stimulus waned,

FIGURE 1: VALUE OF CONSTRUCTION, 2009-2021



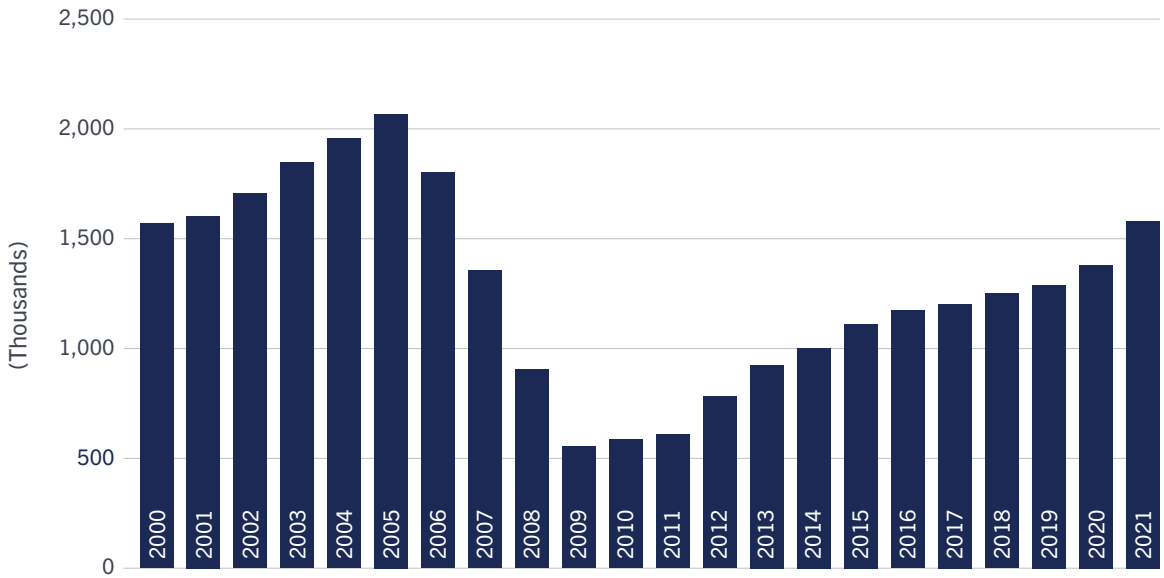
Source: U.S. Census Bureau, Value of Construction Put in Place (seasonally adjusted).

Note: Nonresidential excludes communication, power, highway and street, sewage and waste disposal, water supply, *and conservation and development.*

[2] Excluding communication, power, highway and street, sewage and waste disposal, water supply, and conservation and development.

[3] Consensus Forecasts, November 2021.

FIGURE 2: NEW PRIVATELY OWNED HOUSING UNITS STARTED, 2000-2021



Source: U.S. Census Bureau, New Privately Owned Housing Units Started. 2021 projected from Consensus Forecasts.

personal income from employee earnings rebounded and spiked to record levels. The industry also surged during the pandemic recession as mortgage rates remained at historically low levels—rates decreased in 2021 but are expected to increase in 2022, posing downside risk for the industry. Demographics are also favorable for residential demand as millennials continue to transition to homeownership (and even second homes).

Building and Nonbuilding Construction, Output Multipliers, GDP, and Employment. Based on U.S. Census data, the estimated total value of building and nonbuilding construction spending put in place in the U.S. in 2021 was nearly $1.6 trillion. This construction spending directly accounted for 6.7% of the nation's third-quarter estimated GDP of $23.2 trillion in 2021. With an output multiplier of 2.71[4], each $1 of construction spending generated a total value of $2.71 to the economy, reflecting the cumulative effects of the initial construction expenditures as they cycle throughout the economy. Applying this multiplier to the total value of direct construction spending in 2021 brings the value of its overall contribution to GDP—direct, indirect and induced—to $4.2 trillion, which accounted for 18% of all U.S. economic activity in 2021. Industry spending also directly and indirectly supported 28.5 million jobs in the economy.

The Bottom Line: In 2021, the $1.6 trillion in building and nonbuilding construction spending contributed $4.2 trillion to U.S. GDP and supported 28.5 million jobs.

Office, Industrial, Warehouse, and Retail Development Expenditures

Construction data provided by Dodge Data & Analytics for office, industrial, warehouse and retail buildings provide a more refined definition of construction expenditures (hard costs) over time. As presented in Table 5 on page 8, total construction expenditures (hard costs) for these four building types in 2021 totaled $125.6 billion, up $20 billion, or 18.9%, from the revised annual total for 2020.

Office construction expenditures averaged $46 billion over the past five years (2016-2020). Office activity totaled $40.9 billion in 2021, down 5.9% from 2020 and down 24.9% from 2019.

Industrial (manufacturing) construction expenditures averaged $25.6 billion over the past five years (2016-2020). Industrial activity totaled $28.2 billion in 2021, up 81.3% from 2020 ($15.5 billion) but down 16.3% from 2019.

[4] The Nonresidential structures multiplier was sourced from IMPLAN. The state-level multipliers were sourced from the Bureau of Economic Analysis.

Warehouse construction outlays averaged $26 billion over the past five years (2016-2020). Warehouse activity surged 25.9% in 2021 to total $43.2 billion. Activity was up 43% from 2019.

Retail construction expenditures averaged $17 billion over the past five years (2016-2020). After decreasing 26% in 2020, retail posted a rebound in 2021, increasing 8.3% to $13.3 billion. Retail activity remained down 19.5% from 2019.

Square Footage and Expenditures (All Structures Combined). The total amount of new construction in 2021, as measured in square feet for these four building types, increased by 99 million square feet (15.6%) from revised year-end construction data for 2020 (Table 6). A continuing change in the mix of building types affected the square footage of new construction in 2021. Warehouses accounted for 69% of all new space built in 2021, up from 63% in 2020 and 24% in 2011. As warehouse space increased in the share of activity, the other three building types decreased. Retail space has seen its share decrease from 32% of the total square footage in 2011 to 9% in 2020 and 8% in 2021; industrial fell from 21% in 2011 to 10% in 2021; and office declined from 23% in 2011 to 18% in 2020 and 14% in 2021.

Due to differences in construction costs per square foot for different building types, the patterns of construction value by building type present a somewhat different distribution, as shown in Table 6. Office construction value decreased its share (41% to 33%) from 2020

TABLE 5 **Comparing Construction Expenditures (Hard Costs), 2020 and 2021**

Building Type	Expenditures (In Billions of Dollars) 2020[1]	Expenditures (In Billions of Dollars) 2021[2]	Change (2020-2021)
Office	$43.5	$40.9	-5.9%
Industrial	15.5	28.2	81.3%
Warehouse	34.3	43.2	25.9%
Retail/Entertainment	12.3	13.3	8.3%
Total	**$105.6**	**$125.6**	**18.9%**

Source: Dodge Data & Analytics.

[1] Revised.
[2] Trailing 12 months ending October 2021.

TABLE 6 **Office, Industrial, Warehouse and Retail Construction, 2020 and 2021**

	Square Feet (In Millions)		Construction Value[3] (In Billions of Dollars)	
Building Type	**2020[1]**	**2021[2]**	**2020[1]**	**2021[2]**
Office	117	100	$43.5	$40.9
Industrial	61	72	15.5	28.2
Warehouse	400	507	34.3	43.2
Retail/Entertainment	56	55	12.3	13.3
Total	**635**	**733**	**$105.6**	**$125.6**

Source: Dodge Data & Analytics.

[1] Revised.
[2] Trailing 12 months ending October 2021.
[3] Hard costs only

to 2021, while retail construction value decreased only marginally (12% to 11%). In comparison, between 2020 and 2021, manufacturing construction expenditures increased as a percentage of the total from 15% to 22%, while warehouse construction remained steady, increasing from 32% to 34%.

Hard Construction Expenditures (All Structures Combined), Multipliers and GDP. Applying national construction multipliers from IMPLAN yields the economic impact of this construction activity. The multipliers measure contribution to GDP (2.71), personal earnings final demand (0.94), and employment final demand (18.07 jobs supported per $1 million).[5]

State-level direct spending and associated economic impacts for spending on preconstruction (soft costs), construction (site development and hard cost) and post-construction (operations) are included in the appendices. Note that individual state construction multipliers are generally smaller than the U.S. multipliers. The state-level multipliers measure only the share of construction-related expenditures retained within the respective state economies. Construction-related spending flows that leak out of one state economy to other states (spill-over effects) are excluded from state totals but counted in national totals. States with smaller economies tend to retain smaller portions of construction-related spending benefits than larger states due to the local supply chain—fewer goods and services are available to be sourced. Thus, goods and services tend to be sourced from outside the states or regions (i.e., leakage).

The Bottom Line. The four phases of development tracked in this study make substantial contributions to U.S. GDP. Applying the latest IMPLAN and BEA multipliers shows that direct construction expenditures—soft costs, site development costs, hard costs, tenant improvements—of $239.8 billion in 2021 resulted in a contribution of $653 billion to U.S. GDP, generated $231.5 billion in personal earnings and supported 4.3 million jobs, as presented below in Table 7.

TABLE 7 **Office, Industrial, Warehouse and Retail Construction and Operations Contribution to the Economy, 2021**

	Direct Expenditures (In Billions of Dollars)	Total Economic Contribution to GDP[1] (In Billions of Dollars)	Personal Earnings[2] (In Billions of Dollars)	Jobs Supported[3]
Development Phase	**$239.8**	**$653.0**	**$231.5**	**4,257,175**
Soft Construction (Soft Costs)	34.1	95.4	38.9	540,606
Site Development[4]	34.5	93.4	32.3	622,779
Hard Construction (Hard Costs)	125.6	340.5	117.6	2,268,999
Tenant Improvements[5]	45.7	123.8	42.7	824,792
Annual Operations	**$1.7**	**$4.6**	**$1.6**	**71,509**

Sources: Dodge Data & Analytics; CU Leeds School of Business.

[1] The total value of goods and services generated directly and indirectly as a result of construction and related expenditures within the U.S.
[2] The additional earnings (wages and salaries) generated from construction and related expenditures.
[3] The jobs supported by the spending and re-spending of direct expenditures for all phases of development and operations.
[4] Site development includes grading, infrastructure, parking, and landscaping.
[5] Tenant improvements exclude furniture and equipment.

Note: See Appendices for state-level data.

[5] The national nonresidential structures multiplier was sourced from IMPLAN. The state-level multipliers were sourced from the Bureau of Economic Analysis.

The U.S. Economy and Residential and Nonresidential Construction

The U.S. experienced the longest economic expansion on record from July 2009 to February 2020, lasting more than a decade after the Great Recession. This era ended in March 2020 when the COVID-19 pandemic sent the U.S. into a recession. The pandemic recession was deep and swift, leading to an economic calamity that resulted in structural shifts while accelerating other trends that were already underway. The National Bureau of Economic Research determined the recession lasted just two months (March and April 2020)—the shortest recession in modern U.S. history. Despite the brevity, the cut was deep—national GDP fell 9.1% year-over-year in Q2 2020 alone, and the U.S. shed 22.4 million jobs in March and April 2020. The economy is now firmly in a rebound—the U.S. GDP reached a new peak in Q2 2021 and is projected to grow 5.6% in 2021 and 4% in 2022, according to Consensus Forecasts. The U.S. added back 18.5 million jobs over the 19 months beginning in May 2020. While a jobs deficit remains (3.9 million jobs, 2.6% below peak), the U.S. is projected to recoup job losses in 2022. Initial jobless claims fell to the lowest level since 1969 (when the labor market was much smaller) and the unemployment rate dipped to 4.2% in November 2021. Employee personal income and personal consumption expenditures have rebounded to record-high levels.

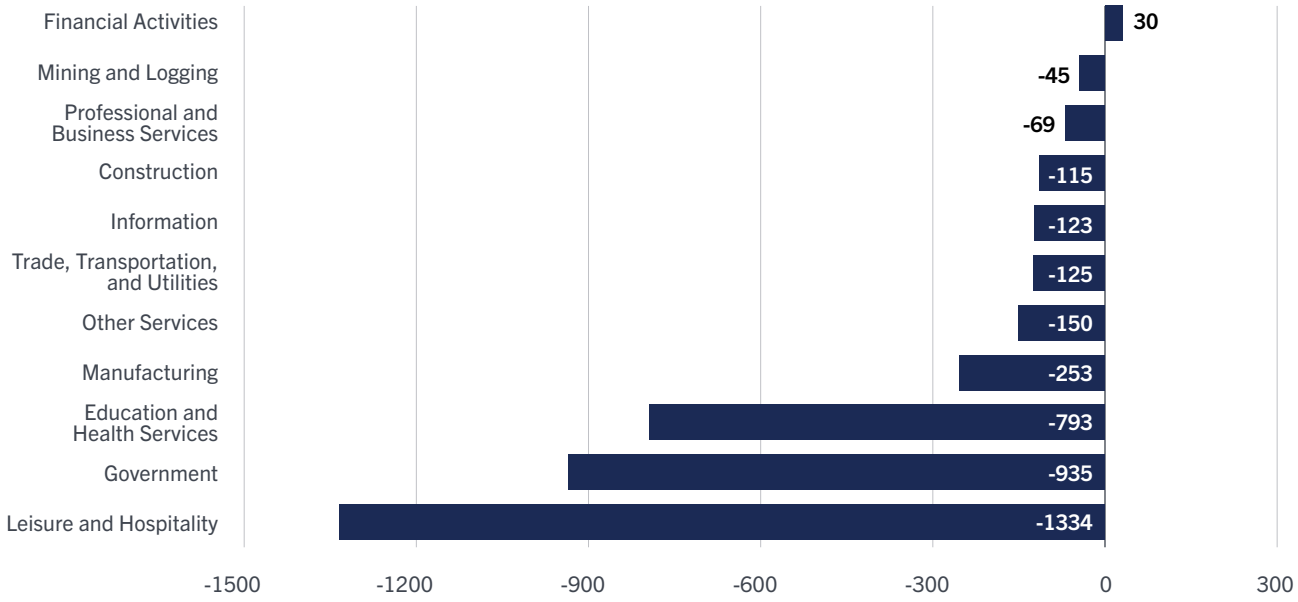
To address the destructive economic impact of the pandemic recession, federal stimulus was arguably rolled out faster and to a greater magnitude than during any prior recession—the federal government has spent $3.5 trillion on the COVID-19 response, of which $1.15 trillion was routed through the Small Business Administration via the Paycheck Protection Program, Economic Injury Disaster Loans (EIDL) and other programs. Monetary policy increased liquidity through the recession—the Federal Reserve's total assets increased from a pre-recession level of $4 trillion to nearly $8.7 trillion in late 2021. The Centers for Disease Control (CDC) reported nearly 242 million people (72.8%) had received at least one dose of the COVID-19 vaccine by December 2021; fully vaccinated people totaled 204 million.[6]

Despite the tailwinds filling the economic sails, headwinds pose risks to the recovery. Among the risks, the most notable are COVID variants, worker shortages, interest rates, supply chain disruptions and the highest inflation in 30 years. Supply chain challenges and disruptions, along with labor shortages and the difficulty of obtaining materials, have fueled cost inflation in the construction industry. According to the Bureau of Labor Statistics' Producer Price Index (PPI) data, costs for new nonresidential building construction were up 1.3% in 2020 and 12.4% in November 2021 year-over-year; new industrial building construction costs rose 2% in 2020 and 14.6% year-over-year in November 2021; and costs for new office building construction rose 1.2% in 2020 and 13.1% in November 2021. Inputs to construction industries overall were up 5.5% in 2020 and rose 20.1% in November 2021 year-over-year; November 2021 year-over-year increases were observed in goods (23.5%), energy (76.4%), and services (15.1%). Inputs to new nonresidential construction increased more in November 2021 year-over-year (up 22.1%) compared to new residential construction (17.3%). Prices of specific inputs to construction observed large increases, with steel mill products up 141.6% year-over-year in November 2021; lumber and plywood up 12.2%; cement up 4.8%; and construction machinery and equipment up 9.1%, to name a few.

The recession and the recovery have varied widely by industry. While every industry lost jobs from February to April 2020, Financial Activities decreased 3.1% compared to a loss of 48.6% for Leisure and Hospitality. By November 2021, Financial Activities was above the pre-recession peak, while Leisure and Hospitality remained down 7.9% (see Figure 3 on page 11).

[6] Centers for Disease Control, COVID Data Tracker, https://covid.cdc.gov/covid-data-tracker/#datatracker-home, accessed December 20, 2021.

FIGURE 3: U.S. EMPLOYMENT BY INDUSTRY, CHANGE FROM FEBRUARY 2020 TO NOVEMBER 2021 (THOUSANDS OF JOBS)



Source: Bureau of Labor Statistics, CES (seasonally adjusted).

Residential building construction spending has grown each year from 2012 through 2018. Spending pulled back slightly (1.9%) in 2019, prior to the pandemic, but surged 15.3% in 2020. Activity continued into 2021, growing 23.8% year-to-date through October—the highest year-to-date value in the 20-year history of the series.

Nonresidential building construction expenditures increased 18.9% in 2021 but remained 6.9% below 2019 levels. Technology, demographics and COVID are having profound cyclical and "secular" impacts on commercial real estate property types. Cyclical impacts such as shifting to the work-from-home models may be temporary in their current form but very likely will lead to long-term (secular) changes in office demand, use and even design. Demographic changes include a growing number of Generation Z and millennial workers and a future where women dominate the ranks of college-educated workers. Technologies, ranging from the efficiency of e-commerce to artificial intelligence disrupting traditional service sector industries, have already transformed the retail, industrial, office and warehouse property cohorts. These are just a few of the many interconnected disruptions and transformations dramatically challenging historical trends in commercial real estate.

