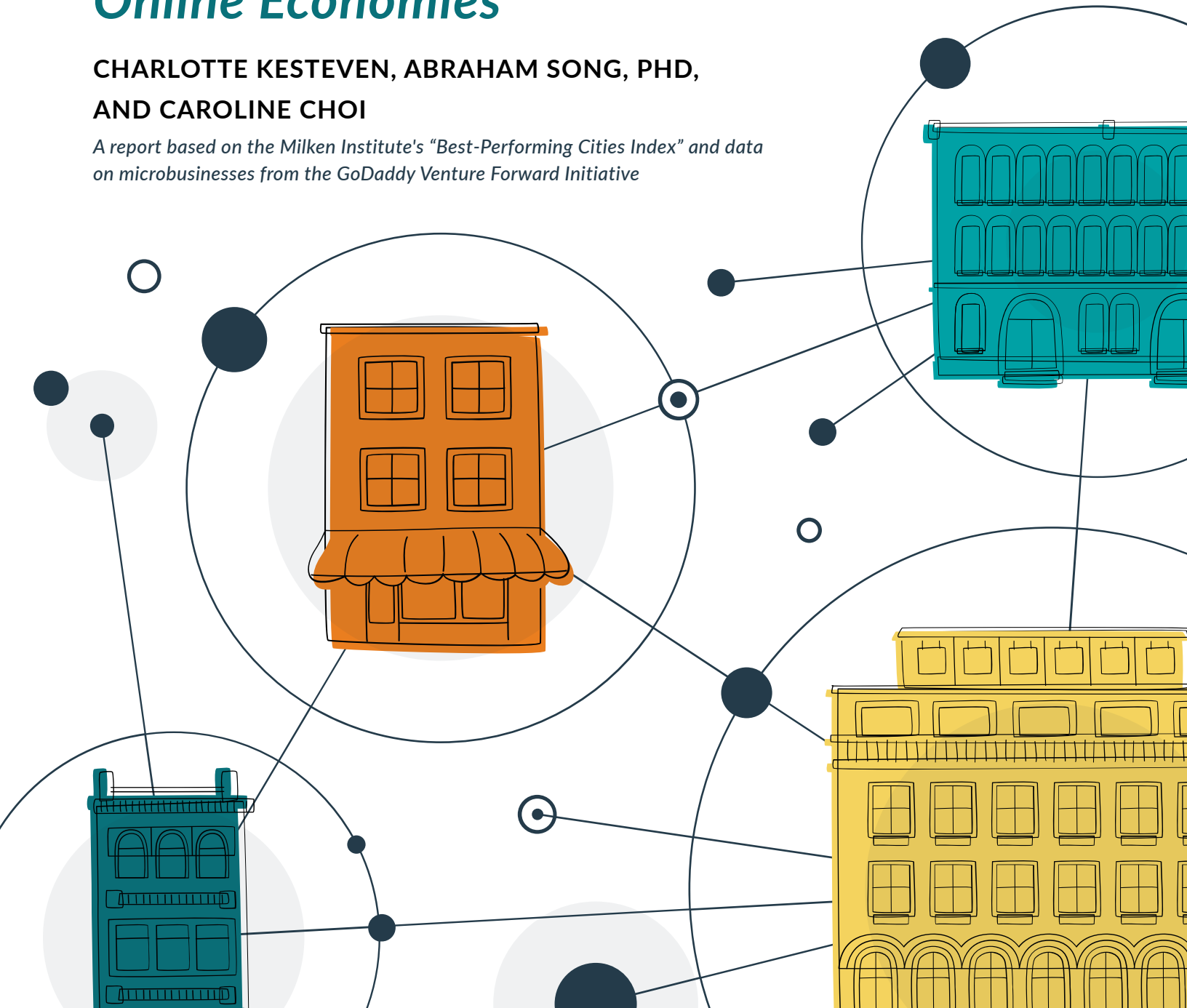MILKEN INSTITUTE

Best-Performing Cities and Microbusiness Activity:
Exploring Policy Implications of Online Economies

CHARLOTTE KESTEVEN, ABRAHAM SONG, PHD, AND CAROLINE CHOI

A report based on the Milken Institute's "Best-Performing Cities Index" and data on microbusinesses from the GoDaddy Venture Forward Initiative

