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NATIONAL METRO COMPARISON

Research Offerings

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IT JOB TRENDS

Monthly Snapshot of IT Job Postings

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North Carolina

STATE OF TECHNOLOGY

2023 Industry Report + State Rankings

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Research Underwriters

LEAD

Charter COMMUNICATIONS

CLARKSTON CONSULTING

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NC

First Citizens Bank

RAILINC

Red Hat

CONTRIBUTING

CREDIT SUISSE

DELL Technologies

Deutsche Bank

relay

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TECH INNOVATION INDEX

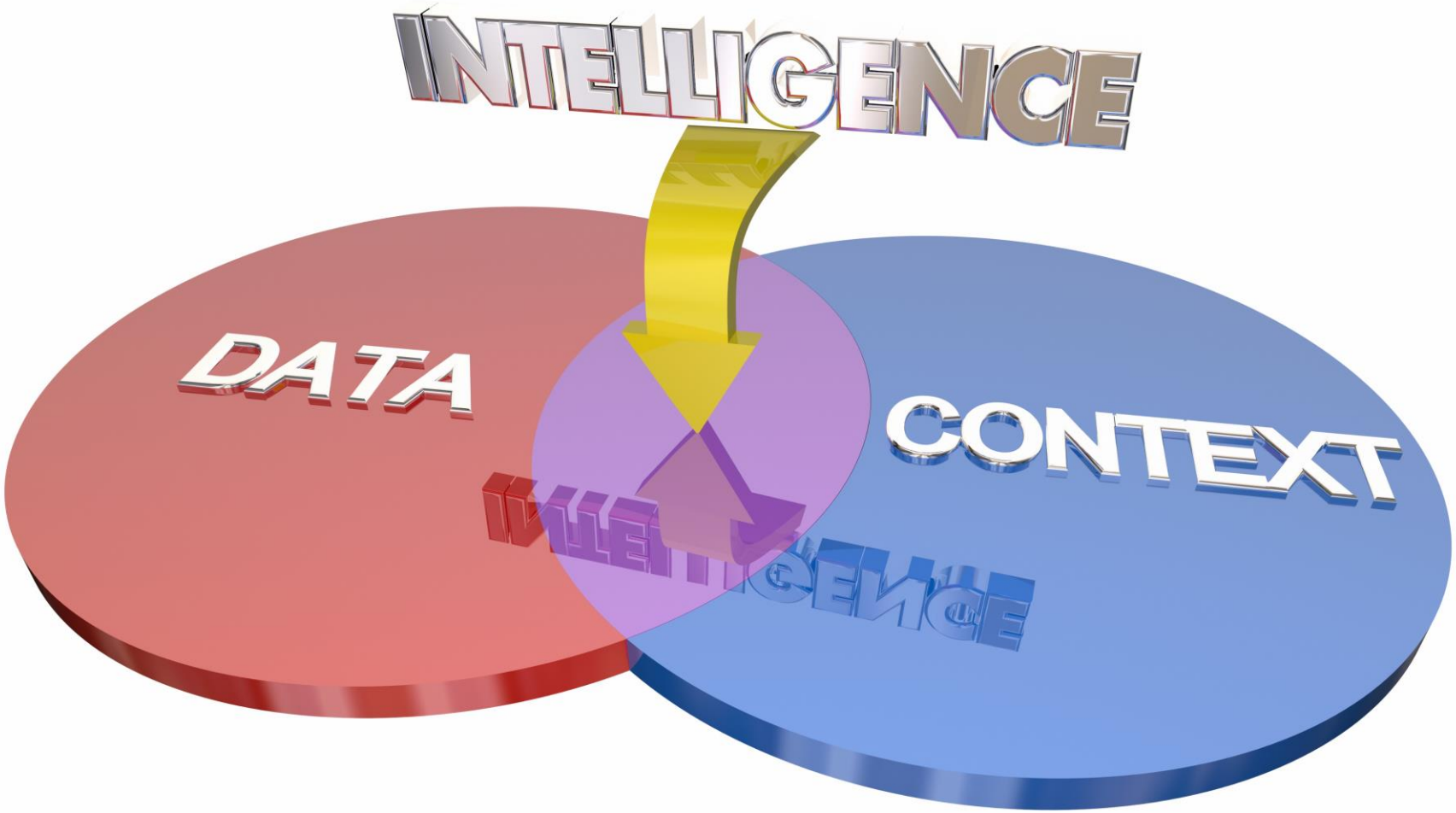
NATIONAL METRO COMPARISON

...A Metro Analysis

Ted Abernathy

ECONOMIC LEADERSHIP

NCTECH Association


INTELLIGENCE
DATA
CONTEXT

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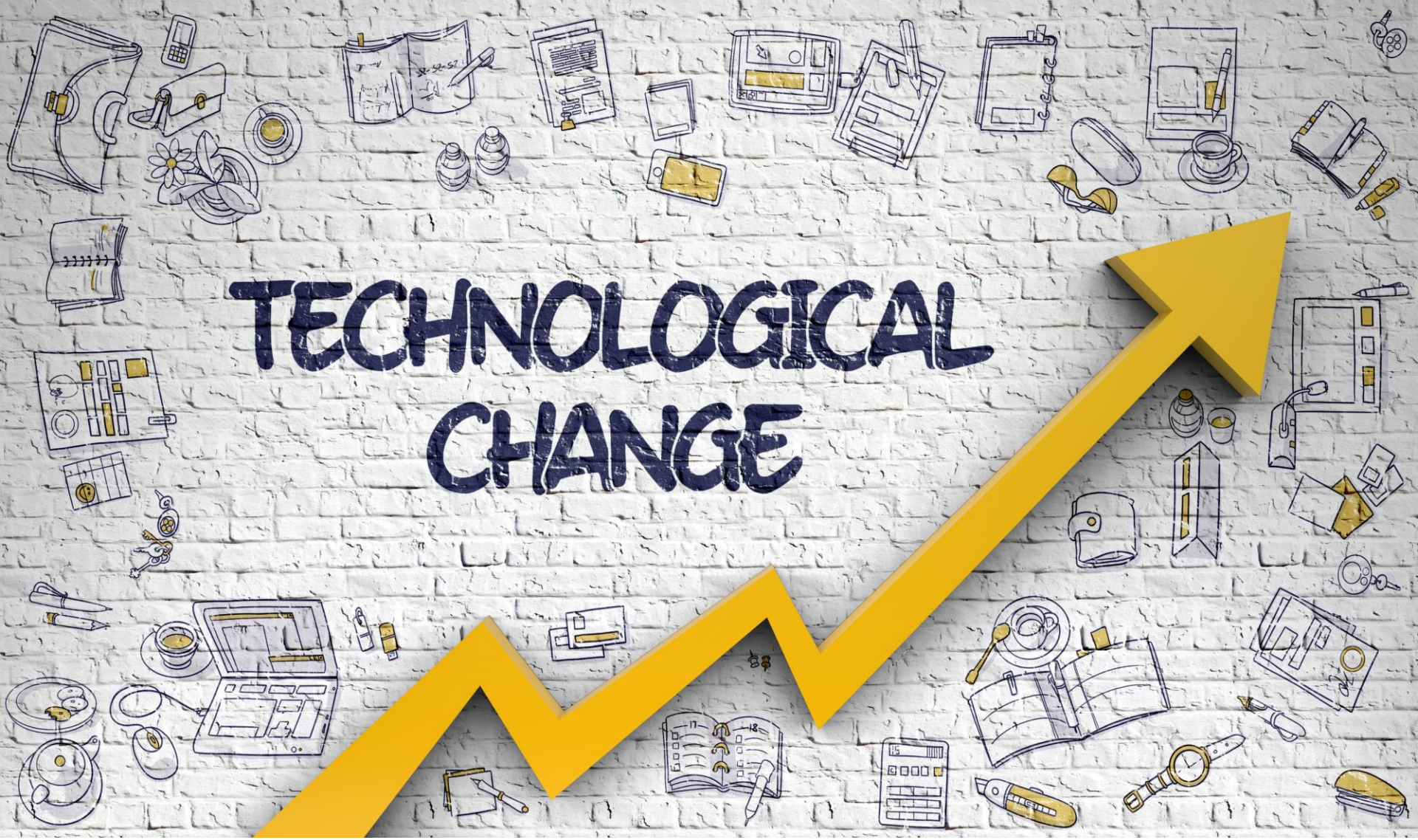

TECHNOLOGICAL
CHANGE

hire
retain
reward
TRAIN
recruit
STAFFING
SHORTAGE
ENGAGE
ATTRACT
network
replace
PAY
satisfy

Crippling Global Labor Shortages by 2030

Germany will see a shortage of up to 10 million.

Brazil will have a shortage of up to 40.9 million people.

Canada's labor deficit of up to 2.3 million.

China's shortage of up to 24.5 million people.

Source: Boston Consulting Group

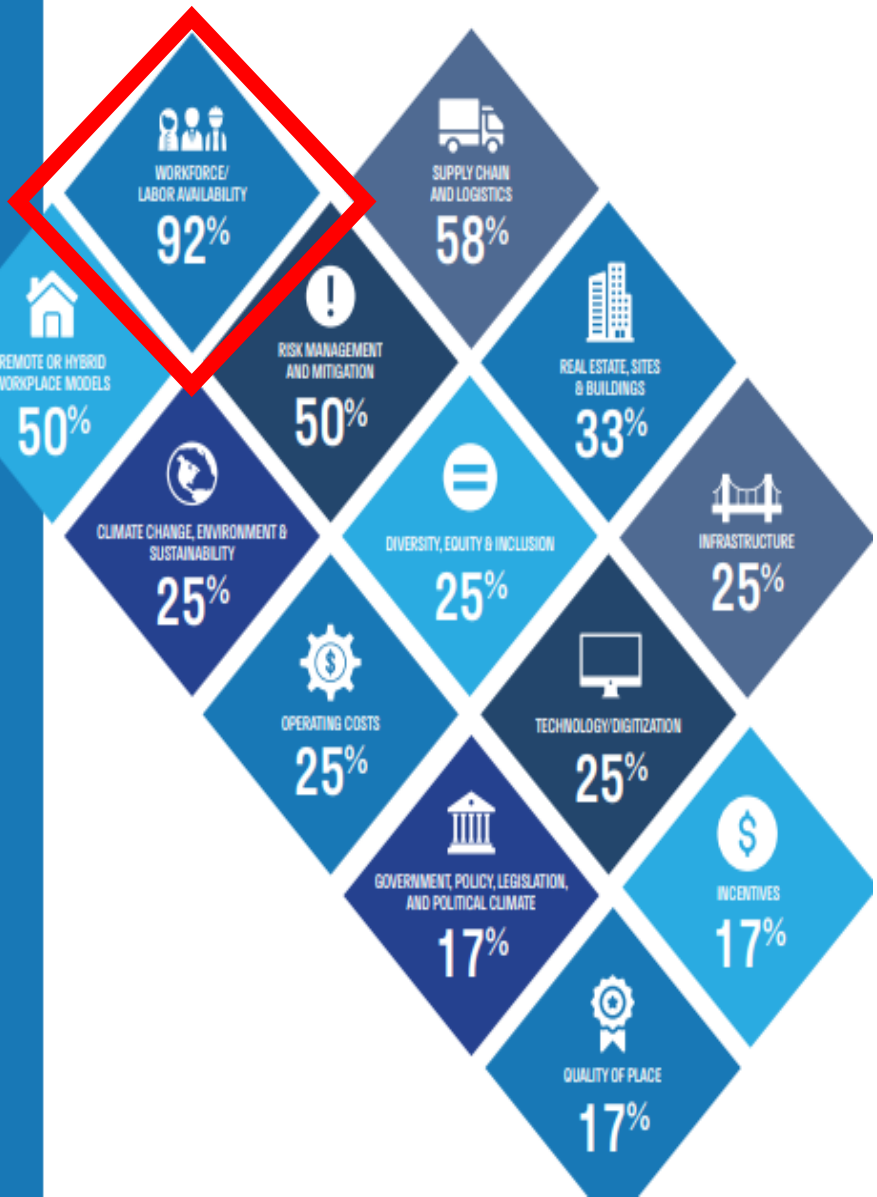
2022 THE STATE OF SITE SELECTION

SITE SELECTORS GUILD dci

The Top Factors Impacting Site Selection

FIGURE 1

FACTORS WITH THE GREATEST CURRENT IMPACT ON SITE SELECTION, AMONG GUILD MEMBERS FOCUSED ON **OFFICE** PROJECTS



Workforce – The Site Selectors Guild

- Access to talent remains the most important global factor in location decisions
- Workforce shortages are being compounded by immigration policy constraints and insufficient worker training/retraining programs.
- Companies believe that diversity, equity and inclusion (DEI) initiatives positively impact their ability to attract and retain talent

The Great Resignation, Reshuffle, Realignment, Reflection, Renegotiation

Between March 2020 and April 2021 half of all U.S. adults had experienced some change in their work.

"The collective desire of the American workforce for more rewarding or meaningful work."

Strada September 2022

State of Technology Industry Report 2022

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ECONOMIC LEADERSHIP

OUTLOOK FOR TECH

Latest Best States for Business Rankings

	Forbes	CNBC	CEO Magazine	Business Facilities
1	North Carolina	North Carolina	Texas	Texas
2	Texas	Washington	Florida	Virginia
3	Utah	Virginia	Tennessee	Tennessee
4	Virginia	Colorado	North Carolina	Alabama
5	Florida	Texas	Indiana	North Carolina
6	Georgia	Tennessee	South Carolina	Indiana
7	Tennessee	Nebraska	Ohio	Georgia
8	Washington	Utah	Nevada	Florida
9	Colorado	Minnesota	Georgia	Utah
10	Idaho	Georgia	Arizona	Mississippi

Virginia, Florida, Utah 3 of 4
Washington, Colorado, Indiana, Ohio 2 of 4

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North Carolina Technology Industry Summary Statistics, 2020

Indicator	Technology Industry	State Total	State Total Percentage
Employees	275,306	4,323,324	6.4%
Establishments	22,658	298,465	7.6%
Wages (millions)	$32,144	$274,799	11.7%
Sales (millions)	$99,087	$907,630	10.9%

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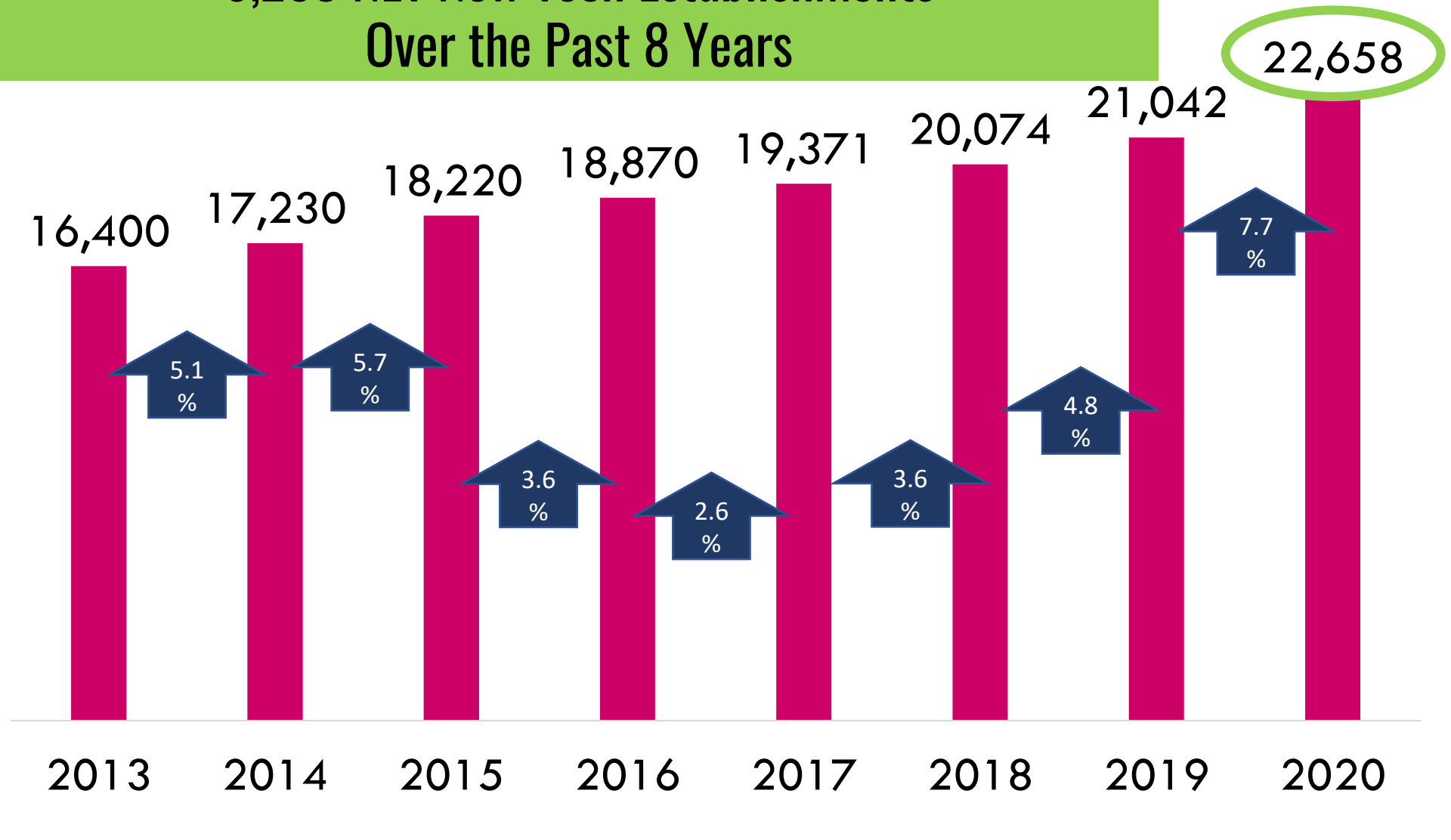
OUTLOOK FOR TECH