FIGURE 4: TOTAL VALUE OF CONSTRUCTION BY TYPE, 2011-2021 (IN BILLIONS OF DOLLARS)

Source: Dodge Data & Analytics.

Note: 2021 reflects the trailing 12 months through October 2021.

Offices: Launch Pad to Landing Pad

Office building construction outlays decreased for two consecutive years, falling 21.1% in 2020 and an estimated 5.9% in 2021 (Figure 4). While the value of construction fell 5.9% in 2021, the square footage of started new construction decreased 14.5%, illustrating the upward price pressure on office construction.

Office buildings have historically been the launch pad of new ideas and service-heavy production. The sector has seen a 20th-century evolution from wide open pools of desks to vast seas of cubicles and then shifts to collective shared collaboration zones and booth-like hoteling hotspots, all in the name of intellectual productivity. The realization that many routine tasks could be completed more effectively by remote work, albeit significantly enabled by technology, not only disrupted coworking models (lack of demand in the early days of the pandemic, followed by a surge in demand as companies sought to redefine their future space needs), but also cast the long-term viability of dense workspaces into question. The rationalization of office space use and layout (providing appropriate social distancing while still encouraging coworking opportunities) will be a major trend dominating the sector for years to come. Labor shortages have played into the equation as firms compete for talent with various forms of "amenitization" (i.e., worker socializing spaces, food, laundry, pet services, daycare) to attract new workforce entrants and retain existing talent. Out are kegs and pool tables and in are access to fresh air and services. New workers have voiced a preference for work-life balance and greater flexibility. Baby boomers who never considered working outside of an office are now re-evaluating the work-life benefits of working remotely.

A focus on healthy buildings (WELL certification) has begun to eclipse sustainability (LEED certification) as a hook to attract worker talent. A further trend is the reassessment of suburban vs. urban office demand. Having a landing pad for brief face-to-face staff and/or client meetings, near to where decision makers live, now has greater appeal than the historical trek to the downtown office building. Such changes may create opportunities to change rent models, lease terms and buildouts. As firms ponder their future space needs, largely around talent acquisition, rents for top-tier space in Manhattan have reached records highs. At the same time, absent a clear strategy, Class B and even Class A-office space has languished, with rising official vacancy rates and even lower actual occupancy rates.

Not all suburban markets are the same, however. In high-growth markets driven by technology firms, for example, rents and prices have soared, even if space is yet to be occupied. Class B suburban office has suffered but may see new life in alternative uses, such as distribution or flex office/industrial space.

Behavioral changes such as the wide acceptance of flexible working arrangements, a heightened consciousness around hygiene, surfaces and physical distance, and a desire for community and connection stand to alter the office space environment permanently. Employees have largely become accustomed to the flexibility that remote work has provided, and while a switch to full-time remote work is unlikely for most office jobs, a move back toward full-time in-person work is also unlikely. In the Workforce Sentiment Survey conducted by CBRE in 2020, 85% of respondents said they would prefer to work remotely at least two to three days a week in the future, and 60% said they will return to the office in the future for community and collaboration.[7] Employers are taking notice, and ones with the ability to do so will offer flexible or hybrid arrangements. In CBRE's 2021 U.S. Occupier Sentiment Survey, 87% of companies with 10,000 or more employees say they will be adopting hybrid work.[8] Not only will this affect office utilization in major market areas, but it also stands to disrupt retail space around these office locations due to a decrease in work-related traffic.

[7] "Workforce Sentiment Survey Insight Report," CBRE, 2020, https://www.cbre.com/-/media/project/cbre/shared-site/insights/articles/workforce-sentiment-survey/workforce-sentiment-survey-insight-report.pdf.

[8] "Office Occupier Sentiment Survey: United States Results," CBRE, Spring 2021, https://www.cbre.com/-/media/files/the-way-forward/us-occupier-sentiment-survey-2021/occupier-survey-q2-2021---united-states-results---final.pdf.

Retail: Where's the Mall?

Retail building construction activity (including restaurants) peaked in 2016 and declined 42% by 2020, according to data from Dodge Data & Analytics (Figure 4). While the industry grew 8.3% from 2020 to 2021, these two years represent the lowest level of retail starts since 2010. Rather than the demise of retail, the sector is experiencing a metamorphosis as traditional ways of shopping have been overshadowed by new formats. E-commerce soared during the pandemic, and top-performing malls are being reinvented as experiential destinations. Similarly, grocery stores and service-heavy retailers such as food and beverage outlets have done well and are expected to continue to do so. Restaurants have been more constrained by labor supply than consumer demand. The distribution of commodities to consumers has indeed shifted from traditional brick-and-mortar stores to a growing share of online purchases.

While online sales may only account for around 15% of total retail sales, that share is growing. However, retailers have caught on to the power of omnichannel retailing, where online sales are significantly increased when a retailer has a proximate physical store. This has manifested itself in the form of online retailers opening physical stores, occupying less space than perhaps otherwise and with less onsite inventory, but serving the consumer's desire to touch and try before they buy. Also, by serving as both product-return and BOPIS (buy online, pick up in store) centers, these stores typically capture incremental sales on each visit. From a real estate perspective, traditional retail has suffered, resulting in higher vacancies, lower values and even reductions in supply. Some of that square footage is offset by expanded consumer-product distribution centers, such as Amazon's warehouses. Some is also being repurposed with mixed-use footprints, which generally include some form of retail. Newly built retail is adjusting to the new paradigm, incorporating efficient access to the property for shoppers and shippers, selling spaces adapted to be more "showroom" than "sales floor," and rethinking tenant mixes to embrace more internet-proof services such as food, health services, gyms, etc.

Industrial and Warehouse Attract Investment

Construction spending for **manufacturing buildings** increased 81.3% in 2021, with the additional square footage posting the highest gains in three years. **Warehouse building** remains an area of strength in the construction industry, with valuations and space recording uninterrupted consecutive years of growth during the past decade. Annual production of warehouse space increased 702% during the past decade, and values increased 783% (Figure 4). Even over the very short term, warehouse has outperformed the broader construction industry, with values growing 25.9% and area up 26.6% during the past year.

Industrial properties have been the darlings of late in the real estate sector. Sales, leasing and pricing metrics have all risen to well above pre-COVID ranges. Their relatively low cost of development has made them pencil as attractive investments. Longer term, however, shifts in production sourcing and supply-chain accommodations could result in too much of the wrong product in the wrong place. The industry has seen this before; materials and labor cost swings, trade flows and transportation-mode shifts render once-ideal locations obsolete. In the near term, the pursuit of last-mile collection and distribution centers, close to the end users, will keep warehouse demand and usage strong, while emerging technologies such as biotech and alternative energy will support demand for modern manufacturing facilities. Likewise, a strong dollar and pent-up consumer demand will buttress the sector in the nation's major port markets.

Record consumer demand, combined with the shifting of consumer spending from services to goods as services, came to a halt in 2020 due to COVID-19, and the continued growth in e-commerce has driven strong demand for warehouse space. This has led to record-low vacancy rates and continued high demand for warehouse construction. Warehouse construction expenditures increased 25.9% in 2021 year-over-year, and the vacancy rate for the U.S. industrial market stood at a record-low 3.6% in Q3 2021, according to CBRE. Warehousing vacancy rates are even lower in major port markets, and there is not enough supply to meet demand. This has contributed to the supply chain disruptions that have been observed during the past year. In response, the development pipeline for the industrial market is at record levels, but

demand continues to outpace supply. CBRE estimates that every $1 billion increase in online sales equates to the need for an additional 1 million square feet of warehouse space.[9]

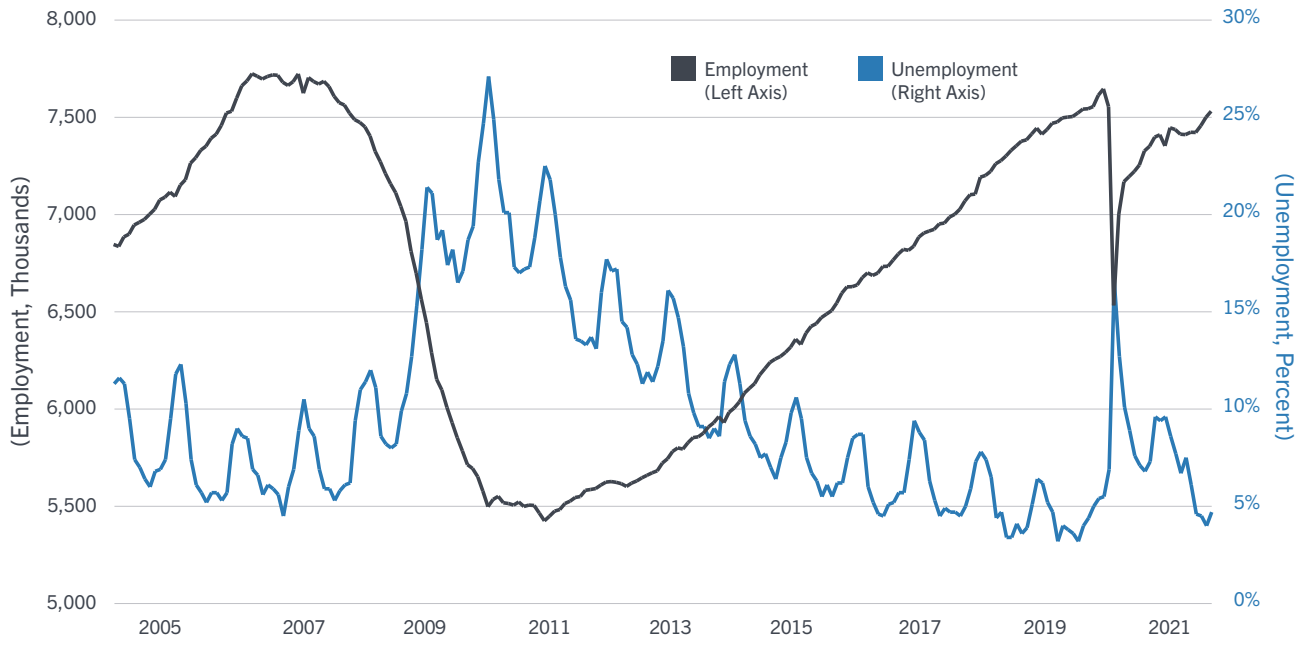
Construction employment peaked in February 2020 at 7.6 million jobs (seasonally adjusted), with unemployment standing at 4.7% (unadjusted) in November 2021 compared to the unadjusted U.S. unemployment rate of 3.7% for the same month. The pandemic recession's impact on construction labor was comparatively lighter than the Great Recession's impact. While the Great Recession led to a loss of 2.3 million construction jobs (-29.7%), the pandemic recession resulted in a loss of 1.1 million construction jobs (-14.6%). It took nearly five years for industry employment to reach bottom during the Great Recession; construction industry employment has nearly recovered from the pandemic recession (down 1.5% as of November 2021; see Figure 5).

Conclusion

Total construction spending was up an estimated 6.3% in 2021 and accounted for approximately 18.3% of total GDP. The continued demand for new construction throughout the pandemic has positively impacted the economy. The demand for construction inputs—from design services to construction goods and labor—meant that the industry was a catalyst for the economic recovery. The industry continues to lead the overall U.S. economic recovery from the pandemic recession. The subsector of nonresidential construction has underperformed the industry, decreasing 1.2% in 2020 and 6.5% year-to-date in October 2021. This illustrates the struggles for some segments of the economy resulting from the pandemic.

As the downstream industry end-users of commercial space heal, so will demand for new construction. Nationally, commercial real estate appears to be near equilibrium, but there are imbalances in some product types (e.g., industrial) in some areas of the country (e.g., Southern California). While COVID-19, workforce constraints, inflation, interest rates and supply chain issues will pose challenges to the commercial real estate industry in 2022, strong growth in real (inflation-adjusted) GDP (4%), led by even stronger growth in nonresidential fixed business investment (5.3%), are evidence of continued rebounding demand for construction and real estate.[10]

FIGURE 5: U.S. CONSTRUCTION EMPLOYMENT AND UNEMPLOYMENT, 2005-2021



Sources: Employment from the Bureau of Labor Statistics, CES (seasonally adjusted); unemployment from the BLS, CPS (not seasonally adjusted).

[9] CBRE, "CBRE: U.S. Will Need 330M Sq. Ft of Additional Distribution Space by 2025 to Meet Robust E-Commerce Demand," June 22, 2021, https://www.cbre.com/press-releases/cbre-us-will-need-330m-sq-ft-of-additional-distribution-space-by-2025-to-meet-e-commerce-demand.

[10] GDP and fixed business investment projections from December 2021 issue of Consensus Forecasts.

TABLE 8 Impacts of Operations on State Economies (In Four Categories), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$15,315	$28,430	$9,618	627
Alaska	1,273	2,022	709	40
Arizona	67,771	132,540	45,942	2,695
Arkansas	13,798	24,265	8,193	509
California	142,016	284,912	97,565	5,333
Colorado	32,275	65,700	22,680	1,302
Connecticut	5,230	9,450	3,059	155
Delaware	4,722	7,762	2,197	120
District of Columbia	25,361	31,389	3,241	134
Florida	126,234	247,028	85,688	5,654
Georgia	56,494	120,879	40,212	2,802
Hawaii	1,659	2,938	1,020	54
Idaho	10,208	17,820	6,177	389
Illinois	35,419	78,527	25,402	1,508
Indiana	41,289	82,186	26,755	1,626
Iowa	30,184	51,620	17,069	1,012
Kansas	11,438	21,144	6,357	363
Kentucky	19,052	36,420	11,298	691
Louisiana	16,178	29,901	10,150	655
Maine	1,165	2,053	710	41
Maryland	28,063	51,093	16,251	868
Massachusetts	70,183	130,161	42,580	2,172
Michigan	28,548	57,344	19,532	1,183
Minnesota	15,588	30,675	10,325	580
Mississippi	7,317	12,859	4,236	267
Missouri	23,365	45,966	14,283	900
Montana	2,150	3,563	1,258	76
Nebraska	25,055	43,623	14,640	837
Nevada	14,519	25,187	8,591	493
New Hampshire	2,150	3,787	1,178	59
New Jersey	32,949	66,435	20,689	1,140
New Mexico	5,360	8,889	3,083	186
New York	167,613	297,345	93,310	4,657
North Carolina	46,213	95,495	31,730	2,136
North Dakota	2,991	4,758	1,523	81
Ohio	48,726	101,793	33,231	2,086
Oklahoma	14,261	26,599	9,133	593
Oregon	12,934	24,049	7,984	429
Pennsylvania	56,445	115,221	37,192	2,113
Rhode Island	1,414	2,458	738	38
South Carolina	27,743	55,608	18,130	1,267
South Dakota	5,925	9,529	3,184	184
Tennessee	34,083	73,061	23,664	1,507
Texas	210,050	470,660	157,475	10,953
Utah	15,046	30,321	10,305	676
Vermont	1,075	1,777	592	35
Virginia	43,562	81,471	25,776	1,388
Washington	64,772	119,499	40,418	2,104
West Virginia	1,677	2,714	857	46
Wisconsin	21,197	40,227	13,513	783
Wyoming	669	1,019	344	19
State Total	**$1,688,723**	**$3,310,170**	**$1,089,784**	**65,565**
Interstate Spillovers	**–**	**$1,304,534**	**$535,169**	**5,944**
U.S. Totals	**$1,688,723**	**$4,614,705**	**$1,624,953**	**71,509**

Sources: Dodge Data & Analytics, BEA, NAIOP; CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

TABLE 9	Total Impacts of Soft Costs, Site Development, Hard Costs and Tenant Improvements on State Economies (In Four Categories), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$2.26	$4.88	$1.89	38,401
Alaska	0.38	0.65	0.28	4,647
Arizona	20.85	45.24	18.16	358,148
Arkansas	1.59	3.20	1.24	25,060
California	20.46	44.74	17.82	294,590
Colorado	3.35	7.60	3.02	53,534
Connecticut	0.81	1.60	0.63	10,327
Delaware	0.90	1.58	0.54	9,394
District of Columbia	1.48	1.76	0.17	2,553
Florida	14.13	30.63	12.34	259,009
Georgia	7.24	17.15	6.57	133,886
Hawaii	0.22	0.43	0.18	3,050
Idaho	1.42	2.76	1.12	23,363
Illinois	4.15	10.24	3.76	64,858
Indiana	5.30	12.02	4.46	85,263
Iowa	5.81	11.35	4.39	85,450
Kansas	2.89	6.04	2.14	41,271
Kentucky	3.38	7.30	2.64	53,757
Louisiana	6.37	13.20	5.19	102,444
Maine	0.27	0.52	0.21	4,410
Maryland	2.85	5.56	2.07	36,234
Massachusetts	7.03	13.99	6.21	87,174
Michigan	3.85	8.63	3.40	64,312
Minnesota	1.93	4.30	1.65	28,358
Mississippi	1.14	2.29	0.88	18,124
Missouri	4.49	9.84	3.51	67,937
Montana	0.76	1.44	0.60	12,420
Nebraska	2.28	4.45	1.75	35,122
Nevada	2.06	3.96	1.60	30,146
New Hampshire	0.36	0.73	0.27	4,562
New Jersey	5.64	12.43	4.55	75,631
New Mexico	1.10	2.02	0.83	17,059
New York	20.84	39.00	14.68	239,521
North Carolina	7.91	18.22	6.98	142,083
North Dakota	0.68	1.22	0.44	7,744
Ohio	6.28	14.80	5.50	103,811
Oklahoma	2.05	4.34	1.72	35,199
Oregon	2.49	5.14	1.94	33,975
Pennsylvania	6.80	16.00	5.88	102,165
Rhode Island	0.17	0.31	0.11	1,999
South Carolina	3.68	8.27	3.09	64,682
South Dakota	0.64	1.18	0.48	9,518
Tennessee	5.33	12.80	4.66	83,350
Texas	29.29	75.89	28.63	526,181
Utah	1.97	4.45	1.74	34,104
Vermont	0.10	0.19	0.07	1,527
Virginia	5.97	12.21	4.55	87,114
Washington	5.72	11.81	4.67	77,754
West Virginia	0.62	1.10	0.41	7,899
Wisconsin	2.45	5.25	2.06	37,634
Wyoming	0.09	0.15	0.06	1,171
State Total	**$239.79**	**$524.84**	**$201.74**	**3,727,925**
Interstate Spillovers	**–**	**$128.21**	**$29.72**	**529,250**
U.S. Totals	**$239.79**	**$653.04**	**$231.46**	**4,257,175**

Sources: Dodge Data & Analytics, BEA, NAIOP; CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Jobs Housed and Payroll Value

In addition to the annual operating expenditures associated with new building space, these structures represent new productive capacity within the national economy. While the value of this added capacity depends on how each building is used, two common measures are the number of jobs this new capacity can accommodate and the amount of payroll these new jobs can potentially generate. Using an average-jobs-per-square-foot estimate for each category of building, it is possible to estimate the total number of employees who could be housed within the buildings built in 2021. The total payroll value of these new workers also can be calculated by multiplying this employment estimate by the 2021 U.S. average wage earnings per worker for the mix of jobs associated with each building category.

