

Tennessee Leaders Action Platform



global action
platform
food+health+prosperity

Zone 2: Knoxville-Oak Ridge

Competitiveness and Clusters Factbook 2026



**CLUSTER
MAPPING**
A Strategy and Competitiveness Associates project

Made possible through the generous support of the
John R. Ingram Advised Fund of the Community Foundation of Middle Tennessee.

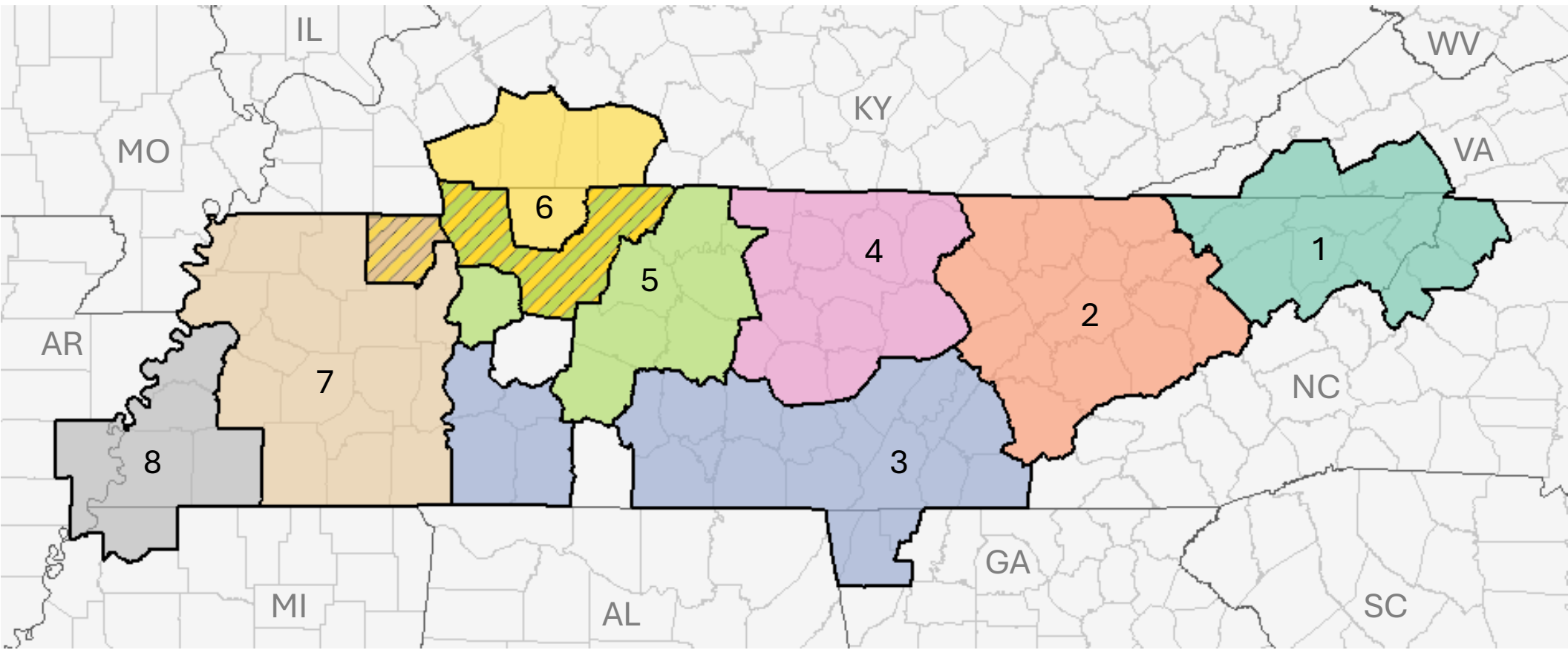
Introduction

The research and publication of the Tennessee Competitiveness Scorecard and the Regional Competitiveness and Cluster Factbooks are made possible through the generous support of the **John R. Ingram Advised Fund of the Community Foundation of Middle Tennessee** to provide a data-driven foundation for regional competitiveness.

Global Action Platform has organized the Tennessee Leaders Action Platform to advance the competitiveness and guide the eight major cluster economies anchored in Tennessee and adjacent states. This Competitiveness and Cluster Factbook is provided to the Fellows of the Porter Development Initiative Fellows Academy to advance data-driven strategies and decisions for regional development. The Academy gives Tennessee leaders access to cutting-edge ideas, metrics, and practical strategies to create shared prosperity for their communities and supports initiatives that connect creation of globally competitive innovation hubs with education and research, regional collective impact collaboration, and quality of life.

Strategy and Competitiveness Associates has leveraged data from the US Cluster Mapping Project to assemble factbooks customized for each of the eight Tennessee Leaders Action Platform (TLAP) regions. These factbooks are structured around the four major themes for the inaugural TLAP conference to be held in June 2026: Innovation Hub Development, Education and Workforce, Collaborative Governance, and Quality of Life. This work owes much to our long collaboration with Prof. Michael E. Porter at Harvard Business School, especially around his insights on the foundational role of Traded Clusters in regional economic development and on the role of public-private partnerships in support of the quality of regional business environments surrounding clusters and in support of social progress for all citizens.

Tennessee Leaders Action Platform: Eight Zones Organized



- Zone 1: Tri-Cities
- Zone 2: Knoxville-Oak Ridge
- Zone 3: Chattanooga
- Zone 4: Cookeville-Crossville
- Zone 5: Nashville
- Zone 6: Clarksville-Fort Campbell
- Zone 7: Jackson-Martin
- Zone 8: Memphis

Note: The Clarksville-Fort Campbell Zone overlaps with two other zones.

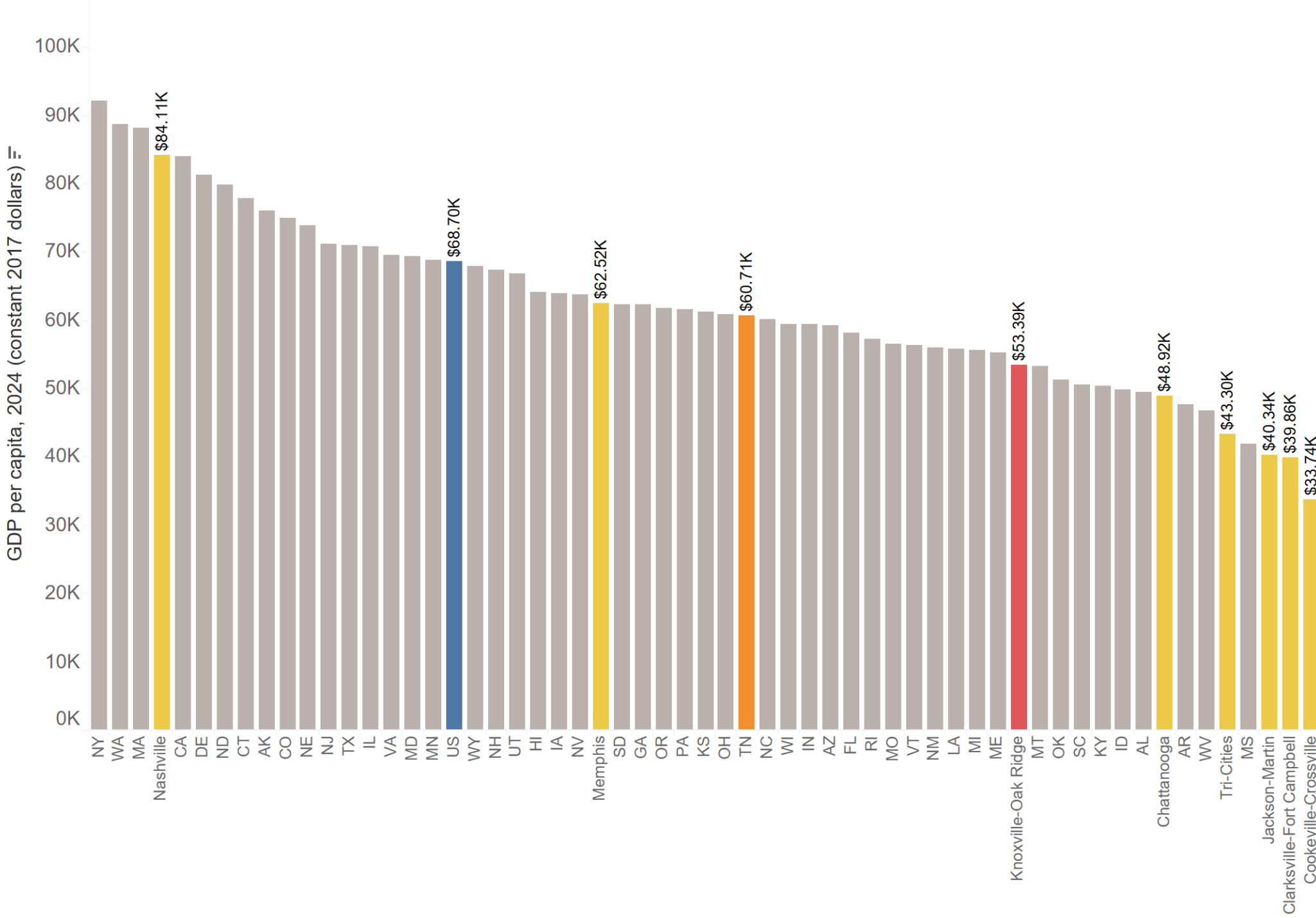
Contents

I. Innovation Hub Development	
a) Economic Outcomes	page 5
b) Innovation Inputs	page 13
c) Cluster Composition	page 21
II. Education and Workforce	page 32
III. Collaborative Governance	page 40
IV. Quality of Life	page 45

Economic Outcomes

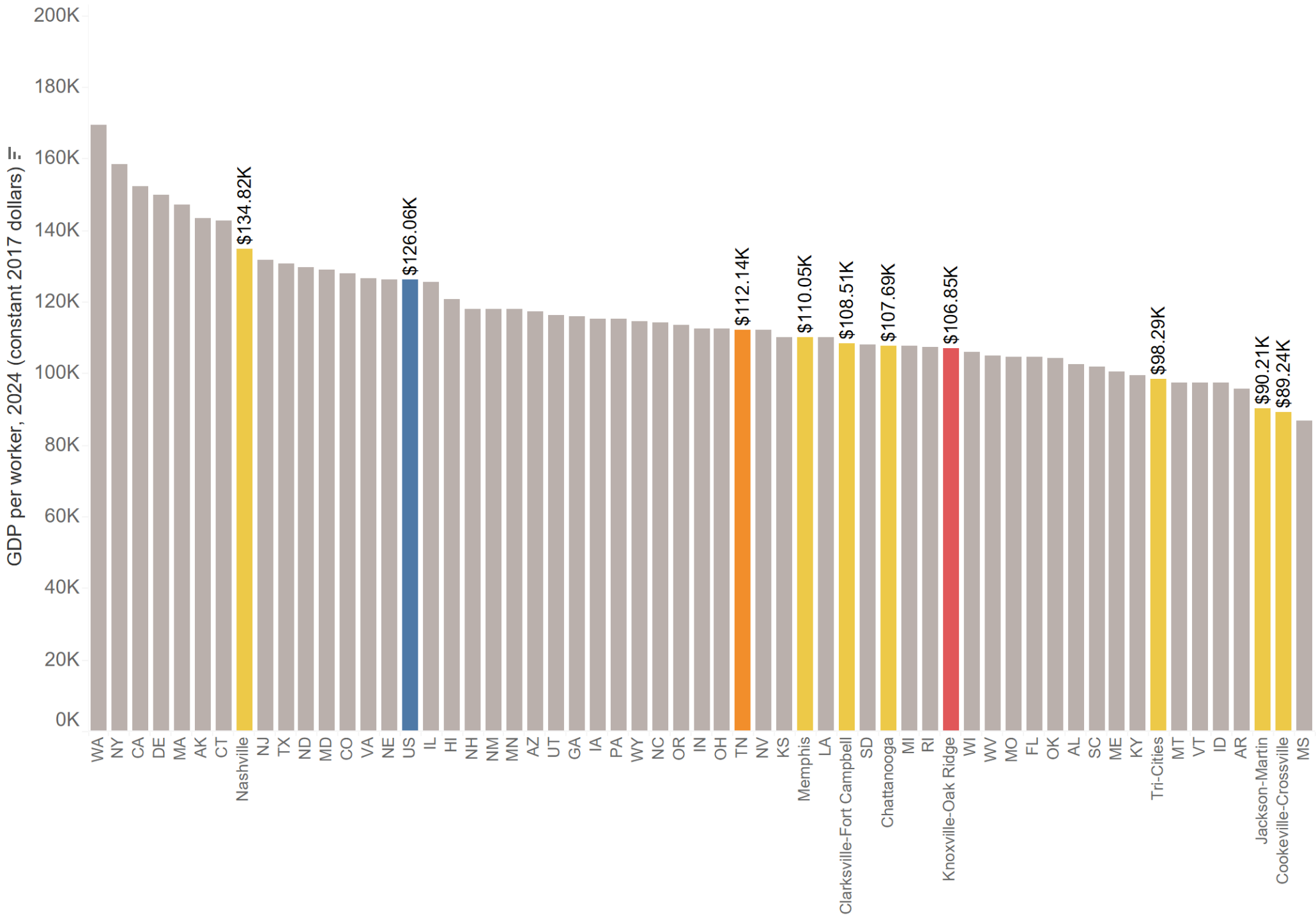
GDP per Capita	page 6
GDP per Capita Real Growth Rate	page 7
GDP per Worker	page 8
GDP per Worker Real Growth Rate	page 9
Average Wage and Wage Growth	page 10
Employment Growth and Wage Growth	page 11
Fortune 1000 Company Headquarters Locations	page 12

GDP per capita, 2024



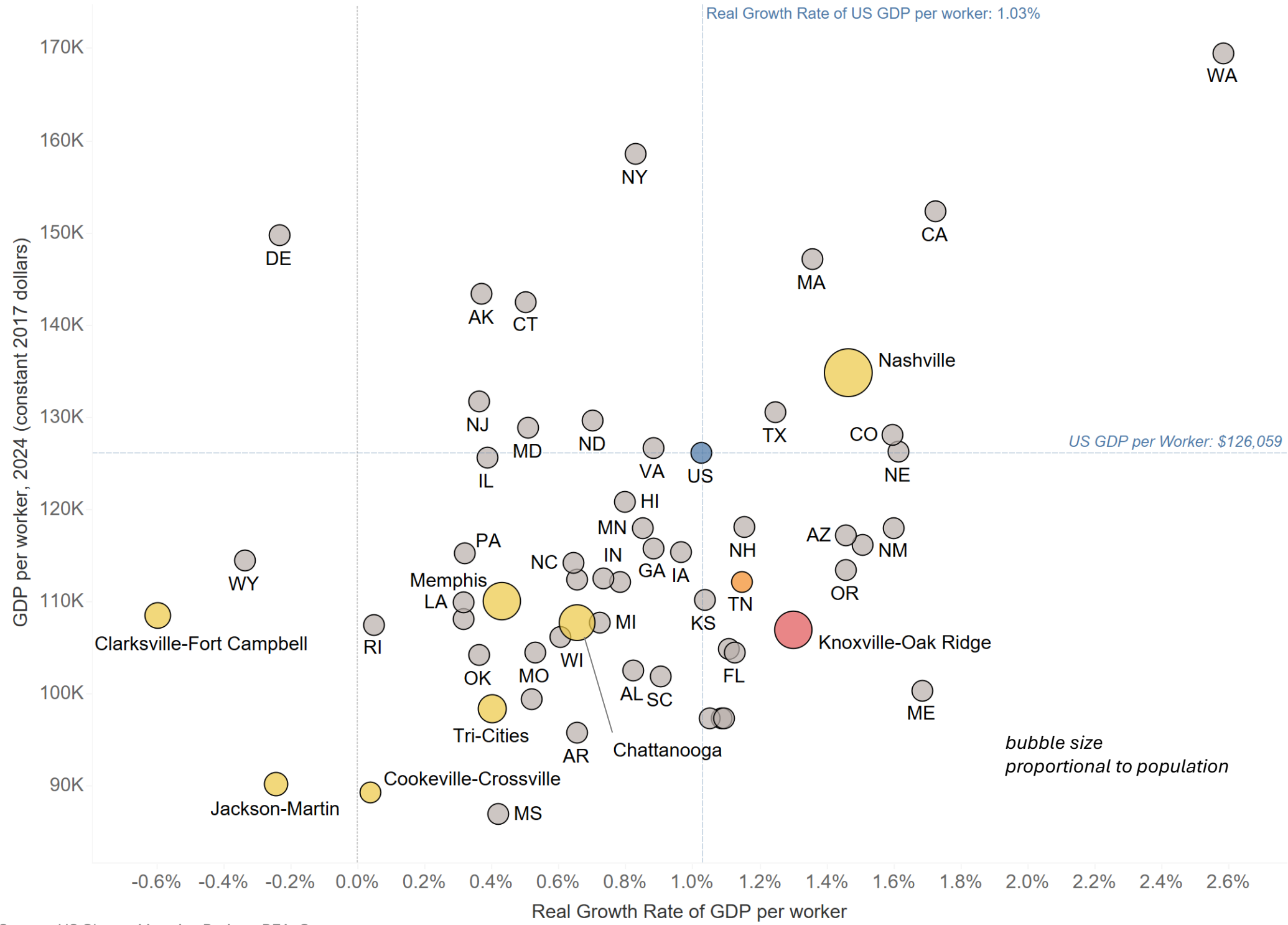
Source: US Cluster Mapping Project; BEA; Census

GDP per worker, 2024



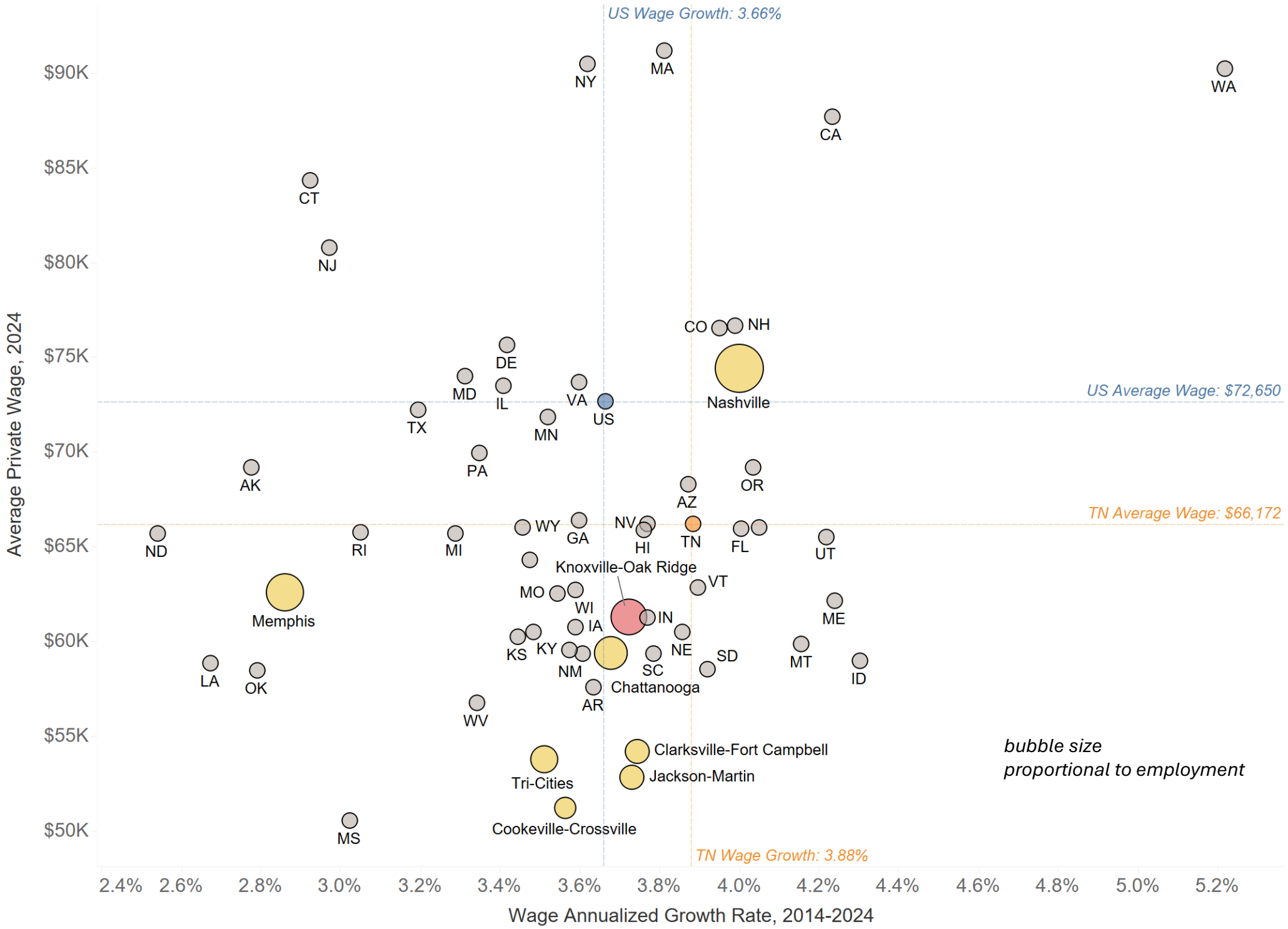
Source: US Cluster Mapping Project; BEA; Census