North Carolina Total Tech Establishments, 2013-2020

6,258 NET New Tech Establishments Over the Past 8 Years



North Carolina Technology Industry by Sub-Categories, 2020

Technology Categories	Employment, 2020	Employment Change, 2019-2020	Employment Change, 2015-2020	Establishments, 2020
Energy Tech	13,388	0.4%	0.2%	544
Environmental Tech	25,303	0.1%	13.0%	1,640
Life Sciences	92,279	2.6%	23.2%	5,374
IT	144,335	2.1%	11.8%	15,101

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OUTLOOK FOR TECH

Average Annual Earnings per Worker by Sub-Industry, 2020

Technology Categories	North Carolina	North Carolina (Purchasing Power)	National Average
Energy Tech	$139,000	$151,500	$162,000
Environmental Tech	$104,400	$113,900	$86,700
Life Sciences	$119,700	$130,500	$141,200
IT	$131,300	$143,200	$164,600
All Categories	**North Carolina**	**North Carolina (Purchasing Power)**	**National Average**
Tech Services	$121,800	$132,900	$151,000
Tech Manufacturing	$136,600	$149,000	$152,800
TOTAL TECH INDUSTRY	**$125,300**	**$136,700**	**$151,300**

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OUTLOOK FOR TECH

North Carolina's Tech Industry by Super Sub-Industries, 2020

Sub-Industries	2020 Employment	Employment Change (2015-2020)	Establishments (2020)	National Location Quotient
Software	80,700	30.8%	12,202	0.96
Engineering, Environmental, & Clean Tech	40,586	27.7%	3,251	1.01
Internet & Telecommunications	38,290	-6.9%	2,595	0.92
R&D and Testing	34,175	37.0%	2,459	1.03
Life Science Manufacturing	30,790	1.2%	324	1.43
Electronics Hardware	25,346	-3.5%	304	0.92
Remediation and Waste Management	12,032	18.7%	981	0.86
Renewable Energy	601	500%	44	1.15
Other Energy and Power Generation	12,787	-3.6%	500	0.44
TOTAL TECH INDUSTRY	**275,306**	**14.9%**	**22,658**	**0.94**

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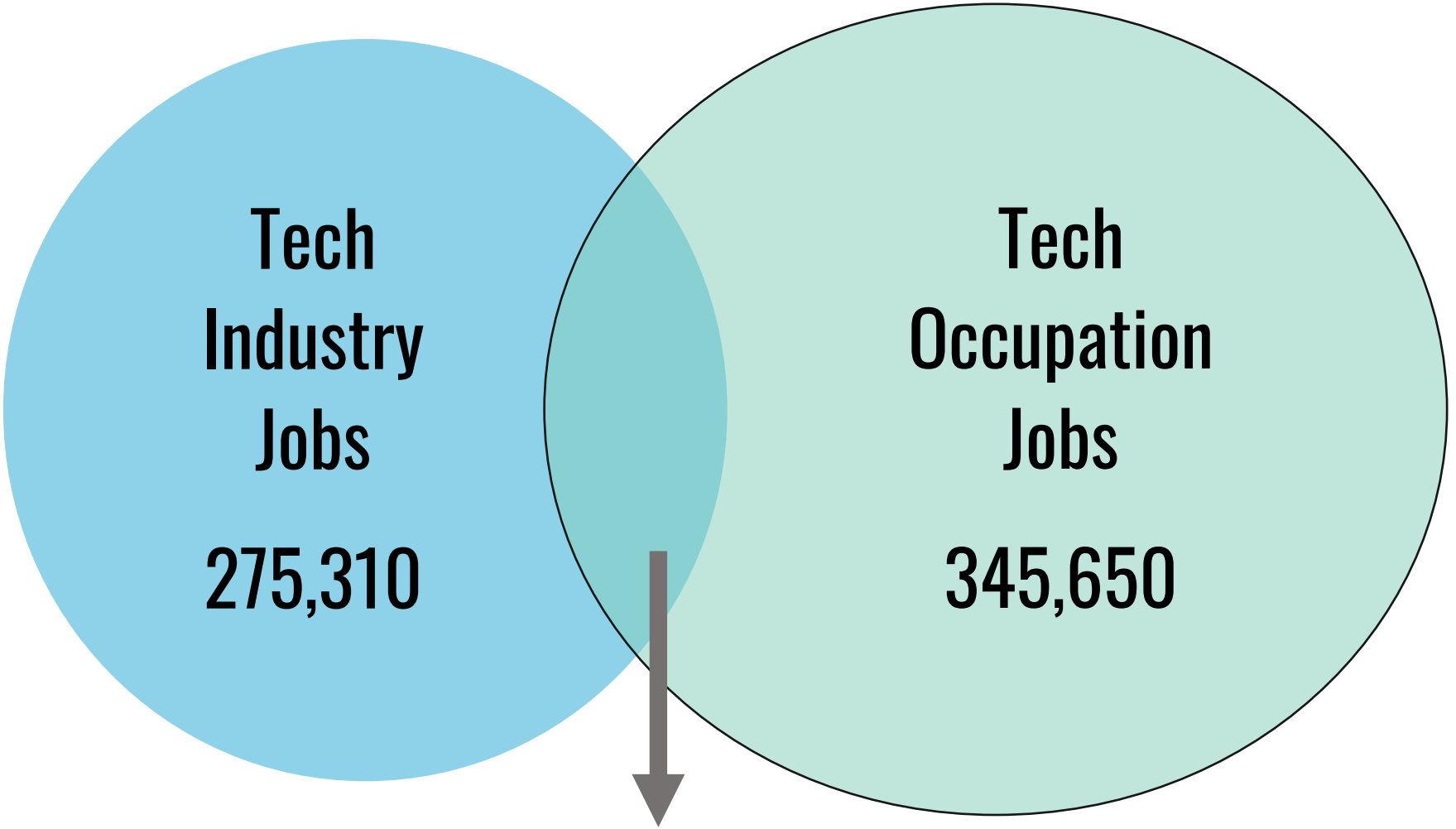
OUTLOOK FOR TECH

Staffing Patterns of Tech Industries and Tech Occupations, 2020



36% of tech occupation jobs are employed in tech industries.

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OUTLOOK FOR TECH

Top 10 Tech Occupations in North Carolina, 2020

Description	2020 Occupations	Change in Employment, 2015-2020	Median Annual Wage[a]	Annual Openings	Percentage of Total Tech Occupations
Software Developers and Software Quality Assurance Analysts and Testers	47,234	48%	$103,250	5,812	14%
Project Management Specialists and Business Operations Specialists, All Other	40,330	30%	$72,110	4,437	12%
Computer Systems Analysts	25,275	18%	$92,850	2,800	7%
Computer User Support Specialists	22,808	13%	$50,670	2,291	7%
Management Analysts	19,534	32%	$89,770	2,483	6%
Market Research Analysts and Marketing Specialists	18,709	33%	$64,690	2,582	5%
Computer and Information Systems Managers	14,975	32%	$139,010	1,700	4%
Financial and Investment Analysts, Financial Risk Specialists, and Financial Specialists, All Other	14,060	28%	$85,050	1,639	4%
Network and Computer Systems Administrators	10,963	-1%	$82,220	1,037	3%
All Tech Occupations[b]	**345,646**	**24%**	**$84,065**	**42,490**	

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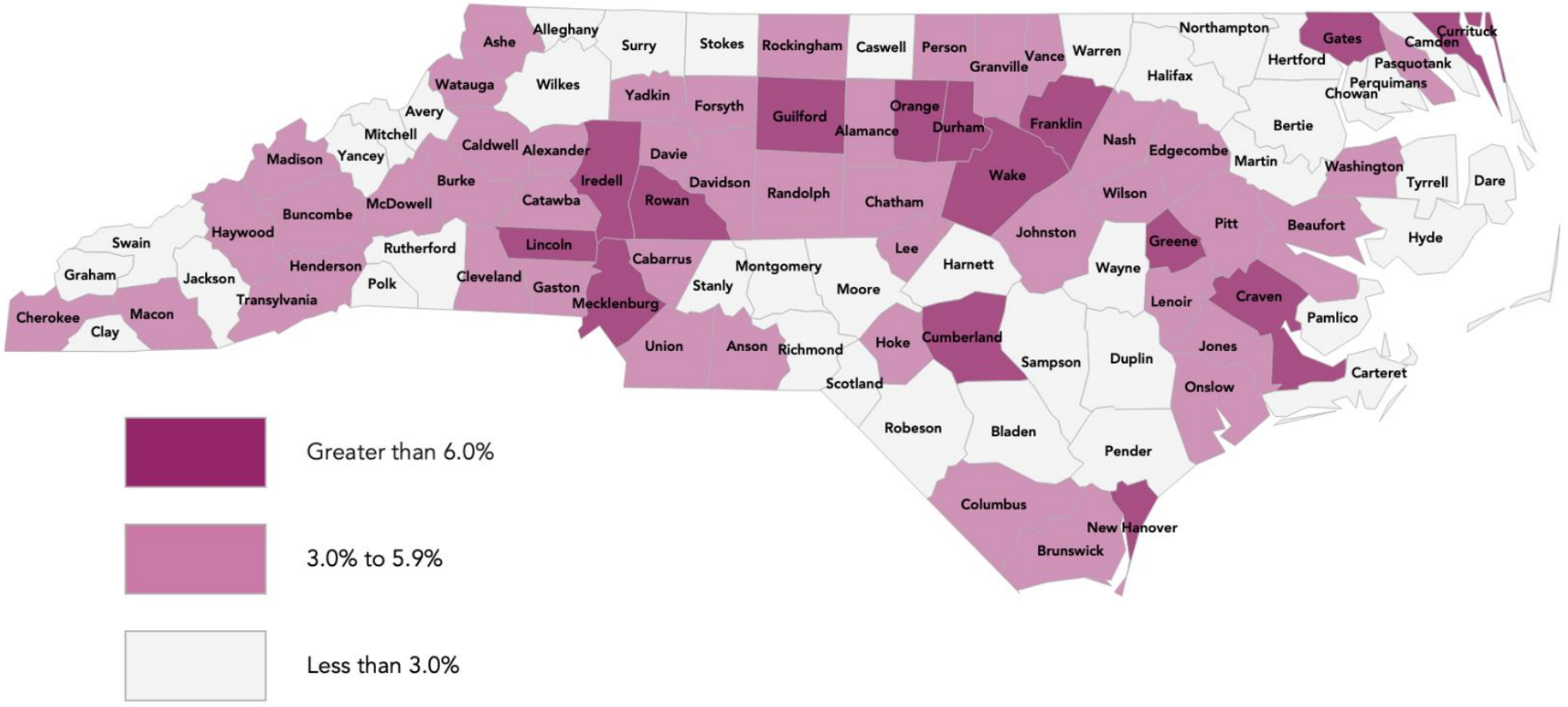
OUTLOOK FOR TECH

Tech Occupations as a Percentage of All Occupations, 2020



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OUTLOOK FOR TECH

TECH INNOVATION INDEX

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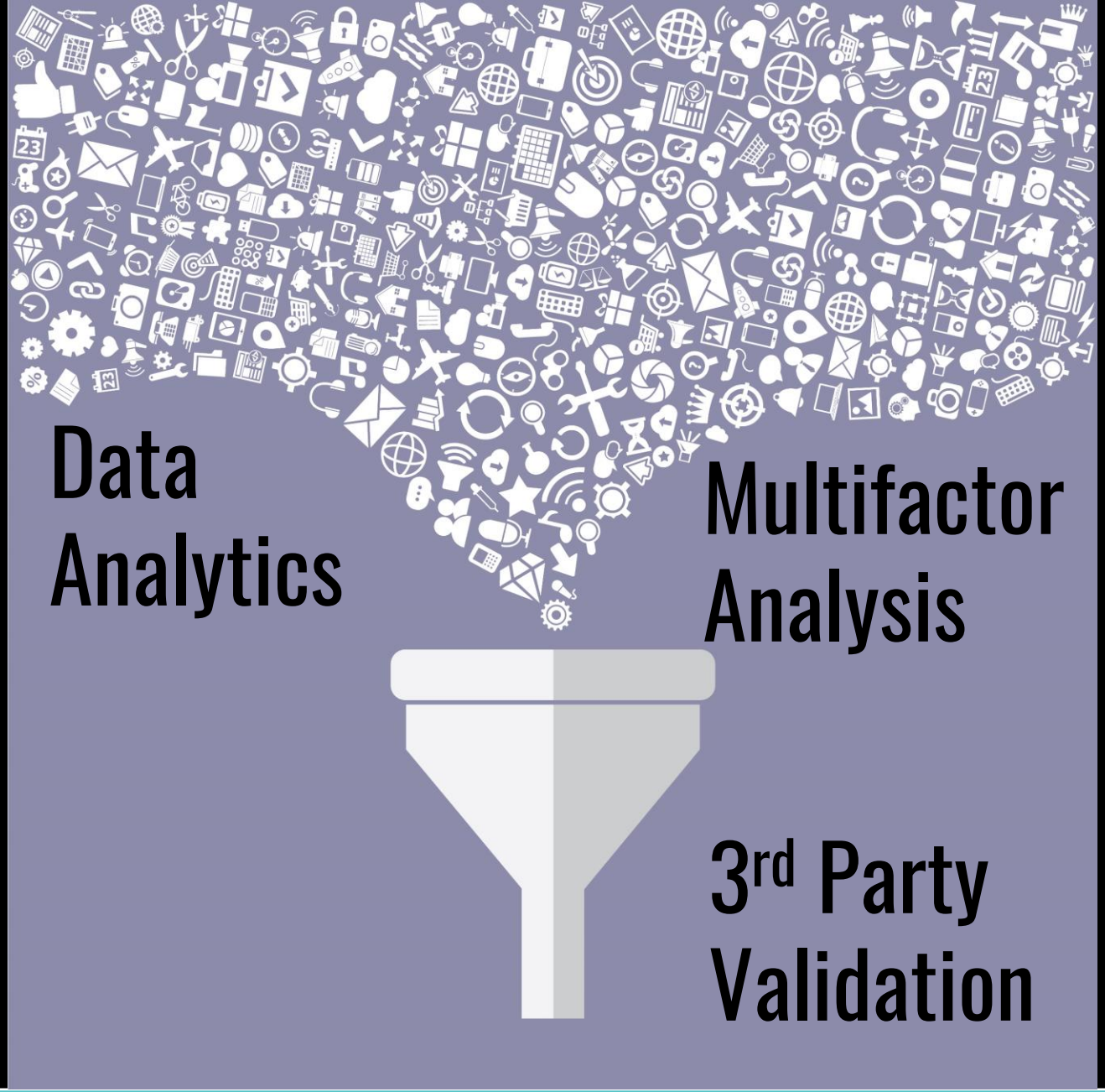
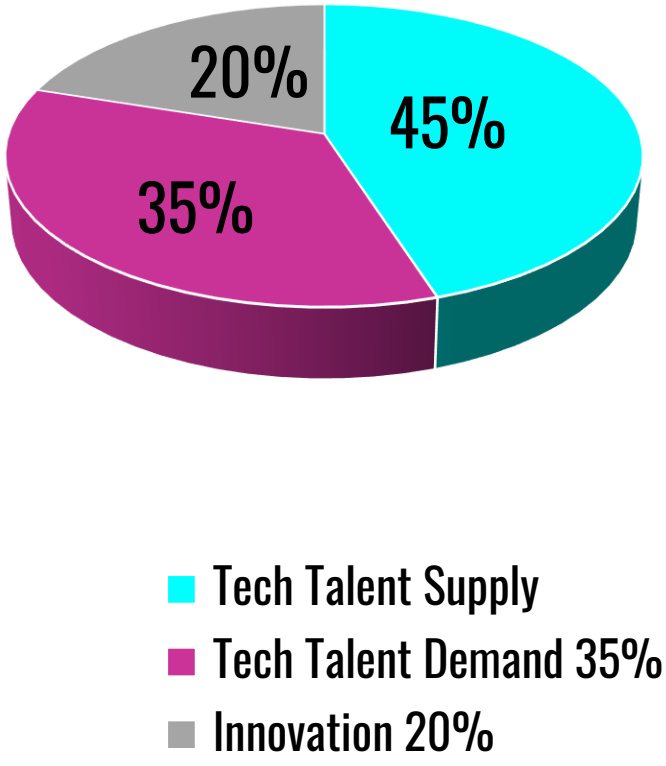
NATIONAL METRO COMPARISON