These calculations are presented in Table 10. They show that the 733 million square feet of new office, industrial, warehouse and retail space constructed in 2021 has the capacity to house 1.6 million new workers with a total estimated annual payroll of $113 billion. The jobs per square feet are based on historical data prior to the pandemic. The utilization of space was likely altered due to behavioral changes related to the pandemic, ranging from remote work to online shopping.

TABLE 10 **Jobs Accommodated and Payroll Generated in Office, Industrial, Warehouse and Retail Space Construction in 2021**

Building Type	Square Feet (In Millions)	Square Feet per Job	Jobs Accommodated (In Thousands)	Average Earnings per Job	Total Payroll (In Billions of Dollars)
Office	100	190	525	$121,173	$64
Industrial	72	750	96	$74,518	$7
Warehouse	507	600	844	$45,055	$38
Retail/Entertainment	55	475	116	$37,969	$4
Total/Average	**733**	**464**	**1,581**	**$71,592**	**$113**

Sources: Dodge Data & Analytics; U.S. Bureau of Labor Statistics (QCEW); Newmark; CU Leeds School of Business.

Note: For this study, office jobs were tabulated for the Information; Finance and Insurance; and Professional, Scientific and Technical Services industries. Industrial jobs included the Manufacturing industry; Warehouse jobs included the Warehouse industry; and Retail/Entertainment jobs included the Retail industry.

Note on Methodology

Construction Value and Area

For 2021, full-year construction values were estimated to publish the economic results in January 2022 so that NAIOP members would have current data to use during meetings with congressional representatives and local government.

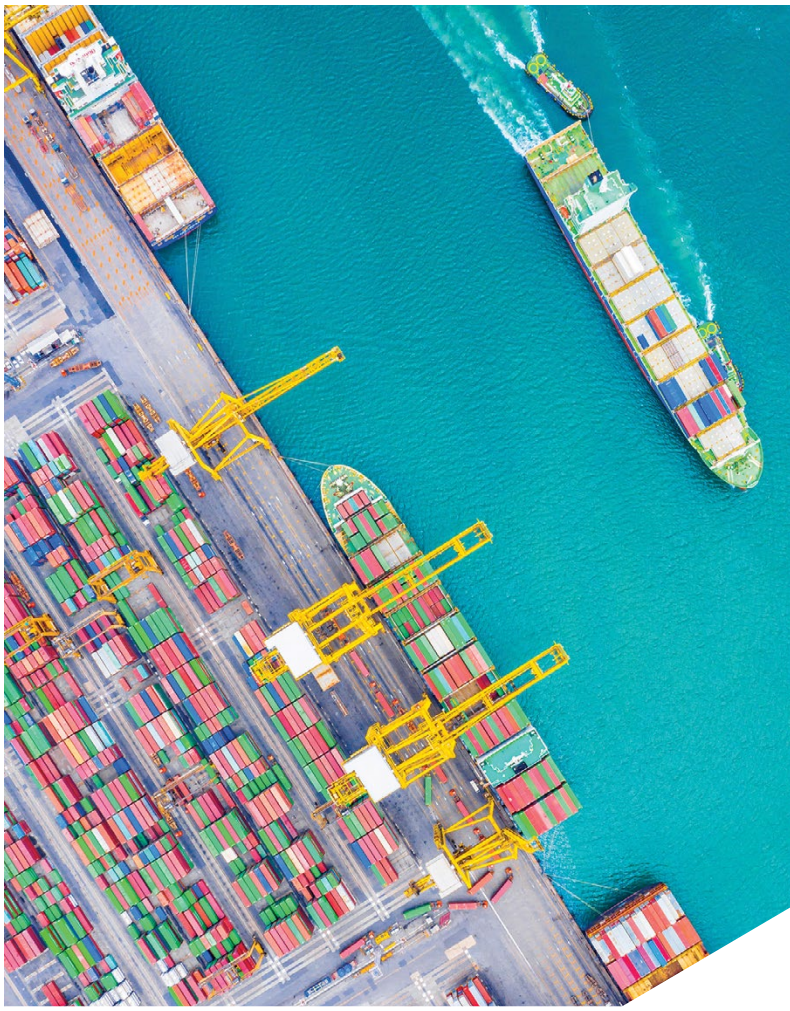
The construction estimates (value and area) for 2021 were provided by Dodge Construction and Analytics. They were based on activity for the 12 months ending in October 2021 and revised annual construction totals for the preceding years.

Economic Multipliers

The output (GDP), personal earnings (wages and salaries) and jobs-supported multipliers used in the 2021 report reflect the most recent revisions that the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) and IMPLAN acquired in December 2021. These multipliers are based on the 2012 Benchmark Input-Output Table for the nation and 2019 regional data.

Multipliers by state were sourced from the Bureau of Economic Analysis (RIMS II) for three industries: construction (nonresidential structures), soft costs (Architectural, Engineering and Related Services) and operations (Services to Building and Dwellings). The aggregated national multipliers were sourced from IMPLAN.

- **Construction** multipliers are utilized for hard costs, site improvements and tenant improvements.
- **Architectural and engineering services** multipliers are utilized to represent the bundle of construction-related professional services considered in this report and identified as soft costs (preconstruction).
- **Services to buildings** multipliers are utilized to represent the bundle of building operations services (including building management, repair and maintenance, custodial, security, and sales and marketing, but excluding local taxes and finances costs).



Other

Building maintenance costs were estimated using the per square foot costs from the prior report and grown at the rate of inflation using the Bureau of Labor Statistics, Consumer Price Index (CPI) for All Urban Consumers (CPI-U), U.S. City Average.

Survey of NAIOP Members

Since 2006, NAIOP has conducted member surveys to determine the distribution of construction costs across the four major categories of building development—soft costs, site development, hard costs and tenant improvements—by type of building. The results of these surveys are shown in Table 11.

TABLE 11 **Survey of NAIOP Members' Building Cost Allocation Percentages (%), by Building Type 2006, 2008, 2013, 2016, 2018, 2021**

Building Type	Soft Construction Costs[1]	Site Development Costs	Building Construction Costs	Tenant Improvement Costs
Office				
2021	15.1%	10.2%	53.0%	21.8%
2018	18.1	11.6	52.4	17.9
2016	16.4	13.7	49.2	20.6
2013	14.4	14.5	49.5	21.6
2008	17.4	14.2	49.7	18.6
2006	17.1	15.8	49.5	17.6
Manufacturing				
2021	12.6	13.8	51.0	22.7
2018	10.0	14.9	56.2	18.9
2016	12.3	9.4	57.1	21.3
2013	16.9	13.8	54.0	15.3
2008	14.3	19.3	52.6	13.8
2006	12.1	18.6	55.7	13.7
Warehouse/Flex				
2021	14.2	18.3	54.5	13.0
2018	14.7	17.5	54.9	12.9
2016	14.1	15.5	57.9	12.6
2013	14.6	19.0	53.3	13.1
2008	17.1	18.5	53.6	13.7
2006	14.2	16.8	55.0	14.1
Retail				
2021	15.3	15.9	47.6	21.3
2018	19.1	13.7	46.0	21.3
2016	17.7	14.4	49.3	18.6
2013	17.0	21.8	44.3	16.9
2008	15.8	20.8	47.0	16.4
2006	17.7	16.1	52.4	13.8
Combined[2]				
2021	14.3	15.6	53.1	17.1
2018	15.5	14.4	52.4	17.7
2016	15.4	14.2	53.2	17.2
2013	15.2	17.3	49.1	17.3
2008	15.6	17.2	51.2	15.9
2006	16.3	16.4	52.5	14.9

Source: NAIOP survey.

[1] Professional services and administrative and management processes required to support the construction project.

[2] Weighted average reflecting the numbers of responses by type.

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, architecture and engineering, legal fees, communications); 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.

Development Costs — includes all of the construction-related expenditures associated with developing a building, which include soft construction costs, site development costs, hard construction costs and tenant improvement expenditures.

Direct Expenditures — all spending in support of all phases of new construction required to deliver the final product as well as the operation phase (after the building delivers), including payroll of the workers directly involved and all nonpayroll spending for materials, management, overhead, utilities, equipment leasing or purchases for or by subcontractors, suppliers and vendors.

Economic Impact — the generation of new spending 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 where the building is located.

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

Gross Square Feet — a measure of an individual building size or aggregate inventory of building space reflecting the total envelope of the structure, which is typically larger than the occupied or usable building area.

Hard Construction Costs — a category of construction costs that reflects the expenditures for the building's hard construction phase. Costs for labor, materials and construction management are the three basic types of hard costs. Soft construction costs, site development costs and tenant improvement expenditures are reported independently from hard construction costs.

Indirect Benefit — the additional economic benefits (measured in dollars or jobs) resulting from the accumulated additional value generated by direct 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 contributions of the payroll spending by workers in a 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 included in the base values for calculating industry economic contributions.

Interstate Spillovers — economic contributions that are generated by direct construction expenditures in a given state that are realized by another state due to workers commuting across state lines (i.e., 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.

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

output multiplier measures the contribution of a direct expenditure 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 expenditure (expressed in jobs supported per $1 million 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 expenditure 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 of 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.

Personal Earnings — wages and salaries (payroll) paid out to all workers related directly or indirectly to the construction activity (pre-construction, construction, post-construction) for which direct expenditures are made. These wages and salaries include payment to the workers directly related to construction work being performed, employees of suppliers and vendors related to that work, and employees of businesses and organizations benefiting from the spending of these new wages and salaries generated as a result of these direct expenditures; that is, employees working in retail and consumer services, health care, education, local government and so on, whose business sales and cash flow have increased because of the new wages and salaries paid to workers in construction-related activities.

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

Site Development — a category of construction costs that reflects 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 Construction Costs — a category of development costs that reflects the professional services and administrative and management processes required to support the construction project. These may precede actual on-site construction by several years and may include legal and other consultant services, architectural and engineering services, management and administration.

Tenant Improvement Costs — a category of construction costs that reflects 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 and cabinets, but excludes furnishings. The building owner or the tenant may pay for these improvements.

Total Output — the sum of the direct and indirect benefits (expenditures) reflecting the combination of the initial expenditures by a firm and its subsequent accumulated value as this spending is recirculated throughout the economy. This includes benefits (induced) generated by the re-spending of personal earnings. This 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.

