



2020
U.S. EDITION

Economic Impacts of Commercial Real Estate

Stephen S. Fuller, PhD

Dwight Schar Faculty Chair and University Professor
Director, Stephen S. Fuller Institute,
Schar School of Policy and Government
George Mason University | Arlington, Virginia

Produced in conjunction with

DODGE
DATA & ANALYTICS

NAIOP | RESEARCH
FOUNDATION

Appendix D: Tenant Improvement Impacts by State

Appendix D-1: Impacts of Tenant Improvements on State Economies (**Office**), 2019

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	\$0.178	\$0.395	\$0.152	3,339
Alaska	0.013	0.023	0.010	177
Arizona	0.432	0.940	0.381	8,064
Arkansas	0.106	0.220	0.085	1,833
California	1.595	3.571	1.422	24,883
Colorado	0.184	0.421	0.168	3,186
Connecticut	0.074	0.145	0.057	1,002
Delaware	0.029	0.052	0.018	325
District of Columbia	0.347	0.399	0.036	574
Florida	0.769	1.692	0.685	15,194
Georgia	0.990	2.381	0.913	19,674
Hawaii	0.046	0.087	0.037	667
Idaho	0.118	0.227	0.093	2,060
Illinois	0.487	1.199	0.443	8,051
Indiana	0.153	0.353	0.131	2,633
Iowa	0.607	1.200	0.466	9,662
Kansas	0.077	0.164	0.058	1,218
Kentucky	0.062	0.136	0.049	1,067
Louisiana	0.083	0.175	0.069	1,412
Maine	0.025	0.048	0.020	442
Maryland	0.603	1.176	0.442	8,099
Massachusetts	1.340	2.644	1.020	17,651
Michigan	0.216	0.488	0.193	3,841
Minnesota	0.246	0.558	0.214	3,903
Mississippi	0.014	0.028	0.011	239
Missouri	0.099	0.218	0.079	1,668
Montana	0.028	0.053	0.022	485
Nebraska	0.311	0.610	0.242	5,207
Nevada	0.060	0.115	0.047	944
New Hampshire	0.015	0.030	0.011	204
New Jersey	0.254	0.557	0.206	3,620
New Mexico	0.066	0.123	0.051	1,111
New York	1.908	3.566	1.361	23,393
North Carolina	0.291	0.674	0.259	5,586
North Dakota	0.024	0.044	0.016	294
Ohio	0.635	1.519	0.566	11,121
Oklahoma	0.110	0.241	0.095	2,075
Oregon	0.308	0.644	0.243	4,547
Pennsylvania	0.388	0.929	0.342	6,317
Rhode Island	0.011	0.020	0.007	139
South Carolina	0.234	0.530	0.199	4,378
South Dakota	0.035	0.064	0.026	567
Tennessee	0.540	1.302	0.475	8,884
Texas	2.121	5.547	2.100	39,299
Utah	0.071	0.164	0.064	1,327
Vermont	0.011	0.021	0.008	184
Virginia	2.316	4.742	1.787	36,219
Washington	0.511	1.082	0.430	7,645
West Virginia	0.004	0.007	0.003	54
Wisconsin	0.106	0.231	0.091	1,775
Wyoming	0.005	0.008	0.003	68
State Totals	\$19.258	\$41.765	\$15.909	306,307
Interstate Spillovers		18.206	5.960	122,546
U.S. Totals	\$19.258	\$59.971	\$21.869	428,853

Source: GMU Schar School of Policy and Government, The Stephen S. Fuller Institute; Dodge Data & Analytics; BEA; NAIOP

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

Appendix D-2: Impacts of Tenant Improvements on State Economies (Industrial), 2019