Data
Analytics
Multifactor
Analysis
3rd Party
Validation

Methodology

- Informed by tech leaders
- Same methodology as last year
- Three sub-indexes
  - Tech Talent Supply (45%)
  - Tech Talent Demand (35%)
  - Innovation (20%)
- 21 Indices (7 each) equally weighted
- Top 105 populated MSAs plus 5 NC

Index Weighting



Top 10 Best Ranked Metros Overall

Metro Name	Tech Index Value	Rank	Ranking Change from Previous Year
Austin-Round Rock-Georgetown, TX	85.2	1	+2
San Jose-Sunnyvale-Santa Clara, CA	85.0	2	0
San Francisco-Oakland-Berkeley, CA	84.3	3	+2
Boston-Cambridge-Newton, MA-NH	82.1	4	0
Seattle-Tacoma-Bellevue, WA	81.3	5	-4
Durham-Chapel Hill, NC	**79.6**	**6**	**0**
San Diego-Chula Vista-Carlsbad, CA	79.1	7	+6
Raleigh-Cary, NC	**78.0**	**8**	**-1**
Washington D.C.-Arlington-Alexandria	74.9	9	0
Minneapolis-St. Paul-Bloomington, MN-WI	71.8	10	+1

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Top 10 Best Ranked Metros Overall

Metro Name	Tech Index Value	Rank	Ranking Change from Previous Year
Austin-Round Rock-Georgetown, TX	85.2	1	+2
San Jose-Sunnyvale-Santa Clara, CA	85.0	2	0
San Francisco-Oakland-Berkeley, CA	84.3	3	+2
Boston-Cambridge-Newton, MA-NH	82.1	4	0
Seattle-Tacoma-Bellevue, WA	81.3	5	-4
Durham-Chapel Hill, NC	**79.6**	**6**	**0**
San Diego-Chula Vista-Carlsbad, CA	79.1	7	+6
Raleigh-Cary, NC	**78.0**	**8**	**-1**
Washington D.C.-Arlington-Alexandria	74.9	9	0
Minneapolis-St. Paul-Bloomington, MN-WI	71.8	10	+1

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NC Metros Ranked- (110 US Metros)

NC Metros	Tech Index Ranking	Ranking Change from Previous Year	Adult Population Ranking
Durham-Chapel Hill	6	0	90
Raleigh-Cary	8	-1	41
Charlotte-Concord-Gastonia,	28	-1	22
Wilmington	54	+6	162
Greenville	73	NR	258
Winston-Salem	82	+8	85
Greensboro-High Point	84	-7	75
Asheville	91	+2	111
Fayetteville	98	-6	116
Hickory-Lenoir-Morganton	105	-2	140

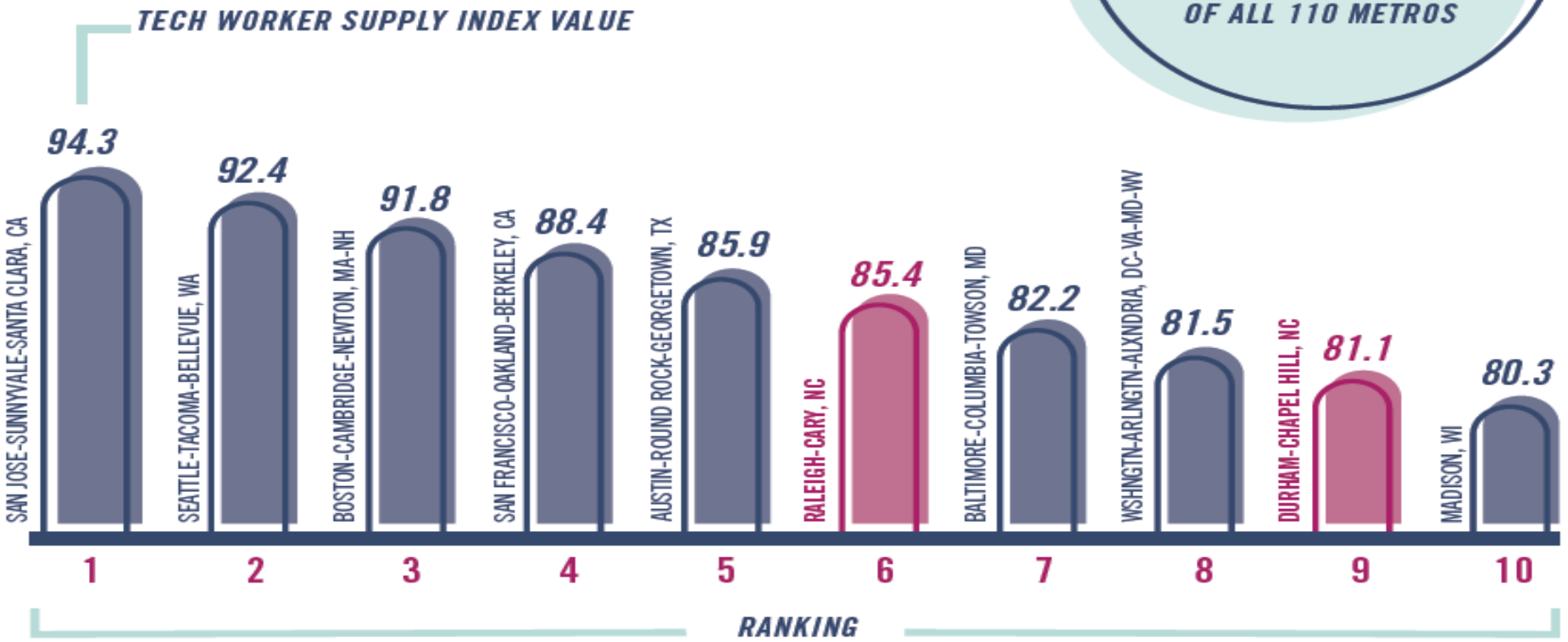
Tech Worker Supply 45% of Total

TECH WORKER SUPPLY	Source	Data Year
Resident tech workers per 1,000 adults	Lightcast	2021
Computer, math, and statistics degrees per 1,000 adults	Census	2020
STEM educational completions per 1,000 adults	Lightcast	2020
Number of online profiles in MSA with tech skills per 1,000 adults	Lightcast	2018-2022
Bachelor's degree or higher per 1,000 adults	Lightcast	2021
H-1B visa approvals per 1,000 adults	USCIS	2018-2021
Diversity of tech occupations relative to total population	Lightcast	2021

TOP 10 METROS FOR TECH WORKER SUPPLY

6 & 9

RALEIGH-CARY AND DURHAM-CHAPEL HILL RANK 6TH AND 9TH OUT OF ALL 110 METROS



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North Carolina Rankings

RANKING

6	RALEIGH-CARY, NC	85.4
9	DURHAM-CHAPEL HILL, NC	81.1
24	CHARLOTTE-CONCORD-GASTONIA, NC-SC	68.6
47	WILMINGTON, NC	55.0
80	GREENSBORO-HIGH POINT, NC	37.1
82	ASHEVILLE, NC	36.3
85	GREENVILLE, NC	35.5
93	WINSTON-SALEM, NC	27.6
101	HICKORY-LENOIR-MORGANTON, NC	19.4
106	FAYETTEVILLE, NC	14.7

TECH WORKER SUPPLY INDEX VALUE

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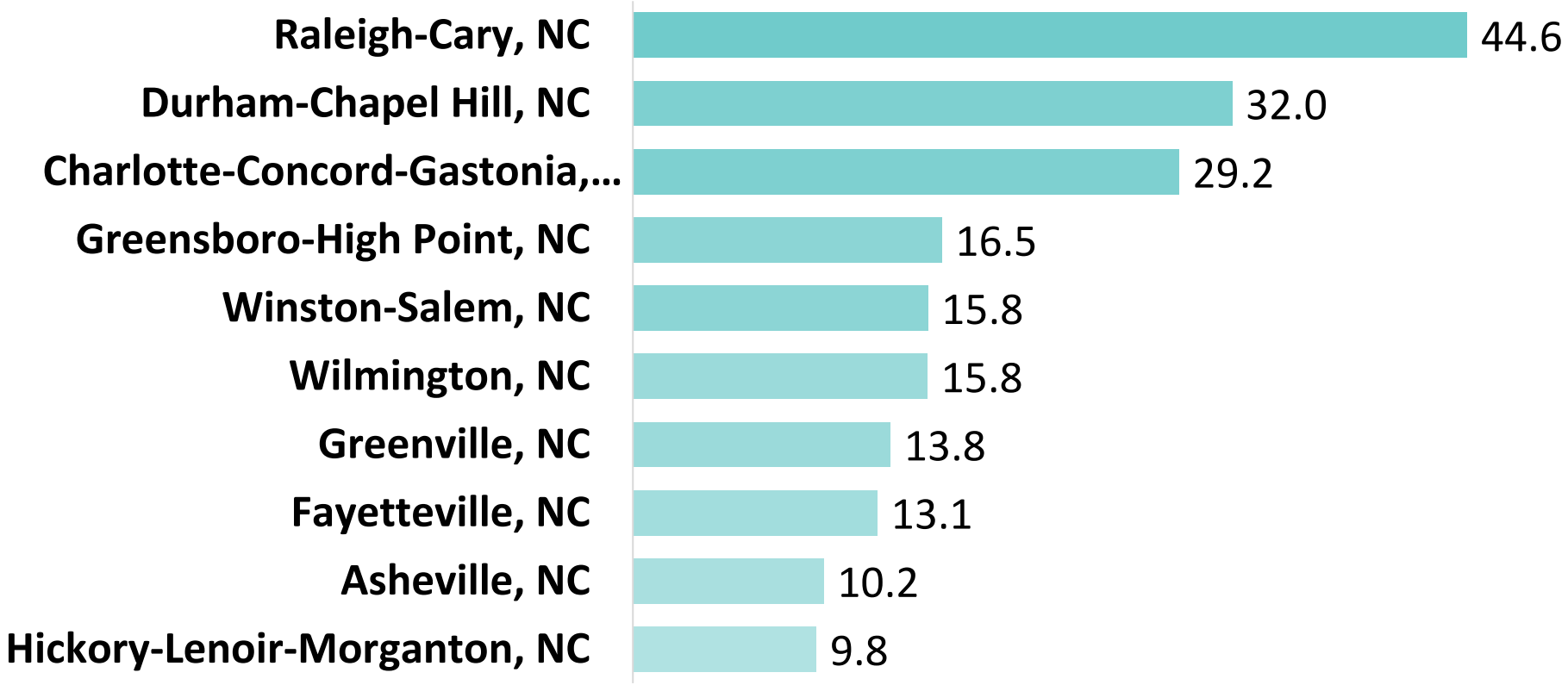
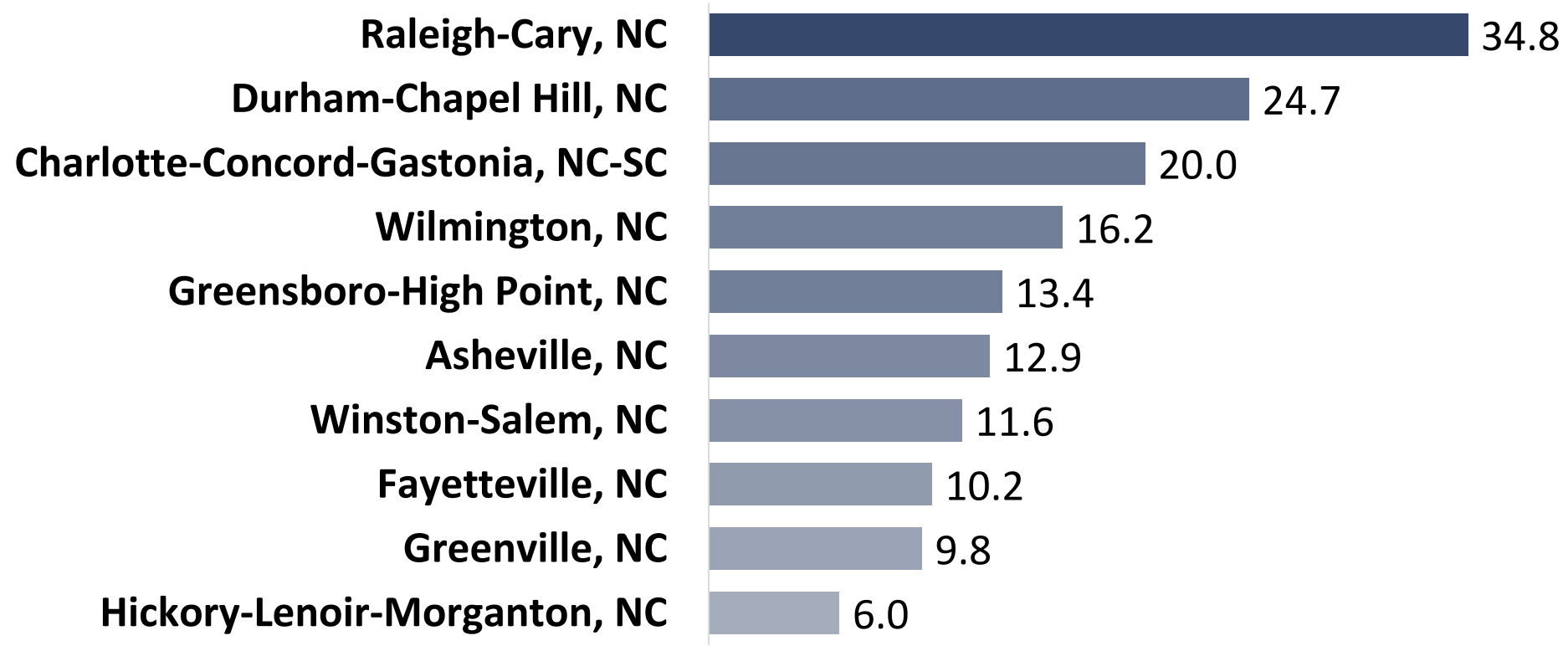
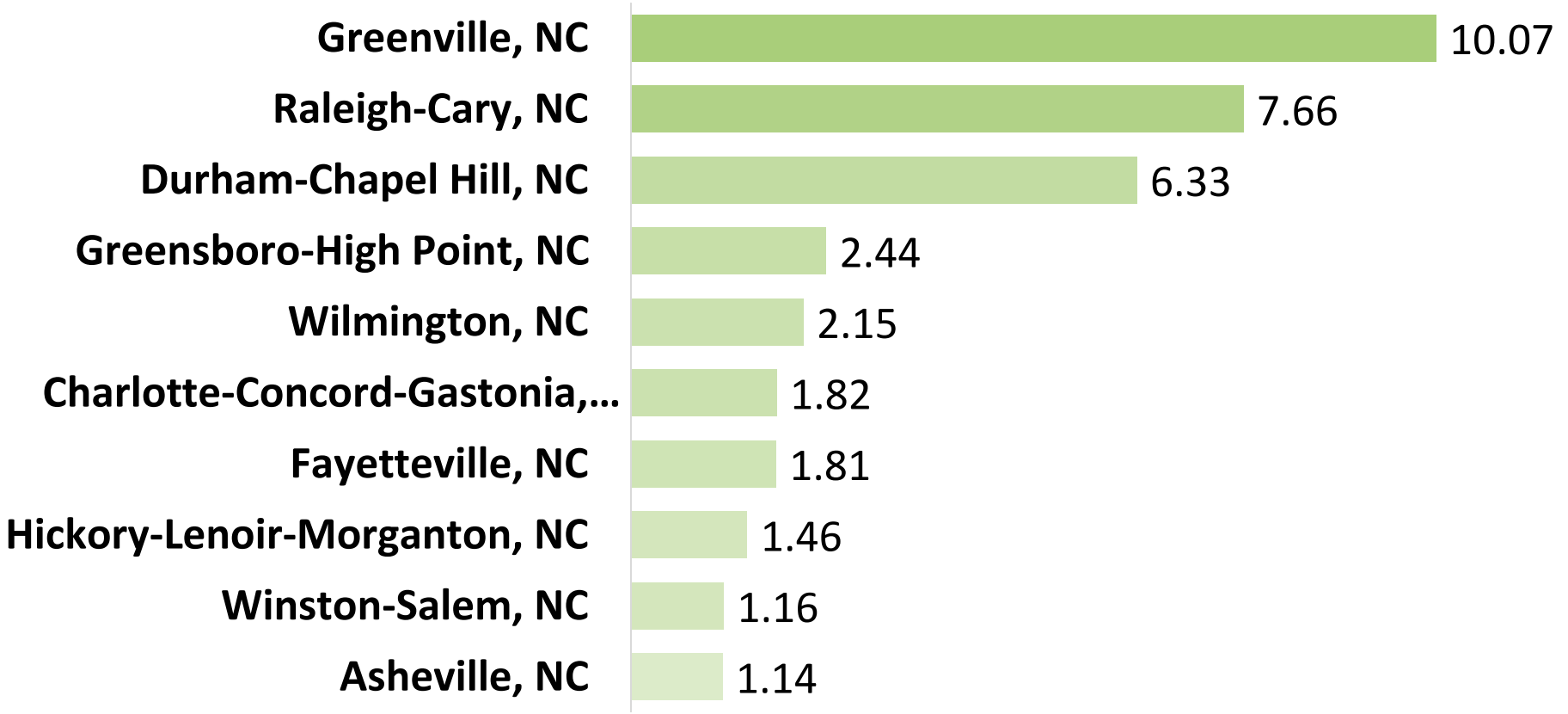
Number of Resident Tech Workers per 1,000 Adults