GDP Per Worker and Real Growth Rate, 2014-2024



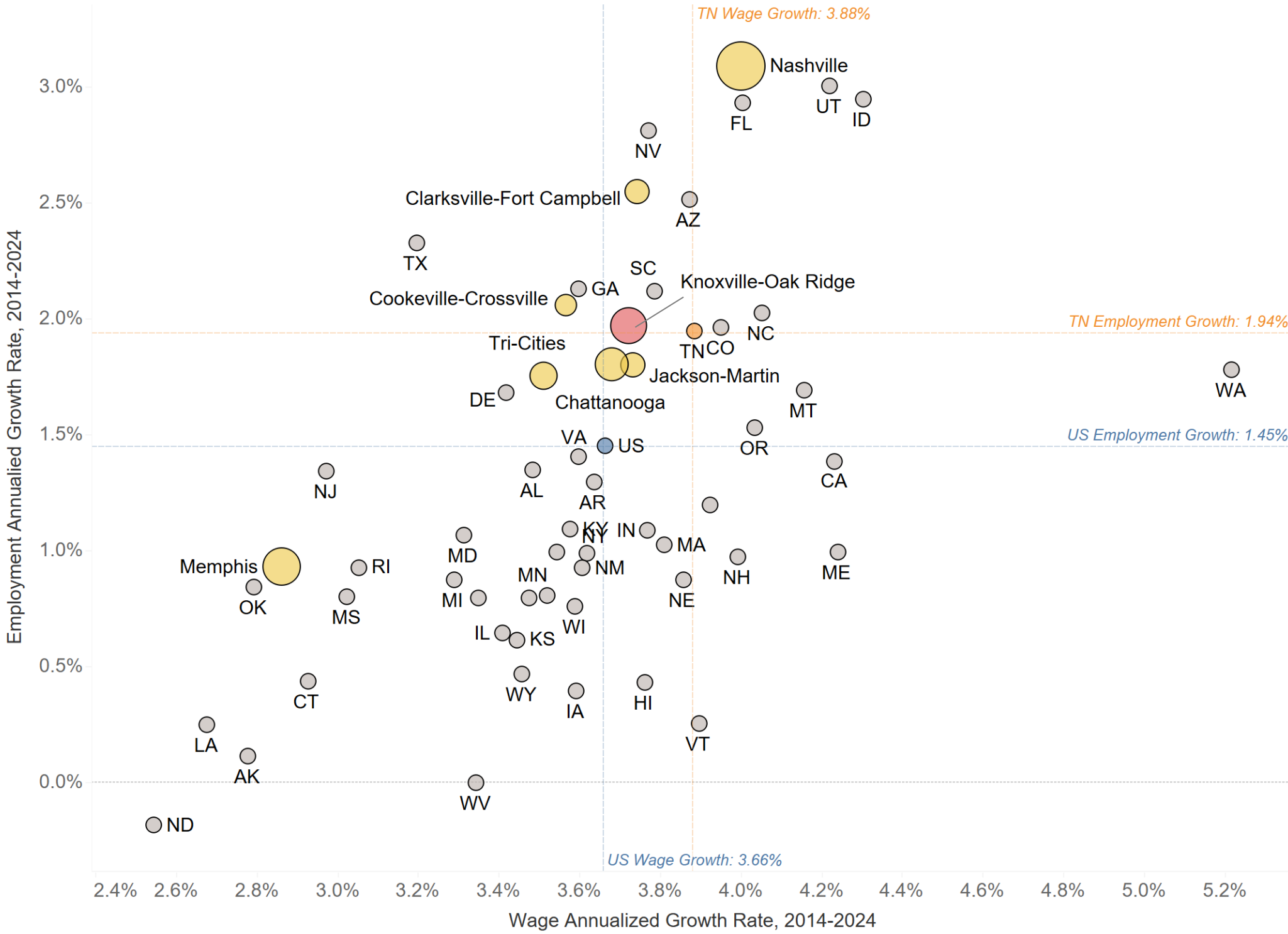
Source: US Cluster Mapping Project; BEA; Census

Average Wage and Wage Growth, 2014-2024



Source: US Cluster Mapping Project; BLS QCEW; Census NES – private employment

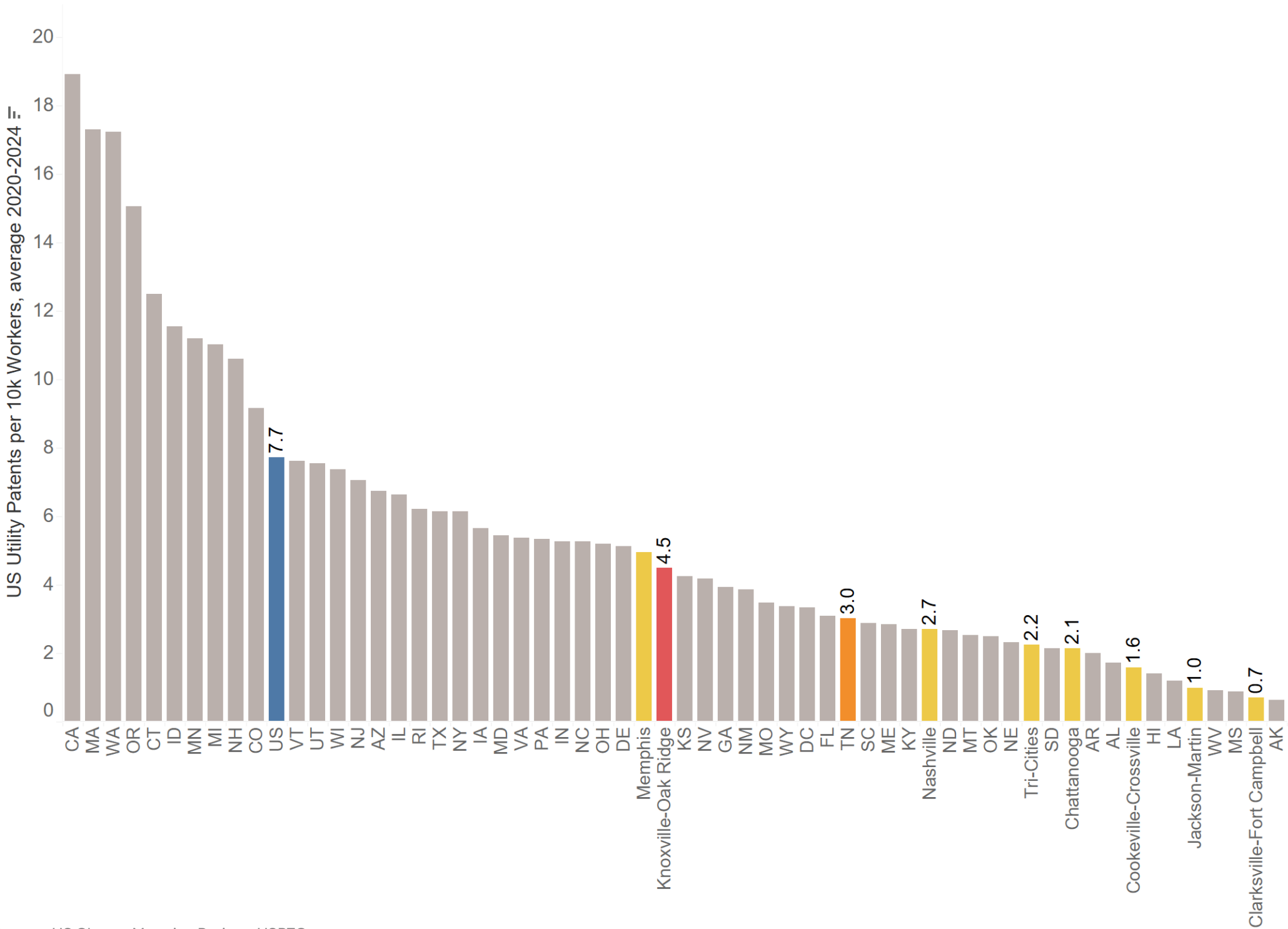
Employment Growth and Wage Growth, 2014-2024



Innovation Inputs

Patenting Intensity	page 14
Patents by Organization	page 15
University R&D Expenditures	page 16
New Business Formation	page 17
Growth Rate of FDI-driven Employment*	page 18
Share of Employment Created through FDI*	page 19
Export Intensity and Rate of Growth*	page 20

Patenting Intensity, 2020-2024



Source: US Cluster Mapping Project; USPTO

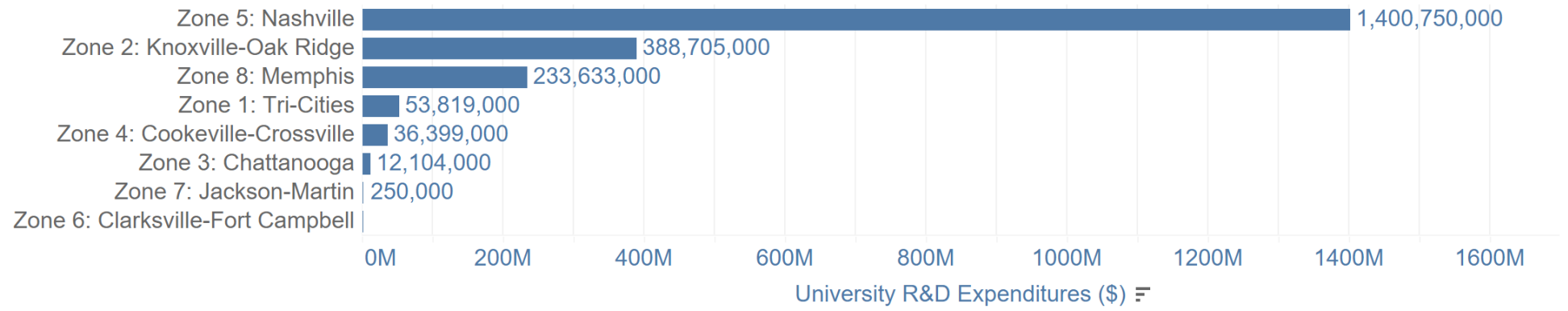
Utility Patents by Organization, 2020-2024

Zone 2: Knoxville-Oak Ridge

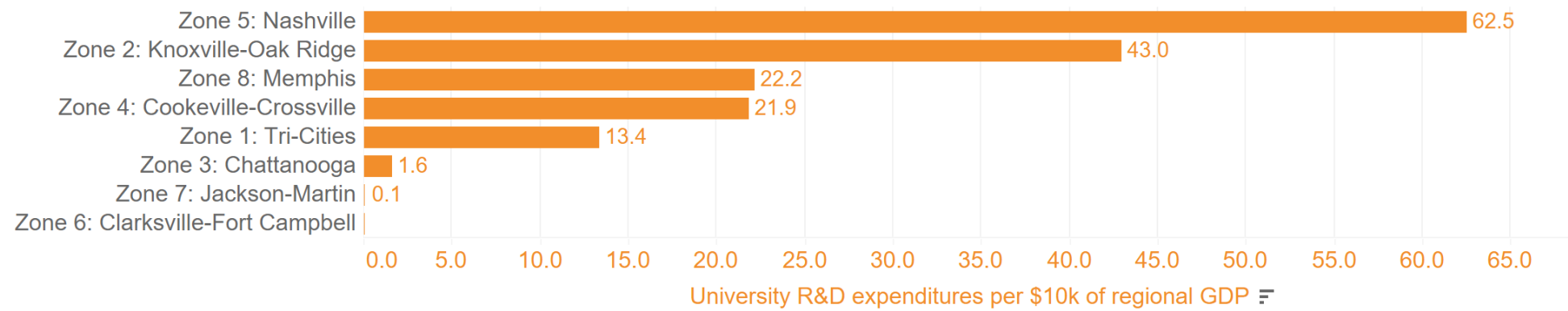
UT-BATTELLE, LLC	310
SIEMENS MEDICAL SOLUTIONS USA, INC.	86
UNIVERSITY OF TENNESSE RESEARCH FOUNDATION	78
BSH HOME APPLIANCES CORPORATION	55
RADIO SYSTEMS CORPORATION	48
DEROYAL INDUSTRIES, INC.	41
COMPUTATIONAL SYSTEMS, INC.	32
MASTERCRAFT BOAT COMPANY, LLC	32
CONSOLIDATED NUCLEAR SECURITY, LLC	28
ITOOOL EQUIPMENT HOLDING LLC	19
CUBIC CORPORATION	16
DALEN PRODUCTS, INC.	15
TECHMAH MEDICAL LLC	15
ALPHA/OMEGA ENERGY SOLUTIONS, LLC	14
GENERAL GRAPHENE CORP.	11
HUBBELL INCORPORATED	10
915 LABS, LLC	8
AMERICAN ACCESSORIES INTERNATIONAL LLC	8
COLGATE-PALMOLIVE COMPANY	8
JOINTVUE, LLC	8
MALIBU BOATS, LLC	8
PROTOMET CORPORATION	8
X-ENERGY, LLC	8
MIDLAB, INC.	7
RDI TECHNOLOGIES, INC.	7

Note: Showing organizations with at least 2 patents 2020-2024 and in top 25 for region.
Location is assigned by address of the first listed inventor and may differ from organization location.
Source: US Cluster Mapping Project; USPTO.

University R&D Expenditures by TLAP Region, 2024



University R&D Intensity by TLAP Region, 2024

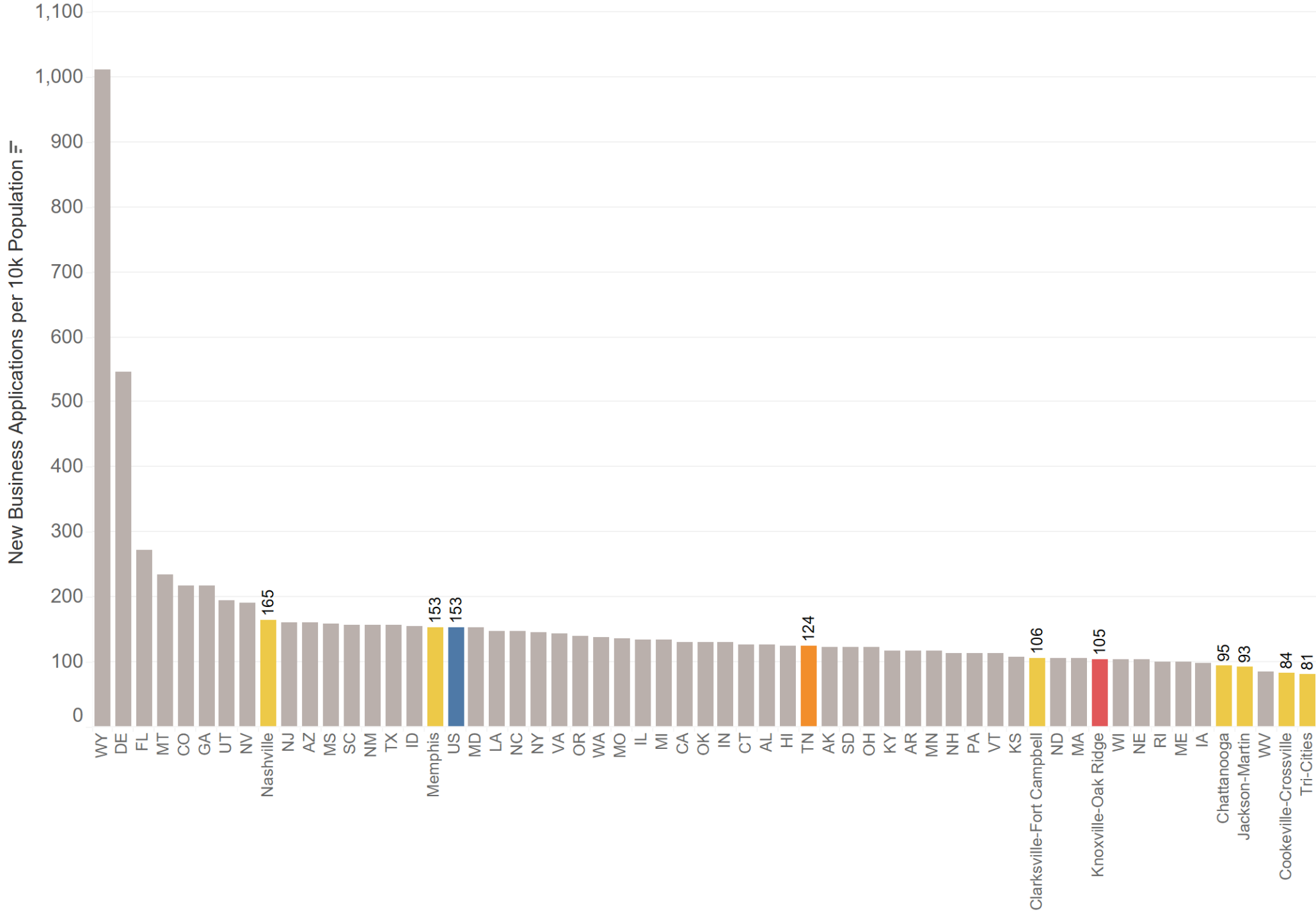


R&D Expenditure by University, 2024

Zone 1: Tri-Cities	East Tennessee State U.	\$42,526,000
	Appalachian State U.	\$11,293,000
Zone 2: Knoxville-Oak Ridge	U. Tennessee, Knoxville	\$386,949,000
	Lincoln Memorial U.	\$1,756,000
Zone 3: Chattanooga	U. Tennessee, The, Chattanooga	\$12,104,000
Zone 4: Cookeville-Crossville	Tennessee Technological U.	\$36,399,000
Zone 5: Nashville	Vanderbilt U. and Vanderbilt U. Medical Center	\$1,327,870,000
	Tennessee State U.	\$35,017,000
	Meharry Medical C.	\$23,691,000
	Middle Tennessee State U.	\$8,736,000
	Fisk U.	\$3,425,000
	Lipscomb U.	\$2,011,000
Zone 7: Jackson-Martin	U. Tennessee, The, Martin	\$250,000
Zone 8: Memphis	U. Tennessee, Health Science Center	\$124,771,000
	U. Memphis	\$108,862,000

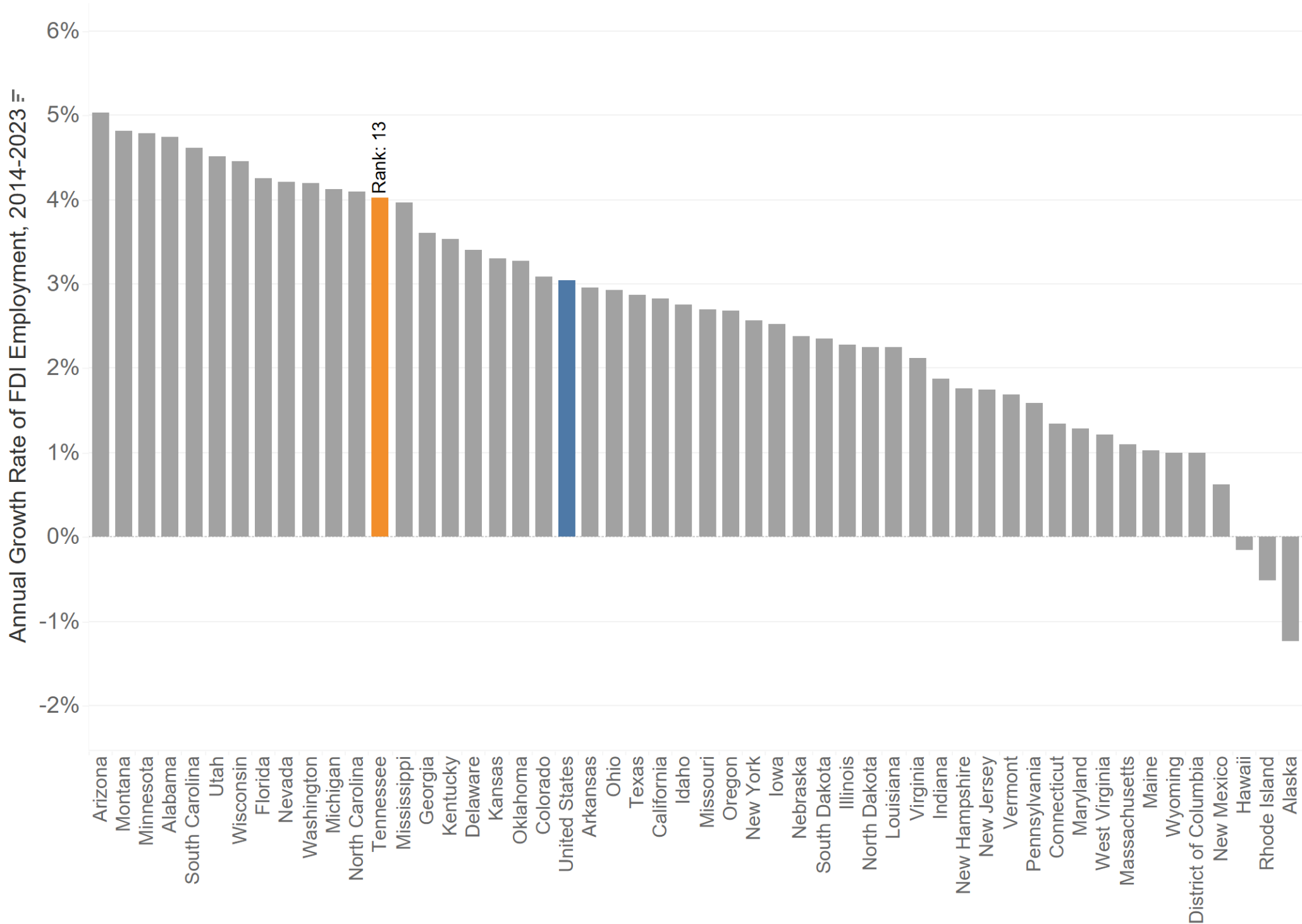
Source: US Cluster Mapping Project; NSF NCSES