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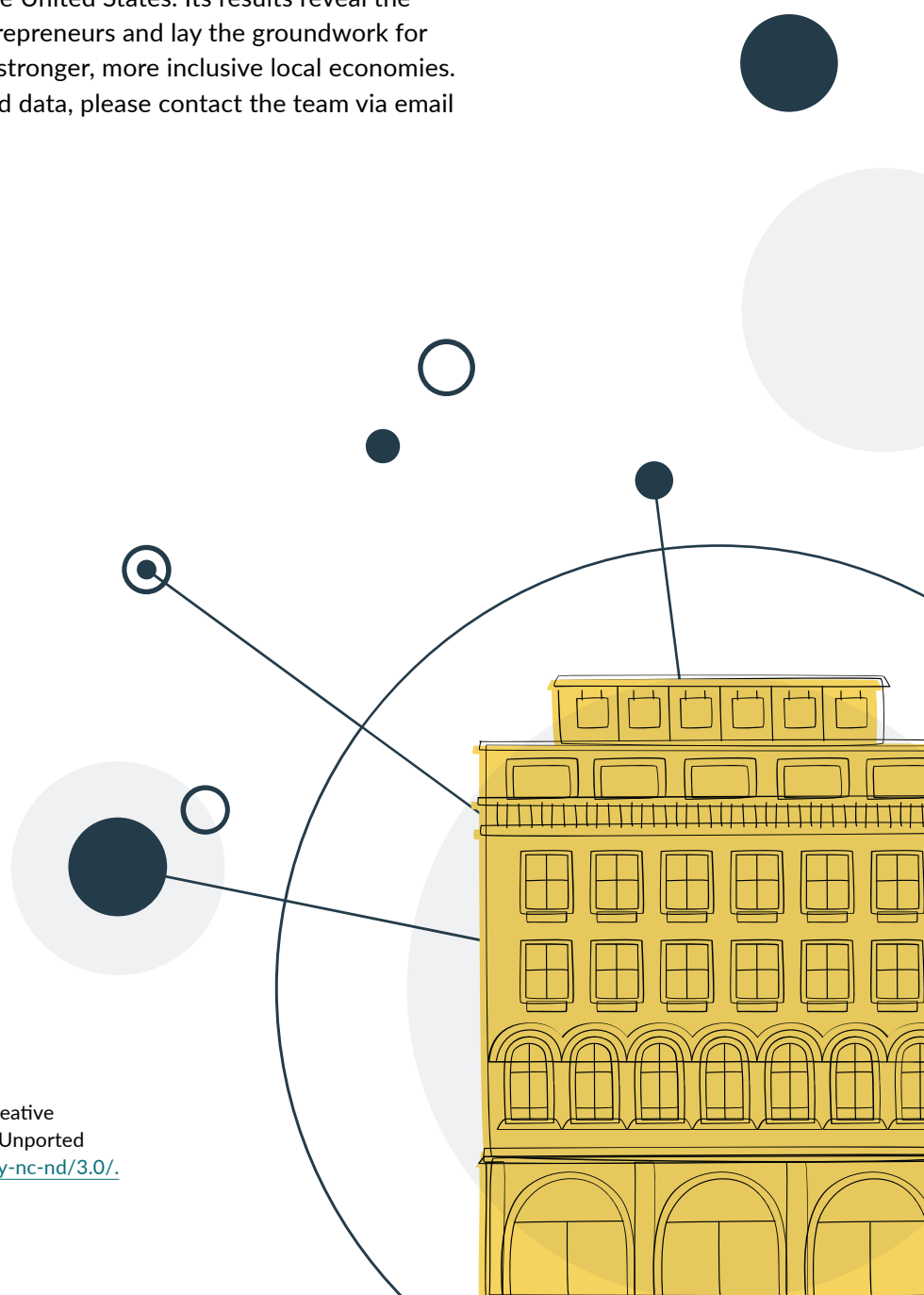
ABOUT GODADDY VENTURE FORWARD