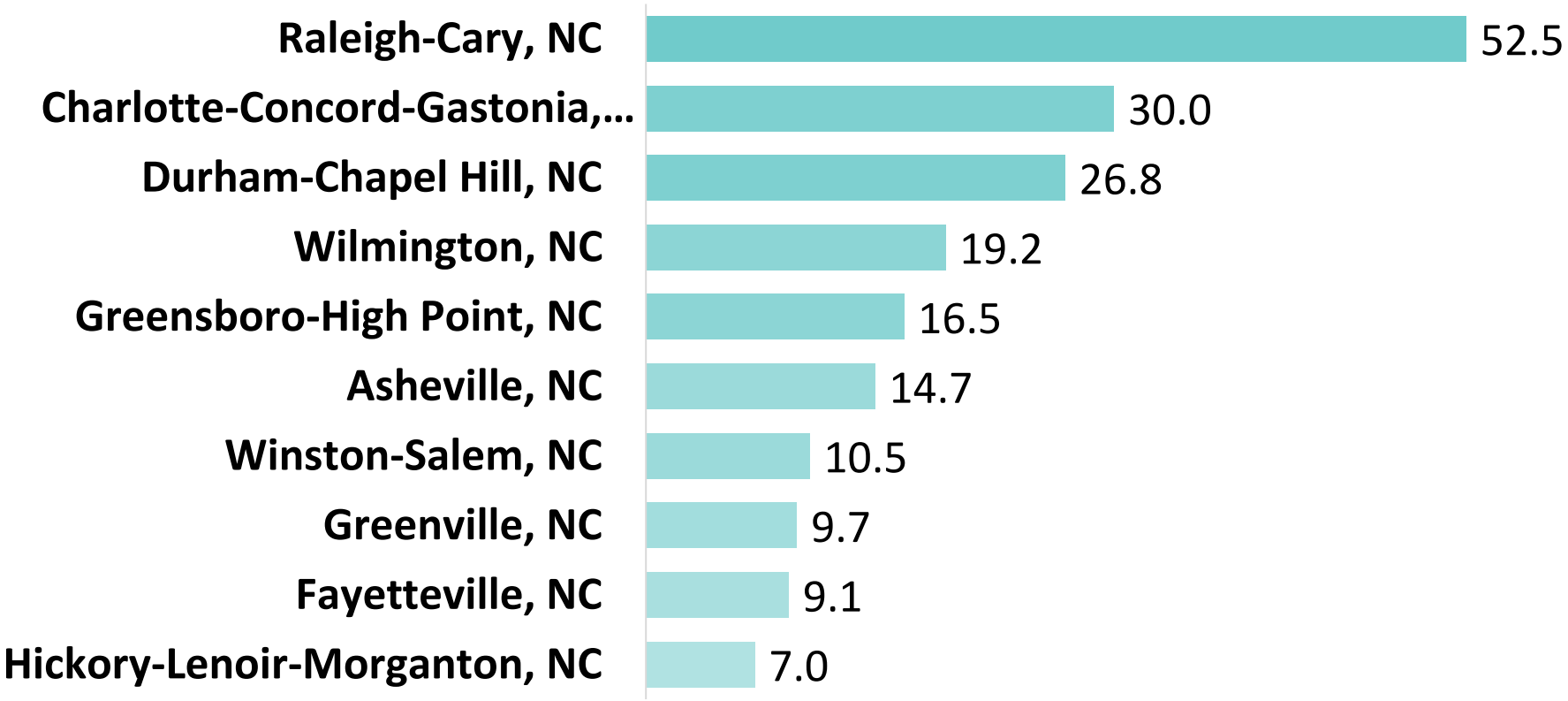
Computer, Math & Statistics Degrees per 1,000 Adults



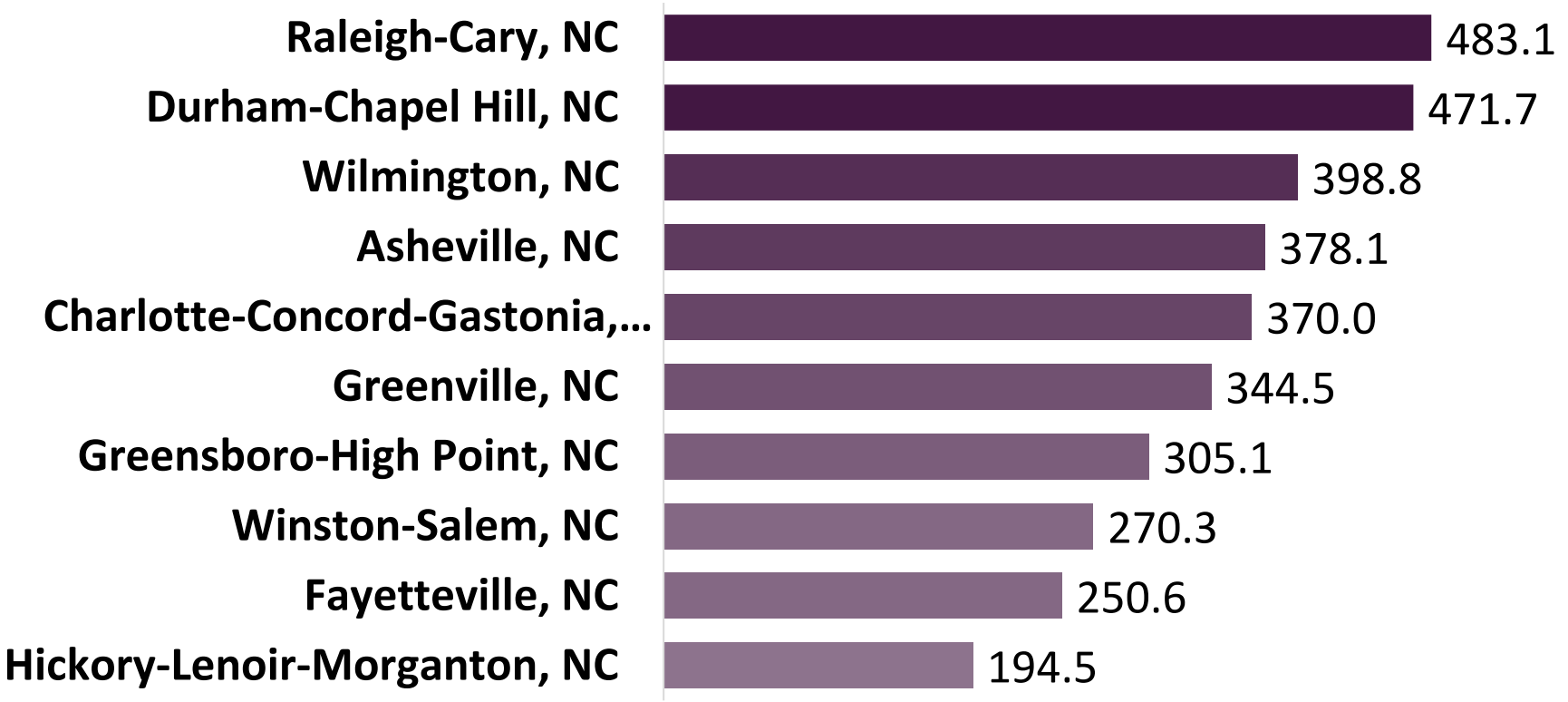
STEM Educational Completions per 1,000 Adults



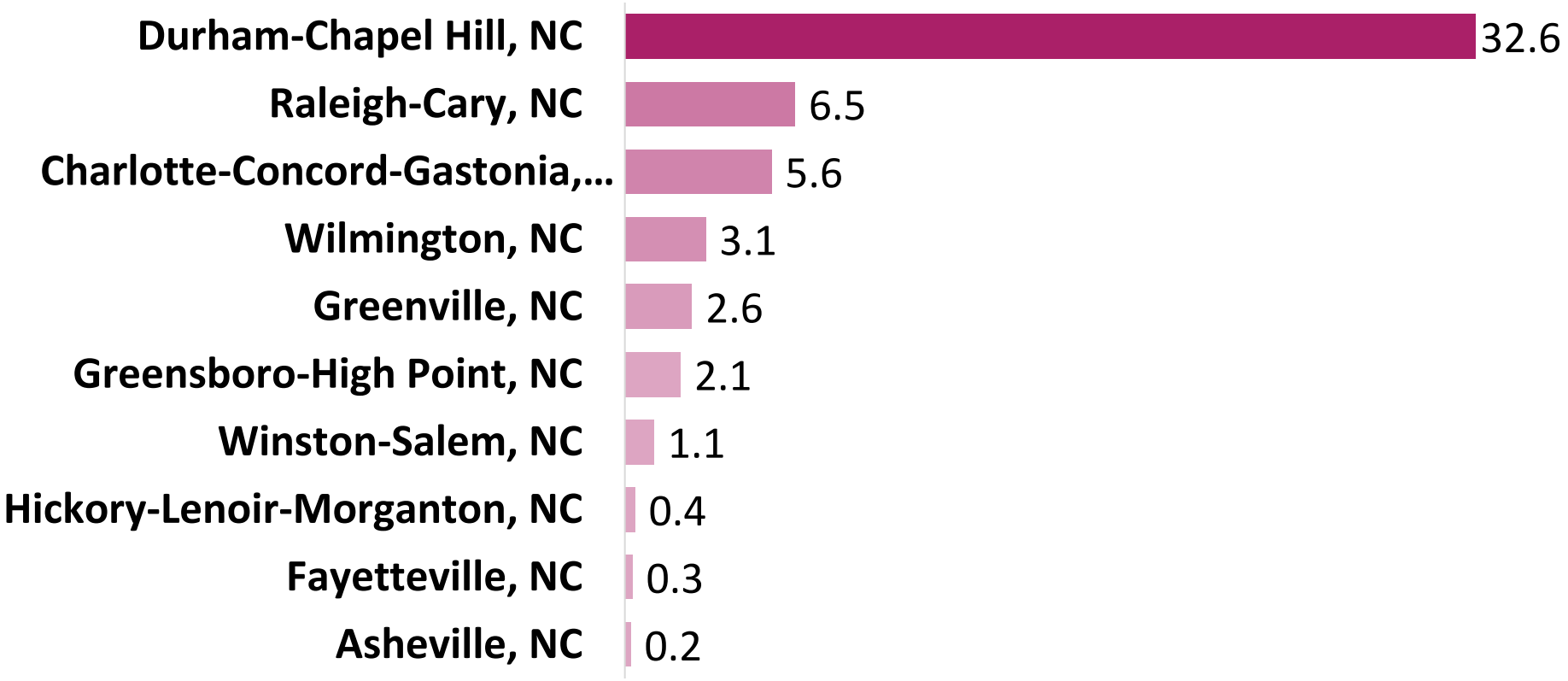
of Online Profiles with Tech Skills per 1,000 Adults



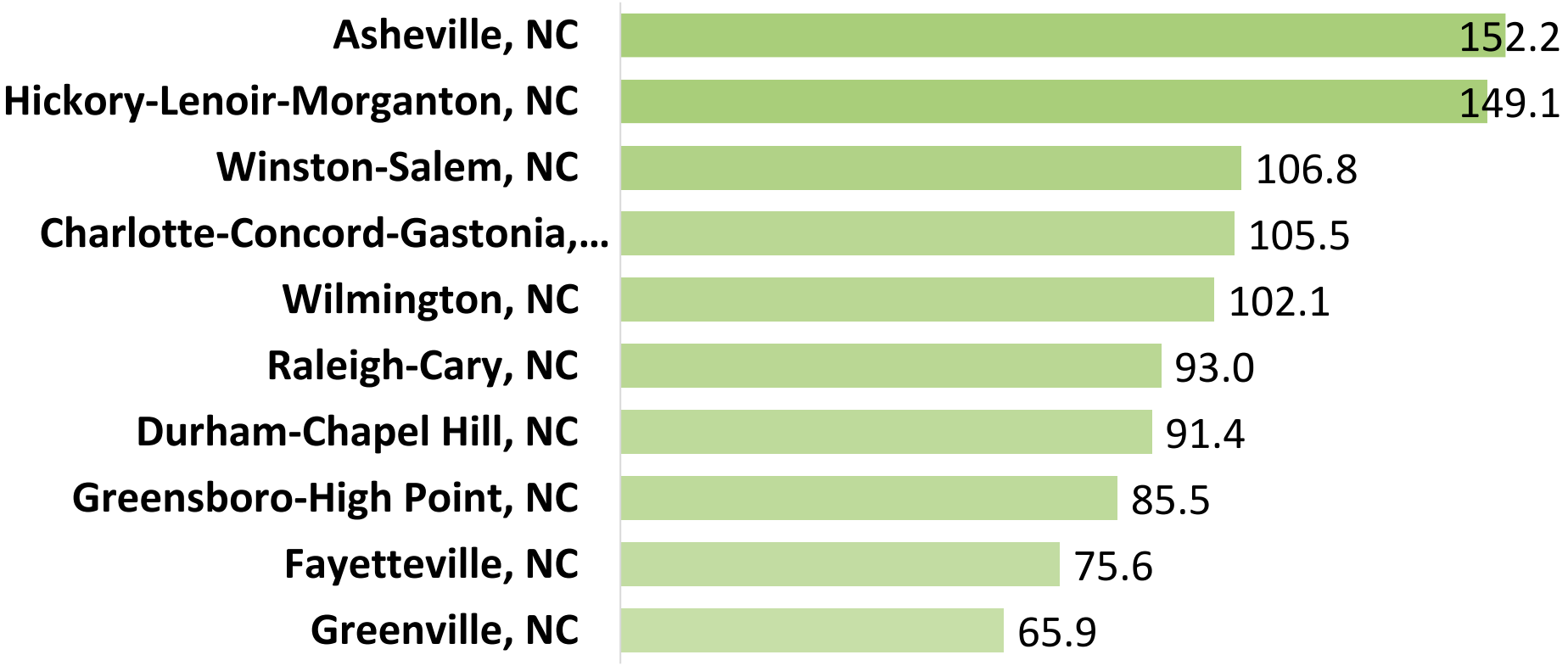
of People with BA or Higher per 1,000 Adults