New Business Formation, 2024



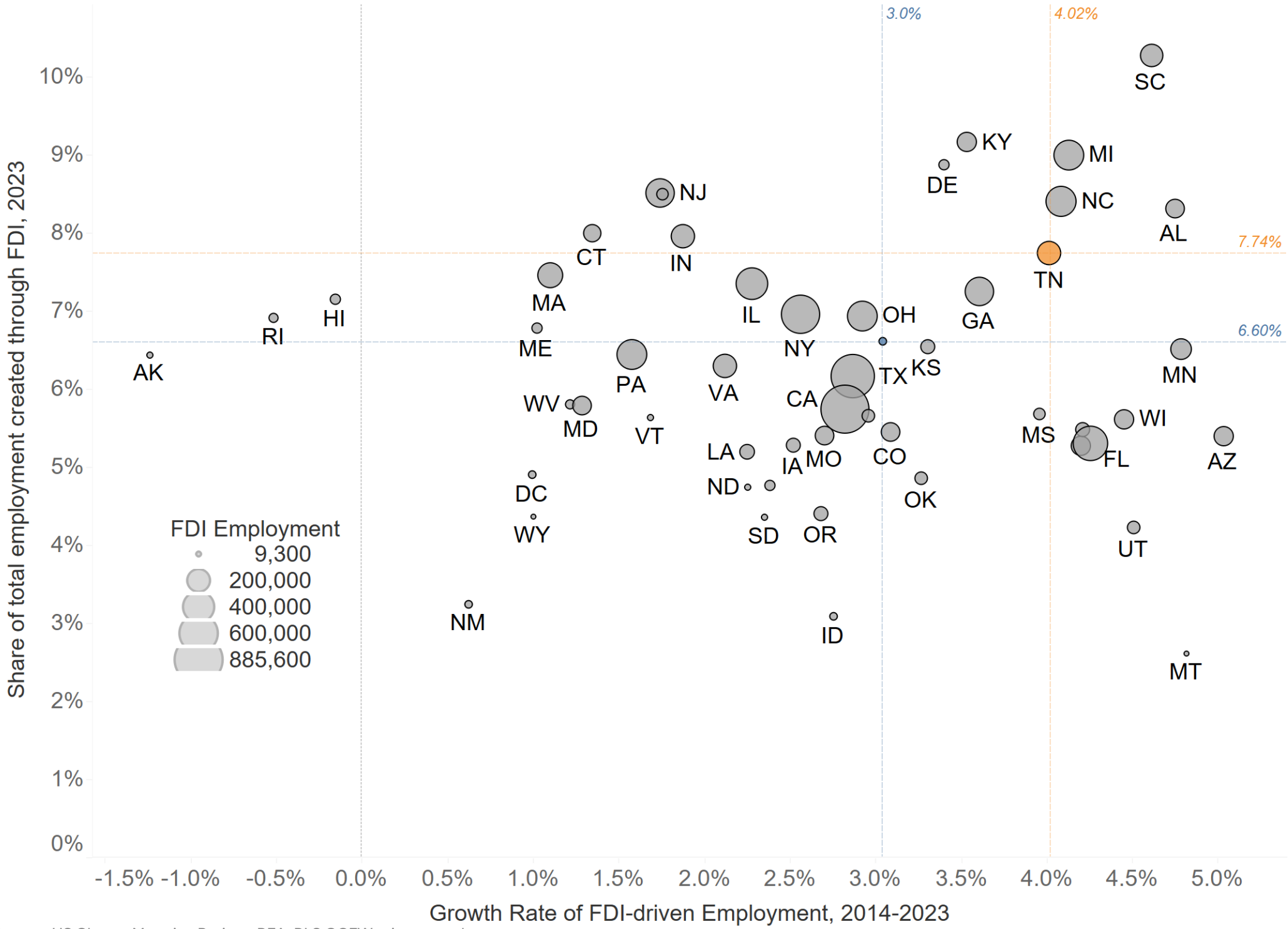
Source: US Cluster Mapping Project; BEA; Census

Growth Rate of FDI-driven Employment, 2014-2023



Source: US Cluster Mapping Project; BEA

Foreign Direct Investment, 2014-2023



Source: US Cluster Mapping Project; BEA; BLS QCEW private employment

Export Intensity and Rate of Growth, 2014-2024

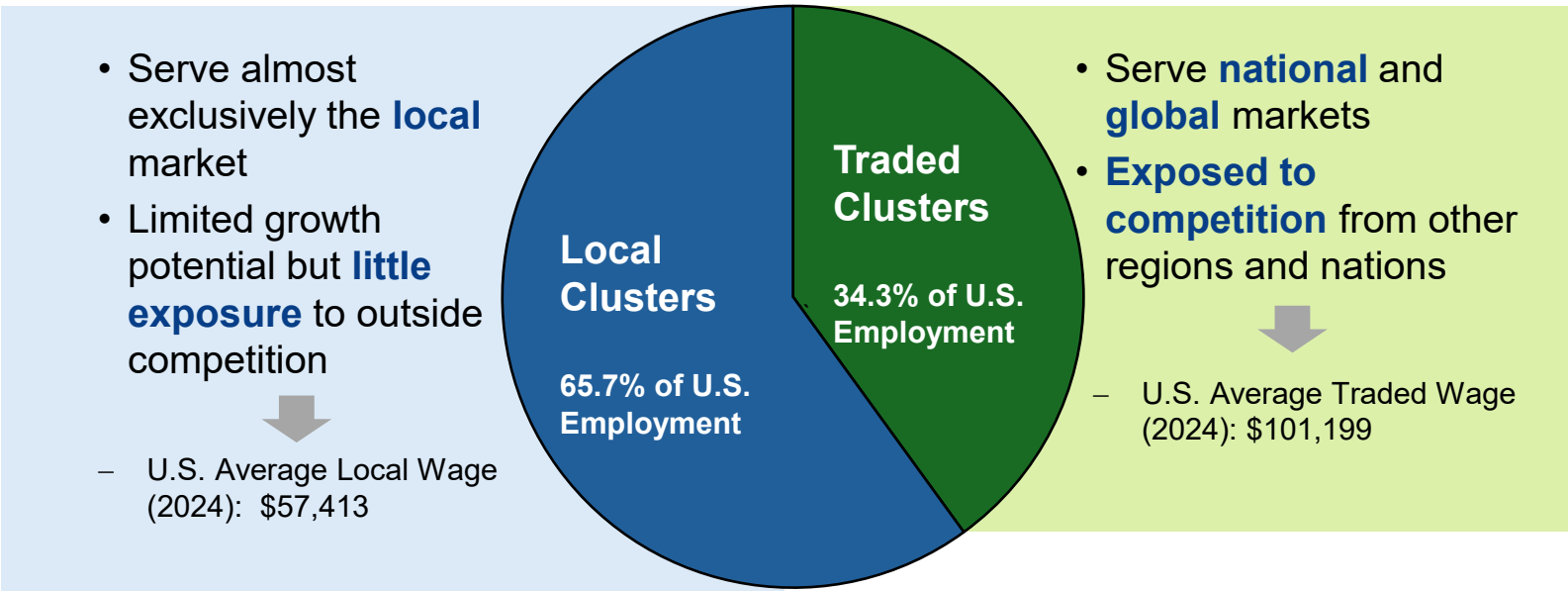


Source: US Cluster Mapping Project; BEA; USATrade. Nominal values.

Cluster Composition

Employment in Traded and Local Clusters	page 22
Employment in Traded Clusters	page 23
Job Creation in Traded Clusters	page 24
Wages in Traded Clusters	page 25
Specialization in Traded Clusters	page 26
Specialization in Traded Clusters (zoomed view)	page 27
Cluster Linkages and Economic Diversification	page 28
Employment in Local Clusters	page 29
Job Creation in Local Clusters	page 30
Wages in Local Clusters	page 31

Tri-Cities: Traded versus Local Clusters

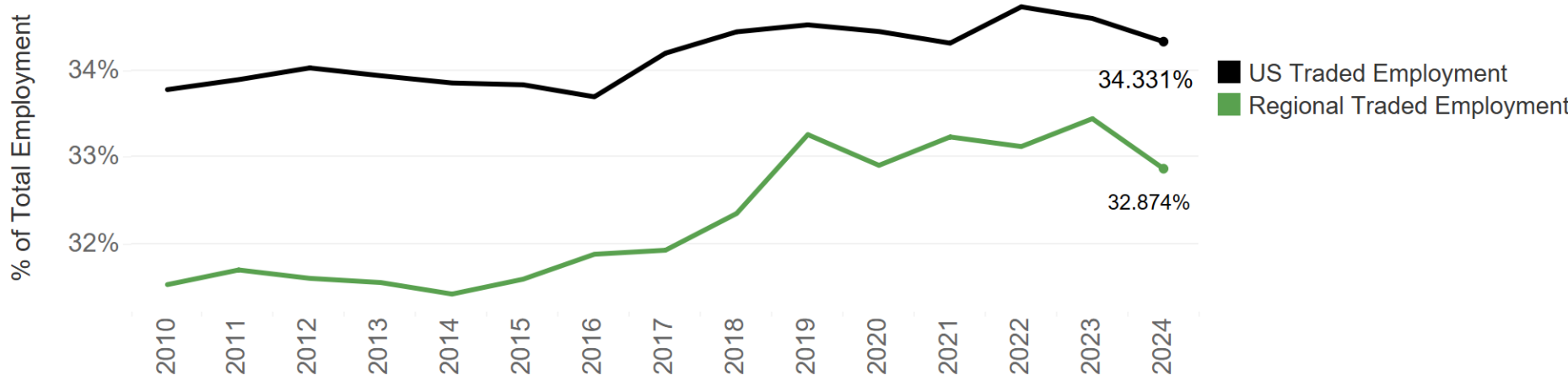


Traded Employment Share, 2024

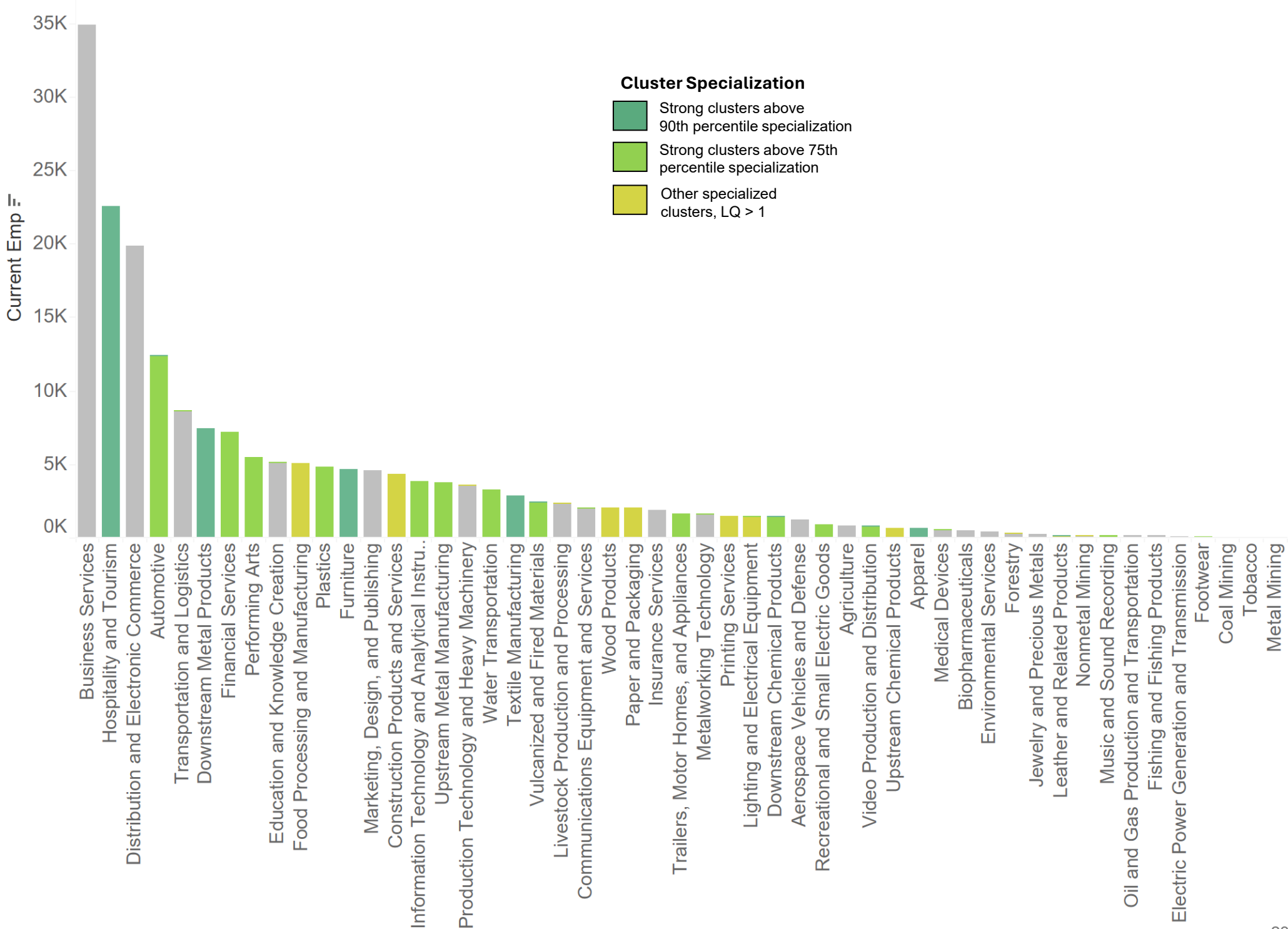
	Local	Traded
Regional Employment	67.1%	32.9%
US Employment	65.7%	34.3%

Knoxville-Oak Ridge Relative Wages, 2024

	Local	Traded	Total
Regional Wage	53,945	74,689	61,262
US Wage	57,413	101,199	72,465
Percent of US	94.0%	73.8%	84.5%