Appendix A-1: Impacts of Soft Costs on State Economies (**Office**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.13	$0.25	$0.10	1,720
Alaska	0.01	0.02	0.01	128
Arizona	0.41	0.87	0.33	6,025
Arkansas	0.05	0.09	0.03	641
California	1.40	3.05	1.17	18,021
Colorado	0.17	0.38	0.14	2,372
Connecticut	0.02	0.03	0.01	164
Delaware	0.02	0.03	0.01	158
District of Columbia	0.19	0.27	0.04	479
Florida	0.38	0.81	0.31	6,163
Georgia	0.22	0.49	0.18	3,460
Hawaii	0.03	0.05	0.02	325
Idaho	0.06	0.10	0.04	791
Illinois	0.21	0.50	0.18	2,884
Indiana	0.10	0.21	0.08	1,464
Iowa	0.36	0.63	0.24	4,281
Kansas	0.06	0.11	0.04	656
Kentucky	0.05	0.10	0.04	692
Louisiana	0.09	0.17	0.07	1,190
Maine	0.01	0.02	0.01	120
Maryland	0.14	0.29	0.10	1,600
Massachusetts	0.57	1.17	0.46	6,448
Michigan	0.14	0.30	0.12	1,965
Minnesota	0.07	0.16	0.06	973
Mississippi	0.01	0.02	0.01	142
Missouri	0.10	0.20	0.07	1,133
Montana	0.02	0.03	0.01	261
Nebraska	0.17	0.31	0.12	2,079
Nevada	0.06	0.11	0.04	754
New Hampshire	0.02	0.03	0.01	176
New Jersey	0.08	0.18	0.06	971
New Mexico	0.05	0.09	0.04	665
New York	2.24	4.29	1.46	22,077
North Carolina	0.39	0.85	0.32	5,985
North Dakota	0.02	0.03	0.01	186
Ohio	0.20	0.43	0.16	2,883
Oklahoma	0.14	0.27	0.10	1,986
Oregon	0.21	0.42	0.16	2,733
Pennsylvania	0.26	0.56	0.20	3,380
Rhode Island	0.00	0.00	0.00	26
South Carolina	0.12	0.24	0.09	1,715
South Dakota	0.05	0.08	0.03	548
Tennessee	0.14	0.32	0.12	1,965
Texas	1.16	2.84	1.05	17,705
Utah	0.09	0.19	0.07	1,397
Vermont	0.00	0.01	0.00	50
Virginia	0.65	1.32	0.46	7,573
Washington	0.46	0.90	0.34	5,273
West Virginia	0.01	0.02	0.01	110
Wisconsin	0.09	0.17	0.06	1,161
Wyoming	0.01	0.01	0.00	79
State Totals	**$11.63**	**$24.05**	**$8.79**	**145,737**
Interstate Spillovers	**–**	**$8.50**	**$4.49**	**38,753**
U.S. Total	**$11.63**	**$32.55**	**$13.28**	**184,489**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix A–2: Impacts of Soft Costs on State Economies (**Industrial**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.07	$0.14	$0.05	949
Alaska	0.00	0.00	0.00	16
Arizona	1.77	3.79	1.45	26,132
Arkansas	0.07	0.12	0.05	840
California	0.06	0.13	0.05	741
Colorado	0.04	0.08	0.03	525
Connecticut	0.01	0.02	0.01	111
Delaware	0.02	0.04	0.01	202
District of Columbia	–	0.00	–	–
Florida	0.13	0.28	0.11	2,157
Georgia	0.12	0.27	0.10	1,931
Hawaii	0.00	0.00	0.00	5
Idaho	0.02	0.03	0.01	220
Illinois	0.04	0.09	0.03	522
Indiana	0.19	0.39	0.14	2,663
Iowa	0.22	0.39	0.15	2,621
Kansas	0.10	0.20	0.07	1,176
Kentucky	0.24	0.47	0.17	3,105
Louisiana	0.57	1.12	0.43	7,725
Maine	0.00	0.01	0.00	58
Maryland	0.02	0.04	0.01	204
Massachusetts	0.14	0.28	0.11	1,549
Michigan	0.13	0.27	0.10	1,738
Minnesota	0.04	0.08	0.03	466
Mississippi	0.01	0.02	0.01	128
Missouri	0.09	0.19	0.06	1,084
Montana	0.05	0.09	0.04	703
Nebraska	0.03	0.05	0.02	314
Nevada	0.09	0.17	0.07	1,171
New Hampshire	0.01	0.01	0.00	66
New Jersey	0.03	0.06	0.02	320
New Mexico	0.05	0.09	0.04	678
New York	0.13	0.26	0.09	1,317
North Carolina	0.42	0.92	0.34	6,494
North Dakota	0.05	0.08	0.03	437
Ohio	0.32	0.68	0.25	4,579
Oklahoma	0.02	0.03	0.01	247
Oregon	0.07	0.14	0.05	910
Pennsylvania	0.11	0.24	0.09	1,451
Rhode Island	0.01	0.01	0.00	57
South Carolina	0.14	0.30	0.11	2,133
South Dakota	0.01	0.01	0.00	60
Tennessee	0.21	0.48	0.17	2,981
Texas	0.91	2.24	0.83	13,933
Utah	0.01	0.03	0.01	213
Vermont	0.00	0.00	0.00	9
Virginia	0.04	0.08	0.03	442
Washington	0.03	0.06	0.02	322
West Virginia	0.01	0.01	0.00	84
Wisconsin	0.10	0.19	0.07	1,301
Wyoming	0.00	0.00	0.00	2
State Totals	**$6.93**	**$14.65**	**$5.49**	**97,094**
Interstate Spillovers	**–**	**$4.75**	**$2.43**	**12,884**
U.S. Total	**$6.93**	**$19.40**	**$7.92**	**109,978**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix A-3: Impacts of Soft Costs on State Economies (**Warehouse**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.06	$0.12	$0.05	821
Alaska	0.04	0.06	0.03	383
Arizona	0.50	1.06	0.41	7,339
Arkansas	0.04	0.07	0.03	527
California	1.21	2.62	1.00	15,473
Colorado	0.22	0.48	0.18	3,023
Connecticut	0.06	0.11	0.04	636
Delaware	0.06	0.11	0.03	523
District of Columbia	–	0.00	–	–
Florida	0.98	2.09	0.81	15,835
Georgia	0.48	1.09	0.41	7,693
Hawaii	0.00	0.00	0.00	23
Idaho	0.09	0.17	0.07	1,299
Illinois	0.26	0.62	0.22	3,550
Indiana	0.38	0.77	0.28	5,283
Iowa	0.18	0.31	0.12	2,093
Kansas	0.19	0.38	0.13	2,200
Kentucky	0.12	0.23	0.08	1,548
Louisiana	0.12	0.24	0.09	1,680
Maine	0.02	0.03	0.01	209
Maryland	0.18	0.37	0.13	2,049
Massachusetts	0.23	0.46	0.18	2,559
Michigan	0.20	0.42	0.16	2,743
Minnesota	0.12	0.25	0.10	1,569
Mississippi	0.12	0.21	0.08	1,535
Missouri	0.35	0.70	0.23	4,043
Montana	0.01	0.02	0.01	179
Nebraska	0.11	0.20	0.07	1,303
Nevada	0.09	0.17	0.07	1,163
New Hampshire	0.01	0.02	0.01	135
New Jersey	0.62	1.34	0.47	7,283
New Mexico	0.02	0.04	0.02	295
New York	0.49	0.93	0.32	4,809
North Carolina	0.19	0.42	0.16	2,947
North Dakota	0.01	0.01	0.00	69
Ohio	0.21	0.46	0.17	3,112
Oklahoma	0.08	0.16	0.06	1,191
Oregon	0.03	0.06	0.02	413
Pennsylvania	0.50	1.08	0.39	6,559
Rhode Island	0.01	0.02	0.01	96
South Carolina	0.19	0.40	0.15	2,820
South Dakota	0.03	0.04	0.02	313
Tennessee	0.26	0.58	0.21	3,604
Texas	1.48	3.64	1.34	22,685
Utah	0.12	0.25	0.10	1,873
Vermont	0.01	0.01	0.00	88
Virginia	0.13	0.26	0.09	1,476
Washington	0.27	0.53	0.20	3,100
West Virginia	0.06	0.10	0.04	652
Wisconsin	0.10	0.19	0.07	1,331
Wyoming	0.00	0.00	0.00	24
State Totals	**$11.23**	**$23.96**	**$8.87**	**152,156**
Interstate Spillovers	**–**	**$7.47**	**$3.95**	**25,967**
U.S. Total	**$11.23**	**$31.42**	**$12.82**	**178,123**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix A-4: Impacts of Soft Costs on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.06	$0.11	$0.04	746
Alaska	0.00	0.00	0.00	17
Arizona	0.08	0.17	0.07	1,195
Arkansas	0.07	0.12	0.05	833
California	0.33	0.72	0.27	4,237
Colorado	0.06	0.13	0.05	834
Connecticut	0.03	0.06	0.02	356
Delaware	0.02	0.04	0.01	180
District of Columbia	0.03	0.04	0.01	70
Florida	0.54	1.16	0.45	8,770
Georgia	0.22	0.51	0.19	3,592
Hawaii	0.00	0.01	0.00	54
Idaho	0.04	0.07	0.03	536
Illinois	0.09	0.21	0.08	1,218
Indiana	0.07	0.14	0.05	966
Iowa	0.07	0.12	0.04	779
Kansas	0.05	0.09	0.03	546
Kentucky	0.04	0.08	0.03	559
Louisiana	0.05	0.10	0.04	678
Maine	0.01	0.02	0.01	127
Maryland	0.07	0.13	0.05	751
Massachusetts	0.08	0.17	0.07	926
Michigan	0.07	0.15	0.06	971
Minnesota	0.05	0.10	0.04	600
Mississippi	0.02	0.04	0.01	272
Missouri	0.10	0.21	0.07	1,191
Montana	0.02	0.03	0.01	214
Nebraska	0.03	0.06	0.02	418
Nevada	0.04	0.08	0.03	553
New Hampshire	0.02	0.04	0.01	207
New Jersey	0.08	0.17	0.06	942
New Mexico	0.03	0.05	0.02	408
New York	0.22	0.42	0.14	2,146
North Carolina	0.10	0.22	0.08	1,539
North Dakota	0.02	0.03	0.01	193
Ohio	0.14	0.30	0.11	2,051
Oklahoma	0.06	0.13	0.05	938
Oregon	0.04	0.08	0.03	534
Pennsylvania	0.10	0.21	0.08	1,267
Rhode Island	0.01	0.01	0.00	82
South Carolina	0.07	0.14	0.05	989
South Dakota	0.02	0.03	0.01	197
Tennessee	0.14	0.31	0.11	1,893
Texas	0.60	1.47	0.54	9,164
Utah	0.07	0.14	0.06	1,067
Vermont	0.00	0.00	0.00	36
Virginia	0.07	0.15	0.05	834
Washington	0.09	0.17	0.06	986
West Virginia	0.01	0.02	0.01	150
Wisconsin	0.06	0.12	0.04	791
Wyoming	0.00	0.01	0.00	41
State Totals	**$4.29**	**$9.09**	**$3.37**	**58,643**
Interstate Spillovers	**–**	**$2.91**	**$1.53**	**9,373**
U.S. Total	**$4.29**	**$12.00**	**$4.90**	**68,016**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix A-5: Impacts of Soft Costs on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.32	$0.63	$0.24	4,236
Alaska	0.05	0.09	0.04	544
Arizona	2.76	5.90	2.26	40,691
Arkansas	0.22	0.40	0.15	2,841
California	3.00	6.52	2.49	38,472
Colorado	0.48	1.08	0.41	6,754
Connecticut	0.12	0.23	0.08	1,268
Delaware	0.13	0.22	0.06	1,064
District of Columbia	0.22	0.31	0.04	549
Florida	2.05	4.35	1.68	32,924
Georgia	1.04	2.36	0.89	16,677
Hawaii	0.03	0.06	0.02	407
Idaho	0.21	0.38	0.15	2,845
Illinois	0.60	1.42	0.51	8,174
Indiana	0.74	1.50	0.56	10,375
Iowa	0.82	1.45	0.55	9,775
Kansas	0.40	0.78	0.27	4,578
Kentucky	0.45	0.89	0.32	5,904
Louisiana	0.84	1.63	0.63	11,273
Maine	0.04	0.07	0.03	514
Maryland	0.41	0.83	0.29	4,604
Massachusetts	1.02	2.08	0.82	11,482
Michigan	0.54	1.14	0.44	7,417
Minnesota	0.28	0.58	0.22	3,608
Mississippi	0.16	0.29	0.11	2,077
Missouri	0.64	1.29	0.43	7,451
Montana	0.10	0.18	0.07	1,357
Nebraska	0.33	0.62	0.23	4,114
Nevada	0.29	0.53	0.21	3,641
New Hampshire	0.05	0.10	0.04	584
New Jersey	0.81	1.76	0.61	9,517
New Mexico	0.16	0.27	0.11	2,045
New York	3.08	5.89	2.01	30,348
North Carolina	1.10	2.40	0.90	16,965
North Dakota	0.09	0.16	0.06	885
Ohio	0.87	1.87	0.69	12,625
Oklahoma	0.30	0.59	0.23	4,363
Oregon	0.36	0.71	0.27	4,590
Pennsylvania	0.97	2.09	0.75	12,656
Rhode Island	0.02	0.04	0.01	261
South Carolina	0.51	1.09	0.40	7,657
South Dakota	0.09	0.16	0.06	1,119
Tennessee	0.75	1.68	0.61	10,444
Texas	4.14	10.19	3.76	63,486
Utah	0.29	0.62	0.24	4,550
Vermont	0.01	0.03	0.01	183
Virginia	0.88	1.80	0.63	10,326
Washington	0.84	1.66	0.63	9,680
West Virginia	0.09	0.15	0.05	996
Wisconsin	0.34	0.67	0.26	4,585
Wyoming	0.01	0.02	0.01	146
State Totals	**$34.07**	**$71.74**	**$26.52**	**453,630**
Interstate Spillovers	**–**	**$23.63**	**$12.39**	**86,976**
U.S. Total	**$34.07**	**$95.37**	**$38.91**	**540,606**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix B-1: Impacts of Site Development on State Economies (**Office**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.09	$0.20	$0.08	1,567
Alaska	0.01	0.01	0.01	109
Arizona	0.28	0.60	0.24	4,857
Arkansas	0.03	0.07	0.03	559
California	0.95	2.08	0.84	13,968
Colorado	0.12	0.26	0.10	1,882
Connecticut	0.01	0.02	0.01	134
Delaware	0.01	0.02	0.01	138
District of Columbia	0.13	0.15	0.01	210
Florida	0.26	0.57	0.23	4,862
Georgia	0.15	0.35	0.13	2,764
Hawaii	0.02	0.03	0.01	252
Idaho	0.04	0.08	0.03	654
Illinois	0.14	0.36	0.13	2,301
Indiana	0.07	0.16	0.06	1,159
Iowa	0.24	0.48	0.19	3,698
Kansas	0.04	0.08	0.03	578
Kentucky	0.04	0.08	0.03	591
Louisiana	0.06	0.13	0.05	989
Maine	0.01	0.01	0.00	104
Maryland	0.10	0.19	0.07	1,270
Massachusetts	0.39	0.77	0.35	4,882
Michigan	0.10	0.22	0.09	1,678
Minnesota	0.05	0.11	0.04	757
Mississippi	0.01	0.02	0.01	124
Missouri	0.07	0.15	0.05	1,032
Montana	0.01	0.03	0.01	227
Nebraska	0.11	0.22	0.09	1,812
Nevada	0.04	0.08	0.03	601
New Hampshire	0.01	0.02	0.01	139
New Jersey	0.06	0.12	0.05	763
New Mexico	0.03	0.06	0.03	541
New York	1.52	2.84	1.09	17,919
North Carolina	0.26	0.61	0.23	4,819
North Dakota	0.01	0.02	0.01	155
Ohio	0.13	0.32	0.12	2,275
Oklahoma	0.09	0.20	0.08	1,639
Oregon	0.14	0.30	0.11	2,001
Pennsylvania	0.18	0.42	0.15	2,702
Rhode Island	0.00	0.00	0.00	19
South Carolina	0.08	0.18	0.07	1,408
South Dakota	0.03	0.06	0.02	480
Tennessee	0.10	0.23	0.08	1,514
Texas	0.78	2.05	0.78	14,423
Utah	0.06	0.14	0.05	1,051
Vermont	0.00	0.01	0.00	42
Virginia	0.44	0.90	0.34	6,642
Washington	0.31	0.65	0.26	4,328
West Virginia	0.01	0.01	0.00	86
Wisconsin	0.06	0.13	0.05	927
Wyoming	0.00	0.01	0.00	66
State Totals	**$7.89**	**$16.81**	**$6.50**	**117,702**
Interstate Spillovers	**–**	**$4.57**	**$0.88**	**24,798**
U.S. Totals	**$7.89**	**$21.38**	**$7.38**	**142,500**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix B-2: Impacts of Site Development on State Economies (**Industrial**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.08	$0.17	$0.07	1,399
Alaska	0.00	0.00	0.00	22
Arizona	1.94	4.22	1.71	34,079
Arkansas	0.07	0.15	0.06	1,186
California	0.06	0.14	0.06	929
Colorado	0.04	0.09	0.04	674
Connecticut	0.01	0.02	0.01	147
Delaware	0.03	0.05	0.02	286
District of Columbia	–	0.00	–	–
Florida	0.15	0.32	0.13	2,752
Georgia	0.13	0.31	0.12	2,496
Hawaii	0.00	0.00	0.00	7
Idaho	0.02	0.03	0.01	294
Illinois	0.04	0.10	0.04	674
Indiana	0.21	0.48	0.18	3,409
Iowa	0.24	0.48	0.19	3,662
Kansas	0.11	0.24	0.09	1,676
Kentucky	0.26	0.57	0.21	4,289
Louisiana	0.63	1.32	0.52	10,379
Maine	0.00	0.01	0.00	81
Maryland	0.02	0.04	0.01	262
Massachusetts	0.15	0.30	0.14	1,897
Michigan	0.14	0.32	0.12	2,400
Minnesota	0.04	0.09	0.03	587
Mississippi	0.01	0.02	0.01	180
Missouri	0.10	0.23	0.08	1,597
Montana	0.06	0.11	0.05	988
Nebraska	0.03	0.05	0.02	443
Nevada	0.10	0.20	0.08	1,512
New Hampshire	0.01	0.01	0.00	85
New Jersey	0.03	0.07	0.02	407
New Mexico	0.06	0.10	0.04	892
New York	0.15	0.27	0.10	1,729
North Carolina	0.46	1.07	0.41	8,459
North Dakota	0.05	0.09	0.03	590
Ohio	0.35	0.83	0.31	5,844
Oklahoma	0.02	0.04	0.02	330
Oregon	0.08	0.16	0.06	1,078
Pennsylvania	0.12	0.29	0.11	1,876
Rhode Island	0.01	0.01	0.00	69
South Carolina	0.16	0.36	0.13	2,833
South Dakota	0.01	0.01	0.00	85
Tennessee	0.23	0.57	0.21	3,716
Texas	1.00	2.61	0.99	18,362
Utah	0.01	0.03	0.01	259
Vermont	0.00	0.00	0.00	13
Virginia	0.04	0.09	0.03	628
Washington	0.03	0.06	0.03	427
West Virginia	0.01	0.01	0.01	106
Wisconsin	0.11	0.23	0.09	1,681
Wyoming	0.00	0.00	0.00	3
State Totals	**$7.61**	**$17.00**	**$6.60**	**127,781**
Interstate Spillovers	**–**	**$3.62**	**$0.52**	**9,641**
U.S. Totals	**$7.61**	**$20.62**	**$7.12**	**137,422**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix B-3: Impacts of Site Development on State Economies (**Warehouse**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.08	$0.18	$0.07	1,428
Alaska	0.05	0.09	0.04	626
Arizona	0.64	1.40	0.57	11,289
Arkansas	0.05	0.11	0.04	876
California	1.56	3.42	1.37	22,883
Colorado	0.28	0.64	0.26	4,576
Connecticut	0.08	0.15	0.06	990
Delaware	0.08	0.14	0.05	872
District of Columbia	–	0.00	–	–
Florida	1.27	2.77	1.12	23,835
Georgia	0.62	1.48	0.57	11,726
Hawaii	0.00	0.00	0.00	34
Idaho	0.12	0.24	0.10	2,048
Illinois	0.34	0.84	0.31	5,405
Indiana	0.49	1.12	0.42	7,977
Iowa	0.23	0.45	0.18	3,450
Kansas	0.25	0.53	0.19	3,698
Kentucky	0.15	0.34	0.12	2,522
Louisiana	0.16	0.34	0.13	2,662
Maine	0.02	0.04	0.02	345
Maryland	0.24	0.46	0.17	3,102
Massachusetts	0.29	0.58	0.26	3,696
Michigan	0.26	0.59	0.23	4,469
Minnesota	0.16	0.35	0.13	2,329
Mississippi	0.15	0.32	0.12	2,548
Missouri	0.45	0.99	0.36	7,025
Montana	0.02	0.03	0.01	297
Nebraska	0.14	0.27	0.11	2,167
Nevada	0.12	0.23	0.09	1,771
New Hampshire	0.02	0.03	0.01	203
New Jersey	0.80	1.76	0.65	10,917
New Mexico	0.03	0.05	0.02	458
New York	0.63	1.18	0.45	7,448
North Carolina	0.25	0.57	0.22	4,528
North Dakota	0.01	0.02	0.01	109
Ohio	0.28	0.66	0.25	4,685
Oklahoma	0.11	0.23	0.09	1,875
Oregon	0.04	0.09	0.03	576
Pennsylvania	0.65	1.55	0.57	10,003
Rhode Island	0.01	0.02	0.01	137
South Carolina	0.25	0.56	0.21	4,417
South Dakota	0.03	0.06	0.03	523
Tennessee	0.33	0.81	0.29	5,298
Texas	1.92	5.01	1.90	35,261
Utah	0.15	0.35	0.14	2,689
Vermont	0.01	0.02	0.01	142
Virginia	0.16	0.33	0.13	2,470
Washington	0.35	0.72	0.29	4,855
West Virginia	0.07	0.13	0.05	973
Wisconsin	0.13	0.28	0.11	2,029
Wyoming	0.00	0.00	0.00	38
State Totals	**$14.53**	**$32.54**	**$12.56**	**234,284**
Interstate Spillovers	**–**	**$6.85**	**$1.04**	**28,228**
U.S. Totals	**$14.53**	**$39.39**	**$13.60**	**262,513**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix B-4: Impacts of Site Development on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.06	$0.13	$0.05	1,040
Alaska	0.00	0.00	0.00	23
Arizona	0.08	0.18	0.07	1,474
Arkansas	0.07	0.14	0.05	1,112
California	0.34	0.75	0.30	5,022
Colorado	0.06	0.14	0.06	1,012
Connecticut	0.03	0.07	0.03	444
Delaware	0.02	0.04	0.01	241
District of Columbia	0.03	0.03	0.00	47
Florida	0.57	1.23	0.50	10,580
Georgia	0.23	0.55	0.21	4,389
Hawaii	0.00	0.01	0.00	64
Idaho	0.04	0.08	0.03	678
Illinois	0.09	0.23	0.09	1,487
Indiana	0.07	0.16	0.06	1,169
Iowa	0.07	0.13	0.05	1,030
Kansas	0.05	0.11	0.04	735
Kentucky	0.04	0.10	0.04	730
Louisiana	0.05	0.11	0.04	861
Maine	0.01	0.02	0.01	169
Maryland	0.07	0.14	0.05	912
Massachusetts	0.09	0.17	0.08	1,072
Michigan	0.07	0.17	0.07	1,267
Minnesota	0.05	0.11	0.04	714
Mississippi	0.02	0.05	0.02	362
Missouri	0.11	0.23	0.08	1,658
Montana	0.02	0.03	0.01	284
Nebraska	0.03	0.07	0.03	557
Nevada	0.05	0.09	0.04	675
New Hampshire	0.02	0.04	0.01	250
New Jersey	0.08	0.18	0.07	1,132
New Mexico	0.03	0.06	0.02	507
New York	0.23	0.42	0.16	2,664
North Carolina	0.10	0.24	0.09	1,895
North Dakota	0.02	0.04	0.01	246
Ohio	0.15	0.35	0.13	2,475
Oklahoma	0.07	0.14	0.06	1,184
Oregon	0.04	0.09	0.03	598
Pennsylvania	0.10	0.24	0.09	1,548
Rhode Island	0.01	0.01	0.01	93
South Carolina	0.07	0.16	0.06	1,242
South Dakota	0.02	0.03	0.01	264
Tennessee	0.14	0.34	0.12	2,230
Texas	0.62	1.62	0.61	11,417
Utah	0.07	0.16	0.06	1,228
Vermont	0.00	0.01	0.00	46
Virginia	0.07	0.15	0.06	1,119
Washington	0.09	0.18	0.07	1,237
West Virginia	0.01	0.02	0.01	179
Wisconsin	0.06	0.13	0.05	966
Wyoming	0.00	0.01	0.00	52
State Totals	**$4.45**	**$9.90**	**$3.82**	**72,379**
Interstate Spillovers	**–**	**$2.15**	**$0.34**	**7,965**
U.S. Totals	**$4.45**	**$12.06**	**$4.16**	**80,344**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix B-5: Impacts of Site Development on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.31	$0.68	$0.26	5,435
Alaska	0.06	0.11	0.05	780
Arizona	2.95	6.41	2.59	51,700
Arkansas	0.23	0.47	0.18	3,733
California	2.92	6.39	2.56	42,802
Colorado	0.50	1.13	0.45	8,145
Connecticut	0.13	0.26	0.10	1,716
Delaware	0.14	0.25	0.09	1,536
District of Columbia	0.16	0.19	0.02	258
Florida	2.25	4.89	1.98	42,030
Georgia	1.13	2.70	1.04	21,375
Hawaii	0.03	0.05	0.02	357
Idaho	0.22	0.43	0.17	3,673
Illinois	0.62	1.54	0.57	9,867
Indiana	0.84	1.93	0.71	13,714
Iowa	0.78	1.55	0.60	11,841
Kansas	0.45	0.96	0.34	6,687
Kentucky	0.50	1.09	0.40	8,132
Louisiana	0.90	1.89	0.74	14,891
Maine	0.04	0.08	0.03	699
Maryland	0.43	0.83	0.31	5,546
Massachusetts	0.92	1.82	0.82	11,547
Michigan	0.57	1.29	0.51	9,814
Minnesota	0.29	0.66	0.25	4,388
Mississippi	0.20	0.40	0.15	3,215
Missouri	0.72	1.60	0.58	11,312
Montana	0.11	0.20	0.09	1,795
Nebraska	0.31	0.61	0.24	4,978
Nevada	0.30	0.59	0.24	4,560
New Hampshire	0.05	0.11	0.04	676
New Jersey	0.97	2.13	0.79	13,219
New Mexico	0.15	0.28	0.12	2,398
New York	2.53	4.71	1.80	29,760
North Carolina	1.07	2.49	0.96	19,702
North Dakota	0.09	0.17	0.06	1,100
Ohio	0.91	2.17	0.81	15,279
Oklahoma	0.29	0.61	0.24	5,028
Oregon	0.31	0.64	0.24	4,254
Pennsylvania	1.05	2.51	0.92	16,129
Rhode Island	0.03	0.05	0.02	318
South Carolina	0.55	1.25	0.47	9,901
South Dakota	0.09	0.16	0.07	1,353
Tennessee	0.80	1.95	0.71	12,758
Texas	4.32	11.28	4.27	79,464
Utah	0.30	0.68	0.27	5,229
Vermont	0.02	0.03	0.01	243
Virginia	0.72	1.47	0.55	10,858
Washington	0.78	1.62	0.64	10,848
West Virginia	0.10	0.19	0.07	1,344
Wisconsin	0.36	0.78	0.31	5,603
Wyoming	0.01	0.02	0.01	159
State Totals	**$34.47**	**$76.26**	**$29.48**	**552,146**
Interstate Spillovers	**–**	**$17.19**	**$2.78**	**70,633**
U.S. Totals	**$34.47**	**$93.45**	**$32.26**	**622,779**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix C-1: Impacts of Construction (**Hard Costs**) on State Economies (**Office**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.46	$1.01	$0.39	8,128
Alaska	0.04	0.08	0.03	567
Arizona	1.44	3.12	1.26	25,188
Arkansas	0.18	0.36	0.14	2,897
California	4.94	10.81	4.34	72,431
Colorado	0.60	1.36	0.54	9,760
Connecticut	0.05	0.11	0.04	694
Delaware	0.07	0.12	0.04	715
District of Columbia	0.68	0.79	0.07	1,092
Florida	1.35	2.93	1.19	25,211
Georgia	0.76	1.81	0.69	14,333
Hawaii	0.09	0.18	0.08	1,309
Idaho	0.20	0.39	0.16	3,391
Illinois	0.75	1.86	0.68	11,934
Indiana	0.37	0.84	0.31	6,009
Iowa	1.26	2.51	0.97	19,179
Kansas	0.20	0.43	0.15	2,997
Kentucky	0.19	0.41	0.15	3,064
Louisiana	0.31	0.65	0.26	5,127
Maine	0.03	0.06	0.03	540
Maryland	0.51	0.99	0.37	6,585
Massachusetts	2.01	3.98	1.80	25,313
Michigan	0.51	1.14	0.45	8,701
Minnesota	0.26	0.59	0.23	3,926
Mississippi	0.04	0.08	0.03	643
Missouri	0.34	0.76	0.27	5,352
Montana	0.07	0.13	0.06	1,177
Nebraska	0.59	1.16	0.46	9,397
Nevada	0.21	0.40	0.16	3,119
New Hampshire	0.06	0.11	0.04	720
New Jersey	0.29	0.64	0.24	3,957
New Mexico	0.18	0.33	0.13	2,805
New York	7.89	14.71	5.63	92,922
North Carolina	1.36	3.16	1.22	24,991
North Dakota	0.07	0.12	0.05	805
Ohio	0.70	1.67	0.62	11,797
Oklahoma	0.48	1.03	0.41	8,498
Oregon	0.75	1.57	0.59	10,376
Pennsylvania	0.91	2.18	0.80	14,010
Rhode Island	0.01	0.02	0.01	100
South Carolina	0.41	0.92	0.35	7,303
South Dakota	0.16	0.30	0.12	2,489
Tennessee	0.49	1.20	0.44	7,850
Texas	4.06	10.62	4.02	74,793
Utah	0.31	0.71	0.28	5,452
Vermont	0.01	0.03	0.01	219
Virginia	2.28	4.67	1.76	34,442
Washington	1.61	3.35	1.33	22,444
West Virginia	0.03	0.06	0.02	446
Wisconsin	0.31	0.67	0.26	4,808
Wyoming	0.02	0.04	0.02	345
State Totals	**$40.90**	**$87.17**	**$33.71**	**610,351**
Interstate Spillovers	**–**	**$23.71**	**$4.57**	**128,591**
U.S. Totals	**$40.90**	**$110.88**	**$38.28**	**738,942**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix C-2: Impacts of Construction (**Hard Costs**) on State Economies (**Industrial**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.29	$0.65	$0.25	5,178
Alaska	0.01	0.01	0.00	82
Arizona	7.19	15.63	6.32	126,149
Arkansas	0.27	0.55	0.21	4,390
California	0.23	0.51	0.21	3,440
Colorado	0.15	0.35	0.14	2,496
Connecticut	0.04	0.08	0.03	544
Delaware	0.10	0.17	0.06	1,058
District of Columbia	–	0.00	–	–
Florida	0.54	1.18	0.48	10,188
Georgia	0.49	1.17	0.45	9,239
Hawaii	0.00	0.00	0.00	26
Idaho	0.06	0.13	0.05	1,088
Illinois	0.16	0.39	0.14	2,493
Indiana	0.77	1.77	0.66	12,619
Iowa	0.89	1.77	0.69	13,557
Kansas	0.42	0.89	0.32	6,204
Kentucky	0.97	2.13	0.77	15,877
Louisiana	2.33	4.88	1.92	38,420
Maine	0.02	0.03	0.01	300
Maryland	0.07	0.15	0.05	971
Massachusetts	0.56	1.11	0.50	7,022
Michigan	0.52	1.17	0.46	8,885
Minnesota	0.15	0.33	0.13	2,172
Mississippi	0.04	0.08	0.03	668
Missouri	0.38	0.84	0.30	5,911
Montana	0.22	0.42	0.18	3,655
Nebraska	0.10	0.20	0.08	1,639
Nevada	0.37	0.72	0.29	5,598
New Hampshire	0.02	0.05	0.02	313
New Jersey	0.11	0.24	0.09	1,508
New Mexico	0.21	0.38	0.16	3,301
New York	0.54	1.01	0.39	6,400
North Carolina	1.71	3.96	1.52	31,313
North Dakota	0.19	0.34	0.12	2,183
Ohio	1.28	3.07	1.14	21,634
Oklahoma	0.07	0.15	0.06	1,221
Oregon	0.29	0.60	0.23	3,991
Pennsylvania	0.45	1.08	0.40	6,943
Rhode Island	0.02	0.04	0.01	256
South Carolina	0.58	1.32	0.50	10,488
South Dakota	0.02	0.04	0.02	316
Tennessee	0.86	2.10	0.76	13,754
Texas	3.69	9.65	3.65	67,968
Utah	0.05	0.12	0.05	960
Vermont	0.00	0.01	0.00	47
Virginia	0.15	0.32	0.12	2,323
Washington	0.11	0.24	0.09	1,582
West Virginia	0.03	0.05	0.02	393
Wisconsin	0.40	0.86	0.34	6,223
Wyoming	0.00	0.00	0.00	10
State Totals	**$28.16**	**$62.93**	**$24.44**	**472,996**
Interstate Spillovers	**–**	**$13.40**	**$1.92**	**35,687**
U.S. Totals	**$28.16**	**$76.33**	**$26.35**	**508,683**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix C-3: Impacts of Construction (**Hard Costs**) on State Economies (**Warehouse**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.24	$0.53	$0.20	4,246
Alaska	0.15	0.25	0.11	1,862
Arizona	1.91	4.16	1.68	33,558
Arkansas	0.16	0.33	0.13	2,605
California	4.64	10.15	4.07	68,022
Colorado	0.83	1.90	0.76	13,603
Connecticut	0.23	0.45	0.18	2,944
Delaware	0.24	0.42	0.15	2,591
District of Columbia	–	0.00	–	–
Florida	3.79	8.24	3.34	70,853
Georgia	1.84	4.40	1.69	34,857
Hawaii	0.01	0.01	0.01	100
Idaho	0.36	0.71	0.29	6,088
Illinois	1.01	2.50	0.92	16,068
Indiana	1.45	3.33	1.24	23,713
Iowa	0.68	1.34	0.52	10,256
Kansas	0.75	1.57	0.56	10,992
Kentucky	0.46	1.00	0.36	7,496
Louisiana	0.48	1.00	0.40	7,914
Maine	0.06	0.12	0.05	1,025
Maryland	0.71	1.38	0.52	9,221
Massachusetts	0.87	1.73	0.78	10,988
Michigan	0.77	1.75	0.69	13,284
Minnesota	0.46	1.04	0.40	6,924
Mississippi	0.46	0.94	0.36	7,576
Missouri	1.33	2.95	1.06	20,881
Montana	0.05	0.10	0.04	883
Nebraska	0.40	0.80	0.31	6,440
Nevada	0.35	0.68	0.28	5,265
New Hampshire	0.05	0.09	0.04	604
New Jersey	2.37	5.24	1.93	32,451
New Mexico	0.09	0.16	0.07	1,362
New York	1.88	3.50	1.34	22,141
North Carolina	0.73	1.70	0.65	13,461
North Dakota	0.03	0.05	0.02	324
Ohio	0.83	1.97	0.74	13,927
Oklahoma	0.32	0.68	0.27	5,574
Oregon	0.12	0.26	0.10	1,713
Pennsylvania	1.94	4.62	1.70	29,735
Rhode Island	0.03	0.06	0.02	407
South Carolina	0.73	1.65	0.62	13,130
South Dakota	0.10	0.19	0.08	1,556
Tennessee	0.99	2.40	0.87	15,748
Texas	5.70	14.88	5.63	104,817
Utah	0.45	1.04	0.41	7,995
Vermont	0.03	0.05	0.02	423
Virginia	0.49	1.00	0.38	7,342
Washington	1.03	2.15	0.86	14,432
West Virginia	0.22	0.40	0.15	2,893
Wisconsin	0.38	0.83	0.33	6,030
Wyoming	0.01	0.01	0.01	112
State Totals	**$43.19**	**$96.74**	**$37.33**	**696,430**
Interstate Spillovers	**–**	**$20.35**	**$3.10**	**83,911**
U.S. Totals	**$43.19**	**$117.09**	**$40.43**	**780,341**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix C-4: Impacts of Construction (**Hard Costs**) on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.18	$0.39	$0.15	3,120
Alaska	0.01	0.01	0.00	68
Arizona	0.25	0.55	0.22	4,421
Arkansas	0.20	0.42	0.16	3,335
California	1.03	2.25	0.90	15,066
Colorado	0.19	0.42	0.17	3,035
Connecticut	0.10	0.20	0.08	1,333
Delaware	0.07	0.12	0.04	722
District of Columbia	0.09	0.10	0.01	142
Florida	1.70	3.69	1.50	31,740
Georgia	0.70	1.66	0.64	13,166
Hawaii	0.01	0.03	0.01	192
Idaho	0.12	0.24	0.10	2,033
Illinois	0.28	0.69	0.26	4,460
Indiana	0.21	0.49	0.18	3,507
Iowa	0.20	0.40	0.16	3,089
Kansas	0.15	0.32	0.11	2,205
Kentucky	0.13	0.29	0.11	2,191
Louisiana	0.16	0.33	0.13	2,584
Maine	0.03	0.06	0.02	506
Maryland	0.21	0.41	0.15	2,735
Massachusetts	0.26	0.51	0.23	3,216
Michigan	0.22	0.50	0.20	3,801
Minnesota	0.14	0.32	0.12	2,143
Mississippi	0.07	0.14	0.05	1,086
Missouri	0.32	0.70	0.25	4,975
Montana	0.05	0.10	0.04	851
Nebraska	0.10	0.21	0.08	1,670
Nevada	0.14	0.26	0.11	2,026
New Hampshire	0.06	0.12	0.04	750
New Jersey	0.25	0.55	0.20	3,395
New Mexico	0.10	0.18	0.07	1,521
New York	0.68	1.26	0.48	7,991
North Carolina	0.31	0.72	0.28	5,684
North Dakota	0.06	0.11	0.04	739
Ohio	0.44	1.05	0.39	7,424
Oklahoma	0.20	0.43	0.17	3,551
Oregon	0.13	0.27	0.10	1,795
Pennsylvania	0.30	0.72	0.27	4,645
Rhode Island	0.02	0.04	0.02	280
South Carolina	0.21	0.47	0.18	3,725
South Dakota	0.05	0.10	0.04	793
Tennessee	0.42	1.02	0.37	6,691
Texas	1.86	4.86	1.84	34,252
Utah	0.21	0.48	0.19	3,685
Vermont	0.01	0.02	0.01	138
Virginia	0.22	0.46	0.17	3,357
Washington	0.27	0.55	0.22	3,712
West Virginia	0.04	0.07	0.03	537
Wisconsin	0.18	0.40	0.16	2,899
Wyoming	0.01	0.02	0.01	156
State Totals	**$13.34**	**$29.71**	**$11.47**	**217,137**
Interstate Spillovers	**–**	**$6.46**	**$1.02**	**23,896**
U.S. Totals	**$13.34**	**$36.17**	**$12.49**	**241,032**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix C-5: Impacts of Construction (**Hard Costs**) on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$1.17	$2.58	$1.00	20,672
Alaska	0.20	0.35	0.15	2,578
Arizona	10.79	23.46	9.48	189,316
Arkansas	0.81	1.66	0.65	13,227
California	10.84	23.73	9.51	158,959
Colorado	1.77	4.03	1.61	28,895
Connecticut	0.42	0.84	0.33	5,515
Delaware	0.47	0.83	0.29	5,086
District of Columbia	0.77	0.89	0.08	1,233
Florida	7.37	16.04	6.51	137,992
Georgia	3.79	9.03	3.47	71,595
Hawaii	0.12	0.22	0.09	1,626
Idaho	0.75	1.46	0.60	12,599
Illinois	2.19	5.44	2.01	34,956
Indiana	2.79	6.44	2.39	45,848
Iowa	3.04	6.03	2.34	46,080
Kansas	1.52	3.21	1.14	22,398
Kentucky	1.75	3.83	1.39	28,629
Louisiana	3.28	6.86	2.70	54,044
Maine	0.14	0.27	0.11	2,371
Maryland	1.50	2.92	1.10	19,512
Massachusetts	3.70	7.32	3.31	46,539
Michigan	2.01	4.56	1.80	34,671
Minnesota	1.01	2.28	0.88	15,165
Mississippi	0.61	1.24	0.48	9,972
Missouri	2.37	5.25	1.89	37,120
Montana	0.39	0.75	0.31	6,566
Nebraska	1.20	2.36	0.94	19,146
Nevada	1.07	2.07	0.84	16,007
New Hampshire	0.18	0.37	0.14	2,387
New Jersey	3.02	6.67	2.46	41,311
New Mexico	0.57	1.04	0.43	8,988
New York	10.99	20.49	7.84	129,453
North Carolina	4.11	9.54	3.67	75,449
North Dakota	0.34	0.62	0.23	4,050
Ohio	3.25	7.77	2.89	54,782
Oklahoma	1.07	2.29	0.91	18,845
Oregon	1.30	2.70	1.02	17,874
Pennsylvania	3.60	8.60	3.17	55,333
Rhode Island	0.09	0.16	0.06	1,042