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	\$1.375	\$3.049	\$1.177	25,781
Alaska	0.016	0.029	0.012	218
Arizona	0.084	0.182	0.074	1,564
Arkansas	0.420	0.873	0.338	7,288
California	0.043	0.096	0.038	665
Colorado	0.028	0.064	0.026	488
Connecticut	0.006	0.013	0.005	87
Delaware	0.039	0.069	0.024	431
District of Columbia	0.000	0.000	0.000	–
Florida	0.090	0.197	0.080	1,768
Georgia	0.396	0.952	0.365	7,864
Hawaii	0.001	0.002	0.001	14
Idaho	0.009	0.017	0.007	156
Illinois	0.087	0.215	0.079	1,443
Indiana	0.203	0.468	0.174	3,491
Iowa	0.099	0.195	0.076	1,574
Kansas	0.018	0.039	0.014	288
Kentucky	0.110	0.240	0.088	1,892
Louisiana	0.892	1.870	0.737	15,115
Maine	0.001	0.002	0.001	21
Maryland	0.053	0.103	0.039	708
Massachusetts	0.085	0.167	0.065	1,117
Michigan	0.703	1.589	0.629	12,501
Minnesota	0.152	0.344	0.132	2,406
Mississippi	0.022	0.046	0.018	386
Missouri	0.059	0.130	0.047	995
Montana	0.000	0.000	0.000	2
Nebraska	0.037	0.073	0.029	620
Nevada	0.047	0.092	0.037	750
New Hampshire	0.007	0.015	0.006	100
New Jersey	0.059	0.130	0.048	842
New Mexico	0.002	0.004	0.002	36
New York	0.326	0.610	0.233	4,002
North Carolina	0.195	0.450	0.173	3,731
North Dakota	0.377	0.685	0.251	4,550
Ohio	0.406	0.971	0.362	7,108
Oklahoma	0.007	0.015	0.006	126
Oregon	0.016	0.034	0.013	243
Pennsylvania	0.035	0.083	0.031	565
Rhode Island	0.006	0.011	0.004	81
South Carolina	0.042	0.094	0.035	779
South Dakota	0.002	0.004	0.002	36
Tennessee	0.094	0.228	0.083	1,555
Texas	0.257	0.673	0.255	4,767
Utah	0.010	0.024	0.009	196
Vermont	0.005	0.009	0.004	77
Virginia	0.056	0.114	0.043	869
Washington	0.042	0.089	0.035	627
West Virginia	0.218	0.397	0.147	3,127
Wisconsin	0.703	1.526	0.601	11,725
Wyoming	0.003	0.005	0.002	39
State Totals	\$7.945	\$17.286	\$6.652	134,813
Interstate Spillovers		7.457	2.370	42,124
U.S. Totals	\$7.945	\$24.743	\$9.023	176,937

Source: GMU Schar School of Policy and Government, The Stephen S. Fuller Institute; Dodge Data & Analytics; BEA; NAIOP

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

Appendix D-3: Impacts of Tenant Improvements on State Economies (Warehouse), 2019

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	\$0.022	\$0.048	\$0.019	405
Alaska	0.000	0.000	0.000	2
Arizona	0.122	0.266	0.107	2,277
Arkansas	0.007	0.014	0.005	113
California	0.589	1.320	0.525	9,194
Colorado	0.110	0.251	0.100	1,902
Connecticut	0.019	0.038	0.015	263
Delaware	0.018	0.032	0.011	201
District of Columbia	0.009	0.010	0.001	14
Florida	0.540	1.187	0.480	10,656
Georgia	0.397	0.955	0.366	7,891
Hawaii	0.007	0.013	0.005	98
Idaho	0.008	0.016	0.007	148
Illinois	0.223	0.550	0.203	3,695
Indiana	0.164	0.377	0.140	2,814
Iowa	0.023	0.045	0.017	362
Kansas	0.019	0.040	0.014	295
Kentucky	0.362	0.788	0.287	6,205
Louisiana	0.023	0.048	0.019	385
Maine	0.003	0.006	0.003	57
Maryland	0.116	0.227	0.085	1,562
Massachusetts	0.093	0.184	0.071	1,227
Michigan	0.031	0.070	0.028	553
Minnesota	0.078	0.177	0.068	1,235
Mississippi	0.033	0.067	0.026	569
Missouri	0.079	0.174	0.063	1,326
Montana	0.005	0.009	0.004	86
Nebraska	0.010	0.019	0.007	161
Nevada	0.125	0.242	0.099	1,983
New Hampshire	0.002	0.003	0.001	23
New Jersey	0.347	0.761	0.281	4,944
New Mexico	0.017	0.032	0.013	287
New York	0.416	0.778	0.297	5,105
North Carolina	0.183	0.424	0.163	3,511
North Dakota	0.023	0.041	0.015	272
Ohio	0.268	0.642	0.239	4,701
Oklahoma	0.014	0.031	0.012	268
Oregon	0.071	0.148	0.056	1,043
Pennsylvania	0.255	0.610	0.225	4,148
Rhode Island	0.018	0.032	0.012	226
South Carolina	0.060	0.135	0.051	1,116
South Dakota	0.008	0.014	0.006	124
Tennessee	0.068	0.163	0.060	1,115
Texas	0.600	1.570	0.594	11,124
Utah	0.038	0.087	0.034	705
Vermont	0.004	0.007	0.003	61
Virginia	0.064	0.132	0.050	1,007
Washington	0.156	0.330	0.131	2,330
West Virginia	0.001	0.002	0.001	14
Wisconsin	0.145	0.315	0.124	2,424
Wyoming	0.020	0.035	0.014	297
State Totals	\$6.012	\$13.464	\$5.158	100,524
Interstate Spillovers		5.258	1.670	33,360
U.S. Totals	\$6.012	\$18.723	\$6.827	133,885