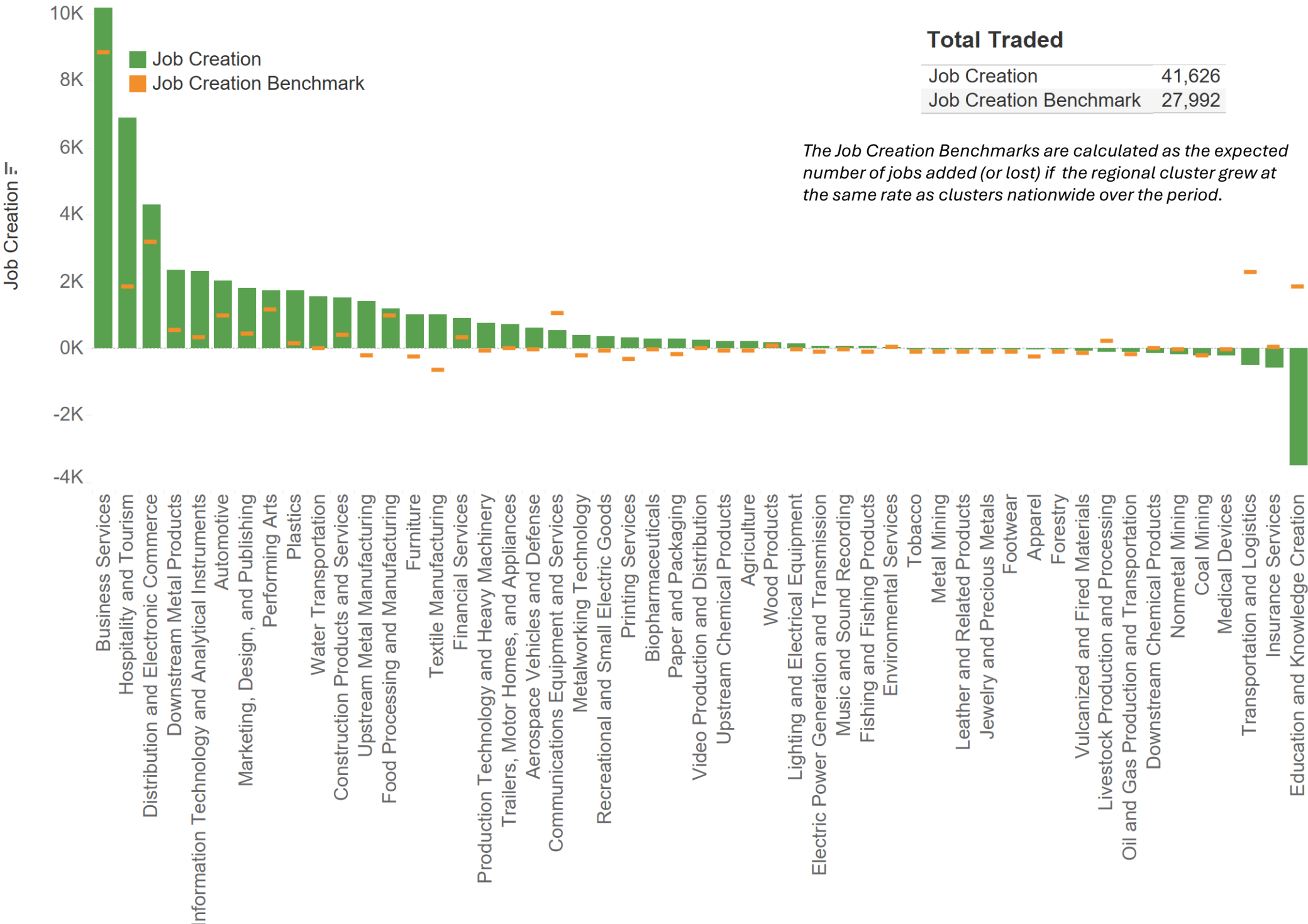


Knoxville-Oak Ridge - Employment in Traded Clusters, 2024



Source: US Cluster Mapping Project; BLS QCEW; Census NES – private employment

Knoxville-Oak Ridge - Job Creation in Traded Clusters, 2014-2024

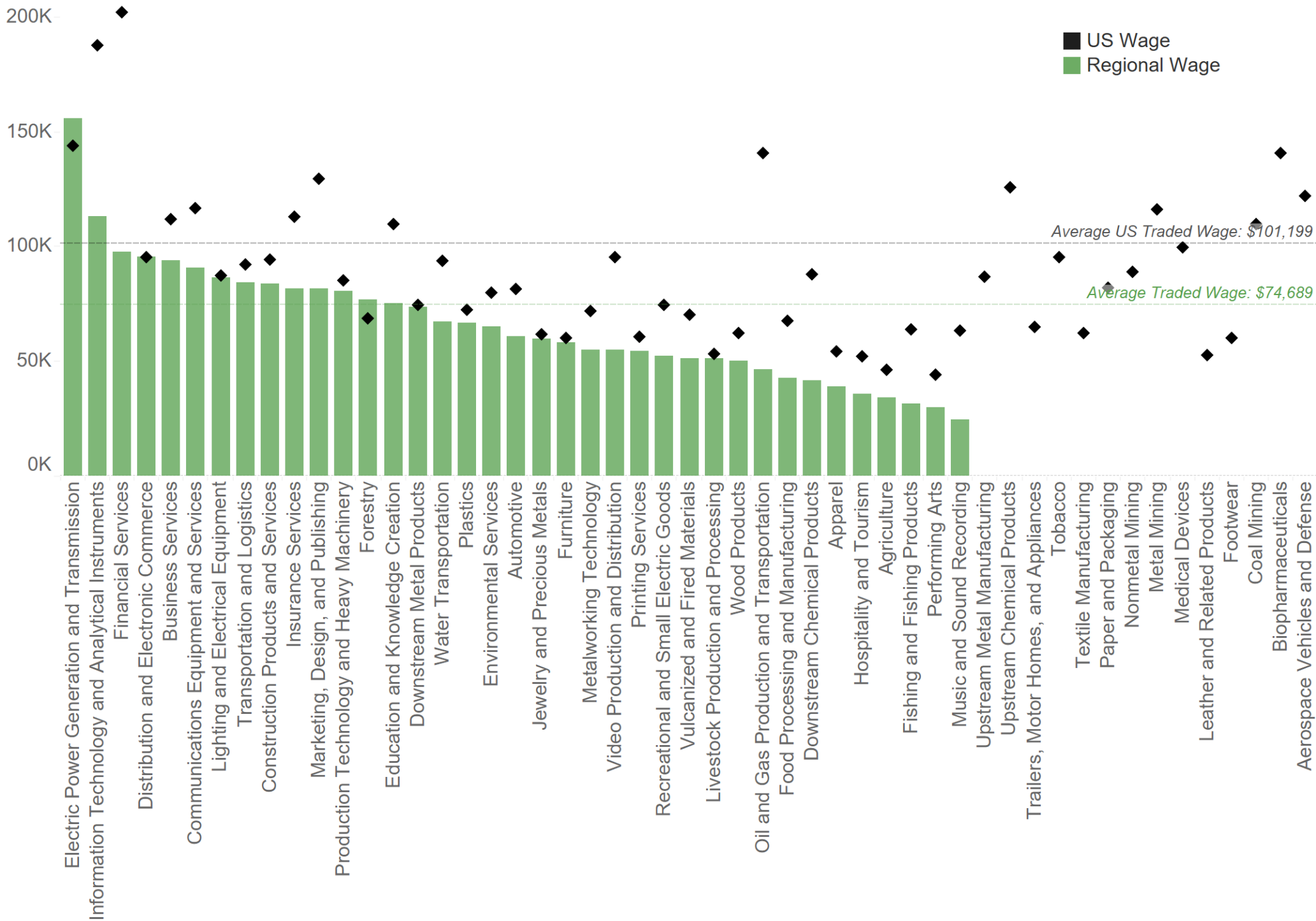


Total Traded

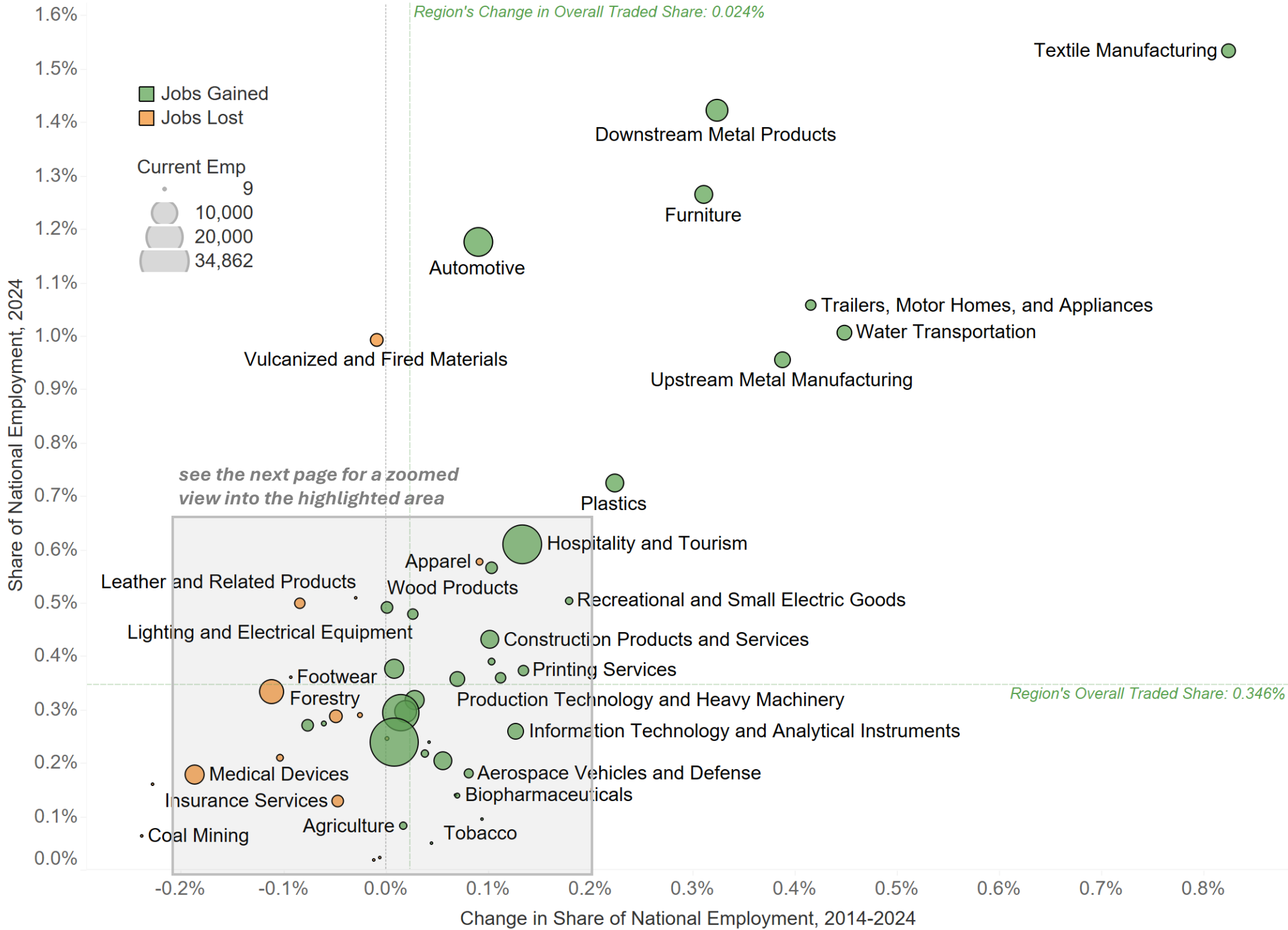
Job Creation	41,626
Job Creation Benchmark	27,992

The Job Creation Benchmarks are calculated as the expected number of jobs added (or lost) if the regional cluster grew at the same rate as clusters nationwide over the period.

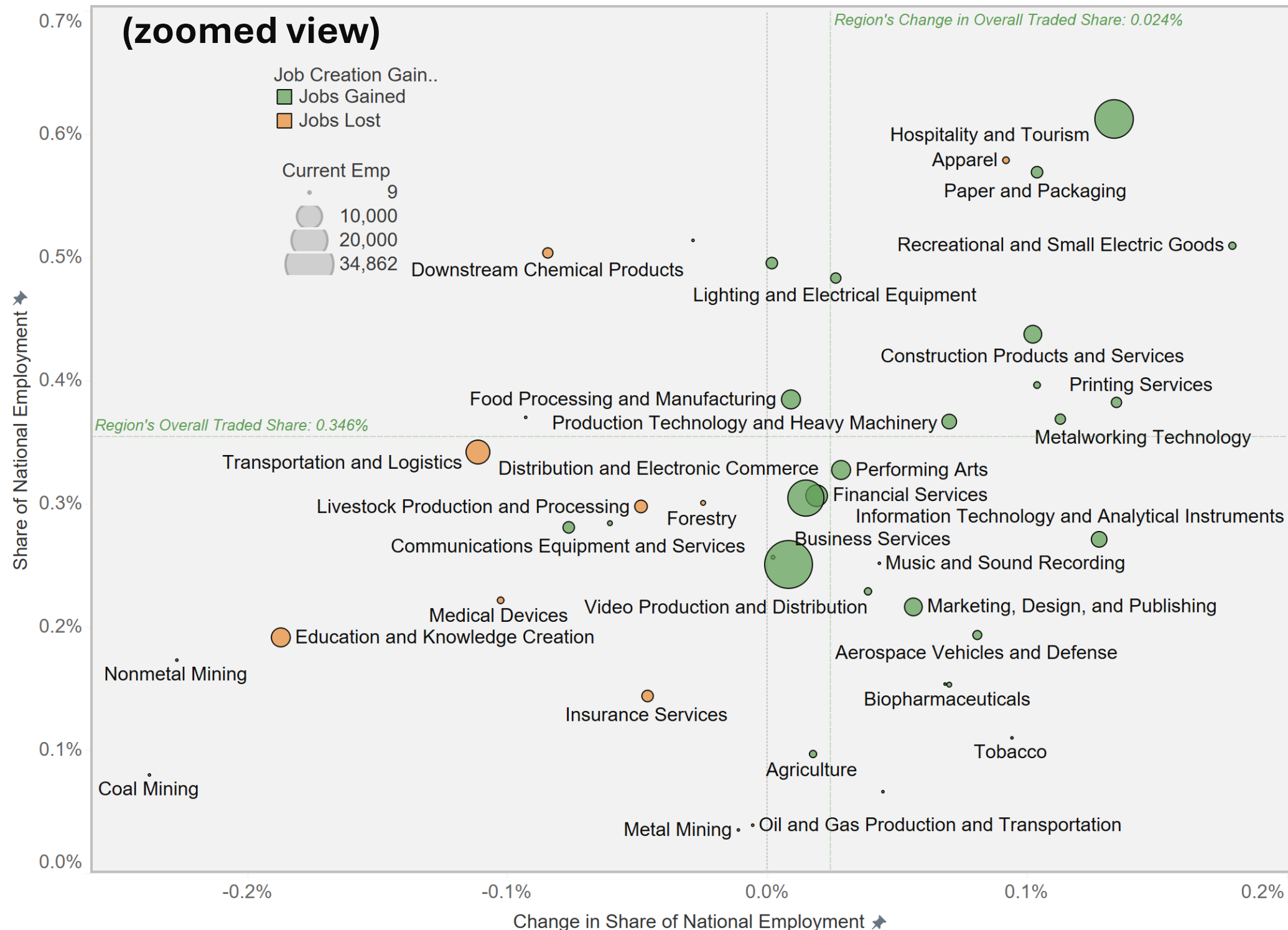
Knoxville-Oak Ridge - Wages in Traded Clusters, 2024



Zone 2: Knoxville-Oak Ridge - Specialization in Traded Clusters, 2014-2024



Zone 2: Knoxville-Oak Ridge - Specialization in Traded Clusters, 2014-2024

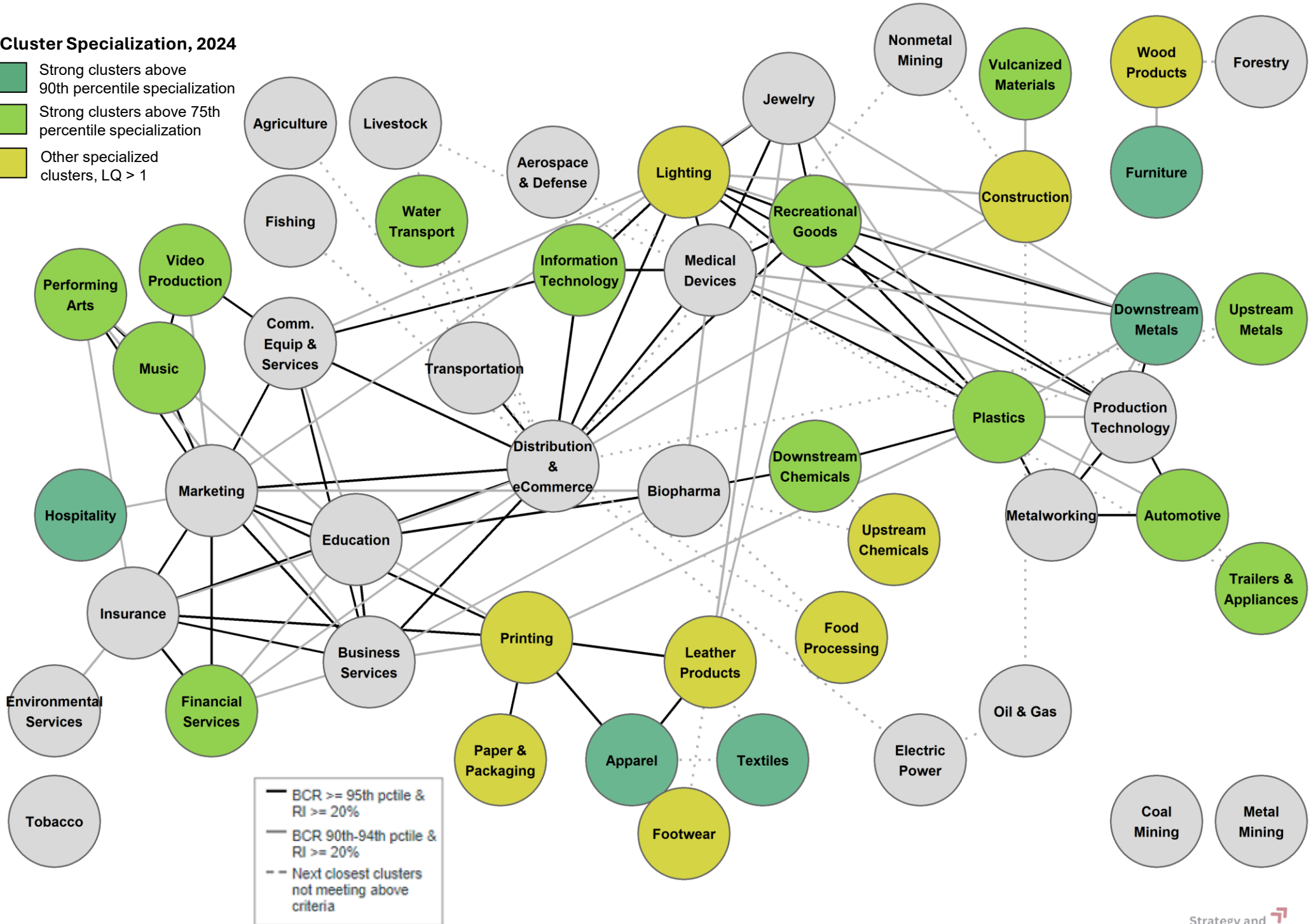


Source: US Cluster Mapping Project; BLS QCEW; Census NES – private employment

Knoxville-Oak Ridge Cluster Linkages and Economic Diversification

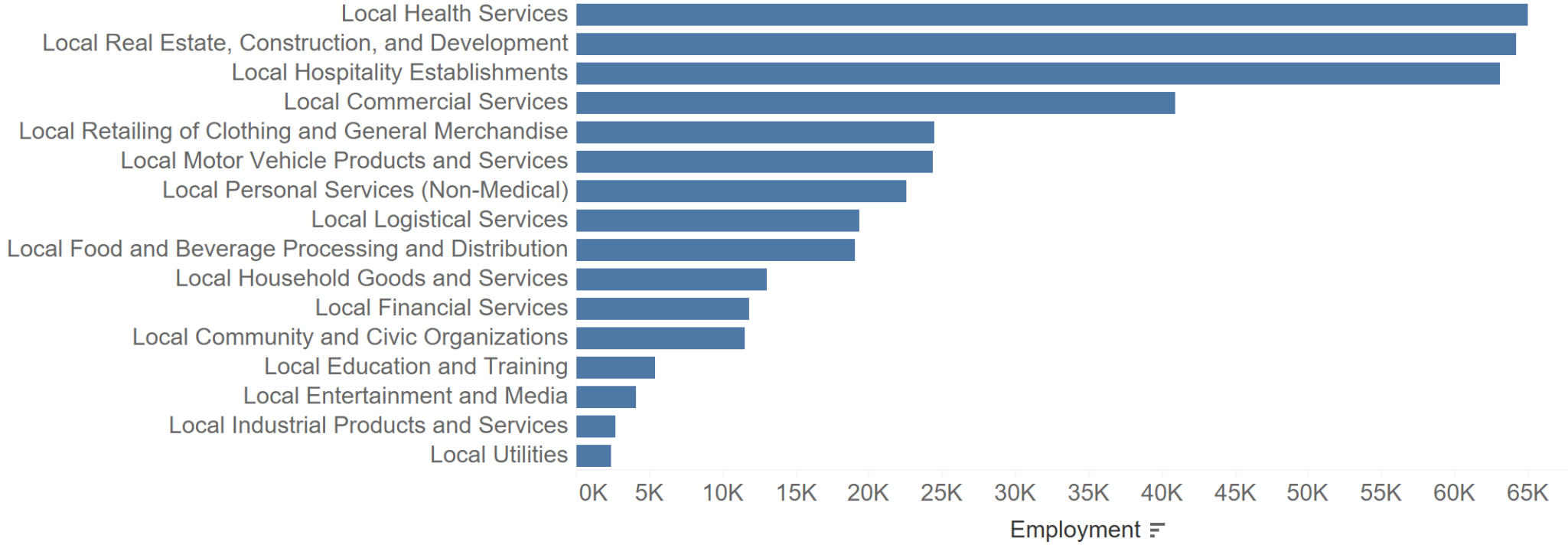
Cluster Specialization, 2024

- Strong clusters above 90th percentile specialization
- Strong clusters above 75th percentile specialization
- Other specialized clusters, LQ > 1

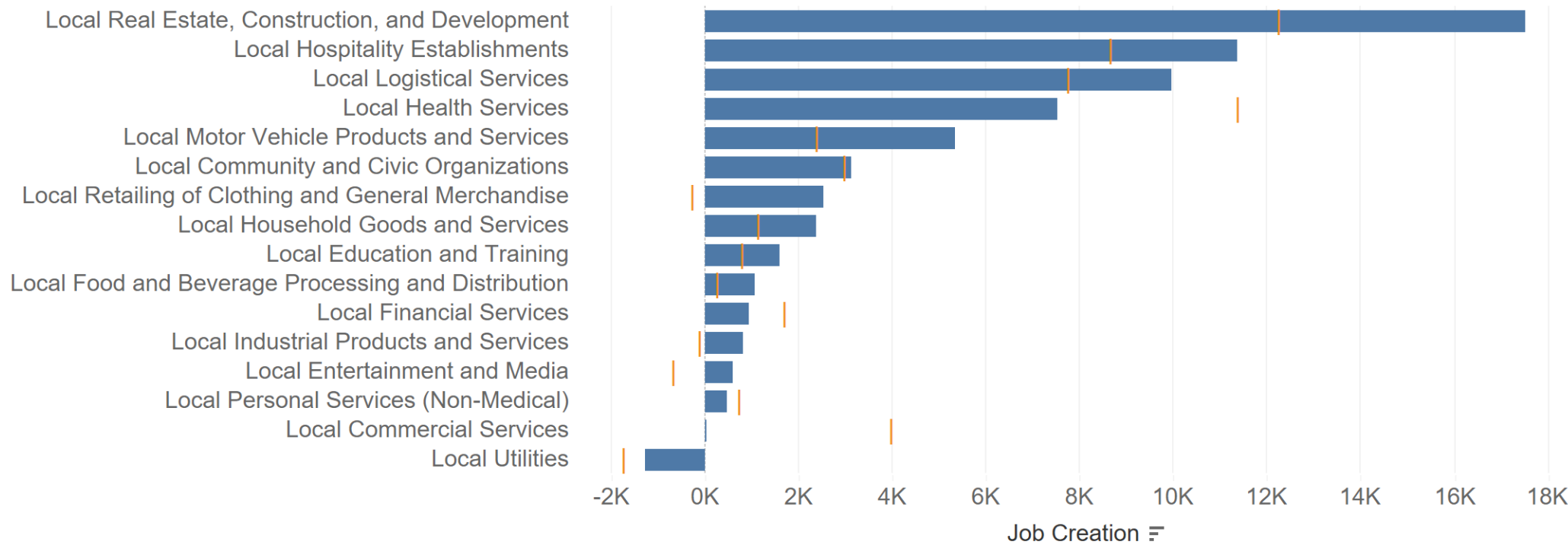


BCR \geq 95th pctile & RI \geq 20%
 BCR 90th-94th pctile & RI \geq 20%
 Next closest clusters not meeting above criteria

Knoxville-Oak Ridge - Employment in Local Clusters, 2024



Knoxville-Oak Ridge - Job Creation in Local Cluster, 2014-2024



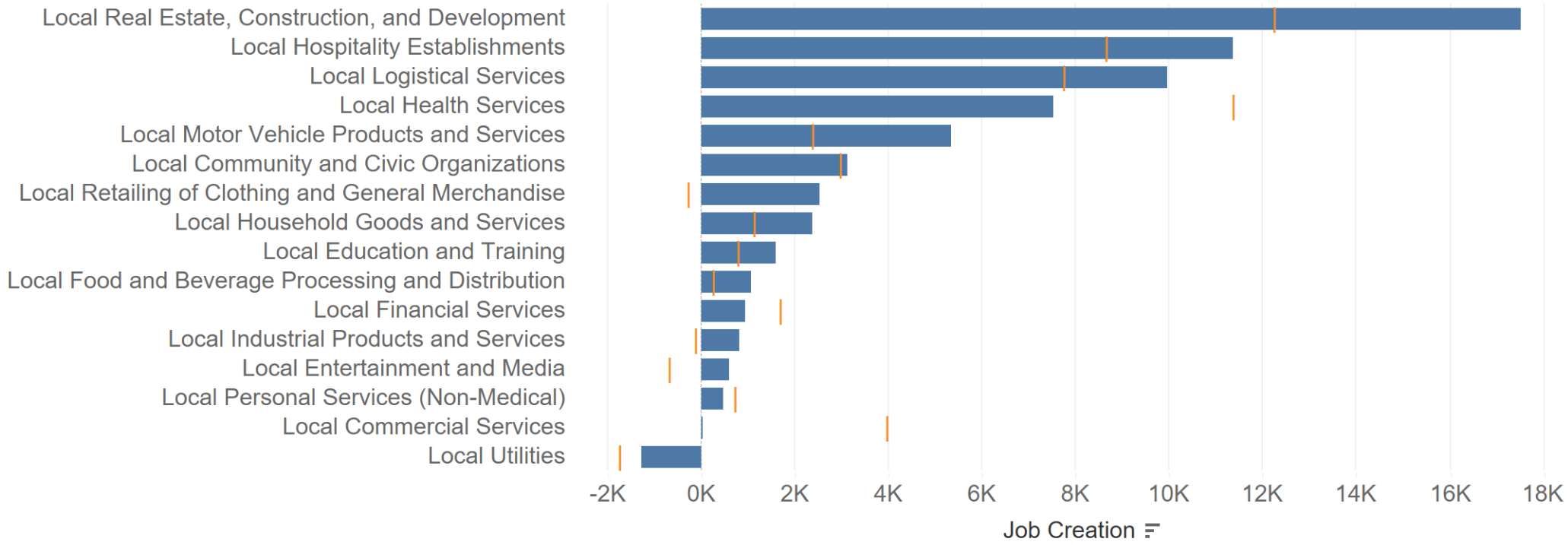
Total Local

Job Creation	63,939
Job Creation Benchmark	52,883

■ Job Creation
■ Job Creation Benchmark

The Job Creation Benchmarks are calculated as the expected number of jobs added (or lost) if the regional cluster grew at the same rate as clusters nationwide over the period.