H-1B Visa Approvals per 1,000 Adults



Tech Worker Diversity Index



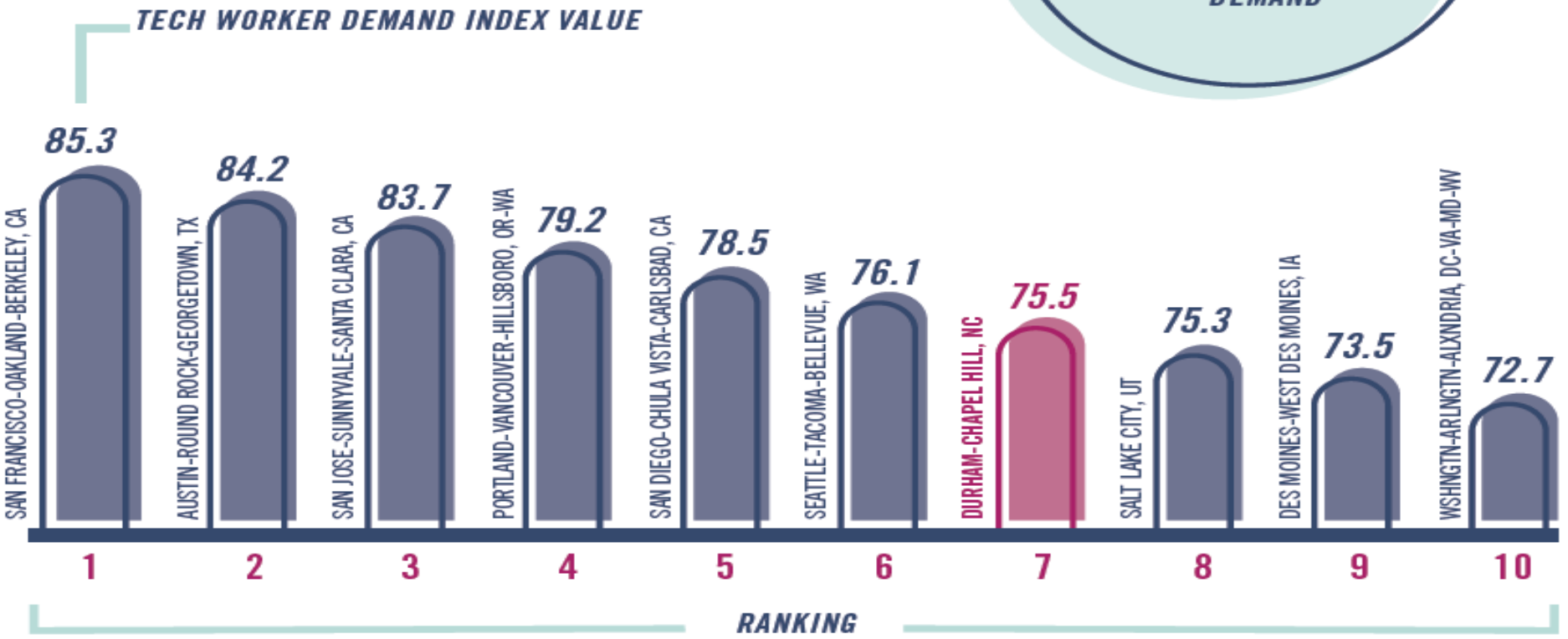
Tech Worker Demand 35% of Total

TECH WORKER DEMAND	Source	Data Year
Tech occupation location quotient (LQ)	Lightcast	2021
Unique job postings with tech skills per 1,000 adults	Lightcast	2018-2022
Median job posting duration	Lightcast	2018-2022
Cost of living adjusted tech wages	Lightcast	2021
Annual tech job openings per 1,000 adults	Lightcast	2018-2022
Competitive effect of tech job growth	Lightcast	2018-2022
Turnover rate of employees	Lightcast	2021

TOP 10 METROS FOR TECH WORKER DEMAND

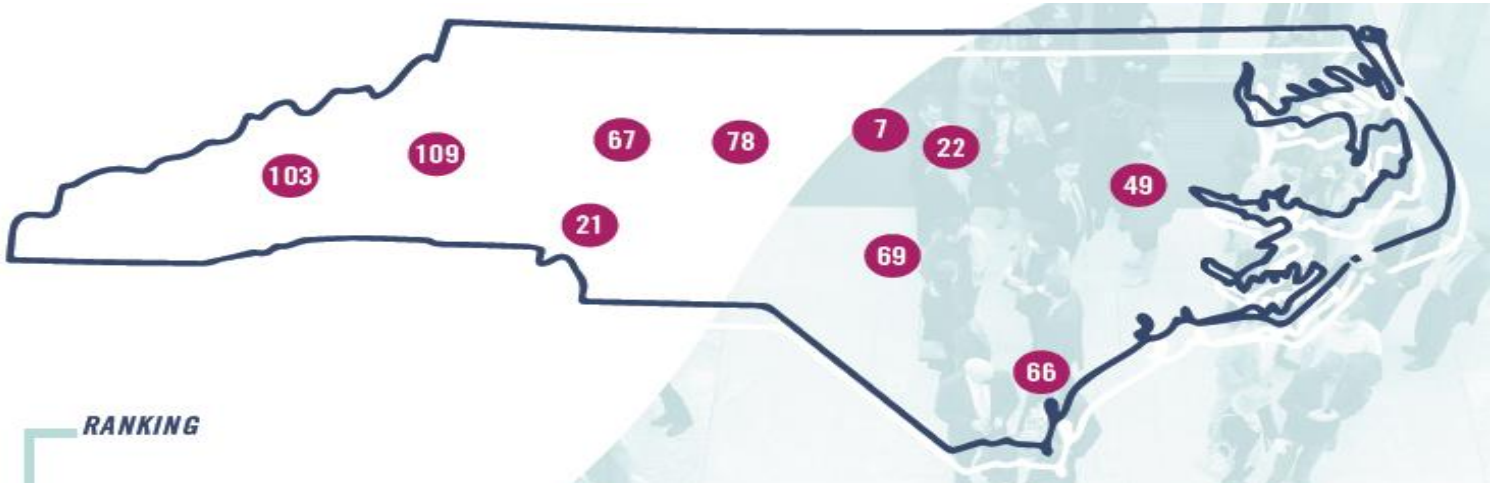
7

DURHAM-CHAPEL HILL, NC RANKED 7TH OF THE 110 METROS FOR TECH TALENT DEMAND



NCTECH Association

North Carolina Rankings



RANKING

7	DURHAM-CHAPEL HILL, NC	75.5
21	CHARLOTTE-CONCORD-GASTONIA, NC-SC	64.9
22	RALEIGH-CARY, NC	64.7
49	GREENVILLE, NC	51.7
66	WILMINGTON, NC	45.0
67	WINSTON SALEM, NC	44.9
69	FAYETTEVILLE, NC	43.7
78	GREENSBORO-HIGH POINT, NC	38.7
103	ASHEVILLE, NC	24.2
109	HICKORY-LENOIR-MORGANTON, NC	19.6

TECH WORKER DEMAND INDEX VALUE

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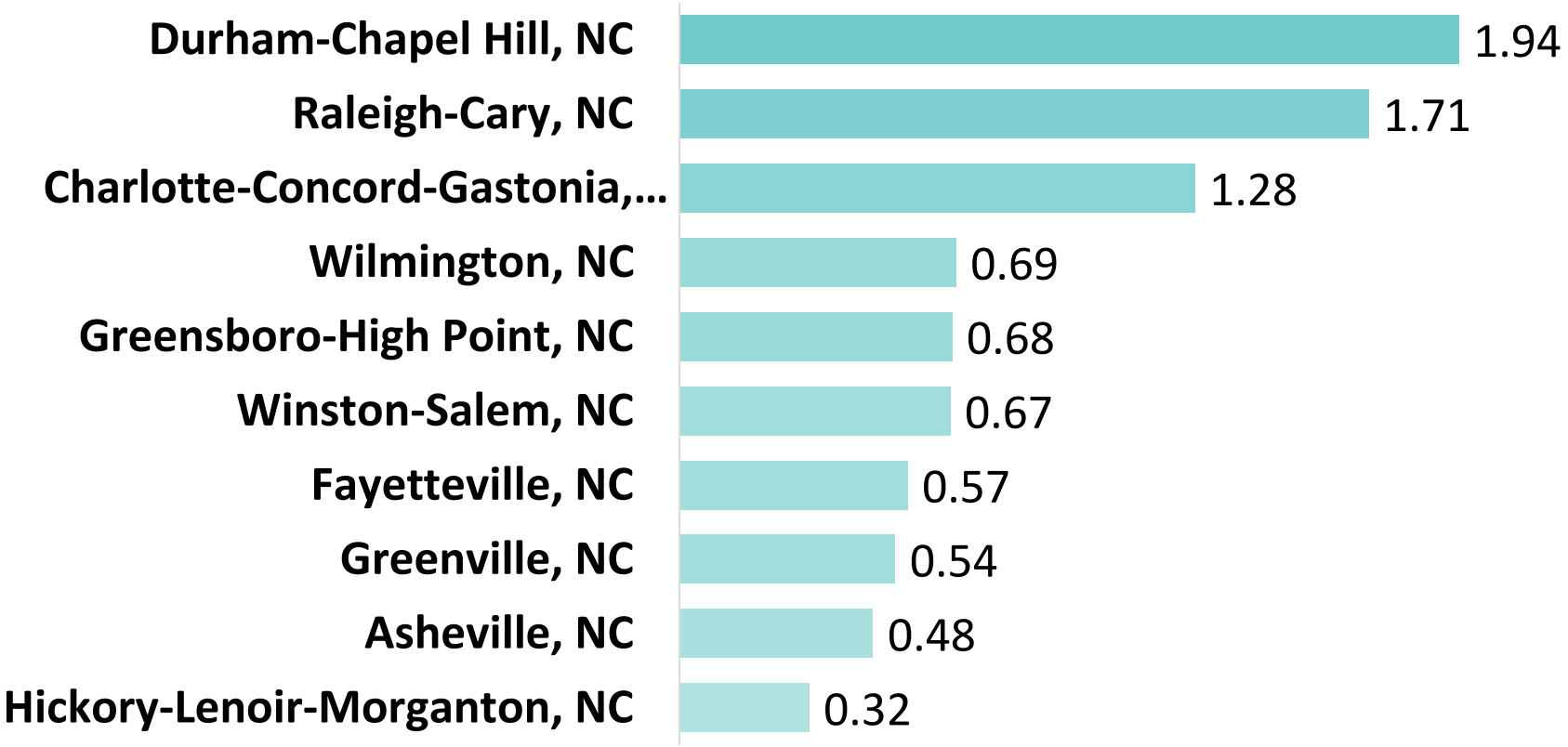
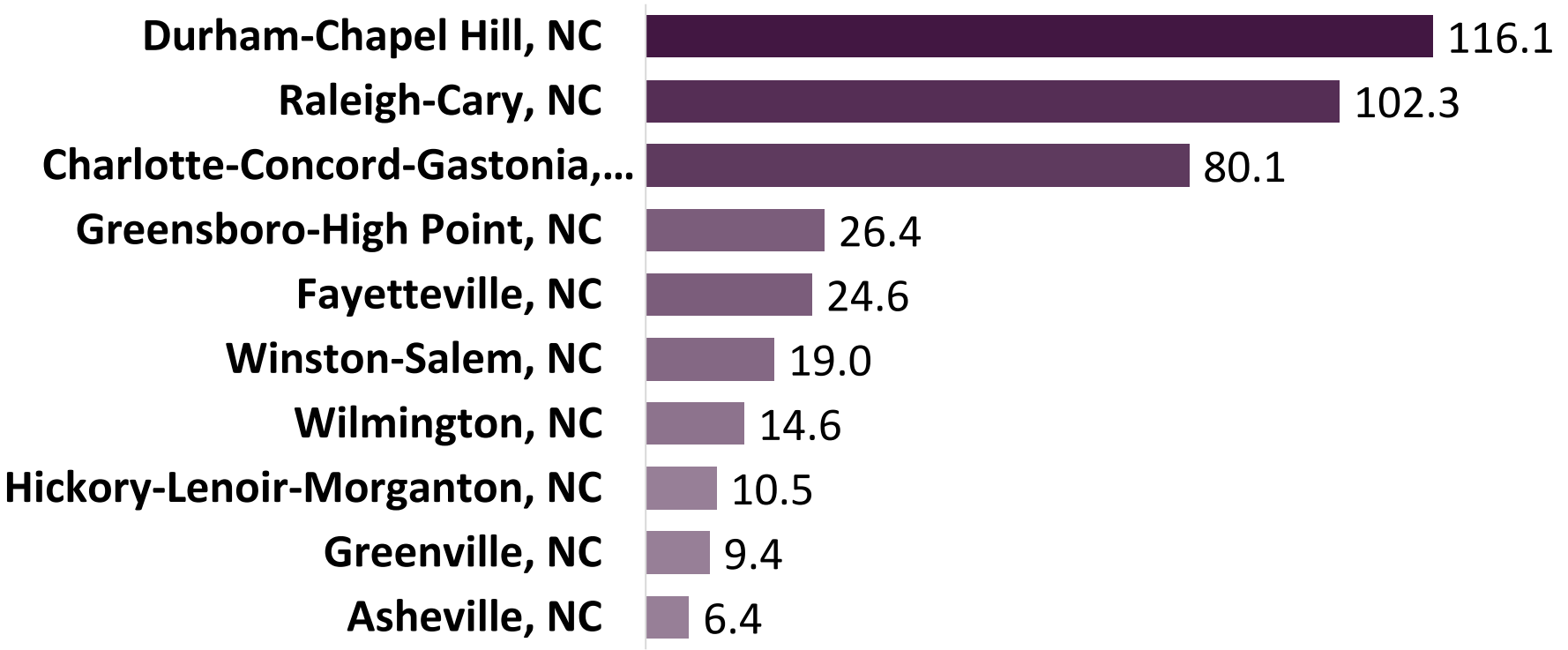
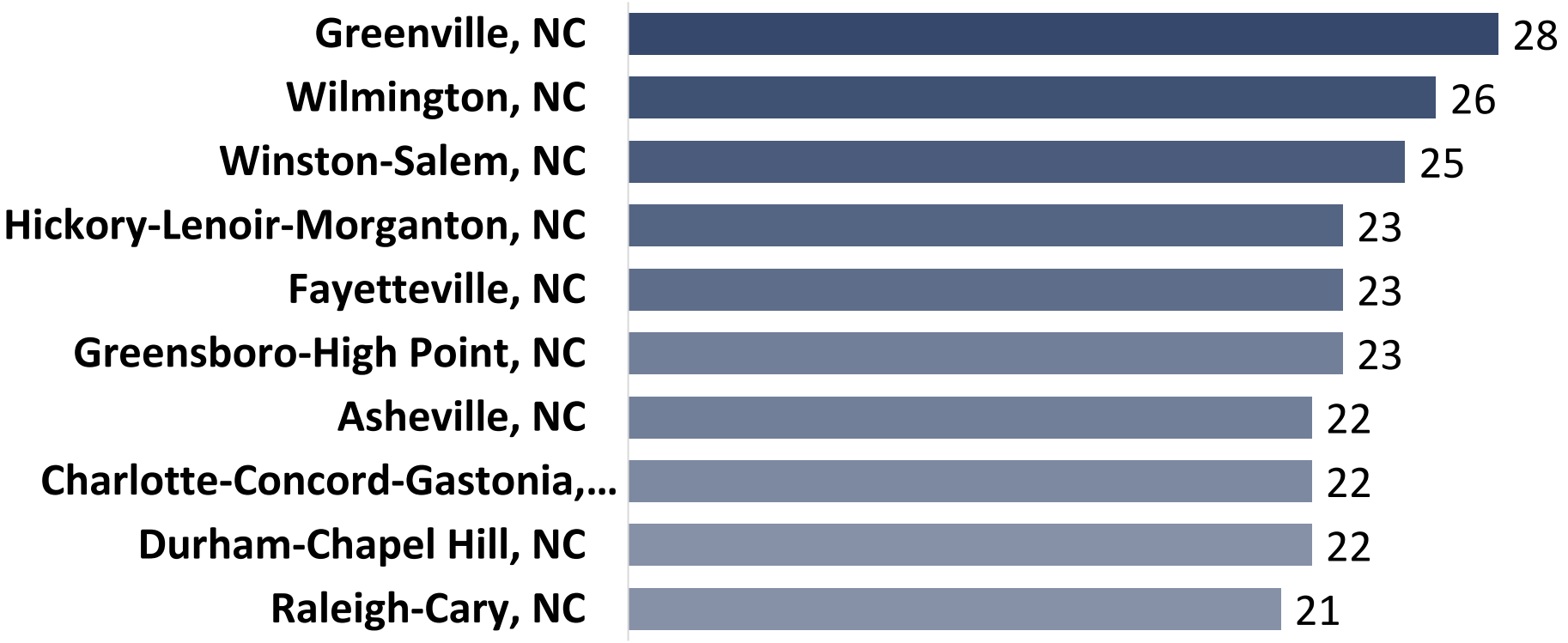
Tech Worker Location Quotient