Venture Forward is a multiyear research effort by GoDaddy measuring the impact of online microbusinesses across the United States. Its results reveal the outsized economic impact of everyday entrepreneurs and lay the groundwork for policymakers and elected officials to build stronger, more inclusive local economies. If you are interested in the Venture Forward data, please contact the team via email at ventureforward@godaddy.com.
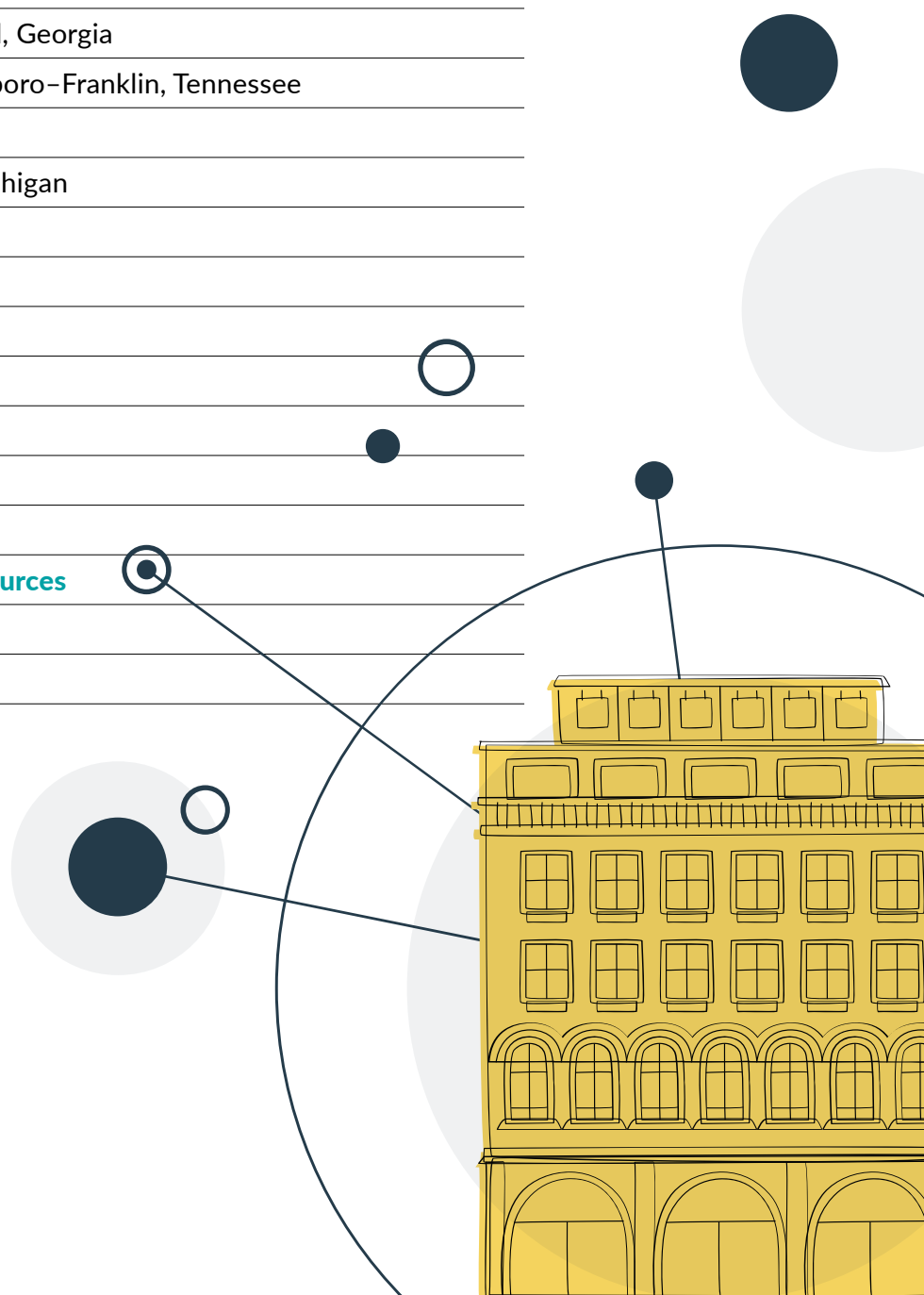
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EXECUTIVE SUMMARY

This report combines results from the *Best-Performing Cities 2022* (BPC) index and GoDaddy's Microbusiness Activity Index (MAI), examining what may be happening in the economies of a selection of cities in the two rankings. Essentially, we look at the impact microbusinesses may have on the economies and how that activity may be captured in BPC, ultimately better understanding what is happening in these local economies.

There is very little debate about the importance of access to reliable, affordable high-speed broadband internet in the post-COVID-19 world. From online education to remote work, the COVID-19 pandemic demonstrates that internet access is a necessity and right to live and work in today's digital society. Recognizing this, the Biden administration earmarked $65 billion from its $1.2 trillion Infrastructure Investment and Jobs Act for modernizing the nation's broadband infrastructure. Investing in broadband access is the first step to reducing the digital divide and creating economic opportunities for all communities, particularly those in low-income areas.