Knoxville-Oak Ridge - Job Creation in Local Cluster, 2014-2024



Total Local

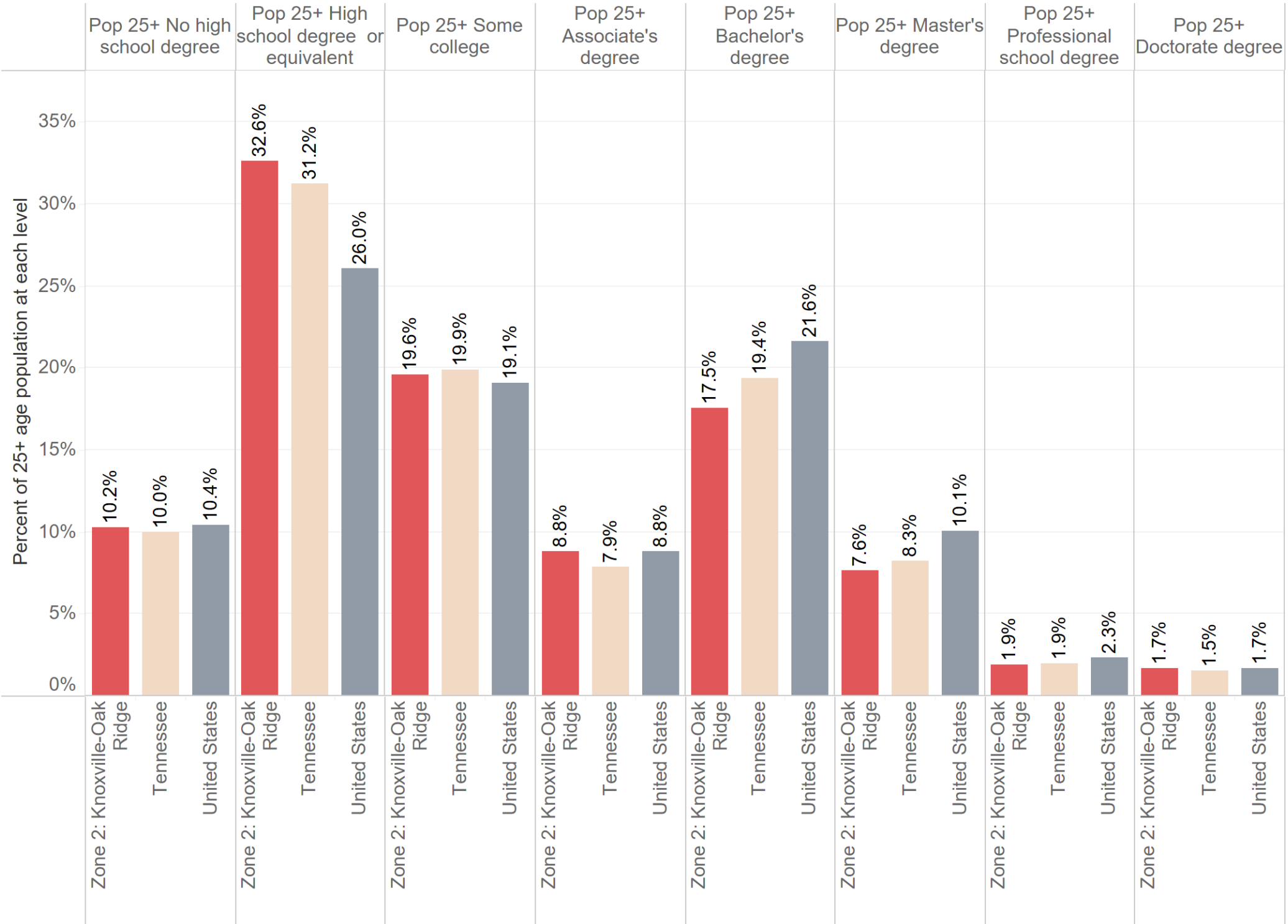
Job Creation	63,939
Job Creation Benchmark	52,883

■ Job Creation
■ Job Creation Benchmark

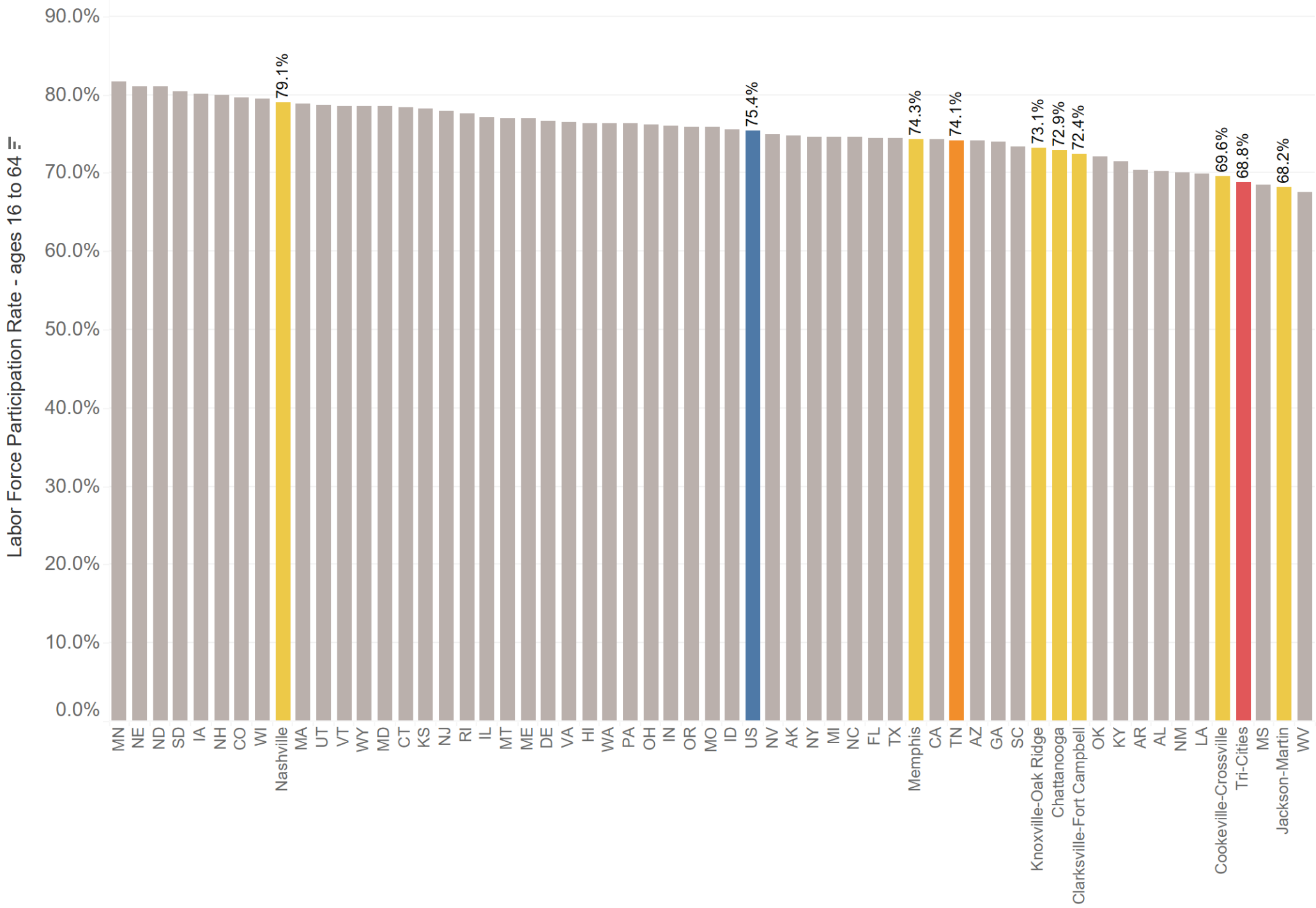
Education and Workforce

Educational Attainment	page 33
Labor Force Participation Rate	page 34
Labor Force Participate Rate Level and Change	page 35
Labor Force Participation Rate by Age	page 36
Population Growth	page 37
Population Growth Timeline	page 38
Unemployment Rate Level and Change	page 39

Educational Attainment, 2024

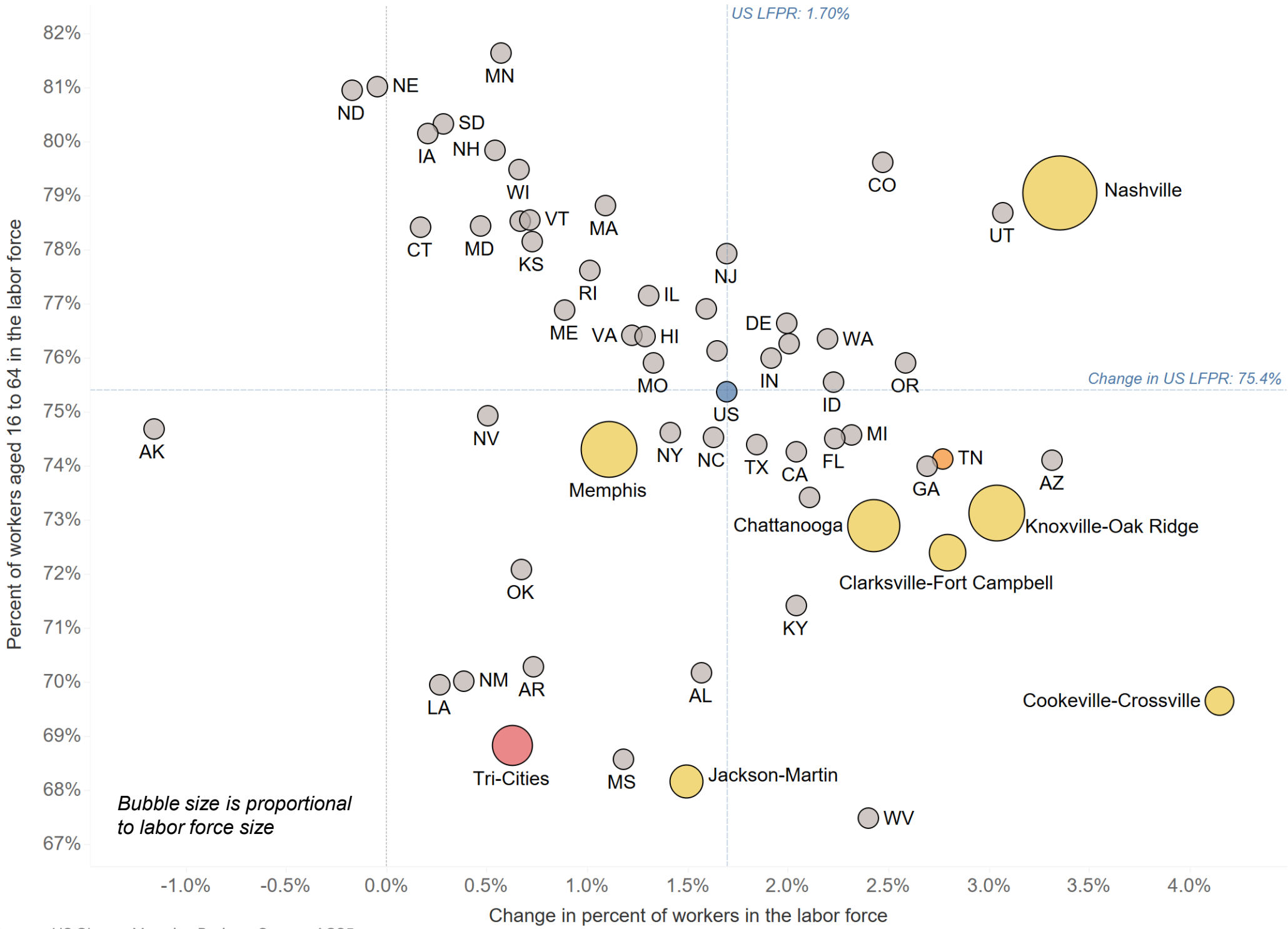


Labor Force Participation Rate - ages 16 to 64, 2024



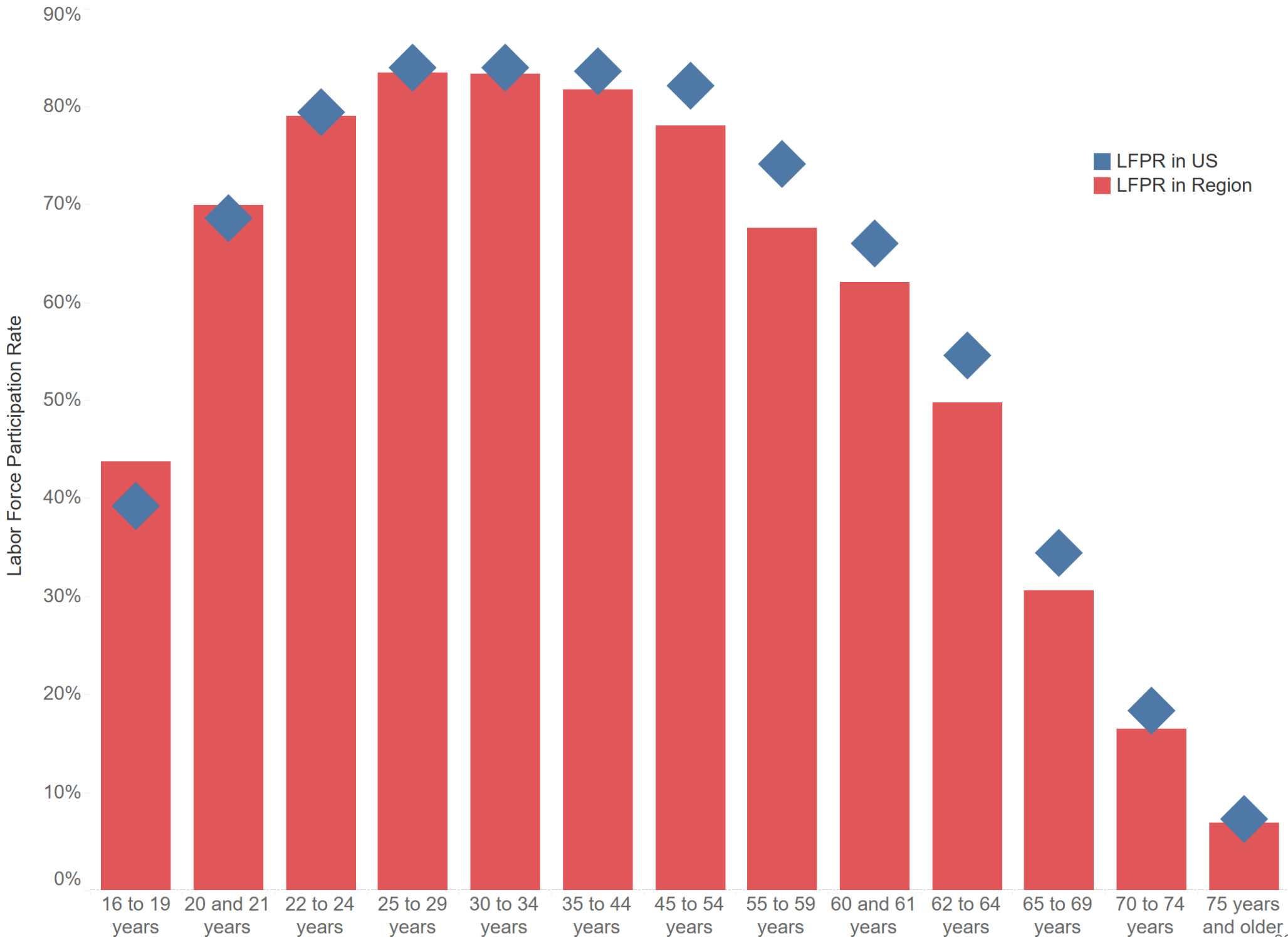
Source: US Cluster Mapping Project; Census ACS5

Labor Force Participation Rate - ages 16 to 64, 2014-2024



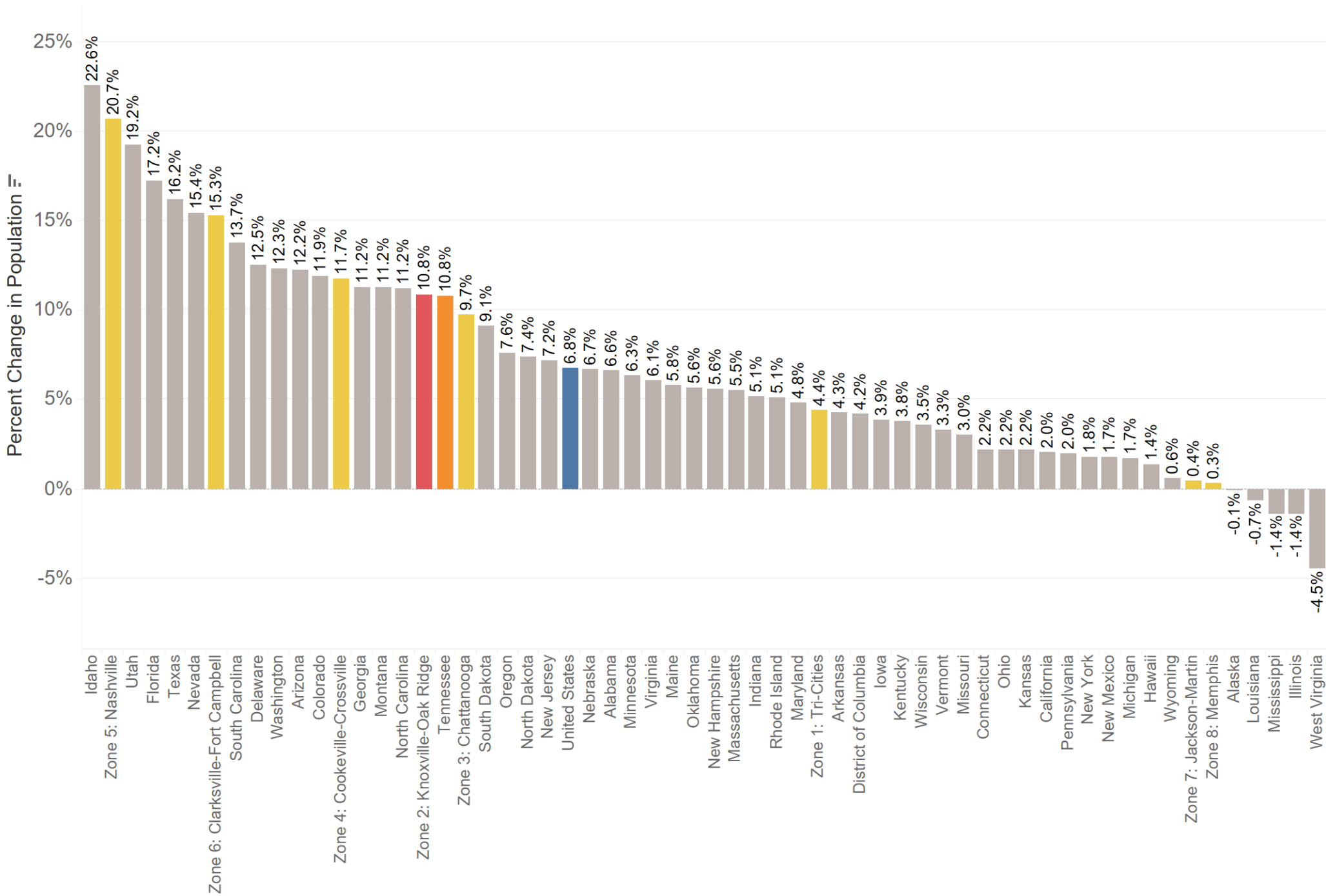
Source: US Cluster Mapping Project; Census ACS5