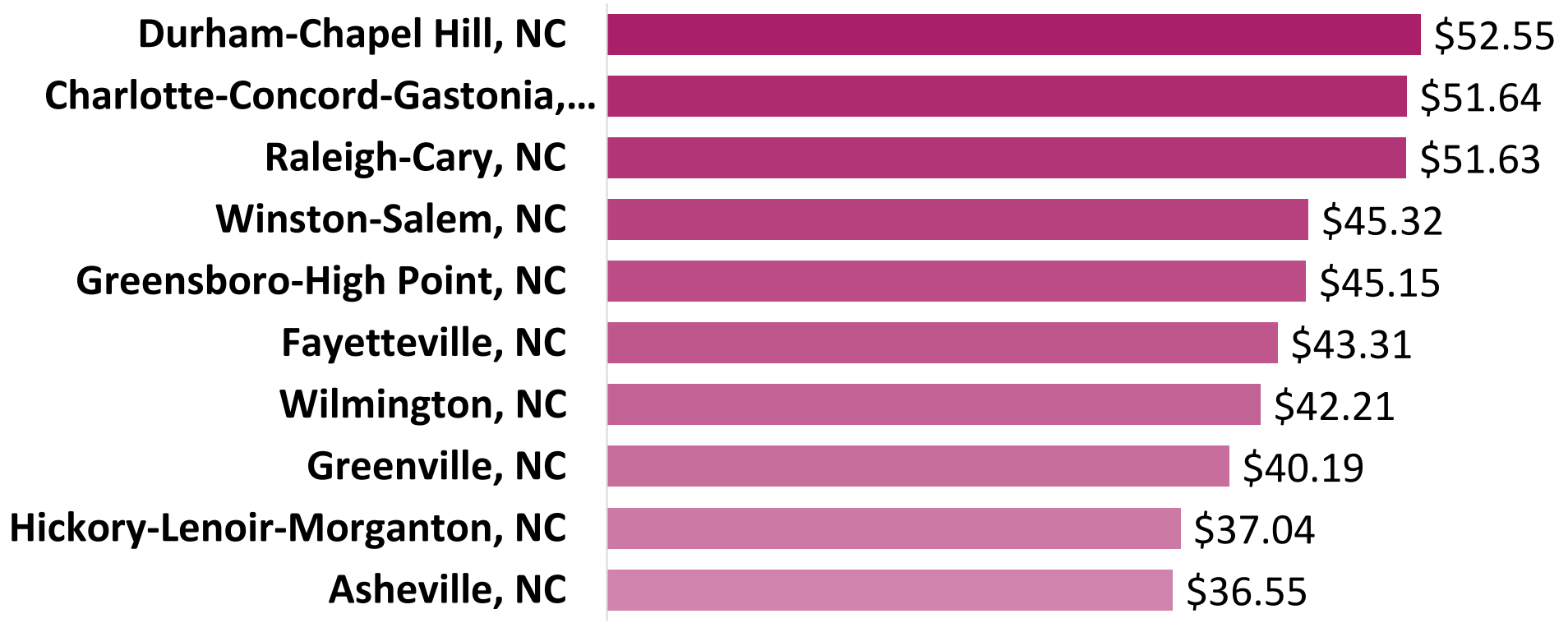
Unique Job Postings with Tech Skills per 1,000 Adults



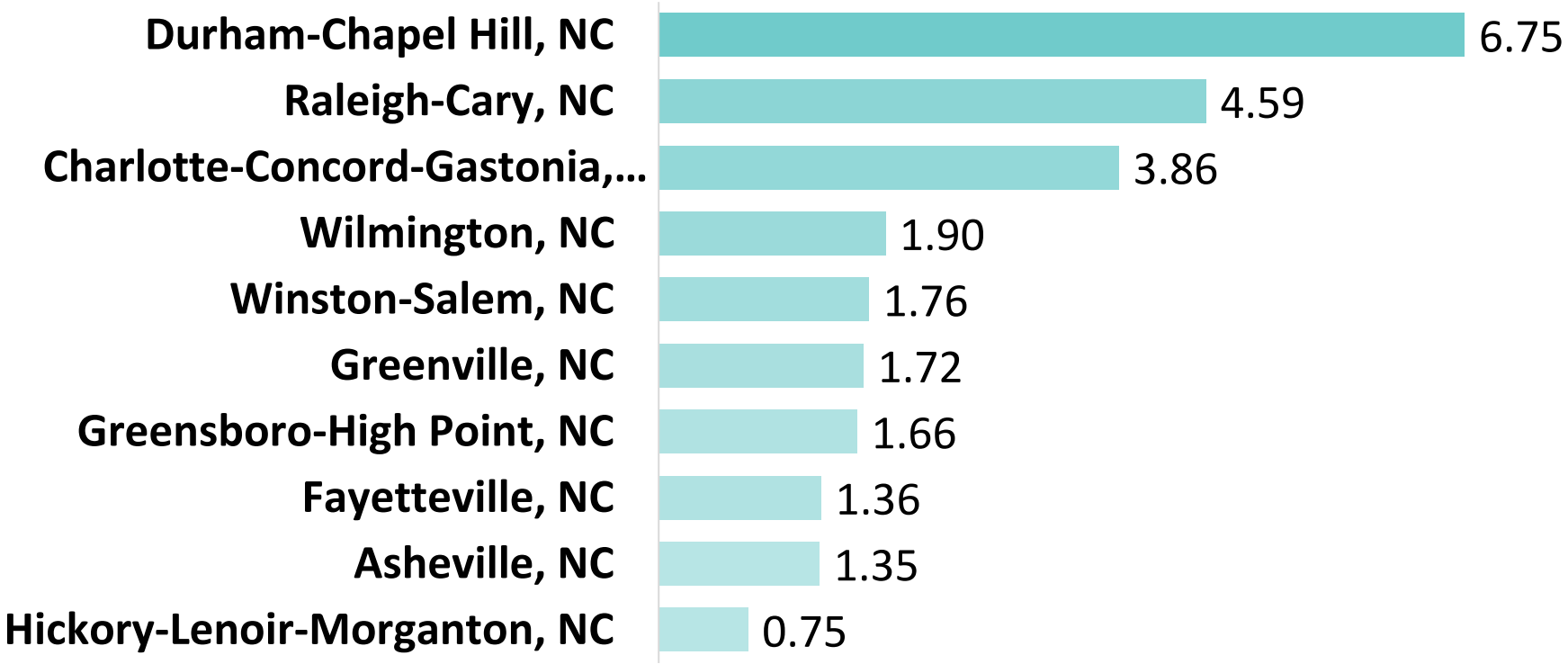
Median Job Postings with Tech Skills Durations, Days



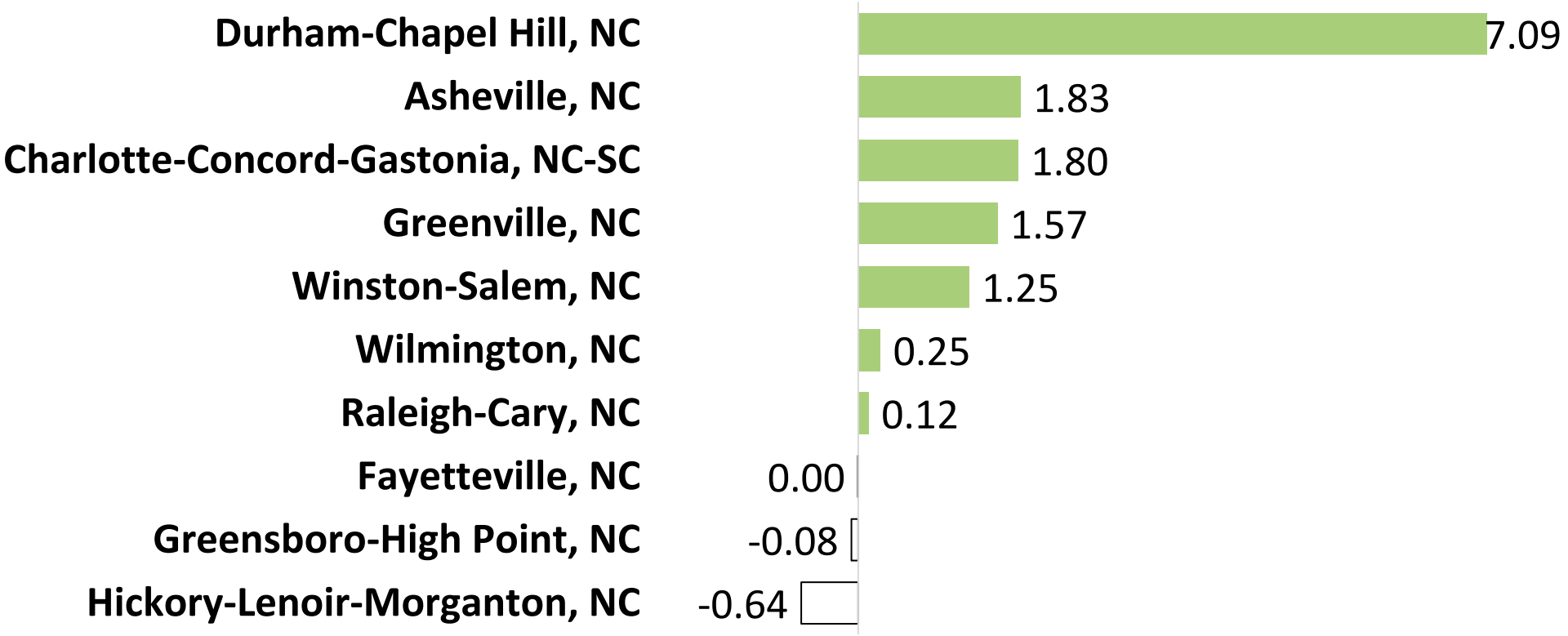
Cost of Living Adjusted Median Hourly Tech Wages



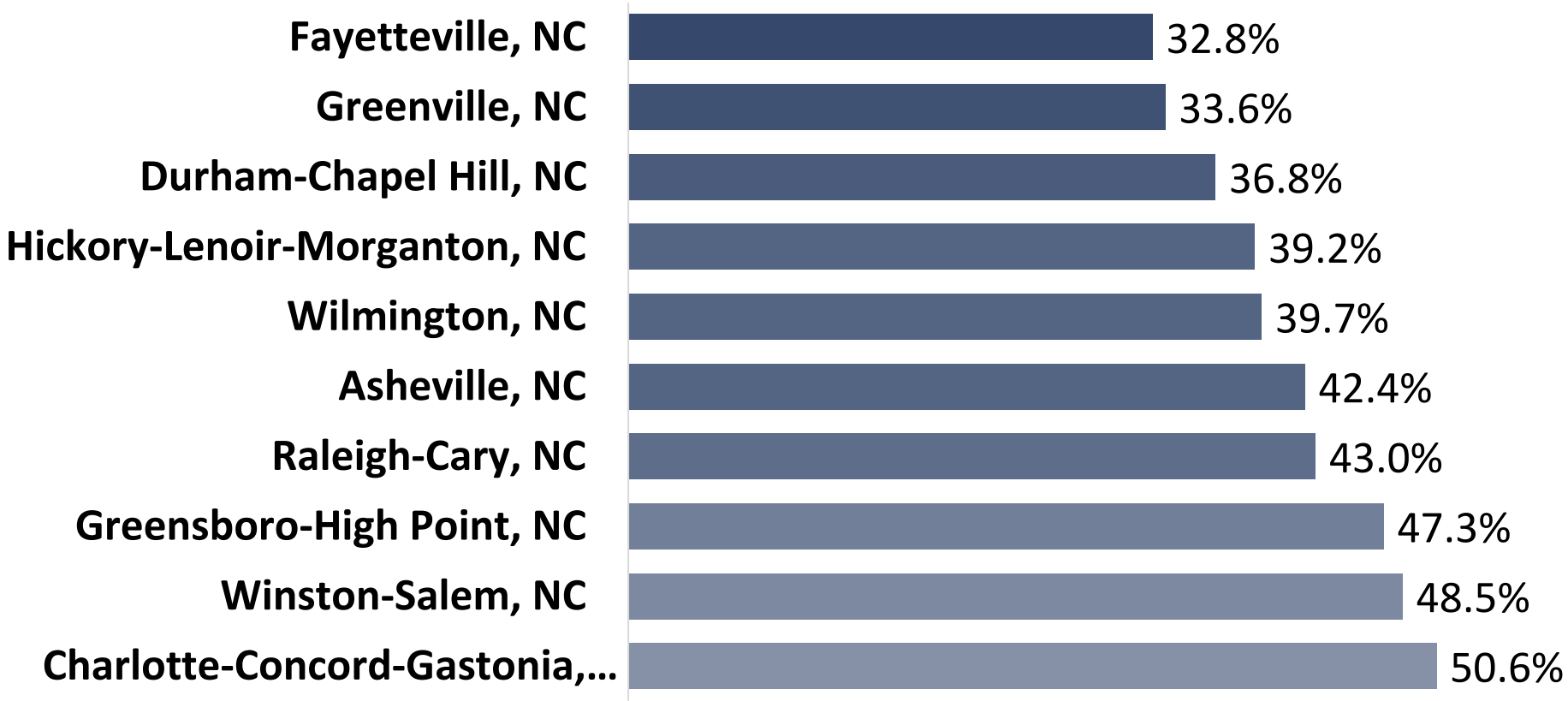
Annual Tech Job Openings per 1,000 Adults



Competitive Effect of Tech Job Growth per 1,000 Adults



Turnover Rates of Tech Workers



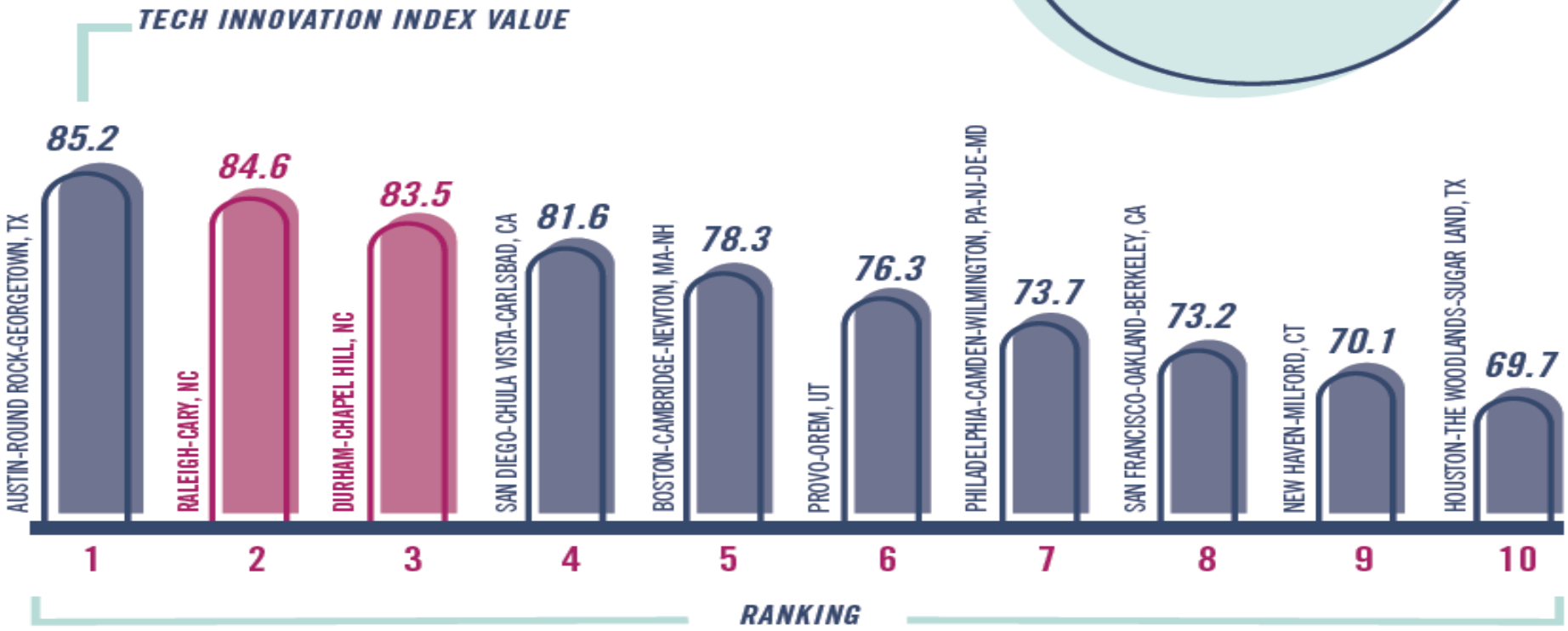
Metro Innovation 20% of Total

INNOVATION	Source	Data Year
Patents per 1,000 workers	US Patent Office	2019
Higher education R&D as % of gross area product	NSF	2020
Business funded higher education R&D as a % of gross area product	NSF	2020
SBIR/STTR funding per $ of gross area product	SBIR	2020
Business dynamism rate (opening vs closing Rate)	Census	2019
Business applications per 1,000 adults	Census	2021
Business R&D as a % of gross area product	NSF	2019