BPC and MAI serve as an aid to policymakers, the business community, and the nonprofit sector, helping facilitate the best evidence-based decisions that elevate the prosperity and well-being of their regions and communities. BPC takes key economic indicators and aggregates them, producing an index that helps evaluate city performance year-to-year over a national benchmark and compare how it performs to its peers. MAI captures information on digitally enabled microbusinesses that make up the growing digital economy, whose activities (e.g., gig work) are often missed in traditional economic indicators.

The findings can help policymakers and local leaders better understand economic trends and better design programs with the circumstances of their unique economies in mind.

THE INDEXES

Best-Performing Cities

The Milken Institute's Best-Performing Cities index compares economic activity across 400 large and small cities in the US annually. It ranks cities on measures including jobs growth, wage growth, high-tech GDP, high-tech industry activity, broadband access, and housing affordability.

Microbusiness Activity Index

GoDaddy's Microbusiness Activity Index comprises three subindexes: infrastructure, participation, and engagement. Updated quarterly, the MAI is a partnership with UCLA Anderson Forecast economists, and it provides the most up-to-date snapshot of microbusiness health and performance. The score distills over 15 signals measuring the infrastructure in place for businesses to take root and thrive, the participation of local entrepreneurs in creating these ventures, and the engagement levels of local entrepreneurs with their target markets.

The average scores are reflected in the table below. A score of 100 reflects the average community value observed in April 2020.

TABLE I: MICROBUSINESS ACTIVITY INDEX: SUBINDEXES AND AVERAGES

	Average
MAI INDEX	102.95
Engagement	96.28
Participation	101.92
Infrastructure	106.13

Source: GoDaddy (2022)
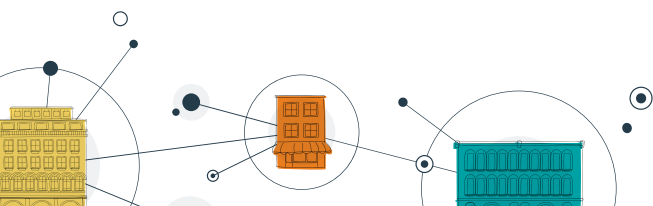
METHODOLOGY

This report cross-examines the Milken Institute's BPC 2022 and GoDaddy's MAI. The analysis divided the cities in the BPC large cities index into four segments: high rank versus low rank (2022) and high change versus low change (from 2021 to 2022). We selected several cities from each quadrant as case studies for further examination. Cities were selected from those with the greatest change in each quadrant and to ensure a geographic spread across the country. We then cross-tabulated these cities by category with MAI to identify any key similarities and differences in groups.

The top-level results for selected cities are shown below.

CITIES INCLUDED IN THIS REPORT

TABLE II: LOW RANK, RISING

	BPC Change	MAI Result
Akron, Ohio	+26	103.56
Detroit-Dearborn-Livonia, Michigan	+28	103.91
Columbus, Georgia-Alabama	+39	99.23

Source: Milken Institute (2022)

TABLE III: HIGH RANK, RISING

	BPC Change	MAI Result
Lubbock, Texas	+91	109.72
Lincoln, Nebraska	+54	113.09
Spokane-Spokane Valley, Washington	+41	103.67
Deltona-Daytona Beach-Ormond Beach, Florida	+30	103.76

Source: Milken Institute (2022)

TABLE IV: LOW RANK, FALLING

	BPC Change	MAI Result
Asheville, North Carolina	-92	103.57
Tulsa, Oklahoma	-61	104.25
Baton Rouge, Louisiana	-36	100.87
Pittsburgh, Pennsylvania	-26	104.93

Source: Milken Institute (2022)

TABLE V: HIGH RANK, FALLING

	BPC Change	MAI Result
Atlanta–Sandy Springs–Roswell, Georgia	-26	108.23
Nashville–Davidson–Murfreesboro–Franklin, Tennessee	-17	106.12

Source: Milken Institute (2022)
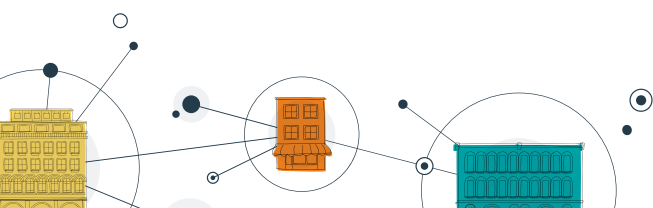
HIGH RANK AND RISING

Cities discussed in this segment were Lubbock, Texas; Spokane–Spokane Valley, Washington; Deltona–Daytona Beach–Ormond Beach, Florida; and Lincoln, Nebraska. Notably, cities within this quartile shared high rankings in four key categories: one-year and five-year jobs growth, one-year wage growth, and broadband access. However, these cities shared relatively moderate rankings in high-tech concentration, LQ count (number of high-tech industries), and housing affordability. On the Microbusiness Activity Index, cities in this quadrant scored higher than the national average in participation and infrastructure but lower in engagement.