South Carolina	1.92	4.36	1.64	34,647
South Dakota	0.33	0.63	0.26	5,154
Tennessee	2.77	6.72	2.45	44,043
Texas	15.32	40.02	15.15	281,831
Utah	1.03	2.35	0.92	18,092
Vermont	0.05	0.10	0.04	827
Virginia	3.14	6.44	2.42	47,464
Washington	3.02	6.29	2.50	42,171
West Virginia	0.33	0.59	0.22	4,268
Wisconsin	1.27	2.76	1.09	19,960
Wyoming	0.04	0.08	0.03	623
State Totals	**$125.59**	**$276.55**	**$106.94**	**1,996,913**
Interstate Spillovers	**–**	**$63.92**	**$10.61**	**272,086**
U.S. Totals	**$125.59**	**$340.47**	**$117.55**	**2,268,999**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix D-1: Impacts of Tenant Improvements on State Economies (**Office**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.19	$0.42	$0.16	3,345
Alaska	0.02	0.03	0.01	233
Arizona	0.59	1.28	0.52	10,366
Arkansas	0.07	0.15	0.06	1,192
California	2.03	4.45	1.78	29,808
Colorado	0.25	0.56	0.22	4,017
Connecticut	0.02	0.04	0.02	286
Delaware	0.03	0.05	0.02	294
District of Columbia	0.28	0.33	0.03	449
Florida	0.55	1.21	0.49	10,375
Georgia	0.31	0.74	0.29	5,899
Hawaii	0.04	0.07	0.03	539
Idaho	0.08	0.16	0.07	1,395
Illinois	0.31	0.76	0.28	4,911
Indiana	0.15	0.35	0.13	2,473
Iowa	0.52	1.03	0.40	7,893
Kansas	0.08	0.18	0.06	1,233
Kentucky	0.08	0.17	0.06	1,261
Louisiana	0.13	0.27	0.11	2,110
Maine	0.01	0.03	0.01	222
Maryland	0.21	0.41	0.15	2,710
Massachusetts	0.83	1.64	0.74	10,417
Michigan	0.21	0.47	0.19	3,581
Minnesota	0.11	0.24	0.09	1,616
Mississippi	0.02	0.03	0.01	265
Missouri	0.14	0.31	0.11	2,203
Montana	0.03	0.06	0.02	484
Nebraska	0.24	0.48	0.19	3,867
Nevada	0.09	0.17	0.07	1,283
New Hampshire	0.02	0.05	0.02	296
New Jersey	0.12	0.26	0.10	1,629
New Mexico	0.07	0.13	0.06	1,154
New York	3.25	6.05	2.32	38,240
North Carolina	0.56	1.30	0.50	10,285
North Dakota	0.03	0.05	0.02	331
Ohio	0.29	0.69	0.26	4,855
Oklahoma	0.20	0.43	0.17	3,497
Oregon	0.31	0.64	0.24	4,270
Pennsylvania	0.38	0.90	0.33	5,766
Rhode Island	0.00	0.01	0.00	41
South Carolina	0.17	0.38	0.14	3,005
South Dakota	0.07	0.12	0.05	1,024
Tennessee	0.20	0.49	0.18	3,231
Texas	1.67	4.37	1.65	30,780
Utah	0.13	0.29	0.11	2,244
Vermont	0.01	0.01	0.00	90
Virginia	0.94	1.92	0.72	14,174
Washington	0.66	1.38	0.55	9,236
West Virginia	0.01	0.03	0.01	184
Wisconsin	0.13	0.27	0.11	1,979
Wyoming	0.01	0.02	0.01	142
State Totals	**$16.83**	**$35.87**	**$13.87**	**251,178**
Interstate Spillovers	**–**	**$9.76**	**$1.88**	**52,919**
U.S. Totals	**$16.83**	**$45.63**	**$15.75**	**304,097**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix D-2: Impacts of Tenant Improvements on State Economies (**Industrial**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.13	$0.29	$0.11	2,301
Alaska	0.00	0.00	0.00	36
Arizona	3.20	6.95	2.81	56,066
Arkansas	0.12	0.25	0.10	1,951
California	0.10	0.23	0.09	1,529
Colorado	0.07	0.15	0.06	1,109
Connecticut	0.02	0.04	0.01	242
Delaware	0.04	0.08	0.03	470
District of Columbia	–	0.00	–	–
Florida	0.24	0.53	0.21	4,528
Georgia	0.22	0.52	0.20	4,106
Hawaii	0.00	0.00	0.00	11
Idaho	0.03	0.06	0.02	484
Illinois	0.07	0.17	0.06	1,108
Indiana	0.34	0.79	0.29	5,608
Iowa	0.40	0.79	0.31	6,025
Kansas	0.19	0.39	0.14	2,757
Kentucky	0.43	0.95	0.34	7,056
Louisiana	1.04	2.17	0.85	17,076
Maine	0.01	0.02	0.01	133
Maryland	0.03	0.06	0.02	432
Massachusetts	0.25	0.49	0.22	3,121
Michigan	0.23	0.52	0.21	3,949
Minnesota	0.06	0.14	0.06	965
Mississippi	0.02	0.04	0.01	297
Missouri	0.17	0.37	0.13	2,627
Montana	0.10	0.19	0.08	1,625
Nebraska	0.05	0.09	0.04	729
Nevada	0.17	0.32	0.13	2,488
New Hampshire	0.01	0.02	0.01	139
New Jersey	0.05	0.11	0.04	670
New Mexico	0.09	0.17	0.07	1,467
New York	0.24	0.45	0.17	2,844
North Carolina	0.76	1.76	0.68	13,917
North Dakota	0.08	0.15	0.05	970
Ohio	0.57	1.36	0.51	9,615
Oklahoma	0.03	0.07	0.03	543
Oregon	0.13	0.27	0.10	1,774
Pennsylvania	0.20	0.48	0.18	3,086
Rhode Island	0.01	0.02	0.01	114
South Carolina	0.26	0.59	0.22	4,662
South Dakota	0.01	0.02	0.01	141
Tennessee	0.38	0.93	0.34	6,113
Texas	1.64	4.29	1.62	30,208
Utah	0.02	0.06	0.02	427
Vermont	0.00	0.00	0.00	21
Virginia	0.07	0.14	0.05	1,033
Washington	0.05	0.10	0.04	703
West Virginia	0.01	0.02	0.01	174
Wisconsin	0.18	0.38	0.15	2,766
Wyoming	0.00	0.00	0.00	5
State Totals	**$12.51**	**$27.97**	**$10.86**	**210,221**
Interstate Spillovers	**–**	**$5.95**	**$0.85**	**15,861**
U.S. Totals	**$12.51**	**$33.92**	**$11.71**	**226,082**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix D-3: Impacts of Tenant Improvements on State Economies (**Warehouse**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.06	$0.13	$0.05	1,016
Alaska	0.03	0.06	0.03	446
Arizona	0.46	1.00	0.40	8,032
Arkansas	0.04	0.08	0.03	624
California	1.11	2.43	0.97	16,280
Colorado	0.20	0.45	0.18	3,256
Connecticut	0.05	0.11	0.04	705
Delaware	0.06	0.10	0.04	620
District of Columbia	–	0.00	–	–
Florida	0.91	1.97	0.80	16,958
Georgia	0.44	1.05	0.40	8,343
Hawaii	0.00	0.00	0.00	24
Idaho	0.09	0.17	0.07	1,457
Illinois	0.24	0.60	0.22	3,846
Indiana	0.35	0.80	0.30	5,675
Iowa	0.16	0.32	0.12	2,455
Kansas	0.18	0.38	0.13	2,631
Kentucky	0.11	0.24	0.09	1,794
Louisiana	0.11	0.24	0.09	1,894
Maine	0.01	0.03	0.01	245
Maryland	0.17	0.33	0.12	2,207
Massachusetts	0.21	0.41	0.19	2,630
Michigan	0.18	0.42	0.17	3,179
Minnesota	0.11	0.25	0.10	1,657
Mississippi	0.11	0.23	0.09	1,813
Missouri	0.32	0.71	0.25	4,998
Montana	0.01	0.02	0.01	211
Nebraska	0.10	0.19	0.08	1,541
Nevada	0.08	0.16	0.07	1,260
New Hampshire	0.01	0.02	0.01	144
New Jersey	0.57	1.25	0.46	7,767
New Mexico	0.02	0.04	0.02	326
New York	0.45	0.84	0.32	5,299
North Carolina	0.18	0.41	0.16	3,222
North Dakota	0.01	0.01	0.00	78
Ohio	0.20	0.47	0.18	3,333
Oklahoma	0.08	0.16	0.06	1,334
Oregon	0.03	0.06	0.02	410
Pennsylvania	0.46	1.11	0.41	7,117
Rhode Island	0.01	0.01	0.01	97
South Carolina	0.17	0.40	0.15	3,143
South Dakota	0.02	0.05	0.02	372
Tennessee	0.24	0.57	0.21	3,769
Texas	1.36	3.56	1.35	25,087
Utah	0.11	0.25	0.10	1,913
Vermont	0.01	0.01	0.00	101
Virginia	0.12	0.24	0.09	1,757
Washington	0.25	0.52	0.21	3,454
West Virginia	0.05	0.10	0.04	692
Wisconsin	0.09	0.20	0.08	1,443
Wyoming	0.00	0.00	0.00	27
State Totals	**$10.34**	**$23.15**	**$8.93**	**166,681**
Interstate Spillovers	**–**	**$4.87**	**$0.74**	**20,083**
U.S. Totals	**$10.34**	**$28.02**	**$9.68**	**186,764**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix D-4: Impacts of Tenant Improvements on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.08	$0.17	$0.07	1,396
Alaska	0.00	0.00	0.00	30
Arizona	0.11	0.25	0.10	1,978
Arkansas	0.09	0.19	0.07	1,492
California	0.46	1.01	0.40	6,741
Colorado	0.08	0.19	0.08	1,358
Connecticut	0.05	0.09	0.04	596
Delaware	0.03	0.05	0.02	323
District of Columbia	0.04	0.05	0.00	63
Florida	0.76	1.65	0.67	14,202
Georgia	0.31	0.74	0.29	5,891
Hawaii	0.01	0.01	0.00	86
Idaho	0.05	0.11	0.04	909
Illinois	0.12	0.31	0.11	1,996
Indiana	0.10	0.22	0.08	1,569
Iowa	0.09	0.18	0.07	1,382
Kansas	0.07	0.14	0.05	987
Kentucky	0.06	0.13	0.05	981
Louisiana	0.07	0.15	0.06	1,156
Maine	0.01	0.03	0.01	226
Maryland	0.09	0.18	0.07	1,224
Massachusetts	0.11	0.23	0.10	1,439
Michigan	0.10	0.22	0.09	1,701
Minnesota	0.06	0.14	0.06	959
Mississippi	0.03	0.06	0.02	486
Missouri	0.14	0.31	0.11	2,226
Montana	0.02	0.04	0.02	381
Nebraska	0.05	0.09	0.04	747
Nevada	0.06	0.12	0.05	906
New Hampshire	0.03	0.05	0.02	336
New Jersey	0.11	0.25	0.09	1,519
New Mexico	0.04	0.08	0.03	681
New York	0.30	0.57	0.22	3,576
North Carolina	0.14	0.32	0.12	2,543
North Dakota	0.03	0.05	0.02	330
Ohio	0.20	0.47	0.18	3,322
Oklahoma	0.09	0.19	0.08	1,589
Oregon	0.06	0.12	0.05	803
Pennsylvania	0.14	0.32	0.12	2,078
Rhode Island	0.01	0.02	0.01	125
South Carolina	0.09	0.21	0.08	1,667
South Dakota	0.02	0.04	0.02	355
Tennessee	0.19	0.46	0.17	2,994
Texas	0.83	2.18	0.82	15,326
Utah	0.09	0.21	0.08	1,649
Vermont	0.00	0.01	0.00	62
Virginia	0.10	0.20	0.08	1,502
Washington	0.12	0.25	0.10	1,661
West Virginia	0.02	0.03	0.01	240
Wisconsin	0.08	0.18	0.07	1,297
Wyoming	0.00	0.01	0.00	70
State Totals	**$5.97**	**$13.29**	**$5.13**	**97,157**
Interstate Spillovers	**–**	**$2.89**	**$0.46**	**10,692**
U.S. Totals	**$5.97**	**$16.18**	**$5.59**	**107,849**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix D-5: Impacts of Tenant Improvements on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.46	$1.00	$0.39	8,059
Alaska	0.06	0.10	0.04	745
Arizona	4.36	9.47	3.83	76,442
Arkansas	0.32	0.66	0.26	5,259
California	3.71	8.11	3.25	54,358
Colorado	0.60	1.36	0.54	9,740
Connecticut	0.14	0.28	0.11	1,829
Delaware	0.16	0.28	0.10	1,708
District of Columbia	0.32	0.37	0.03	513
Florida	2.46	5.36	2.17	46,063
Georgia	1.28	3.06	1.18	24,238
Hawaii	0.05	0.09	0.04	660
Idaho	0.25	0.49	0.20	4,245
Illinois	0.74	1.85	0.68	11,861
Indiana	0.93	2.15	0.80	15,326
Iowa	1.17	2.32	0.90	17,755
Kansas	0.52	1.09	0.39	7,608
Kentucky	0.68	1.49	0.54	11,092
Louisiana	1.35	2.82	1.11	22,236
Maine	0.05	0.10	0.04	827
Maryland	0.51	0.98	0.37	6,572
Massachusetts	1.40	2.77	1.25	17,607
Michigan	0.72	1.63	0.65	12,410
Minnesota	0.35	0.78	0.30	5,197
Mississippi	0.17	0.36	0.14	2,860
Missouri	0.77	1.70	0.61	12,054
Montana	0.16	0.31	0.13	2,701
Nebraska	0.43	0.85	0.34	6,884
Nevada	0.40	0.77	0.31	5,938
New Hampshire	0.07	0.14	0.05	915
New Jersey	0.85	1.87	0.69	11,584
New Mexico	0.23	0.42	0.17	3,628
New York	4.24	7.91	3.03	49,959
North Carolina	1.63	3.79	1.46	29,967
North Dakota	0.15	0.26	0.10	1,709
Ohio	1.25	2.99	1.12	21,125
Oklahoma	0.40	0.85	0.34	6,963
Oregon	0.53	1.09	0.41	7,257
Pennsylvania	1.18	2.81	1.03	18,046
Rhode Island	0.03	0.06	0.02	377
South Carolina	0.69	1.57	0.59	12,476
South Dakota	0.12	0.23	0.09	1,892
Tennessee	1.01	2.46	0.89	16,106
Texas	5.51	14.40	5.45	101,400
Utah	0.35	0.81	0.32	6,233
Vermont	0.02	0.03	0.01	274
Virginia	1.22	2.50	0.94	18,466
Washington	1.08	2.25	0.89	15,055
West Virginia	0.10	0.18	0.07	1,291
Wisconsin	0.48	1.04	0.41	7,485
Wyoming	0.02	0.03	0.01	243
State Totals	**$45.65**	**$100.29**	**$38.80**	**725,236**
Interstate Spillovers	**–**	**$23.47**	**$3.93**	**99,555**
U.S. Totals	**$45.65**	**$123.76**	**$42.73**	**824,792**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix E-1: Total Impacts of Soft Cost, Site Development, Hard Costs, and Tenant Improvements on State Economies (**Office**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.87	$1.88	$0.73	14,760
Alaska	0.08	0.15	0.06	1,037
Arizona	2.71	5.88	2.36	46,436
Arkansas	0.34	0.68	0.26	5,289
California	9.33	20.40	8.12	134,228
Colorado	1.13	2.56	1.02	18,032
Connecticut	0.10	0.20	0.08	1,278
Delaware	0.12	0.22	0.07	1,305
District of Columbia	1.29	1.54	0.15	2,230
Florida	2.54	5.52	2.22	46,610
Georgia	1.43	3.39	1.30	26,456
Hawaii	0.18	0.34	0.14	2,425
Idaho	0.38	0.74	0.30	6,231
Illinois	1.41	3.48	1.28	22,031
Indiana	0.69	1.57	0.58	11,105
Iowa	2.39	4.66	1.80	35,051
Kansas	0.38	0.80	0.28	5,465
Kentucky	0.35	0.76	0.28	5,609
Louisiana	0.59	1.22	0.48	9,415
Maine	0.06	0.12	0.05	986
Maryland	0.96	1.87	0.70	12,165
Massachusetts	3.80	7.56	3.35	47,060
Michigan	0.95	2.14	0.84	15,924
Minnesota	0.50	1.10	0.42	7,272
Mississippi	0.07	0.15	0.06	1,174
Missouri	0.64	1.41	0.50	9,721
Montana	0.13	0.25	0.10	2,149
Nebraska	1.11	2.17	0.86	17,155
Nevada	0.39	0.76	0.31	5,757
New Hampshire	0.11	0.21	0.08	1,331
New Jersey	0.55	1.20	0.44	7,321
New Mexico	0.34	0.61	0.25	5,164
New York	14.90	27.88	10.49	171,158
North Carolina	2.57	5.92	2.27	46,080
North Dakota	0.13	0.23	0.08	1,477
Ohio	1.32	3.11	1.16	21,811
Oklahoma	0.91	1.93	0.76	15,620
Oregon	1.42	2.93	1.11	19,379
Pennsylvania	1.72	4.05	1.49	25,858
Rhode Island	0.02	0.03	0.01	187
South Carolina	0.77	1.72	0.64	13,432
South Dakota	0.30	0.56	0.23	4,542
Tennessee	0.93	2.24	0.81	14,560
Texas	7.68	19.88	7.50	137,700
Utah	0.58	1.32	0.52	10,144
Vermont	0.03	0.05	0.02	402
Virginia	4.31	8.81	3.29	62,830
Washington	3.04	6.27	2.48	41,281
West Virginia	0.06	0.12	0.04	826
Wisconsin	0.58	1.24	0.48	8,875
Wyoming	0.05	0.08	0.03	632
State Totals	**$77.25**	**$163.89**	**$62.88**	**1,124,967**
Interstate Spillovers	**–**	**$46.54**	**$11.82**	**245,061**
U.S. Totals	**$77.25**	**$210.44**	**$74.70**	**1,370,028**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix E-2: Total Impacts of Soft Cost, Site Development, Hard Costs, and Tenant Improvements on State Economies (**Industrial**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.58	$1.25	$0.48	9,828
Alaska	0.01	0.02	0.01	156
Arizona	14.10	30.59	12.28	242,426
Arkansas	0.53	1.07	0.41	8,367
California	0.46	1.01	0.40	6,639
Colorado	0.30	0.68	0.27	4,805
Connecticut	0.08	0.16	0.06	1,044
Delaware	0.19	0.34	0.12	2,017
District of Columbia	–	0.00	–	–
Florida	1.07	2.32	0.93	19,625
Georgia	0.96	2.27	0.87	17,772
Hawaii	0.00	0.01	0.00	49
Idaho	0.13	0.25	0.10	2,085
Illinois	0.31	0.76	0.28	4,797
Indiana	1.51	3.42	1.27	24,299
Iowa	1.75	3.43	1.33	25,866
Kansas	0.82	1.72	0.61	11,813
Kentucky	1.90	4.11	1.49	30,327
Louisiana	4.57	9.48	3.73	73,600
Maine	0.03	0.07	0.03	573
Maryland	0.15	0.29	0.11	1,869
Massachusetts	1.09	2.18	0.97	13,589
Michigan	1.01	2.27	0.90	16,972
Minnesota	0.28	0.63	0.24	4,190
Mississippi	0.08	0.16	0.06	1,273
Missouri	0.74	1.62	0.58	11,219
Montana	0.43	0.81	0.34	6,971
Nebraska	0.20	0.39	0.16	3,125
Nevada	0.73	1.41	0.57	10,769
New Hampshire	0.05	0.10	0.04	602
New Jersey	0.22	0.48	0.17	2,905
New Mexico	0.41	0.75	0.31	6,337
New York	1.07	1.99	0.75	12,289
North Carolina	3.35	7.71	2.95	60,184
North Dakota	0.36	0.65	0.24	4,179
Ohio	2.52	5.94	2.21	41,672
Oklahoma	0.14	0.29	0.11	2,341
Oregon	0.57	1.17	0.44	7,753
Pennsylvania	0.89	2.09	0.77	13,356
Rhode Island	0.04	0.08	0.03	496
South Carolina	1.14	2.57	0.96	20,117
South Dakota	0.04	0.07	0.03	603
Tennessee	1.70	4.08	1.48	26,564
Texas	7.24	18.78	7.09	130,471
Utah	0.11	0.24	0.09	1,859
Vermont	0.01	0.01	0.00	89
Virginia	0.30	0.62	0.23	4,426
Washington	0.22	0.46	0.18	3,035
West Virginia	0.06	0.11	0.04	757
Wisconsin	0.78	1.67	0.65	11,971
Wyoming	0.00	0.00	0.00	20
State Totals	**$55.21**	**$122.56**	**$47.39**	**908,092**
Interstate Spillovers	**–**	**$27.72**	**$5.71**	**74,073**
U.S. Totals	**$55.21**	**$150.27**	**$53.10**	**982,165**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix E-3: Total Impacts of Soft Cost, Site Development, Hard Costs, and Tenant Improvements on State Economies (**Warehouse**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.44	$0.96	$0.37	7,512
Alaska	0.27	0.47	0.20	3,317
Arizona	3.51	7.62	3.06	60,219
Arkansas	0.29	0.59	0.23	4,632
California	8.51	18.62	7.42	122,658
Colorado	1.53	3.47	1.38	24,458
Connecticut	0.42	0.82	0.32	5,275
Delaware	0.44	0.77	0.26	4,607
District of Columbia	–	0.00	–	–
Florida	6.95	15.07	6.07	127,481
Georgia	3.39	8.02	3.07	62,619
Hawaii	0.01	0.03	0.01	181
Idaho	0.66	1.29	0.52	10,891
Illinois	1.85	4.56	1.68	28,869
Indiana	2.65	6.01	2.23	42,649
Iowa	1.24	2.42	0.94	18,254
Kansas	1.37	2.86	1.01	19,520
Kentucky	0.84	1.81	0.66	13,360
Louisiana	0.88	1.83	0.72	14,150
Maine	0.11	0.21	0.09	1,824
Maryland	1.30	2.54	0.95	16,579
Massachusetts	1.60	3.19	1.42	19,873
Michigan	1.42	3.18	1.25	23,675
Minnesota	0.85	1.89	0.72	12,479
Mississippi	0.84	1.70	0.65	13,472
Missouri	2.44	5.35	1.91	36,946
Montana	0.10	0.18	0.08	1,570
Nebraska	0.74	1.45	0.57	11,451
Nevada	0.65	1.24	0.50	9,459
New Hampshire	0.09	0.17	0.06	1,086
New Jersey	4.35	9.60	3.51	58,418
New Mexico	0.16	0.29	0.12	2,441
New York	3.45	6.46	2.43	39,697
North Carolina	1.35	3.10	1.19	24,158
North Dakota	0.05	0.09	0.03	579
Ohio	1.52	3.57	1.33	25,058
Oklahoma	0.58	1.23	0.49	9,975
Oregon	0.23	0.47	0.18	3,111
Pennsylvania	3.55	8.37	3.07	53,414
Rhode Island	0.06	0.11	0.04	737
South Carolina	1.34	3.01	1.12	23,509
South Dakota	0.18	0.34	0.14	2,765
Tennessee	1.82	4.37	1.59	28,419
Texas	10.46	27.09	10.22	187,850
Utah	0.83	1.89	0.74	14,471
Vermont	0.05	0.09	0.04	755
Virginia	0.89	1.83	0.68	13,045
Washington	1.90	3.92	1.55	25,841
West Virginia	0.41	0.73	0.27	5,211
Wisconsin	0.70	1.51	0.59	10,833
Wyoming	0.01	0.02	0.01	200
State Totals	**$79.29**	**$176.40**	**$67.69**	**1,249,550**
Interstate Spillovers	**–**	**$39.53**	**$8.84**	**158,190**
U.S. Totals	**$79.29**	**$215.93**	**$76.53**	**1,407,740**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix E-4: Total Impacts of Soft Cost, Site Development, Hard Costs, and Tenant Improvements on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$0.37	$0.80	$0.31	6,302
Alaska	0.01	0.02	0.01	137
Arizona	0.53	1.15	0.46	9,067
Arkansas	0.43	0.87	0.34	6,772
California	2.16	4.72	1.88	31,065
Colorado	0.39	0.89	0.35	6,239
Connecticut	0.22	0.42	0.17	2,730
Delaware	0.14	0.25	0.08	1,467
District of Columbia	0.19	0.22	0.02	323
Florida	3.56	7.73	3.11	65,292
Georgia	1.46	3.47	1.33	27,038
Hawaii	0.03	0.06	0.02	395
Idaho	0.25	0.49	0.20	4,156
Illinois	0.59	1.45	0.53	9,161
Indiana	0.45	1.02	0.38	7,210
Iowa	0.43	0.83	0.32	6,279
Kansas	0.31	0.66	0.23	4,472
Kentucky	0.28	0.61	0.22	4,462
Louisiana	0.33	0.68	0.27	5,279
Maine	0.06	0.12	0.05	1,028
Maryland	0.44	0.86	0.32	5,622
Massachusetts	0.54	1.07	0.47	6,652
Michigan	0.46	1.04	0.41	7,740
Minnesota	0.30	0.67	0.26	4,417
Mississippi	0.14	0.28	0.11	2,205
Missouri	0.67	1.46	0.52	10,050
Montana	0.11	0.20	0.08	1,730
Nebraska	0.22	0.43	0.17	3,391
Nevada	0.28	0.55	0.22	4,161
New Hampshire	0.12	0.25	0.09	1,542
New Jersey	0.52	1.15	0.42	6,987
New Mexico	0.20	0.37	0.15	3,117
New York	1.43	2.67	1.00	16,376
North Carolina	0.65	1.50	0.57	11,661
North Dakota	0.13	0.24	0.09	1,508
Ohio	0.93	2.18	0.81	15,271
Oklahoma	0.42	0.90	0.36	7,263
Oregon	0.27	0.56	0.21	3,731
Pennsylvania	0.64	1.49	0.55	9,538
Rhode Island	0.05	0.09	0.03	580
South Carolina	0.43	0.98	0.37	7,623
South Dakota	0.11	0.20	0.08	1,609
Tennessee	0.88	2.12	0.77	13,808
Texas	3.91	10.13	3.82	70,160
Utah	0.44	1.00	0.39	7,630
Vermont	0.02	0.03	0.01	281
Virginia	0.47	0.96	0.36	6,813
Washington	0.56	1.15	0.46	7,596
West Virginia	0.09	0.15	0.06	1,106
Wisconsin	0.39	0.83	0.33	5,955
Wyoming	0.02	0.04	0.02	318
State Totals	**$28.04**	**$61.99**	**$23.79**	**445,316**
Interstate Spillovers	**–**	**$14.41**	**$3.35**	**51,926**
U.S. Totals	**$28.04**	**$76.40**	**$27.13**	**497,241**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix E-5: Total Impacts of Soft Cost, Site Development, Hard Costs, and Tenant Improvements on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	$2.26	$4.88	$1.89	38,401
Alaska	0.38	0.65	0.28	4,647
Arizona	20.85	45.24	18.16	358,148
Arkansas	1.59	3.20	1.24	25,060
California	20.46	44.74	17.82	294,590
Colorado	3.35	7.60	3.02	53,534
Connecticut	0.81	1.60	0.63	10,327
Delaware	0.90	1.58	0.54	9,394
District of Columbia	1.48	1.76	0.17	2,553
Florida	14.13	30.63	12.34	259,009
Georgia	7.24	17.15	6.57	133,886
Hawaii	0.22	0.43	0.18	3,050
Idaho	1.42	2.76	1.12	23,363
Illinois	4.15	10.24	3.76	64,858
Indiana	5.30	12.02	4.46	85,263
Iowa	5.81	11.35	4.39	85,450
Kansas	2.89	6.04	2.14	41,271
Kentucky	3.38	7.30	2.64	53,757
Louisiana	6.37	13.20	5.19	102,444
Maine	0.27	0.52	0.21	4,410
Maryland	2.85	5.56	2.07	36,234
Massachusetts	7.03	13.99	6.21	87,174
Michigan	3.85	8.63	3.40	64,312
Minnesota	1.93	4.30	1.65	28,358
Mississippi	1.14	2.29	0.88	18,124
Missouri	4.49	9.84	3.51	67,937
Montana	0.76	1.44	0.60	12,420
Nebraska	2.28	4.45	1.75	35,122
Nevada	2.06	3.96	1.60	30,146
New Hampshire	0.36	0.73	0.27	4,562
New Jersey	5.64	12.43	4.55	75,631
New Mexico	1.10	2.02	0.83	17,059
New York	20.84	39.00	14.68	239,521
North Carolina	7.91	18.22	6.98	142,083
North Dakota	0.68	1.22	0.44	7,744
Ohio	6.28	14.80	5.50	103,811
Oklahoma	2.05	4.34	1.72	35,199
Oregon	2.49	5.14	1.94	33,975
Pennsylvania	6.80	16.00	5.88	102,165
Rhode Island	0.17	0.31	0.11	1,999
South Carolina	3.68	8.27	3.09	64,682
South Dakota	0.64	1.18	0.48	9,518
Tennessee	5.33	12.80	4.66	83,350
Texas	29.29	75.89	28.63	526,181
Utah	1.97	4.45	1.74	34,104
Vermont	0.10	0.19	0.07	1,527
Virginia	5.97	12.21	4.55	87,114
Washington	5.72	11.81	4.67	77,754
West Virginia	0.62	1.10	0.41	7,899
Wisconsin	2.45	5.25	2.06	37,634
Wyoming	0.09	0.15	0.06	1,171
State Totals	**$239.79**	**$524.84**	**$201.74**	**3,727,925**
Interstate Spillovers	**–**	**$128.21**	**$29.72**	**529,250**
U.S. Totals	**$239.79**	**$653.04**	**$231.46**	**4,257,175**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix F-1: Impacts of Operations on State Economies (**Office**), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$7,607	$14,121	$4,777	312
Alaska	374	595	209	12
Arizona	36,584	71,548	24,800	1,455
Arkansas	8,926	15,696	5,300	329
California	84,879	170,285	58,312	3,188
Colorado	18,048	36,738	12,682	728
Connecticut	2,796	5,052	1,635	83
Delaware	2,255	3,707	1,049	57
District of Columbia	23,684	29,313	3,027	125
Florida	48,976	95,842	33,245	2,194
Georgia	19,812	42,391	14,102	983
Hawaii	1,468	2,599	902	48
Idaho	6,154	10,744	3,724	234
Illinois	19,361	42,925	13,886	824
Indiana	15,323	30,500	9,929	603
Iowa	23,601	40,363	13,346	791
Kansas	3,624	6,699	2,014	115
Kentucky	6,398	12,231	3,794	232
Louisiana	7,996	14,779	5,017	324
Maine	690	1,215	420	24
Maryland	19,597	35,681	11,349	606
Massachusetts	60,145	111,545	36,490	1,861
Michigan	17,736	35,627	12,135	735
Minnesota	8,135	16,009	5,389	303
Mississippi	262	460	151	10
Missouri	2,748	5,406	1,680	106
Montana	1,397	2,314	817	49
Nebraska	20,107	35,008	11,749	672
Nevada	2,320	4,025	1,373	79
New Hampshire	898	1,582	492	25
New Jersey	9,138	18,424	5,737	316
New Mexico	2,458	4,076	1,414	85
New York	146,208	259,373	81,394	4,062
North Carolina	22,058	45,582	15,145	1,020
North Dakota	1,216	1,934	619	33
Ohio	25,986	54,288	17,723	1,113
Oklahoma	8,289	15,460	5,308	344
Oregon	9,413	17,503	5,811	312
Pennsylvania	25,993	53,059	17,127	973
Rhode Island	124	215	65	3
South Carolina	12,584	25,224	8,224	575
South Dakota	3,300	5,307	1,773	102
Tennessee	16,578	35,536	11,510	733
Texas	116,807	261,729	87,570	6,091
Utah	6,154	12,401	4,215	276
Vermont	695	1,150	383	23
Virginia	34,604	64,717	20,475	1,102
Washington	51,858	95,672	32,359	1,685
West Virginia	137	222	70	4
Wisconsin	9,312	17,673	5,937	344
Wyoming	486	740	249	14
State Totals	**$975,299**	**$1,885,284**	**$616,903**	**36,316**
Interstate Spillovers	**–**	**$779,878**	**$321,567**	**4,411**
U.S. Totals	**$975,299**	**$2,665,161**	**$938,470**	**40,728**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix F-2: Impacts of Operations on State Economies (**Industrial**), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$3,152	$5,852	$1,980	129
Alaska	1	2	1	0
Arizona	7,318	14,311	4,961	291
Arkansas	1,445	2,542	858	53
California	1,004	2,014	690	38
Colorado	839	1,709	590	34
Connecticut	198	358	116	6
Delaware	301	494	140	8
District of Columbia	–	–	–	–
Florida	4,413	8,636	2,996	198
Georgia	3,125	6,686	2,224	155
Hawaii	–	–	–	–
Idaho	1,213	2,117	734	46
Illinois	2,382	5,280	1,708	101
Indiana	3,954	7,870	2,562	156
Iowa	791	1,353	447	27
Kansas	1,950	3,606	1,084	62
Kentucky	2,570	4,912	1,524	93
Louisiana	100	184	63	4
Maine	29	51	18	1
Maryland	283	516	164	9
Massachusetts	1,707	3,167	1,036	53
Michigan	2,343	4,706	1,603	97
Minnesota	1,482	2,917	982	55
Mississippi	–	–	–	–
Missouri	3,156	6,209	1,929	122
Montana	46	75	27	2
Nebraska	57	100	34	2
Nevada	4,951	8,588	2,929	168
New Hampshire	395	696	216	11
New Jersey	1,051	2,120	660	36
New Mexico	1,481	2,456	852	51
New York	2,720	4,825	1,514	76
North Carolina	6,542	13,518	4,492	302
North Dakota	140	223	71	4
Ohio	5,887	12,299	4,015	252
Oklahoma	330	616	212	14
Oregon	87	162	54	3
Pennsylvania	921	1,880	607	34
Rhode Island	323	561	168	9
South Carolina	5,181	10,385	3,386	237
South Dakota	247	397	133	8
Tennessee	1,270	2,722	882	56
Texas	6,426	14,399	4,818	335
Utah	250	503	171	11
Vermont	–	–	–	–
Virginia	1,165	2,178	689	37
Washington	982	1,812	613	32
West Virginia	112	182	57	3
Wisconsin	3,911	7,421	2,493	144
Wyoming	–	–	–	–
State Totals	**$88,231**	**$173,611**	**$57,500**	**3,564**
Interstate Spillovers	**–**	**$67,495**	**$27,400**	**187**
U.S. Totals	**$88,231**	**$241,106**	**$84,899**	**3,751**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix F-3: Impacts of Operations on State Economies (**Warehouse**), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$1,644	$3,052	$1,033	67
Alaska	709	1,126	395	22
Arizona	20,340	39,780	13,789	809
Arkansas	1,068	1,878	634	39
California	43,908	88,088	30,165	1,649
Colorado	9,617	19,576	6,758	388
Connecticut	880	1,590	515	26
Delaware	912	1,499	424	23
District of Columbia	–	–	–	–
Florida	42,966	84,080	29,165	1,925
Georgia	23,620	50,540	16,813	1,171
Hawaii	66	116	40	2
Idaho	1,543	2,693	933	59
Illinois	11,335	25,130	8,129	483
Indiana	18,988	37,797	12,305	748
Iowa	2,064	3,530	1,167	69
Kansas	3,207	5,928	1,782	102
Kentucky	9,058	17,316	5,372	329
Louisiana	4,826	8,919	3,028	195
Maine	275	485	168	10
Maryland	5,419	9,865	3,138	168
Massachusetts	6,863	12,729	4,164	212
Michigan	5,919	11,889	4,050	245
Minnesota	4,003	7,878	2,652	149
Mississippi	4,680	8,224	2,709	171
Missouri	14,113	27,765	8,628	543
Montana	468	776	274	17
Nebraska	3,712	6,464	2,169	124
Nevada	6,226	10,801	3,684	211
New Hampshire	355	626	195	10
New Jersey	19,049	38,409	11,961	659
New Mexico	529	877	304	18
New York	11,061	19,622	6,158	307
North Carolina	11,904	24,598	8,173	550
North Dakota	514	818	262	14
Ohio	10,103	21,106	6,890	433
Oklahoma	2,993	5,582	1,917	124
Oregon	1,135	2,110	700	38
Pennsylvania	24,523	50,060	16,158	918
Rhode Island	592	1,029	309	16
South Carolina	5,583	11,191	3,649	255
South Dakota	1,573	2,529	845	49
Tennessee	8,410	18,027	5,839	372
Texas	60,153	134,785	45,097	3,137
Utah	3,543	7,141	2,427	159
Vermont	316	522	174	10
Virginia	5,040	9,426	2,982	161
Washington	8,601	15,868	5,367	279
West Virginia	620	1,004	317	17
Wisconsin	5,970	11,330	3,806	221
Wyoming	58	88	30	2
State Totals	**$431,054.61**	**$866,262.07**	**$287,640.12**	**17,704**
Interstate Spillovers	**–**	**$311,663.62**	**$127,137.01**	**1,010**
U.S. Totals	**$431,054.61**	**$1,177,925.69**	**$414,777.13**	**18,714**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix F-4: Impacts of Operations on State Economies (**Retail and Entertainment**), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$2,911	$5,404	$1,828	119
Alaska	188	299	105	6
Arizona	3,529	6,902	2,392	140
Arkansas	2,359	4,149	1,401	87
California	12,225	24,525	8,398	459
Colorado	3,771	7,677	2,650	152
Connecticut	1,356	2,450	793	40
Delaware	1,254	2,061	583	32
District of Columbia	1,677	2,075	214	9
Florida	29,879	58,469	20,282	1,338
Georgia	9,937	21,263	7,073	493
Hawaii	126	223	78	4
Idaho	1,298	2,266	785	49
Illinois	2,341	5,191	1,679	100
Indiana	3,024	6,019	1,960	119
Iowa	3,727	6,374	2,108	125
Kansas	2,657	4,912	1,477	84
Kentucky	1,026	1,961	608	37
Louisiana	3,256	6,018	2,043	132
Maine	171	302	104	6
Maryland	2,763	5,031	1,600	85
Massachusetts	1,467	2,721	890	45
Michigan	2,550	5,122	1,745	106
Minnesota	1,967	3,871	1,303	73
Mississippi	2,376	4,175	1,375	87
Missouri	3,348	6,586	2,047	129
Montana	240	398	140	8
Nebraska	1,178	2,051	688	39
Nevada	1,022	1,772	604	35
New Hampshire	502	884	275	14
New Jersey	3,711	7,482	2,330	128
New Mexico	893	1,480	513	31
New York	7,624	13,525	4,244	212
North Carolina	5,709	11,797	3,920	264
North Dakota	1,121	1,783	571	31
Ohio	6,749	14,100	4,603	289
Oklahoma	2,649	4,940	1,696	110
Oregon	2,299	4,274	1,419	76
Pennsylvania	5,008	10,223	3,300	188
Rhode Island	375	653	196	10
South Carolina	4,394	8,808	2,872	201
South Dakota	805	1,294	433	25
Tennessee	7,826	16,775	5,433	346
Texas	26,664	59,747	19,990	1,390
Utah	5,099	10,276	3,492	229
Vermont	64	106	35	2
Virginia	2,753	5,149	1,629	88
Washington	3,332	6,147	2,079	108
West Virginia	807	1,307	412	22
Wisconsin	2,004	3,803	1,277	74
Wyoming	125	191	64	4
State Totals	**$194,137**	**$385,013**	**$127,741**	**7,981**
Interstate Spillovers	**–**	**$145,498**	**$59,066**	**336**
U.S. Totals	**$194,137**	**$530,512**	**$186,806**	**8,317**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix F-5: Impacts of Operations on State Economies (**in Four Categories**), 2021