Source: GMU Schar School of Policy and Government, The Stephen S. Fuller Institute; Dodge Data & Analytics; BEA; NAIOP

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), 2019

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	\$0.120	\$0.266	\$0.102	2,245
Alaska	0.013	0.024	0.010	180
Arizona	0.085	0.185	0.075	1,584
Arkansas	0.029	0.060	0.023	501
California	0.458	1.027	0.409	7,153
Colorado	0.115	0.263	0.105	1,992
Connecticut	0.032	0.062	0.024	428
Delaware	0.015	0.027	0.009	168
District of Columbia	0.074	0.085	0.008	122
Florida	0.618	1.358	0.550	12,198
Georgia	0.257	0.618	0.237	5,106
Hawaii	0.110	0.210	0.088	1,600
Idaho	0.025	0.048	0.020	433
Illinois	0.204	0.503	0.186	3,378
Indiana	0.097	0.224	0.083	1,672
Iowa	0.069	0.137	0.053	1,104
Kansas	0.088	0.188	0.067	1,390
Kentucky	0.077	0.168	0.061	1,324
Louisiana	0.084	0.177	0.070	1,428
Maine	0.011	0.022	0.009	204
Maryland	0.110	0.214	0.080	1,474
Massachusetts	0.164	0.323	0.124	2,155
Michigan	0.163	0.368	0.146	2,899
Minnesota	0.081	0.183	0.070	1,277
Mississippi	0.028	0.058	0.022	488
Missouri	0.088	0.193	0.070	1,474
Montana	0.007	0.014	0.006	131
Nebraska	0.031	0.061	0.024	518
Nevada	0.027	0.053	0.021	432
New Hampshire	0.009	0.019	0.007	127
New Jersey	0.129	0.284	0.105	1,844
New Mexico	0.035	0.064	0.026	578
New York	0.435	0.812	0.310	5,328
North Carolina	0.167	0.388	0.149	3,211
North Dakota	0.025	0.045	0.017	301
Ohio	0.222	0.532	0.198	3,893
Oklahoma	0.043	0.093	0.037	804
Oregon	0.036	0.074	0.028	524
Pennsylvania	0.162	0.388	0.143	2,635
Rhode Island	0.021	0.038	0.014	267
South Carolina	0.075	0.169	0.063	1,395
South Dakota	0.023	0.042	0.017	369
Tennessee	0.154	0.371	0.135	2,531
Texas	0.776	2.030	0.769	14,382
Utah	0.039	0.091	0.036	736
Vermont	0.008	0.015	0.006	133
Virginia	0.195	0.399	0.151	3,050
Washington	0.091	0.192	0.076	1,356
West Virginia	0.035	0.063	0.023	497
Wisconsin	0.083	0.179	0.071	1,379
Wyoming	0.008	0.013	0.005	111
State Totals	\$6.050	\$13.418	\$5.140	100,514
Interstate Spillovers		5.424	1.731	34,221
U.S. Totals	\$6.050	\$18.841	\$6.871	134,735