Knoxville-Oak Ridge: Labor Force Participation Rate by Age, 2024



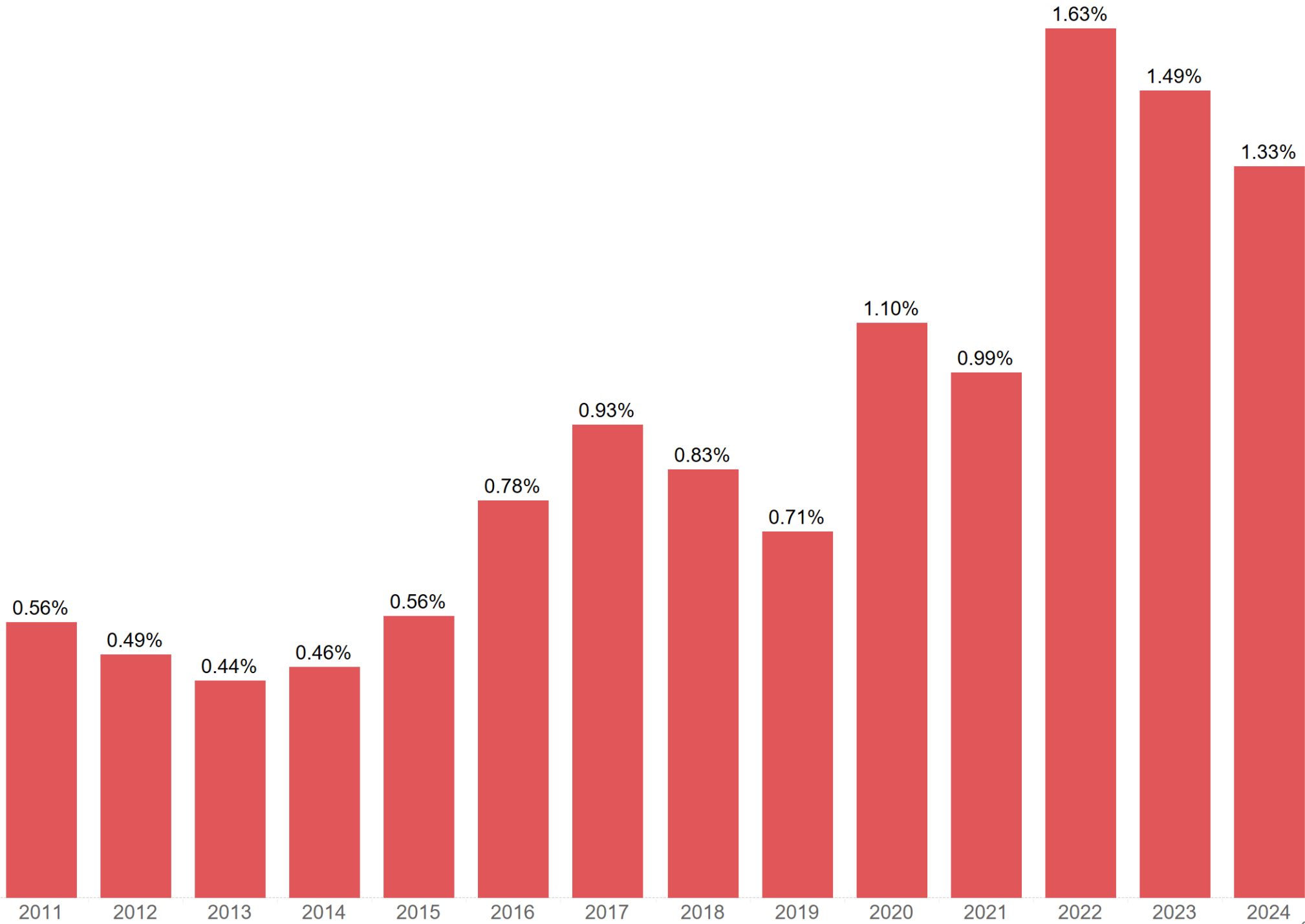
Source: US Cluster Mapping Project; Census ACS5

Population Percent Change, 2014-2024



Source: US Cluster Mapping Project; Census ACS5

Zone 2: Knoxville-Oak Ridge - Change in Population by Year



Source: US Cluster Mapping Project; Census ACS5

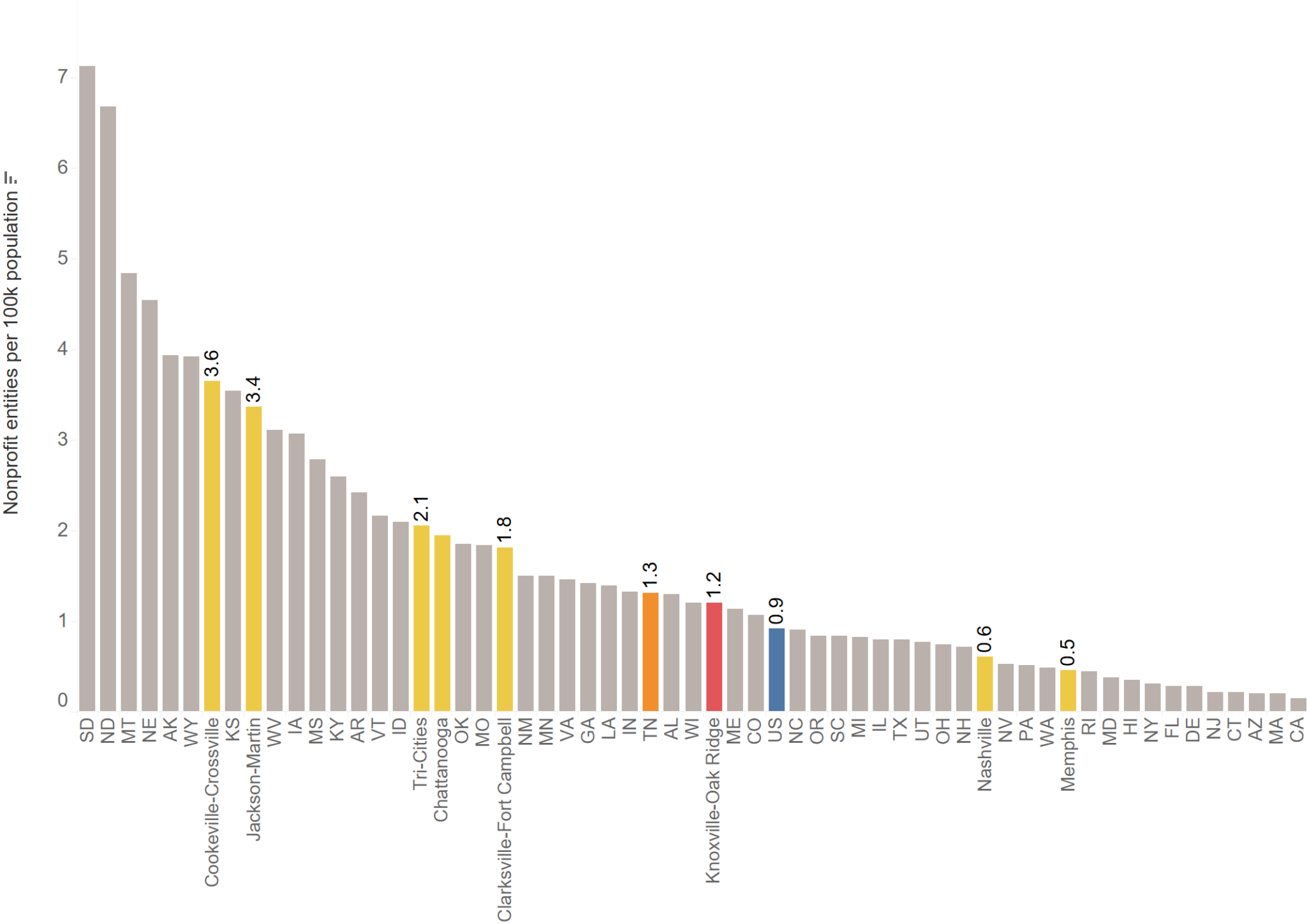
Unemployment Rate and Change, 2014-2024



Collaborative Governance

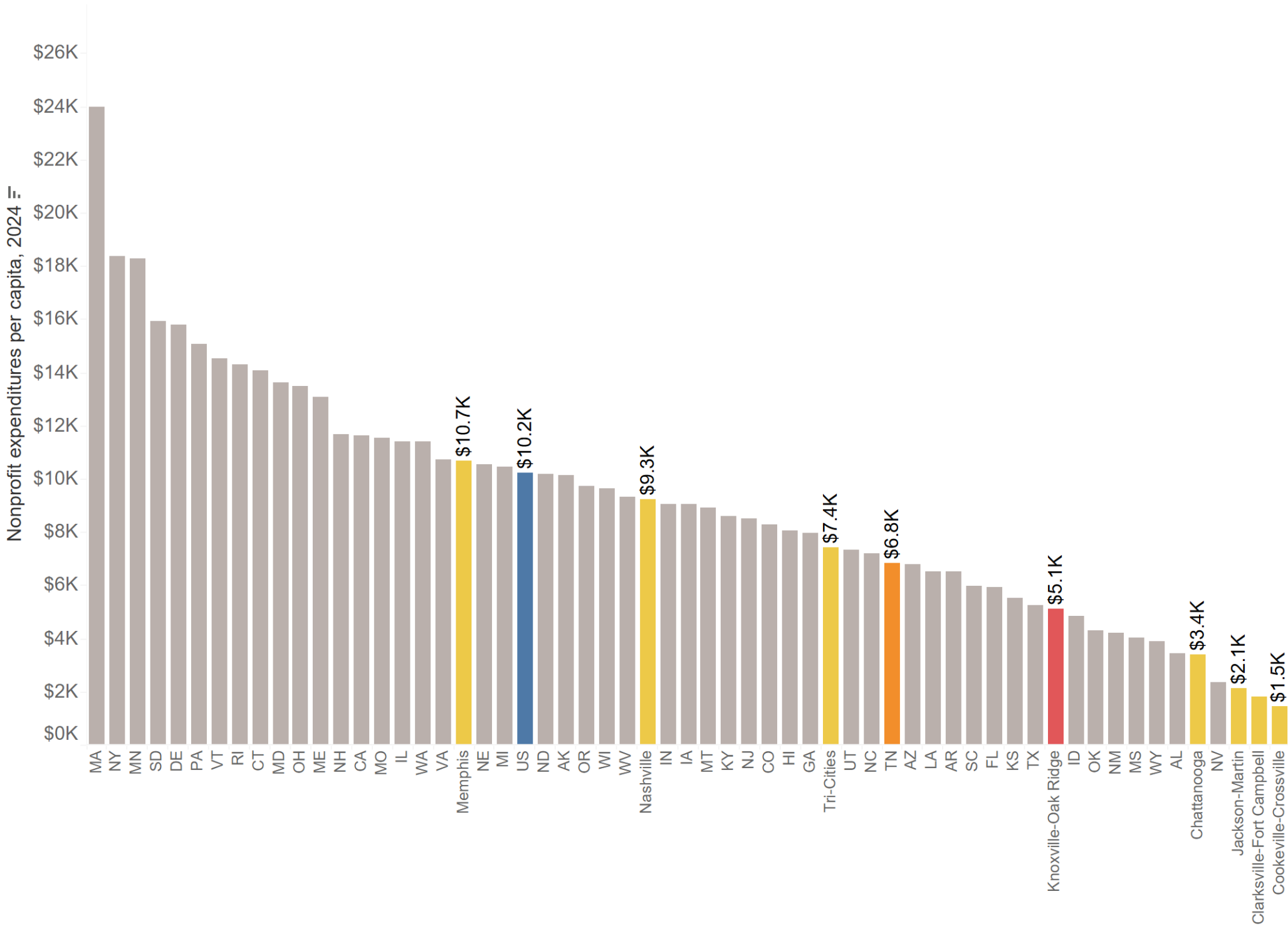
Nonprofits per Capita	page 41
Nonprofit Expenditures per Capita	page 42
Largest Nonprofits by Expenditure	page 43
TLAP Collaborative Governance Regional Inventory	page 44

Nonprofits per capita, 2024



Source: US Cluster Mapping Project; IRS 990, Census

Nonprofit Expenditures per Capita, 2024



Source: US Cluster Mapping Project; IRS 990, Census

Knoxville-Oak Ridge: Nonprofits by Expenditures, 2024

	Expenditures (\$)
UNIVERSITY HEALTH SYSTEM INC	1,458,694,623
PARKWEST MEDICAL CENTER	437,726,924
FORT SANDERS REGIONAL MEDICAL CENTER	411,529,829
EAST TENNESSEE CHILDRENS HOSPITAL ASSOCIAT..	278,417,922
COVENANT HEALTH	191,450,181
METHODIST MEDICAL CENTER	185,213,672
THE HELEN ROSS MCNABB CENTER	183,259,964
LINCOLN MEMORIAL UNIVERSITY	182,443,324
KNOXVILLE TVA EMPLOYEES CREDIT UNIO	177,582,390
THE UNIVERSITY OF TENNESSEE FOUNDAT ION INC	159,866,782
MORRISTOWN HAMBLEN HOSP	127,016,752
LECONTE MEDICAL CENTER	123,940,416
OAK RIDGE ASSOCIATED UNIVERSITIES INC	121,619,767
EDUCATION LOAN FINANCE INC	119,011,760
CUMBERLAND MEDICAL CENTER INC	101,717,322
CARSON-NEWMAN UNIVERSITY	99,660,581
FORT LOUDOUN ELECTRIC COOPERATIVE	81,568,069
SWEETWATER HOSPITAL ASSOCIATION	73,594,621
CHEROKEE HEALTH SYSTEMS	67,850,691
DOLLYWOOD FOUNDATION	63,879,132
MARYVILLE COLLEGE	59,448,145
EAST TENN HUMAN RESOURCE AGENCY INC	50,090,054
RETIREE RESOURCE CORP	48,229,791
ROANE COUNTY MEDICAL CENTER	46,867,065
PLATEAU ELECTRIC COOPERATIVE	45,947,762
FORT LOUDOUN MEDICAL CENTER	43,568,175
SECOND HARVEST FOOD BANK OF EAST TENNESSEE	41,108,447
KNOX AREA RESCUE MINISTRIES	38,003,371
CLAIBORNE MEDICAL CENTER	37,447,955
JOHNSON UNIVERSITY	35,477,086
THOMPSON ONCOLOGY GROUP DBA COVENANT HE..	35,226,900
HILLCREST HEALTHCARE COMMUNITIES INC	35,111,844
DOUGLAS-CHEROKEE ECONOMIC AUTHORITY INC	30,592,995
TELLICO VILLAGE POA INC	29,454,754
WEBB SCHOOL OF KNOXVILLE	29,170,184

Excluding Heath Care and Education

	Expenditures (\$)
THE HELEN ROSS MCNABB CENTER	183,259,964
RETIREE RESOURCE CORP	48,229,791
KNOX AREA RESCUE MINISTRIES	38,003,371
TELLICO VILLAGE POA INC	29,454,754
EAST TENNESSEE FOUNDATION	25,626,645
HIGHLANDER RESEARCH & EDUCATION CE..	23,597,596
HIGHLAND TELEPHONE COOPERATIVE INC	21,587,205
GOODWILL INDUSTRIES - KNOXVILLE INC	20,633,865
KNOXVILLE ZOOLOGICAL GARDENS INC	19,900,290
LIFECHANGERS OUTREACH	18,159,193
RIDGEVIEW PSYCHIATRIC HOSPITAL AND A..	17,686,797
EMORY VALLEY CENTER INC	17,286,214
UT-BATTELLE DEVELOPMENT CORPORATI..	17,243,670
HISTORIC TENNESSEE THEATRE FOUNDAT..	15,532,286
MICHAEL DUNN CENTER	15,431,456
NATIONAL EMERGENCY ASSISTANCE INC	15,315,490
OUR DAILY BREAD OF TENNESSEE INC	15,167,408
POSITIVELY LIVING INC	15,065,239
REMOTE AREA MEDICAL	14,926,302
YOUNG MENS CHRISTIAN ASSOCIATION OF..	14,862,998
BOYS & GIRLS CLUBS OF THE TENNESSEE ..	13,378,798
BREAKTHROUGH CORPORATION	12,585,421
PHILLIPS & JORDAN VEBA TR	12,488,460
SHEPHERDS STAFF MISSION FACILITATOR..	11,132,666
SENIOR CITIZENS HOME ASSISTANCE SER..	10,985,741
FEDERAL DEFENDER SERVICES OF EASTE..	10,705,870
COLLABORATIVE COMPOSITE SOLUTIONS ..	9,835,716
EMERALD YOUTH FOUNDATION	9,518,744
KNOXVILLE CONVENTION & VISITORS BUR..	8,926,532
CHURCH OF GOD	8,424,408
SEVIER SOLID WASTE INC	7,346,768
MID-EAST COMMUNITY ACTION AGENCY	7,309,144
YOUNG-WILLIAMS ANIMAL CENTER OF EAS..	7,280,773
COMMUNITY HEALTH OF EAST TENNESSEE	6,916,952
KNOXVILLE LEADERSHIP FOUNDATION	6,167,587

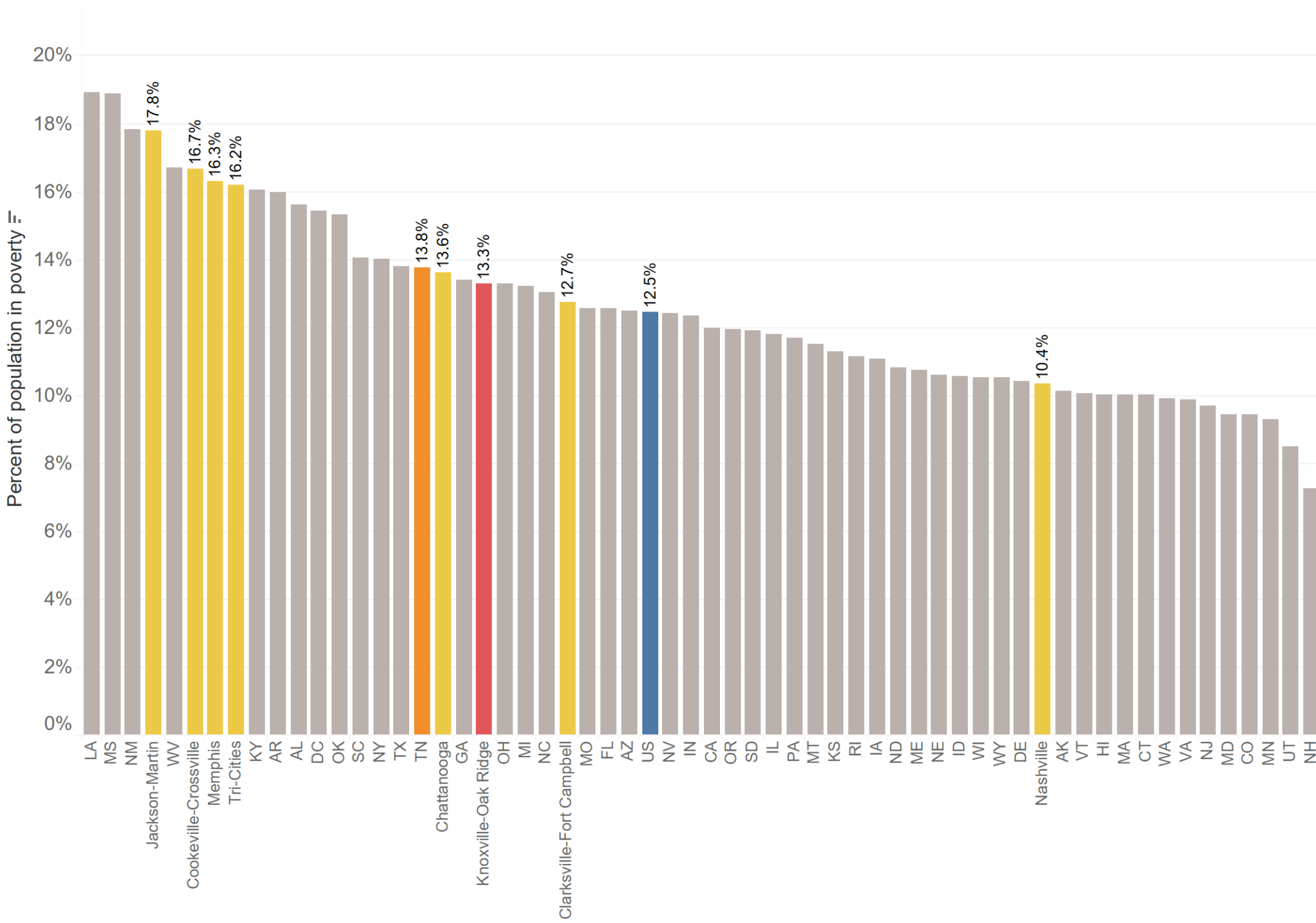
Knoxville-Oak Ridge: TLAP Collaborative Governance Regional Inventory

Initiative	Mission Summary	Lead Organization	Counties Covered
East Tennessee Economic Council (ETEC) / Knoxville Chamber & Innovation Valley	Forge regional alignment between public, private, civic, and academic sectors to drive inclusive innovation, business development, and economic resilience.	Knoxville Chamber (Innovation Valley) in collaboration with ETEC	Knox, Anderson, Blount, Roane, Grainger, Jefferson, Loudon (core region)
East Tennessee Development District (ETDD)	Provide regional governance, cross-county planning, and economic development coordination across 16-county East Tennessee region.	ETDD (public regional planning district)	Includes all listed counties under its 16-county boundary
Appalachian Regional Commission (TN State Programs via ARC Districts)	Support regional cross-sector economic, workforce, and infrastructure development through multi-state governance and grants.	ARC (federal–state partnership) and Tennessee Department of Economic & Community Development managing local development districts	All Appalachian-designated TN counties including the 16 East TN counties
Regional Workforce Governance – ETLWDB (WIOA Board)	Coordinate workforce training, employer partnerships, and service delivery under WIOA via multi-county board governance.	East Tennessee Local Workforce Development Board (ETLWDB) hosted at ETHRA	Knox, Anderson, Jefferson, Roane, Loudon, Blount, Grainger, Hamblen, Claiborne, Cocke, Union, Scott, Sevier, Monroe, Morgan
East Tennessee Community Design Center (ETCDC)	Offer cross-jurisdictional, professional planning and design services to nonprofits and governments in East Tennessee to support inclusive development.	ET Community Design Center (nonprofit)	Operates across 16 East TN counties