State	Direct Spending (In Thousands of Dollars)	Total Output (In Thousands of Dollars)	Personal Earnings (In Thousands of Dollars)	Jobs Supported
Alabama	$15,315	$28,430	$9,618	627
Alaska	1,273	2,022	709	40
Arizona	67,771	132,540	45,942	2,695
Arkansas	13,798	24,265	8,193	509
California	142,016	284,912	97,565	5,333
Colorado	32,275	65,700	22,680	1,302
Connecticut	5,230	9,450	3,059	155
Delaware	4,722	7,762	2,197	120
District of Columbia	25,361	31,389	3,241	134
Florida	126,234	247,028	85,688	5,654
Georgia	56,494	120,879	40,212	2,802
Hawaii	1,659	2,938	1,020	54
Idaho	10,208	17,820	6,177	389
Illinois	35,419	78,527	25,402	1,508
Indiana	41,289	82,186	26,755	1,626
Iowa	30,184	51,620	17,069	1,012
Kansas	11,438	21,144	6,357	363
Kentucky	19,052	36,420	11,298	691
Louisiana	16,178	29,901	10,150	655
Maine	1,165	2,053	710	41
Maryland	28,063	51,093	16,251	868
Massachusetts	70,183	130,161	42,580	2,172
Michigan	28,548	57,344	19,532	1,183
Minnesota	15,588	30,675	10,325	580
Mississippi	7,317	12,859	4,236	267
Missouri	23,365	45,966	14,283	900
Montana	2,150	3,563	1,258	76
Nebraska	25,055	43,623	14,640	837
Nevada	14,519	25,187	8,591	493
New Hampshire	2,150	3,787	1,178	59
New Jersey	32,949	66,435	20,689	1,140
New Mexico	5,360	8,889	3,083	186
New York	167,613	297,345	93,310	4,657
North Carolina	46,213	95,495	31,730	2,136
North Dakota	2,991	4,758	1,523	81
Ohio	48,726	101,793	33,231	2,086
Oklahoma	14,261	26,599	9,133	593
Oregon	12,934	24,049	7,984	429
Pennsylvania	56,445	115,221	37,192	2,113
Rhode Island	1,414	2,458	738	38
South Carolina	27,743	55,608	18,130	1,267
South Dakota	5,925	9,529	3,184	184
Tennessee	34,083	73,061	23,664	1,507
Texas	210,050	470,660	157,475	10,953
Utah	15,046	30,321	10,305	676
Vermont	1,075	1,777	592	35
Virginia	43,562	81,471	25,776	1,388
Washington	64,772	119,499	40,418	2,104
West Virginia	1,677	2,714	857	46
Wisconsin	21,197	40,227	13,513	783
Wyoming	669	1,019	344	19
State Totals	**$1,688,723**	**$3,310,170**	**$1,089,784**	**65,565**
Interstate Spillovers	**–**	**$1,304,534**	**$535,169**	**5,944**
U.S. Totals	**$1,688,723**	**$4,614,705**	**$1,624,953**	**71,509**