TOP 10 METROS FOR INNOVATION

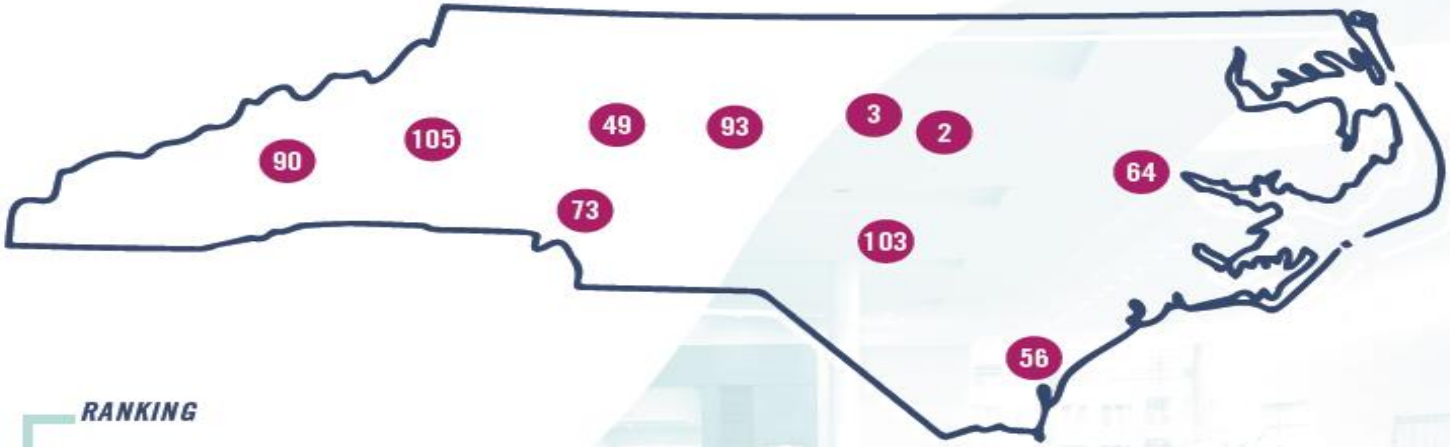
2&3

RALEIGH-CARY AND DURHAM-CHAPEL HILL RANK 2ND AND 3RD OUT OF ALL 110 METROS



NCTECH Association

North Carolina Rankings

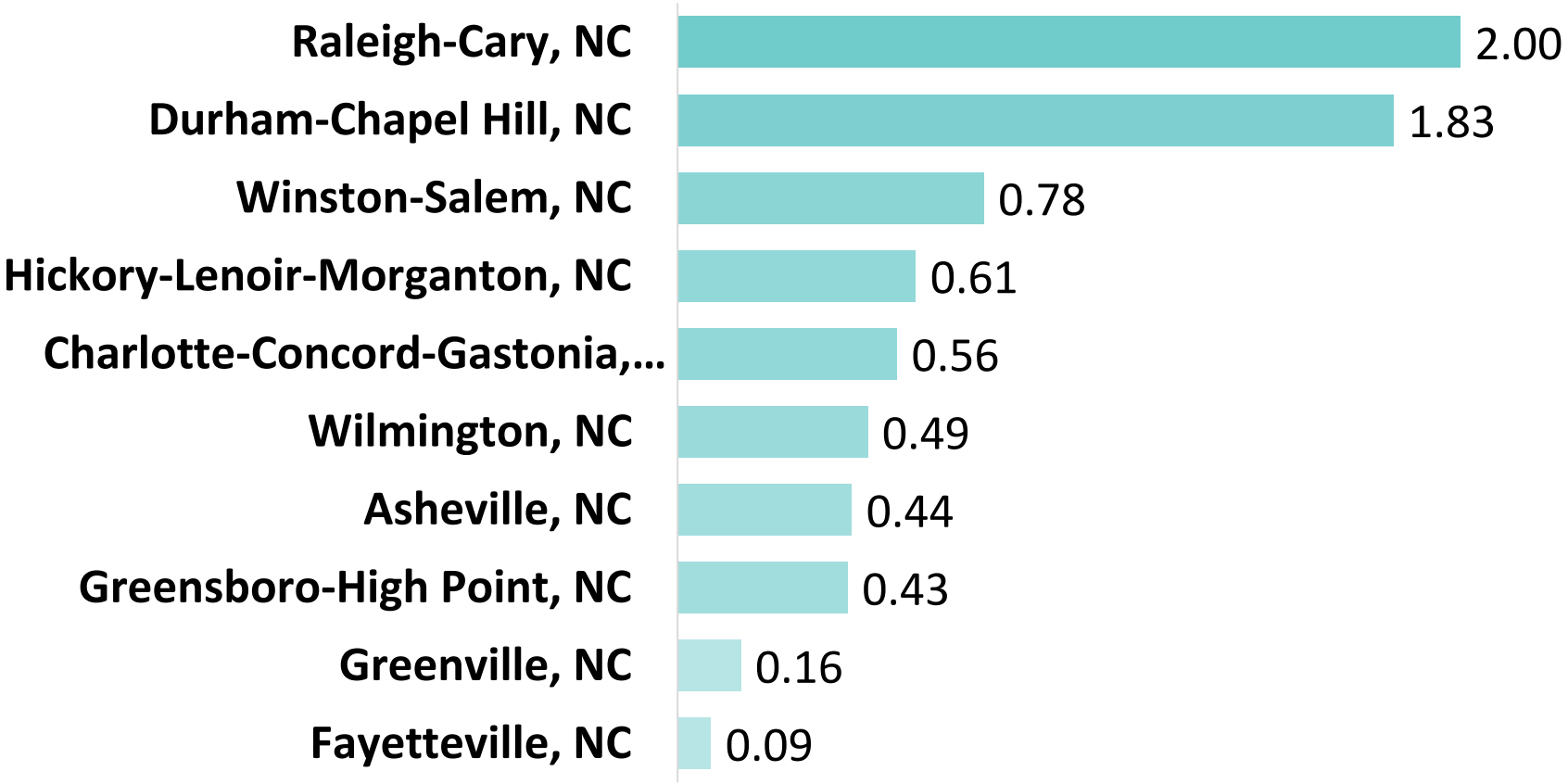


RANKING

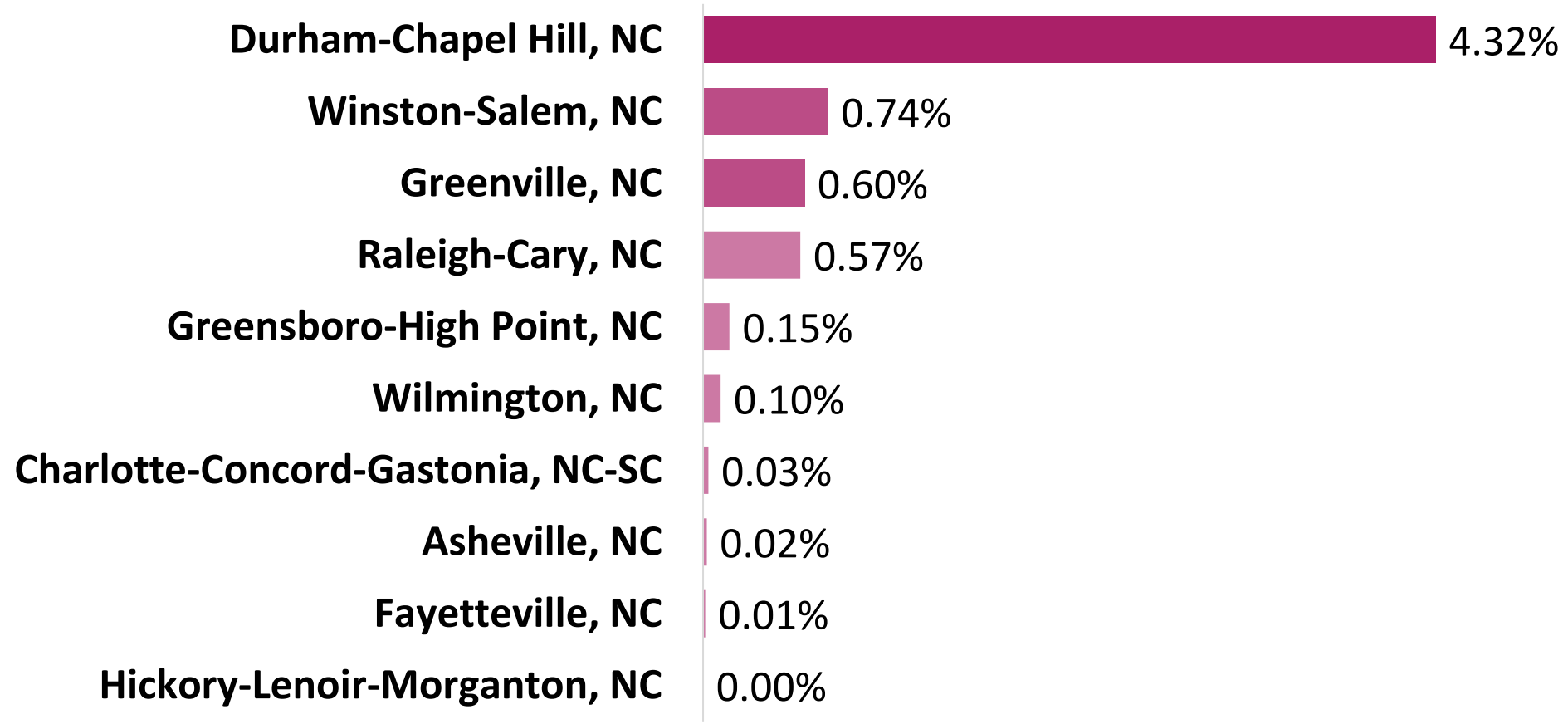
2	RALEIGH-CARY, NC	84.6
3	DURHAM-CHAPEL HILL, NC	83.5
49	WINSTON SALEM, NC	52.9
56	WILMINGTON, NC	49.4
64	GREENVILLE, NC	46.9
73	CHARLOTTE-CONCORD-GASTONIA, NC-SC	42.3
90	ASHEVILLE, NC	35.4
93	GREENSBORO-HIGH POINT, NC	34.1
103	FAYETTEVILLE, NC	29.9
105	HICKORY-LENOIR-MORGANTON, NC	29.5