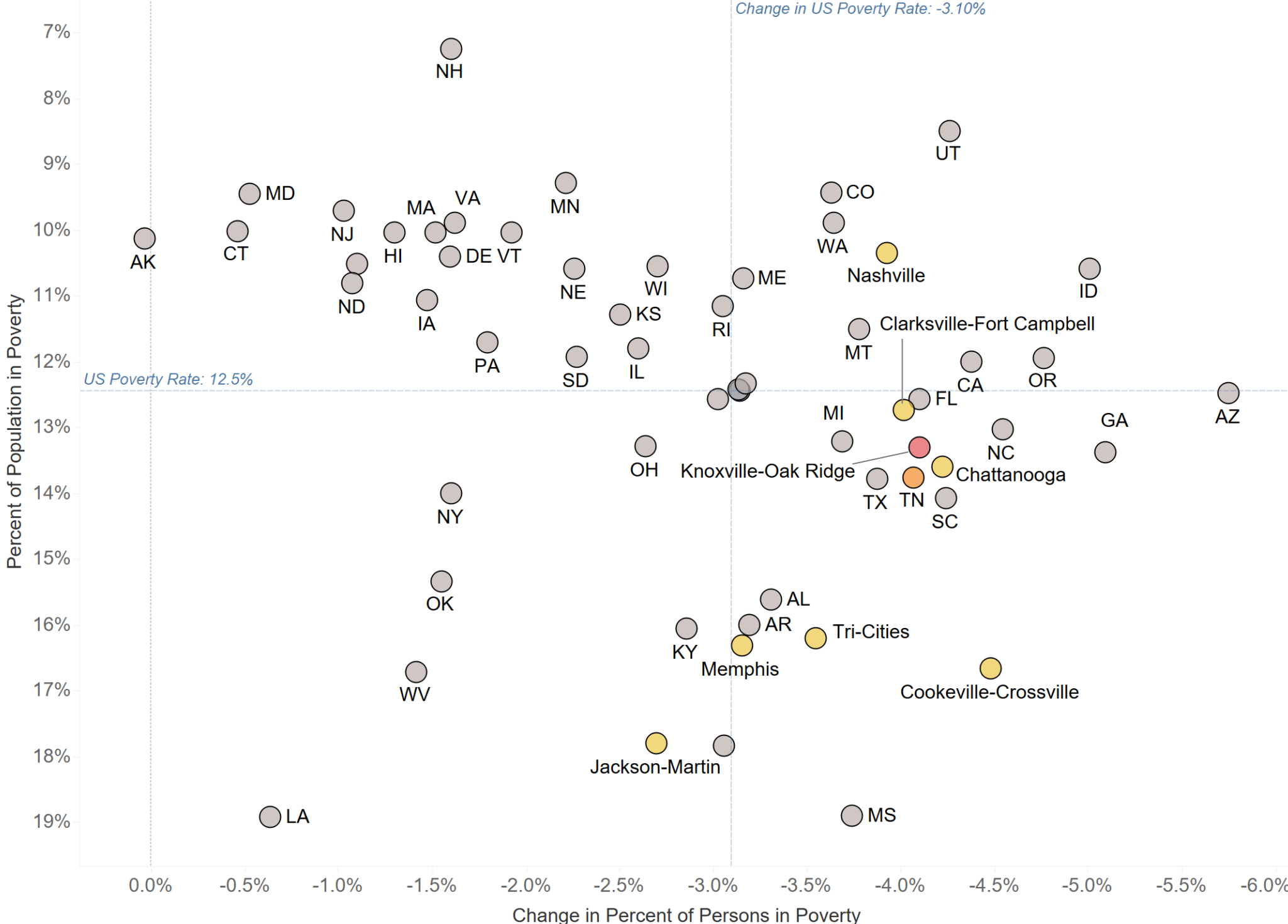
Quality of Life

Poverty Rate	page 46
Poverty Rate Level and Change	page 47
Households Receiving SNAP Benefits	page 48
Violent Crime Rate	page 49
Adults in Correctional Facilities*	page 50
Drug Overdose Deaths	page 51
Broadband Adoption	page 52
Health Insurance Coverage	page 53
Workers with Long Commutes	page 54
Home Ownership Rate	page 55
Renewable and Nuclear Energy Production*	page 56
Renewable and Nuclear Energy Change*	page 57