Sources: CRA, Dodge Data & Analytics, BEA, IMPLAN, NAIOP and CU Leeds School of Business.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix G-1: Output, Earnings and Employment Multipliers: Non-Residential Construction

	MULTIPLIERS		
State	Output	Earnings	Jobs
Alabama	2.19	0.85	17.61
Alaska	1.75	0.75	12.74
Arizona	2.17	0.88	17.55
Arkansas	2.05	0.80	16.28
California	2.19	0.88	14.67
Colorado	2.27	0.91	16.32
Connecticut	1.97	0.78	12.99
Delaware	1.77	0.61	10.81
District of Columbia	1.16	0.10	1.60
Florida	2.18	0.88	18.72
Georgia	2.38	0.92	18.90
Hawaii	1.90	0.80	13.86
Idaho	1.96	0.80	16.90
Illinois	2.49	0.92	15.97
Indiana	2.30	0.86	16.41
Iowa	1.99	0.77	15.18
Kansas	2.11	0.75	14.75
Kentucky	2.19	0.80	16.36
Louisiana	2.09	0.82	16.49
Maine	1.98	0.82	17.17
Maryland	1.95	0.73	13.00
Massachusetts	1.98	0.76	12.58
Michigan	2.27	0.90	17.22
Minnesota	2.25	0.86	14.97
Mississippi	2.05	0.79	16.46
Missouri	2.22	0.80	15.70
Montana	1.91	0.80	16.75
Nebraska	1.97	0.78	15.93
Nevada	1.93	0.79	14.95
New Hampshire	2.02	0.76	12.91
New Jersey	2.21	0.81	13.68
New Mexico	1.84	0.76	15.81
New York	1.86	0.71	11.78
North Carolina	2.32	0.89	18.35
North Dakota	1.81	0.66	11.75
Ohio	2.39	0.89	16.86
Oklahoma	2.14	0.85	17.61
Oregon	2.08	0.79	13.80
Pennsylvania	2.39	0.88	15.36
Rhode Island	1.87	0.67	12.18
South Carolina	2.27	0.85	18.03
South Dakota	1.88	0.77	15.46
Tennessee	2.43	0.88	15.91
Texas	2.61	0.99	18.40
Utah	2.28	0.89	17.60
Vermont	1.85	0.75	15.54
Virginia	2.05	0.77	15.09
Washington	2.08	0.83	13.96
West Virginia	1.81	0.67	13.09
Wisconsin	2.18	0.86	15.71
Wyoming	1.71	0.68	13.97
U.S. Totals	**2.71**	**0.94**	**18.07**