TECH INNOVATION INDEX VALUE

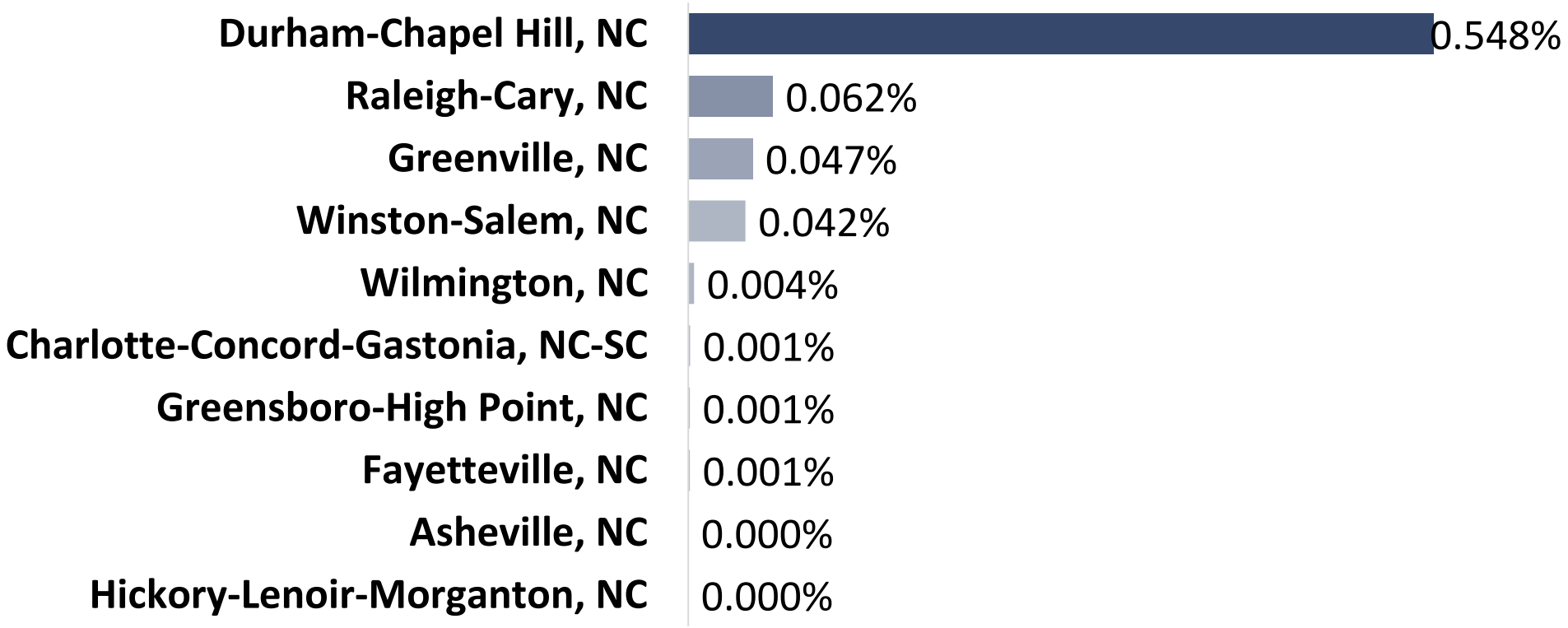
Patents per 1,000 Workers



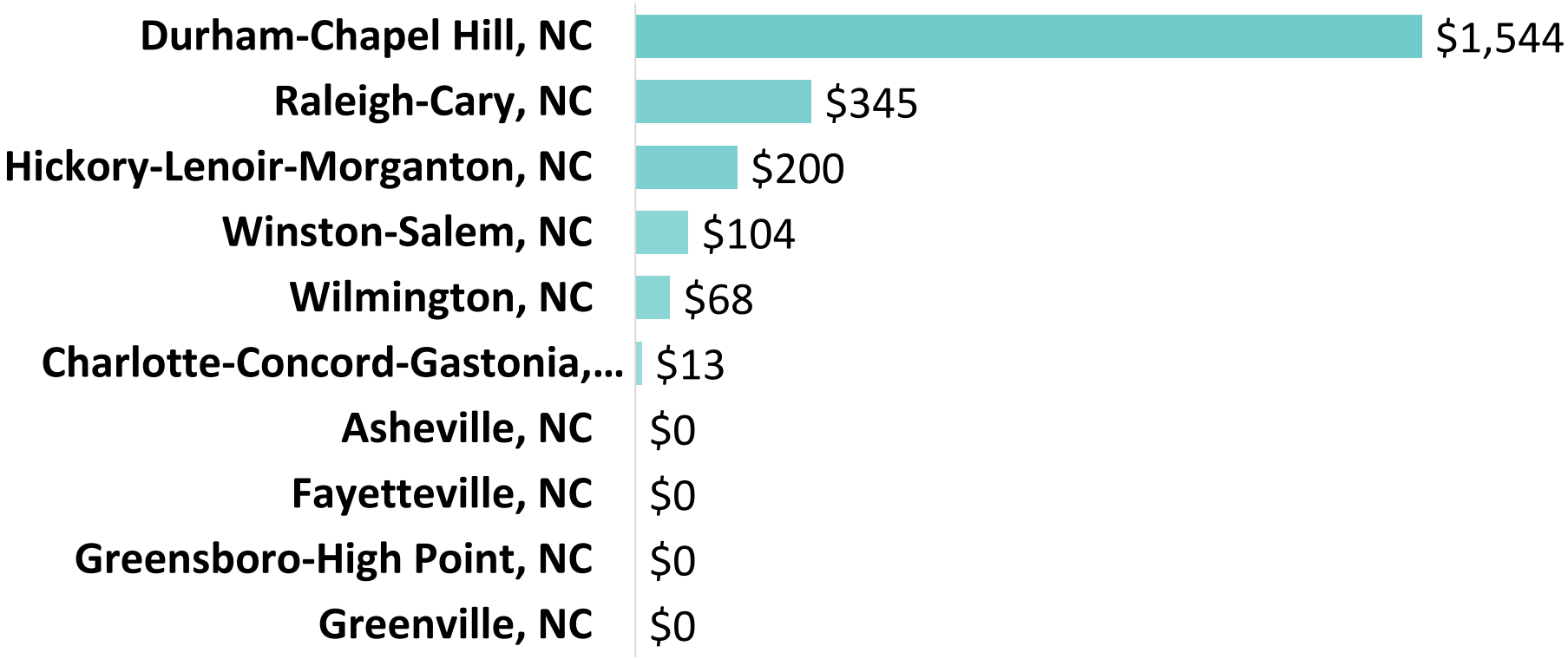
Higher Ed R&D as % of GDP



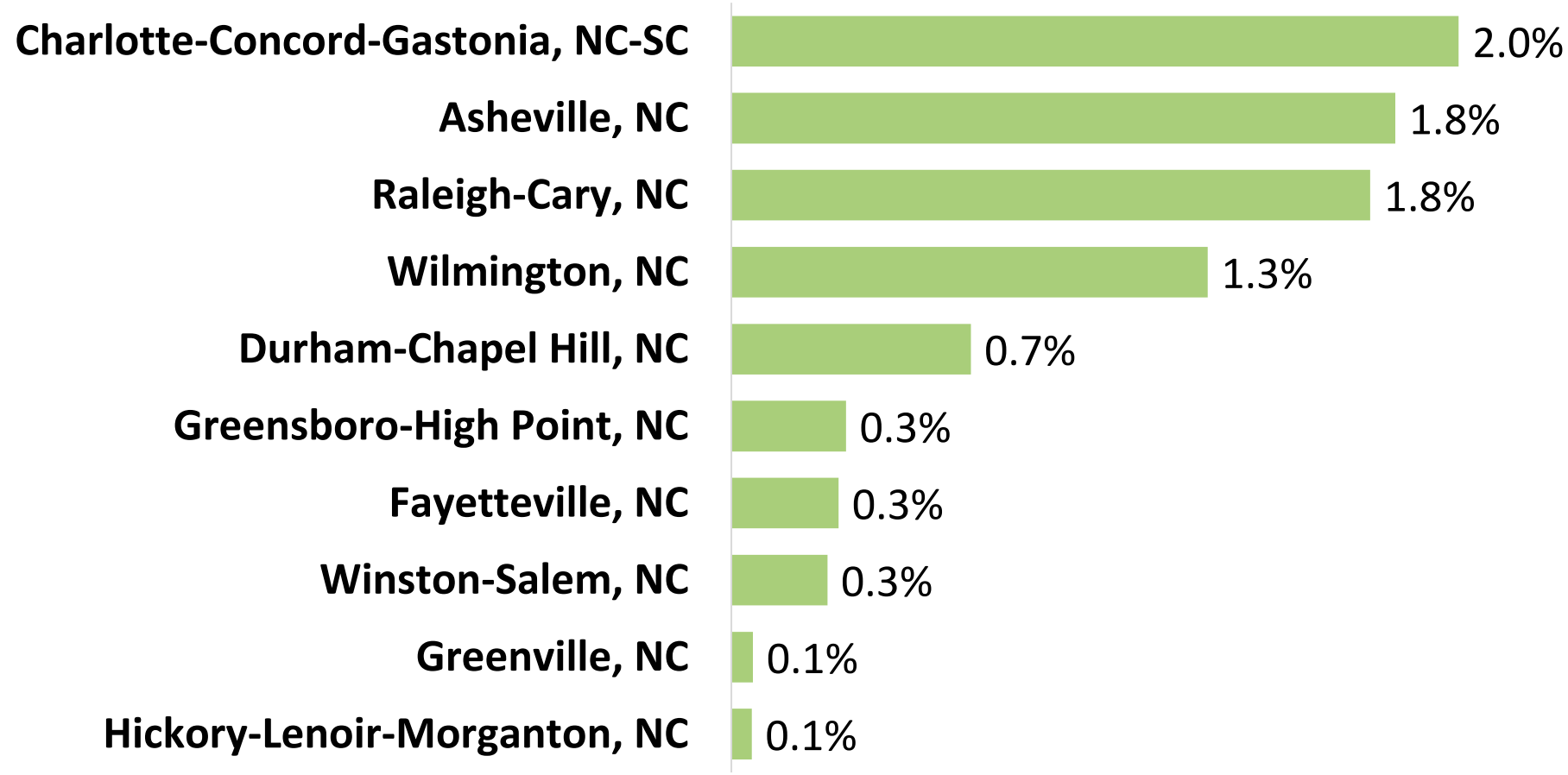
Business Funded Higher Ed R&D as % of GDP



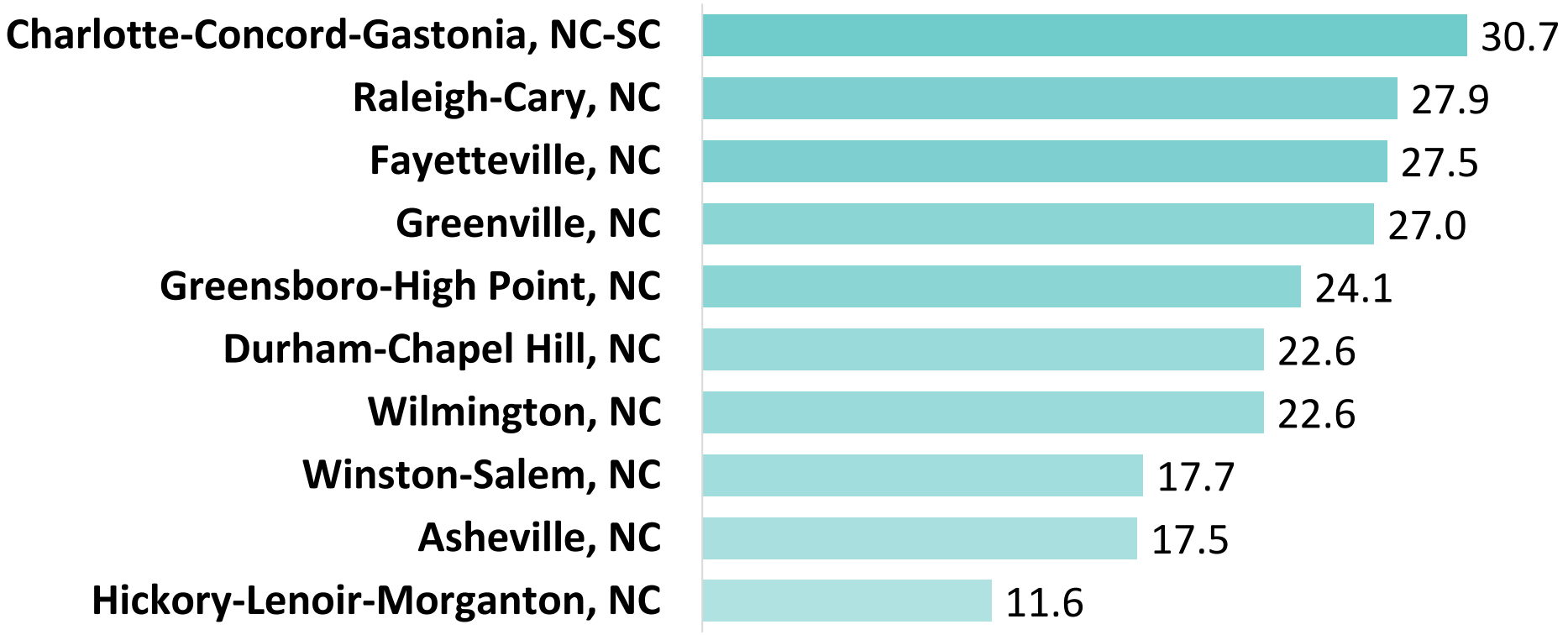
SBIR/STIR Funding per $1Million GDP



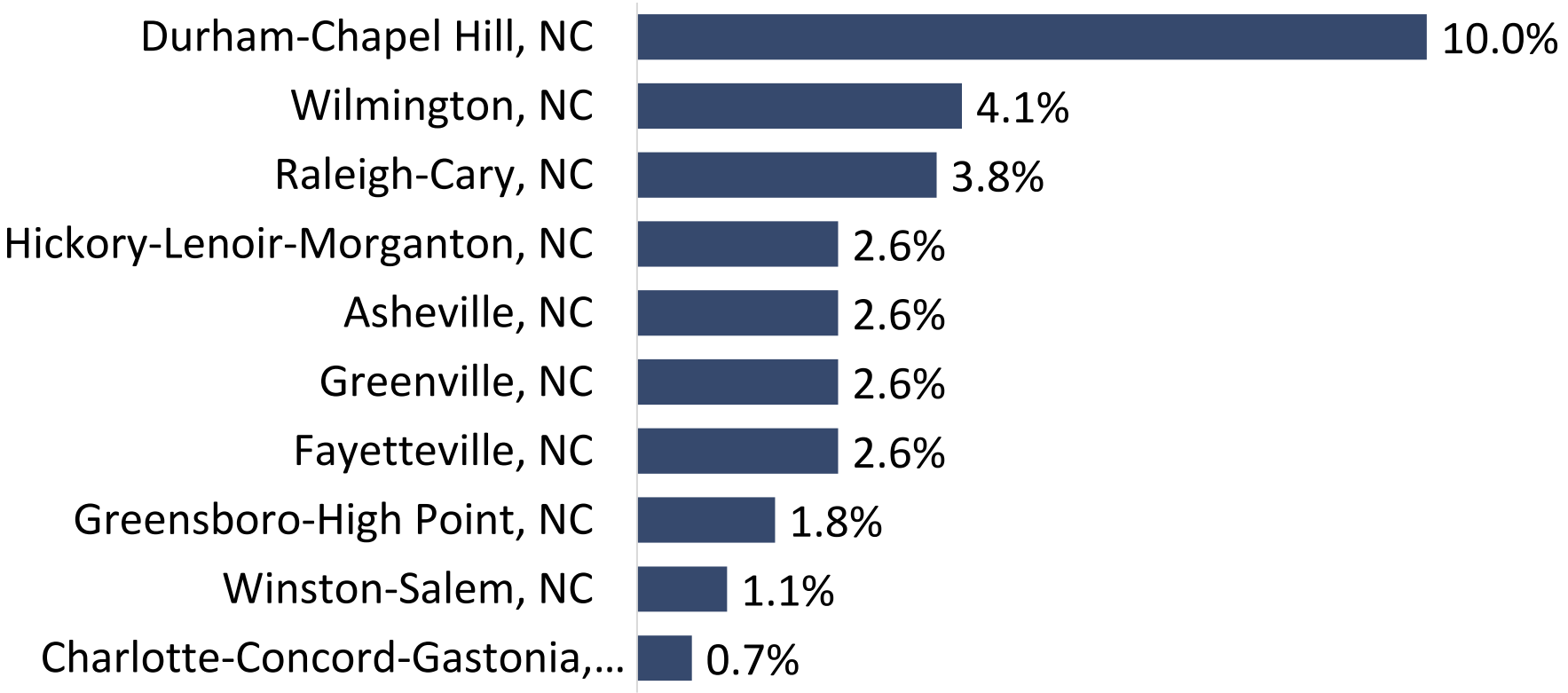
Business Dynamism Rate



Business Applications per 1,000 Adults



Business Funded R&D as % of GDP



Summary and Thoughts…

- Little overall rankings change from the last report
- Durham-Chapel Hill, Raleigh & Charlotte among the national leaders
- Wilmington and Winston-Salem improved 6 and 8 positions respectively
- Many NC metros have specific strengths Greenville-STEM grads & substantial R&D; Asheville & Hickory-Strong Tech Worker Diversity; Asheville & Wilmington-High Business Dynamism Rate; Fayetteville-Low Turnover Rate

North Carolina Competitive Assets for Technology Companies

Workforce	Cost Environment	Infrastructure	Financial & Regulatory
Strong population growth	Competitive costs of living	Reliable energy grid	Increasing venture capital activity
Leading research universities	Top 20 ranked tax climate	Extensive high-speed broadband network	Competitive incentive packages
Outstanding community college systems spread throughout the state	Competitive energy prices	Port accessibility	Top 20 ranked regulatory and legal environments for business

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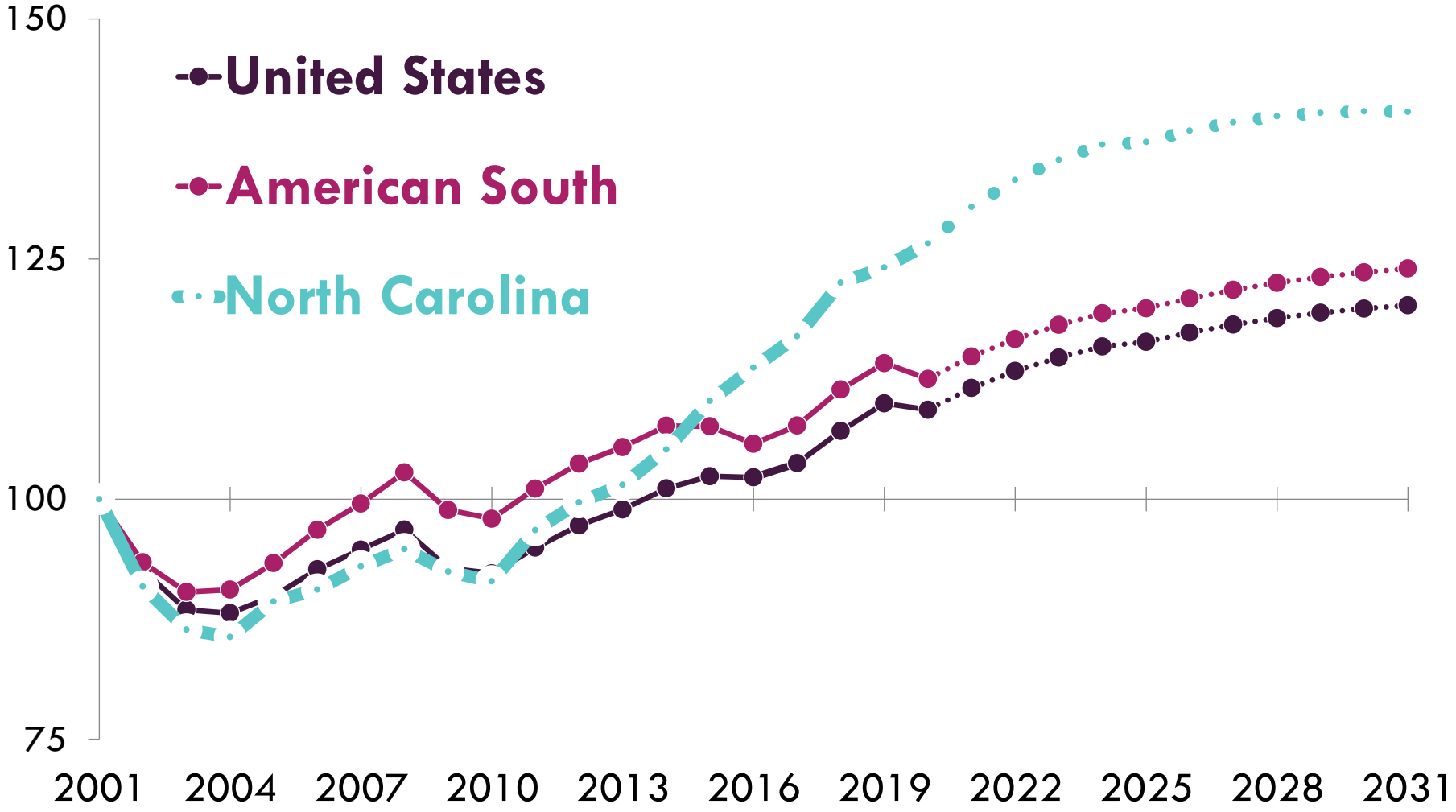
OUTLOOK FOR TECH

Long Term Tech Industry Employment Trends

2001 Employment Levels = 100



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OUTLOOK FOR TECH

Post-Pandemic Ripples

ECONOMIC LEADERSHIP

What is Important to Your Decision?

1) Cost of Living
2) Housing Availability/Cost
3) Safety/Crime Rates
4) Quality Healthcare
5) Welcoming/Friendly
6) Climate
7) Outdoor Recreation

TALENT WARS

What People Look for in Jobs and Locations

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TECH INNOVATION INDEX

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NATIONAL METRO COMPARISON