Source: GMU Schar School of Policy and Government, The Stephen S. Fuller Institute; Dodge Data & Analytics; BEA; NAIOP

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), 2019

State	Direct Spending (In Billions of Dollars)	Total Output (In Billions of Dollars)	Personal Earnings (In Billions of Dollars)	Jobs Supported
Alabama	\$1.695	\$3.757	\$1.450	31,771
Alaska	0.043	0.076	0.032	577
Arizona	0.723	1.573	0.637	13,488
Arkansas	0.562	1.167	0.451	9,736
California	2.685	6.013	2.394	41,896
Colorado	0.438	0.999	0.399	7,568
Connecticut	0.132	0.258	0.102	1,781
Delaware	0.101	0.179	0.062	1,126
District of Columbia	0.430	0.493	0.045	710
Florida	2.016	4.434	1.795	39,816
Georgia	2.039	4.905	1.881	40,535
Hawaii	0.164	0.312	0.131	2,379
Idaho	0.160	0.309	0.127	2,798
Illinois	1.002	2.468	0.912	16,566
Indiana	0.618	1.422	0.528	10,610
Iowa	0.798	1.578	0.613	12,702
Kansas	0.202	0.431	0.153	3,191
Kentucky	0.612	1.332	0.486	10,489
Louisiana	1.083	2.269	0.894	18,340
Maine	0.040	0.079	0.033	725
Maryland	0.882	1.720	0.646	11,843
Massachusetts	1.681	3.318	1.279	22,150
Michigan	1.113	2.516	0.997	19,794
Minnesota	0.556	1.261	0.484	8,822
Mississippi	0.097	0.199	0.077	1,682
Missouri	0.325	0.715	0.259	5,464
Montana	0.040	0.076	0.032	704
Nebraska	0.389	0.762	0.303	6,506
Nevada	0.260	0.502	0.204	4,109
New Hampshire	0.033	0.068	0.025	455
New Jersey	0.790	1.731	0.640	11,249
New Mexico	0.120	0.222	0.092	2,012
New York	3.085	5.767	2.201	37,829
North Carolina	0.837	1.936	0.744	16,038
North Dakota	0.449	0.816	0.298	5,417
Ohio	1.531	3.665	1.365	26,823
Oklahoma	0.174	0.380	0.150	3,273
Oregon	0.431	0.900	0.340	6,356
Pennsylvania	0.840	2.010	0.740	13,666
Rhode Island	0.056	0.101	0.037	713
South Carolina	0.410	0.928	0.349	7,668
South Dakota	0.067	0.125	0.051	1,097
Tennessee	0.855	2.064	0.752	14,085
Texas	3.755	9.820	3.718	69,573
Utah	0.158	0.366	0.143	2,964
Vermont	0.028	0.052	0.021	455
Virginia	2.631	5.387	2.030	41,145
Washington	0.799	1.692	0.672	11,958
West Virginia	0.258	0.469	0.173	3,692
Wisconsin	1.038	2.252	0.886	17,302
Wyoming	0.035	0.060	0.024	514
State Totals	\$39.266	\$85.933	\$32.860	642,158
Interstate Spillovers		36.345	11.731	232,252
U.S. Totals	\$39.266	\$122.278	\$44.590	874,410

Source: GMU Schar School of Policy and Government, The Stephen S. Fuller Institute; Dodge Data & Analytics; BEA; NAIOP

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

The logo for NAIOP Research Foundation. It features the word "NAIOP" in a large, bold, white sans-serif font. To its right is a vertical white line, followed by the words "RESEARCH" and "FOUNDATION" stacked vertically in a smaller, white sans-serif font.

NAIOP | RESEARCH
FOUNDATION

We're Shaping the Future

2355 Dulles Corner Boulevard, Suite 750
Herndon, VA 20171-3034

703-904-7100
naiop.org/research