Sources: BEA and IMPLAN.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

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

	MULTIPLIERS		
State	**Output**	**Earnings**	**Jobs**
Alabama	1.94	0.75	13.11
Alaska	1.69	0.67	10.10
Arizona	2.14	0.82	14.76
Arkansas	1.79	0.69	12.66
California	2.17	0.83	12.84
Colorado	2.23	0.85	13.95
Connecticut	1.92	0.71	10.80
Delaware	1.71	0.51	8.40
District of Columbia	1.39	0.18	2.47
Florida	2.13	0.82	16.09
Georgia	2.27	0.85	16.05
Hawaii	1.90	0.74	12.12
Idaho	1.84	0.72	13.87
Illinois	2.36	0.85	13.57
Indiana	2.04	0.76	14.06
Iowa	1.77	0.67	11.92
Kansas	1.94	0.66	11.36
Kentucky	1.95	0.69	12.99
Louisiana	1.95	0.75	13.46
Maine	1.85	0.73	13.45
Maryland	1.99	0.71	11.12
Massachusetts	2.04	0.75	11.27
Michigan	2.10	0.81	13.68
Minnesota	2.11	0.79	13.05
Mississippi	1.78	0.68	12.83
Missouri	2.03	0.67	11.69
Montana	1.74	0.69	13.08
Nebraska	1.86	0.71	12.40
Nevada	1.86	0.72	12.71
New Hampshire	1.93	0.70	11.09
New Jersey	2.18	0.76	11.81
New Mexico	1.77	0.70	13.18
New York	1.91	0.65	9.84
North Carolina	2.19	0.82	15.46
North Dakota	1.70	0.62	9.56
Ohio	2.15	0.79	14.49
Oklahoma	1.94	0.76	14.48
Oregon	1.98	0.74	12.79
Pennsylvania	2.15	0.77	13.03
Rhode Island	1.82	0.61	11.07
South Carolina	2.11	0.78	14.89
South Dakota	1.70	0.66	11.97
Tennessee	2.26	0.82	14.01
Texas	2.46	0.91	15.32
Utah	2.15	0.82	15.87
Vermont	1.75	0.68	12.49
Virginia	2.04	0.71	11.67
Washington	1.97	0.75	11.54
West Virginia	1.69	0.62	11.35
Wisconsin	1.95	0.74	13.35
Wyoming	1.60	0.62	11.32
U.S. Totals	**2.80**	**1.14**	**15.87**

Sources: BEA and IMPLAN.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

Appendix G-3: Output, Earnings and Employment Multipliers: **Operations**

	MULTIPLIERS		
State	**Output**	**Earnings**	**Jobs**
Alabama	1.86	0.63	22.06
Alaska	1.59	0.56	19.90
Arizona	1.96	0.68	20.33
Arkansas	1.76	0.59	20.98
California	2.01	0.69	18.72
Colorado	2.04	0.70	19.81
Connecticut	1.81	0.58	16.44
Delaware	1.64	0.47	15.44
District of Columbia	1.24	0.13	4.27
Florida	1.96	0.68	22.89
Georgia	2.14	0.71	23.18
Hawaii	1.77	0.61	18.34
Idaho	1.75	0.61	21.82
Illinois	2.22	0.72	19.20
Indiana	1.99	0.65	19.78
Iowa	1.71	0.57	19.60
Kansas	1.85	0.56	17.18
Kentucky	1.91	0.59	18.98
Louisiana	1.85	0.63	21.89
Maine	1.76	0.61	20.14
Maryland	1.82	0.58	16.99
Massachusetts	1.85	0.61	16.68
Michigan	2.01	0.68	20.63
Minnesota	1.97	0.66	18.92
Mississippi	1.76	0.58	20.75
Missouri	1.97	0.61	19.57
Montana	1.66	0.58	21.37
Nebraska	1.74	0.58	19.19
Nevada	1.73	0.59	19.57
New Hampshire	1.76	0.55	15.69
New Jersey	2.02	0.63	17.15
New Mexico	1.66	0.58	20.89
New York	1.77	0.56	15.66
North Carolina	2.07	0.69	22.37
North Dakota	1.59	0.51	17.12
Ohio	2.09	0.68	20.50
Oklahoma	1.87	0.64	22.28
Oregon	1.86	0.62	17.84
Pennsylvania	2.04	0.66	18.34
Rhode Island	1.74	0.52	15.48
South Carolina	2.00	0.65	22.78
South Dakota	1.61	0.54	19.30
Tennessee	2.14	0.69	20.63
Texas	2.24	0.75	23.27
Utah	2.02	0.68	22.28
Vermont	1.65	0.55	19.91
Virginia	1.87	0.59	17.03
Washington	1.84	0.62	17.61
West Virginia	1.62	0.51	16.82
Wisconsin	1.90	0.64	19.47
Wyoming	1.52	0.51	19.09
U.S. Totals	**2.73**	**0.96**	**21.60**

Sources: BEA and IMPLAN.

Note: Appendices include data for the District of Columbia, resulting in 51 states.

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