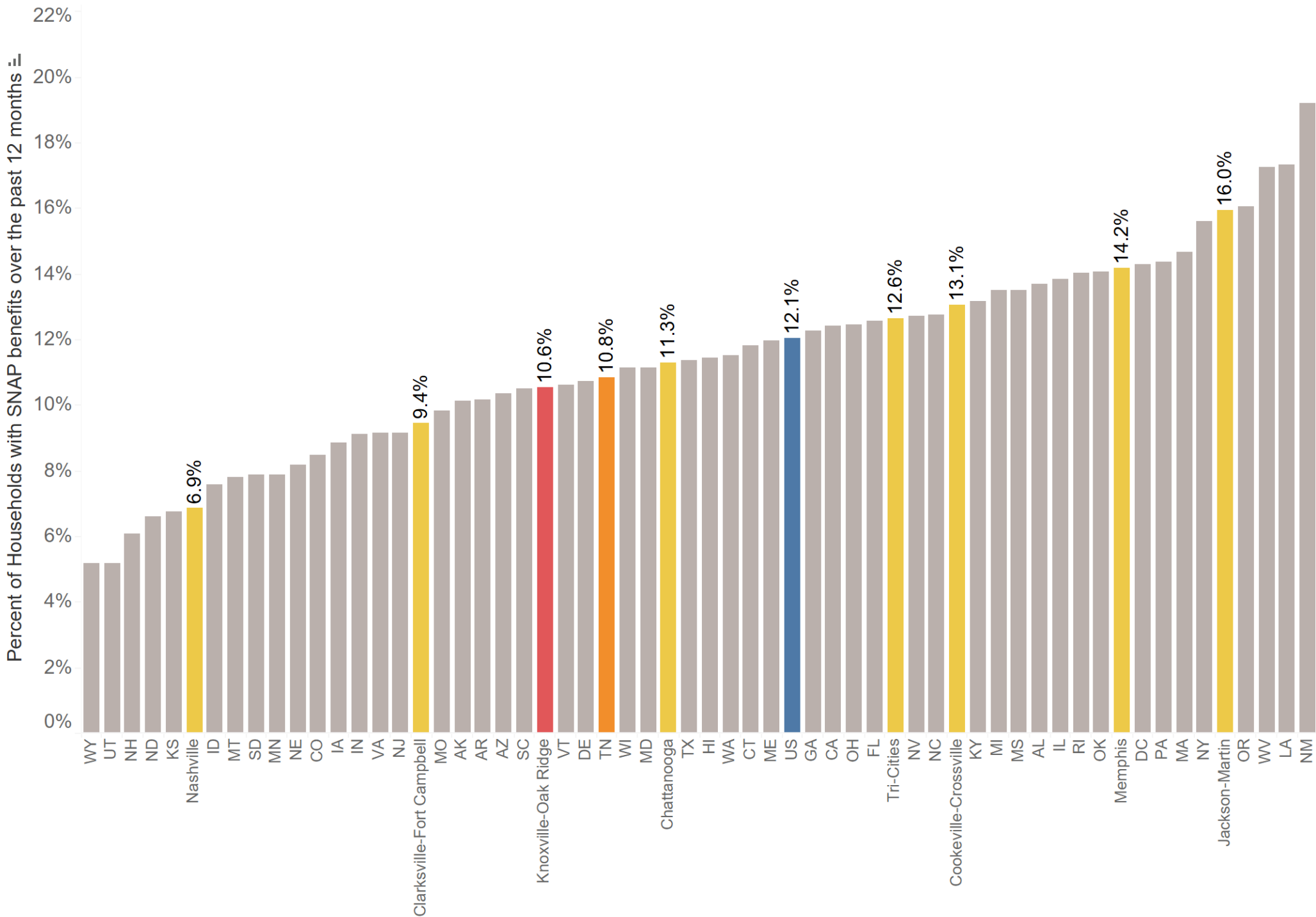
Poverty Rate, 2024



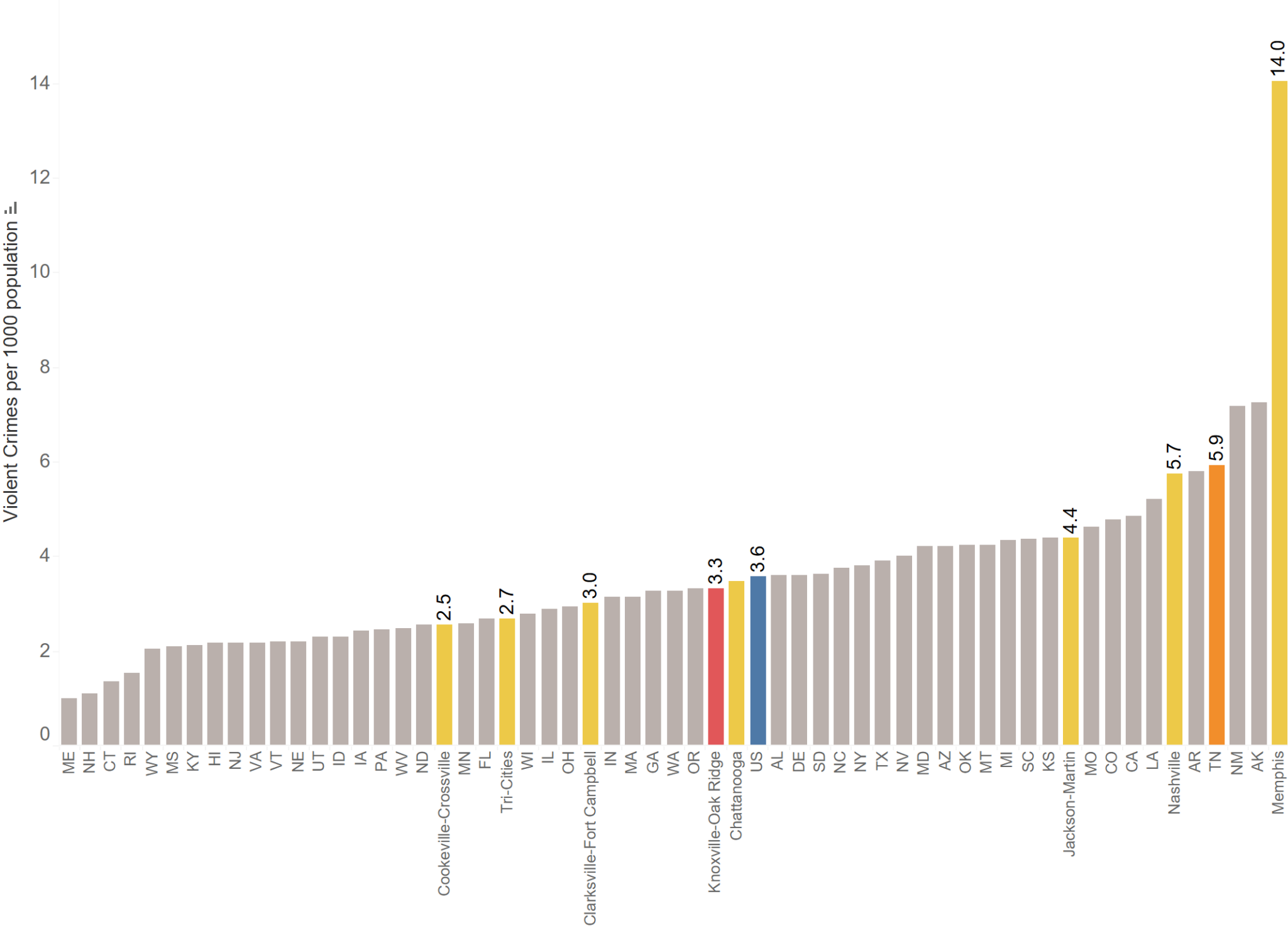
Poverty Rate, 2014-2024



Households Receiving SNAP Benefits, 2024

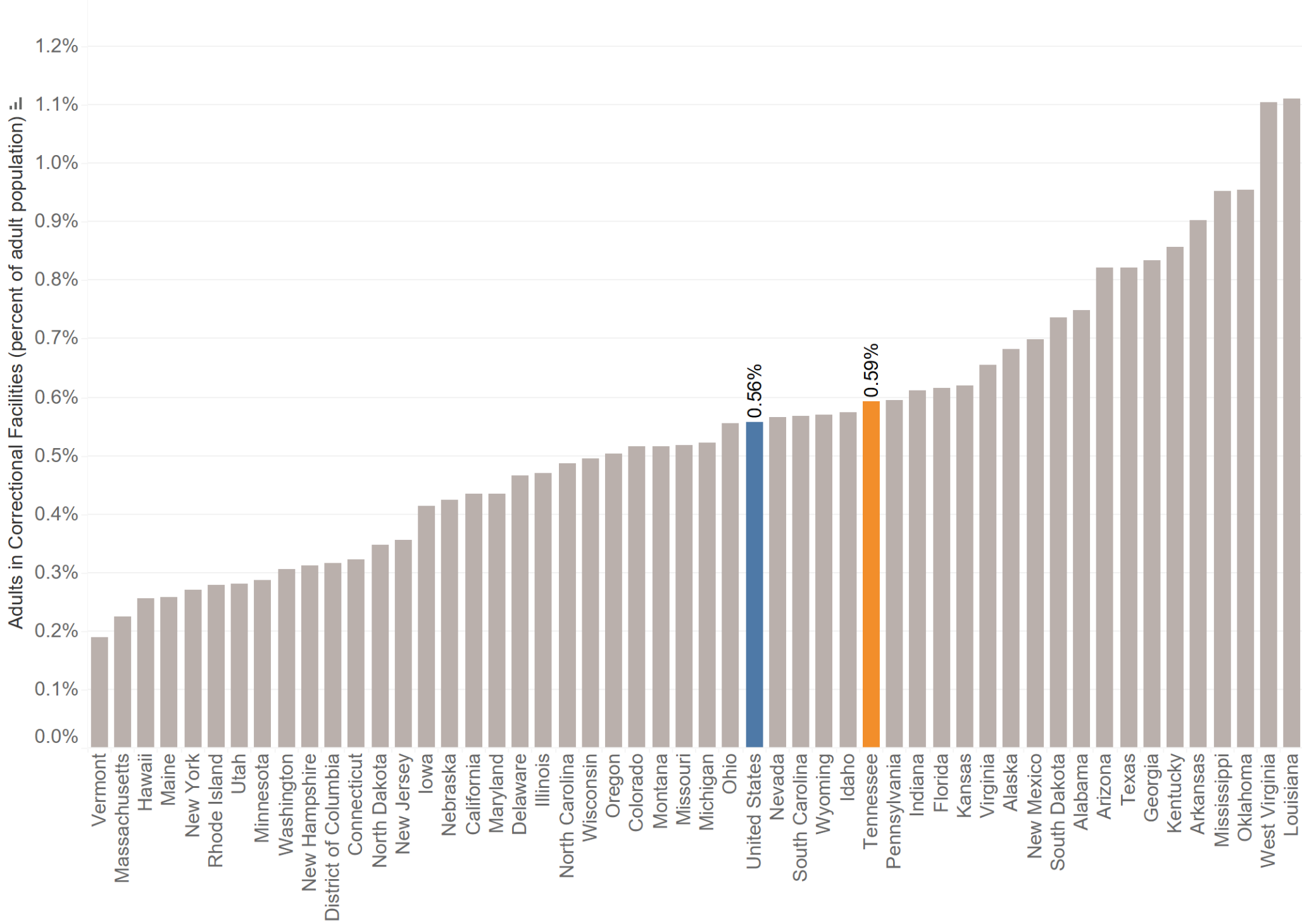


Violent Crime Rate, 2024



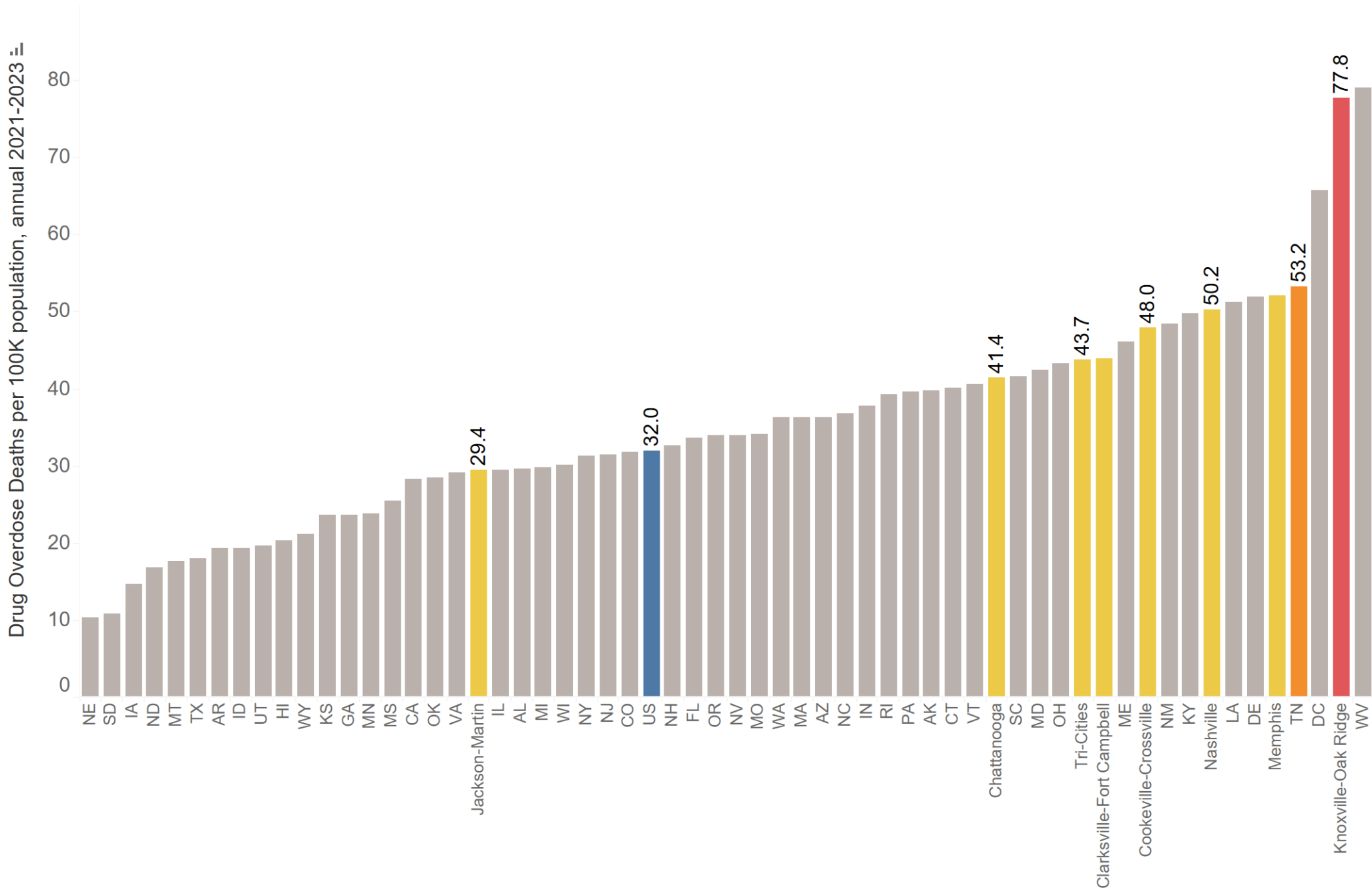
Source: US Cluster Mapping Project; FBI

Adults in Correctional Facilities, 2024

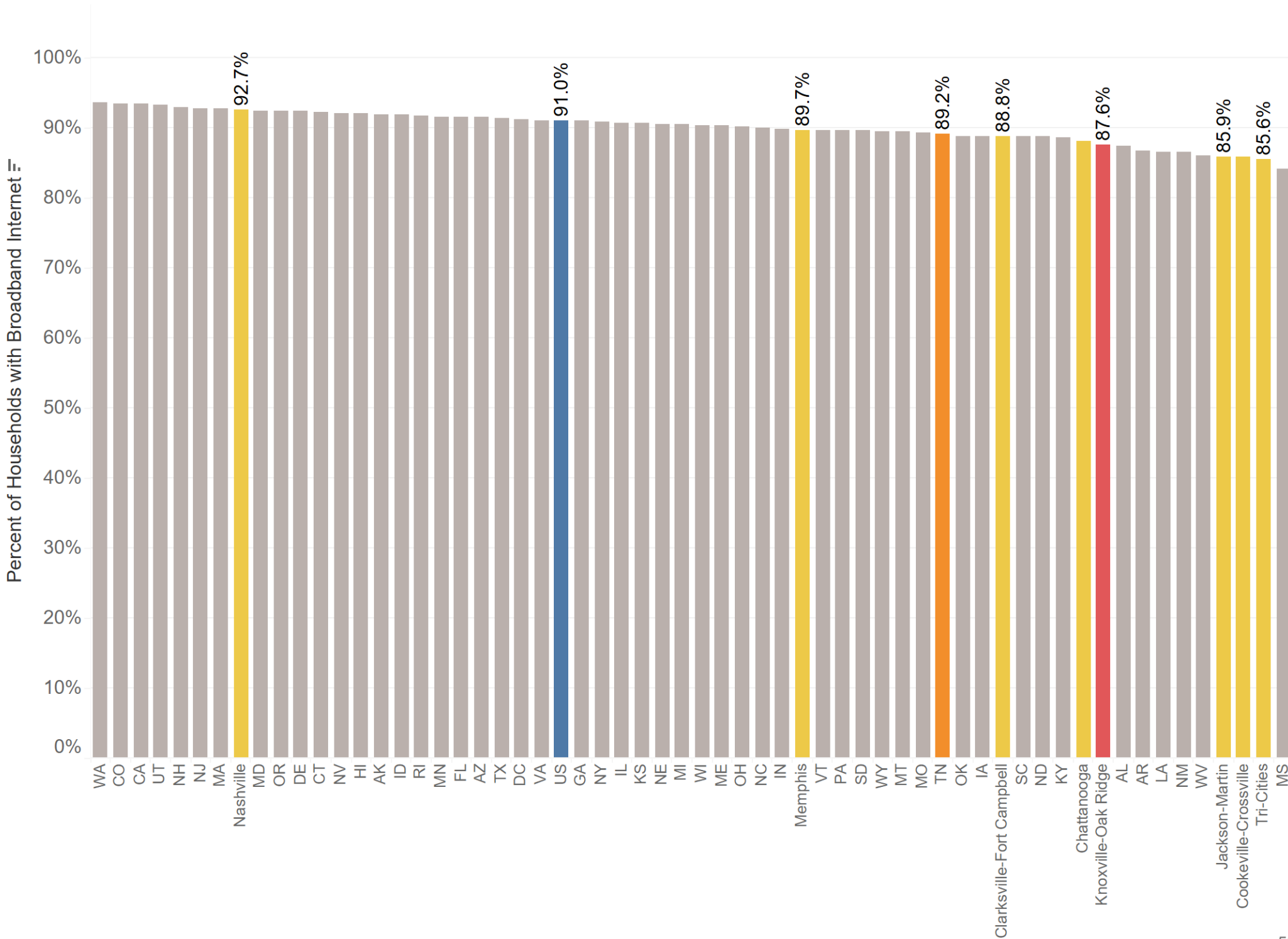


Source: US Cluster Mapping Project; EIA SEDS

Drug Overdose Deaths per 100k Population average annual 2021-2023

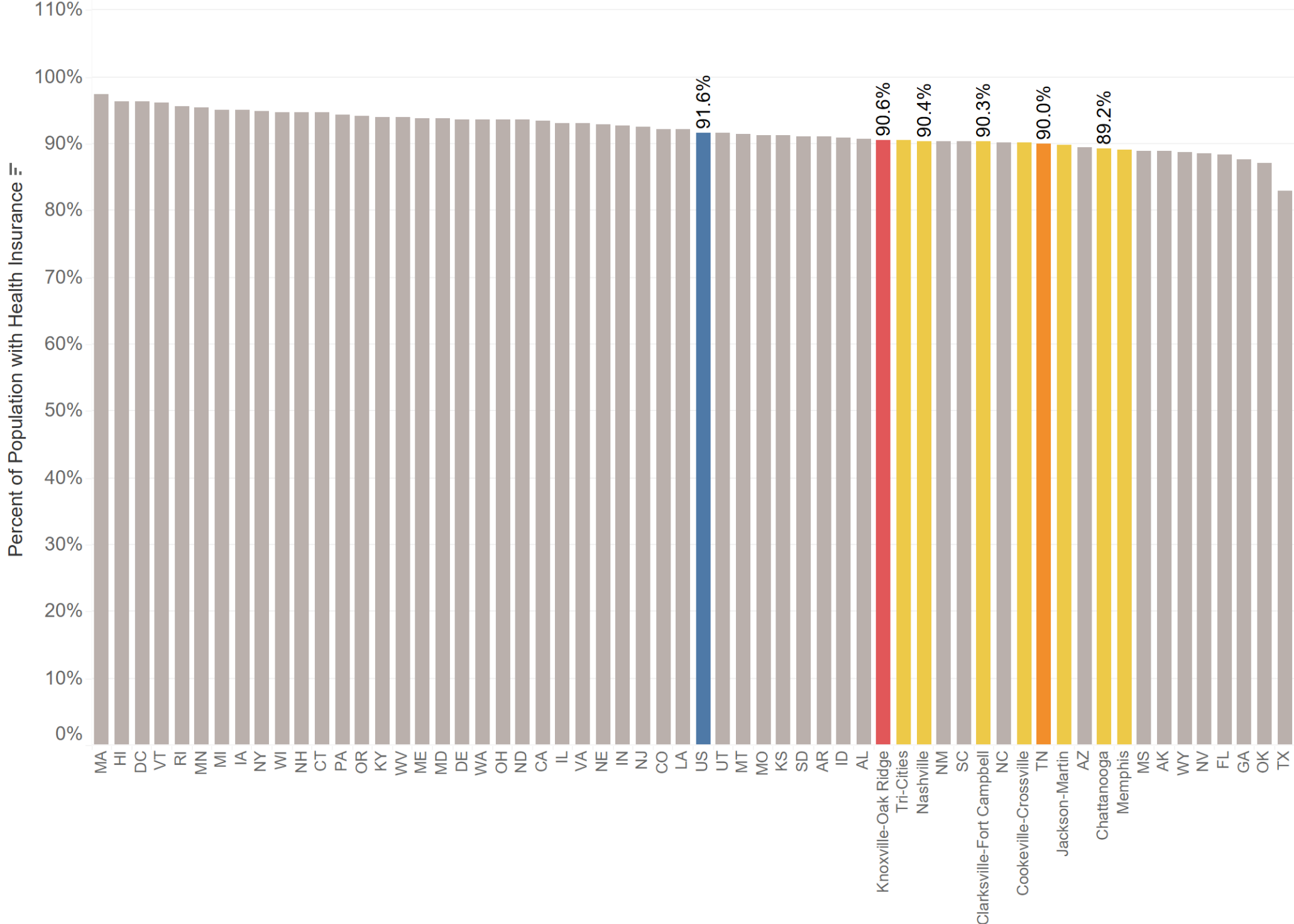


Broadband Adoption, 2024



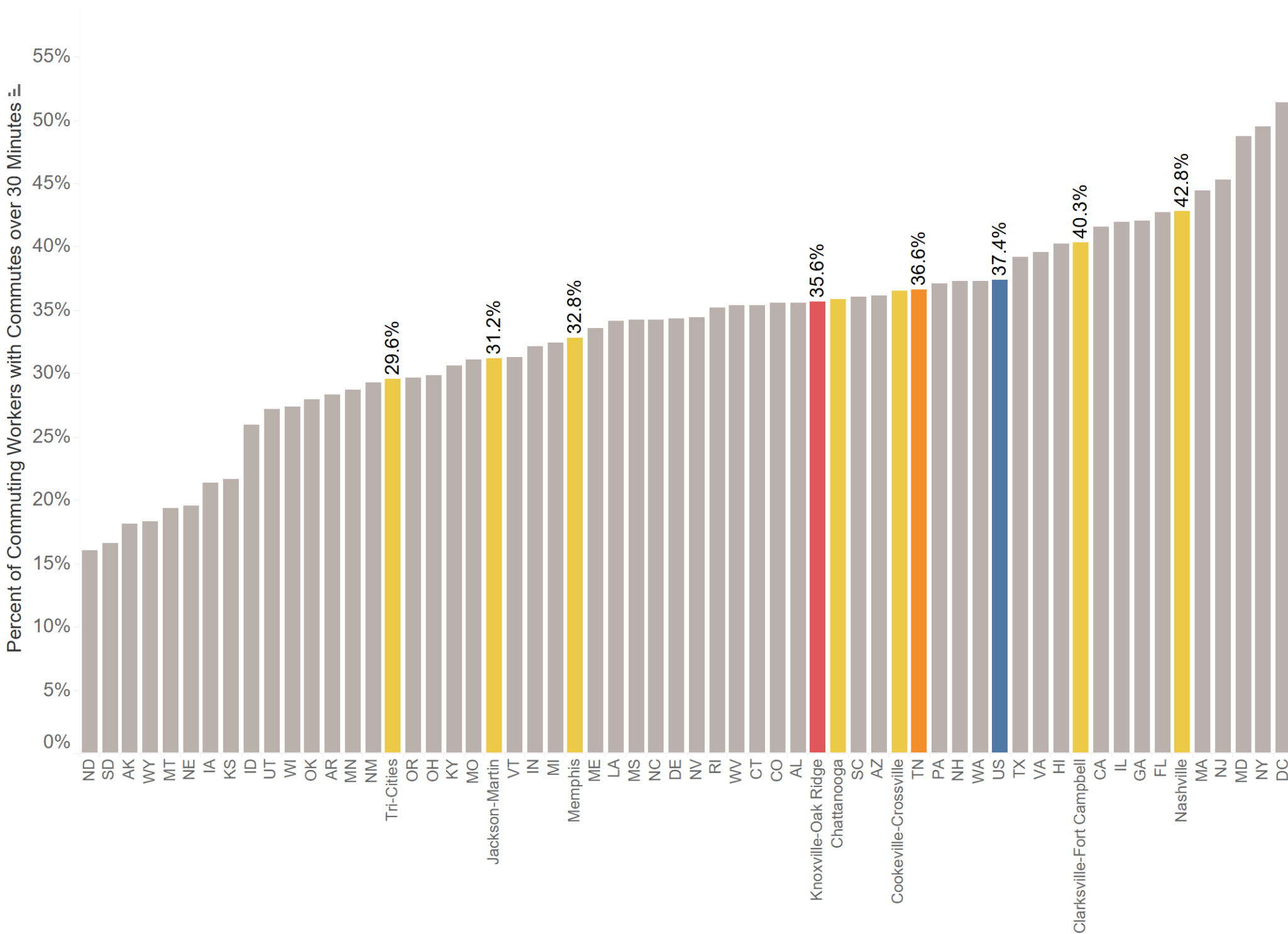
Source: US Cluster Mapping Project; Census ACS5

Health Insurance Coverage Rate, 2024



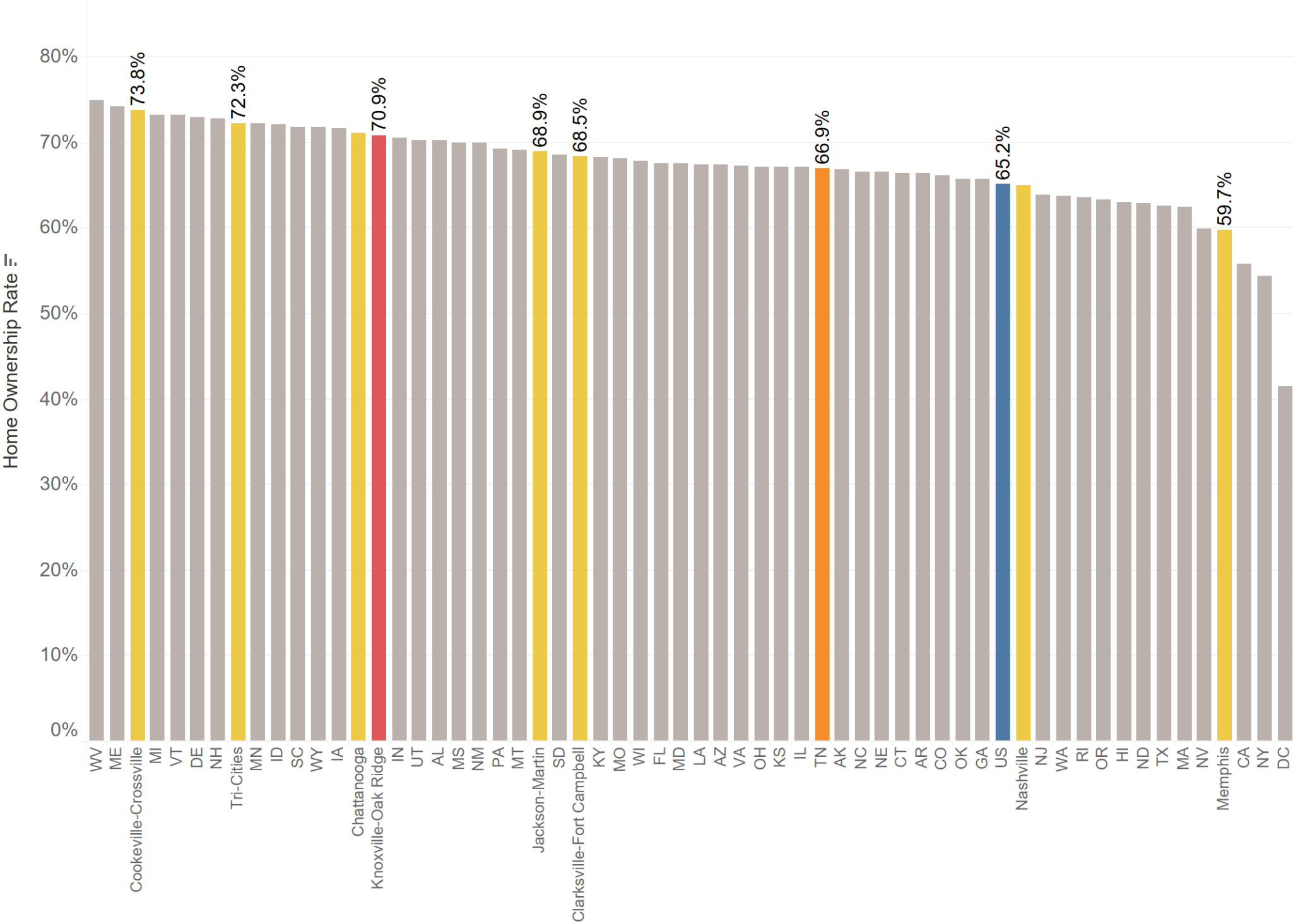
Source: US Cluster Mapping Project; Census ACS5

Percent of Workers with Long Commutes, 2024



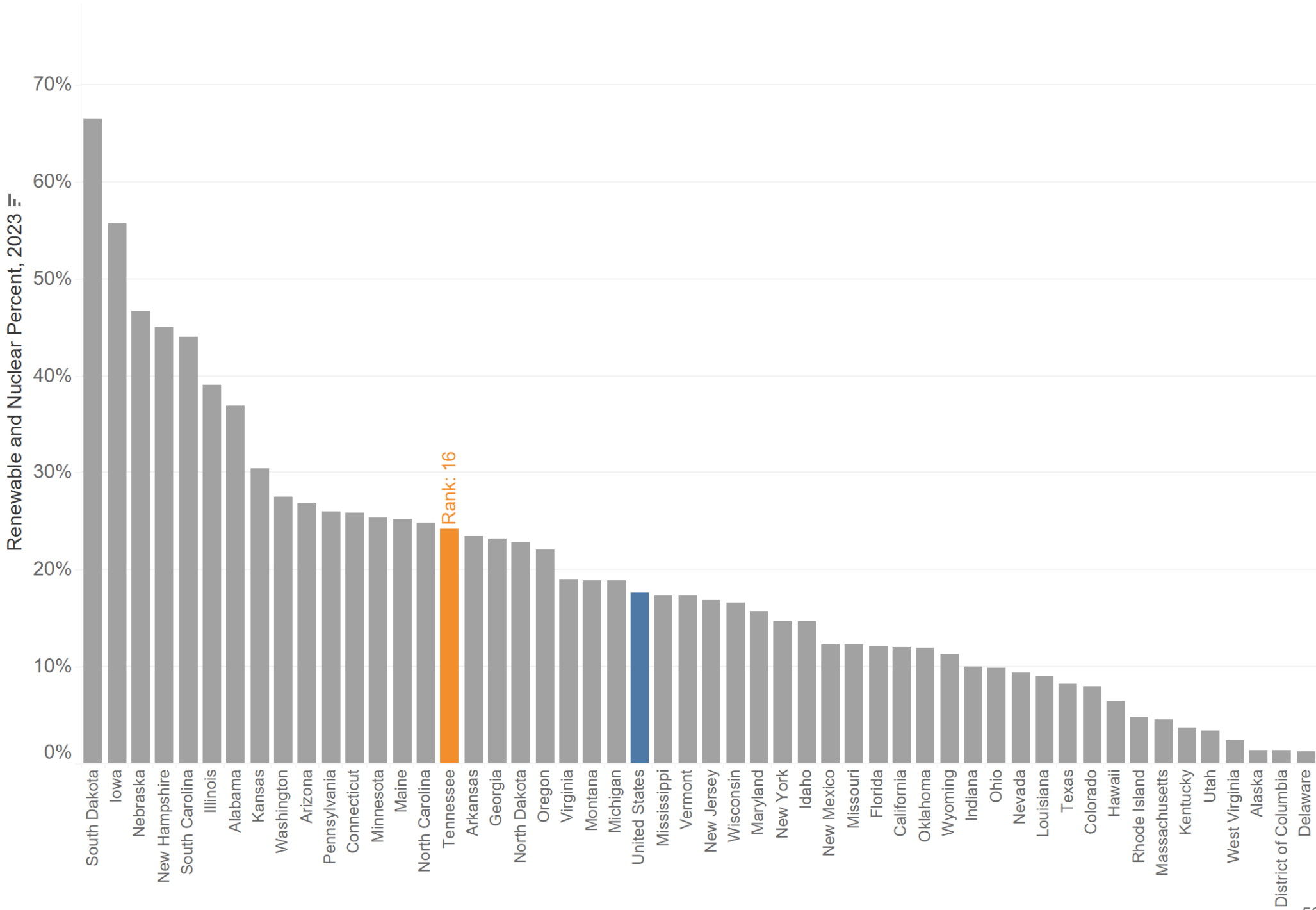
Source: US Cluster Mapping Project; Census ACS5

Home Ownership Rate, 2024



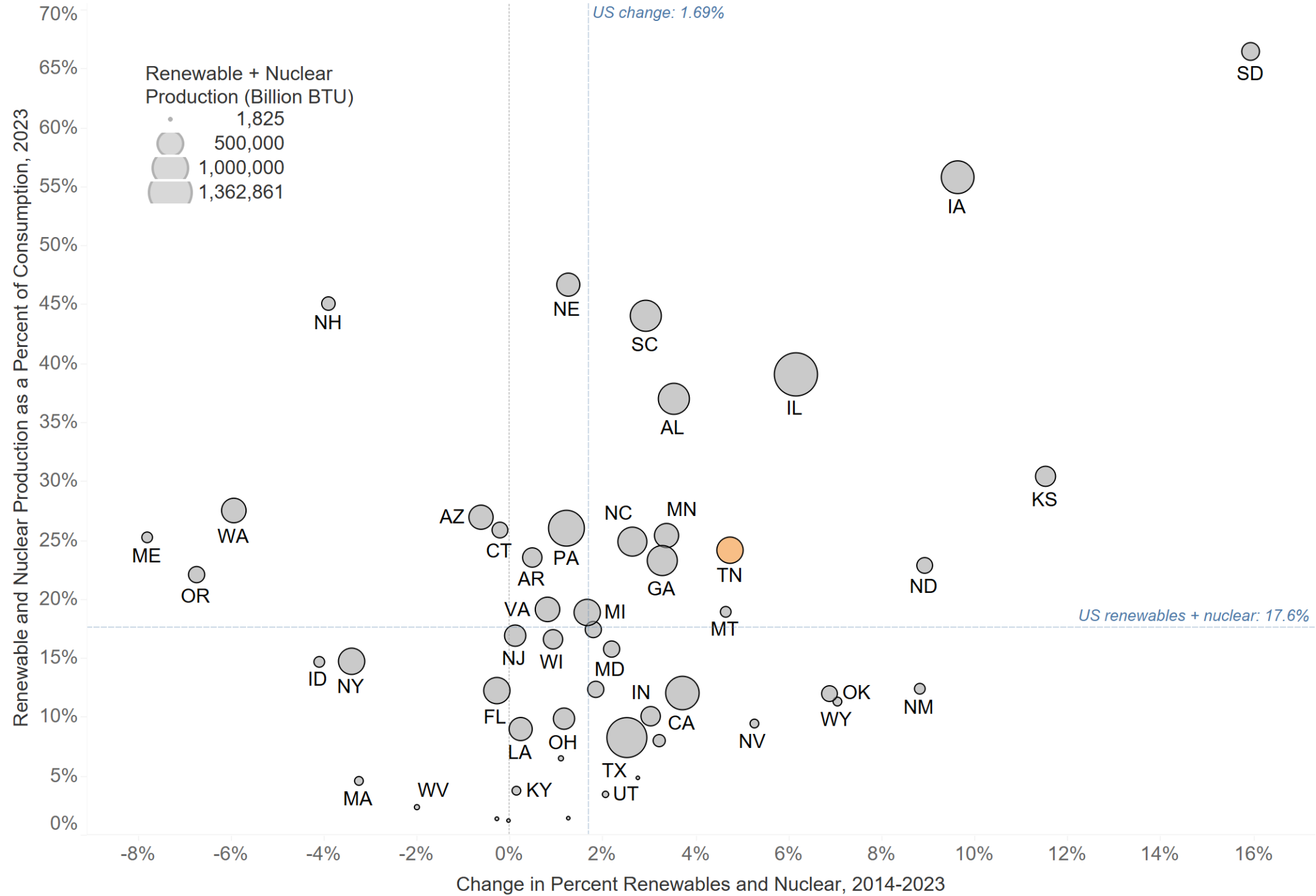
Source: US Cluster Mapping Project; Census ACS5

Renewable and Nuclear Energy Production as a Percent of Consumption, 2023



Source: US Cluster Mapping Project; EIA SEDS

Renewable and Nuclear Energy Production as a Percent of Consumption, 2014-2023



Source: US Cluster Mapping Project; EIA SEDS

**Strategy and 
Competitiveness
Associates**

Boston, MA
info@strat-comp.org