It is interesting to note that while these cities show higher-than-average infrastructure scores in the MAI, this score—which measures human capital and digital infrastructure access—does not translate into a high BPC score in high-tech concentration or LQ count. That is, these cities have the digital infrastructure to support high-tech industry but have not yet capitalized on that opportunity.

Recommendations

- Improve access to affordable housing
- Promote new investment in high-tech industries by advertising the opportunity provided by high-tech infrastructure and workforce
- Support small business technical assistance to take better advantage of existing infrastructure

HIGH RANK AND FALLING

The cities examined in this section were Atlanta–Sandy Springs–Roswell, Georgia, and Nashville–Davidson–Murfreesboro–Franklin, Tennessee. Both are traditionally strong economies with a heavy dependence on tourism: Nashville being one of the most important music cities in the country and Atlanta being home to the world's busiest airport (although it lost this status briefly during the pandemic). It seems likely that the return of tourism will return these cities to their previously thriving status. But improving industry diversity will strengthen both cities' resilience and reduce the potential impact of a similar downturn in the future.

Microbusinesses in this segment reported needing assistance getting their small businesses online. They also were more likely to say that their cities already have policies in place to support them. Assisting local businesses in setting up an online presence helps them grow their business, allows them to access customers further afield, and reduces their dependence on the local economy, potentially improving their resilience in the face of another pandemic.

Recommendations

- Reduce dependence on the tourism industry
  - Support small businesses in non-tourism industries
  - Encourage continued high-tech industry development
- Maintain policies already in place supporting small business owners
- Expand business support to aid in setting up their online presence
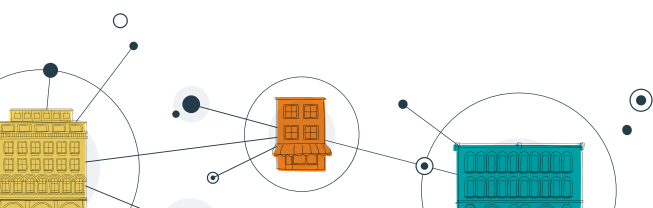
LOW RANK AND RISING

Cities discussed in this segment were Detroit, Michigan; Akron, Ohio; and Columbus, Georgia–Alabama. These cities have endured structural changes and periods of high unemployment. Slowly but surely, they are making a comeback by reinventing themselves and adapting to the new demands of the global knowledge economy. These cities had low broadband access but ranked high in housing affordability, particularly Detroit (8th) and Akron (15th).

Microbusinesses in this quadrant were important contributors to city growth. Nearly 90 percent of online ventures were commercial, higher than in any other city-type. They were more likely to be registered as Limited Liability Corporations (LLCs) than anywhere else. And nearly 90 percent of business owners either started their microbusiness while working somewhere else or left their prior job to start working on it. These trends suggest that access to affordable and reliable broadband infrastructure has helped some individuals build wealth through supplemental sources of income and, for others, became an avenue to pursuing new entrepreneurial ventures.

Recommendations

- Improve broadband access
- Address the skills gap to help modernize the workforce
- Pursue more public-private partnerships as well as industry-university partnerships to build a region's competitive edge
- Provide technical assistance to ensure new businesses are digitally enabled

LOW RANK AND FALLING

Cities discussed in this segment were Tulsa, Oklahoma; Pittsburgh, Pennsylvania; Baton Rouge, Louisiana; and Asheville, North Carolina. These cities are not known for a high-tech industry presence and have endured periods of high unemployment. Three of the four cities had particularly low broadband access (around 25 percent), and microbusiness owners surveyed revealed that they did not view an online presence as essential. Microbusinesses in this quadrant were also more likely to be new and to report licensing/permitting as the biggest hurdle they face.

Recommendations

- Improve broadband access
- Streamline the permitting and licensing process
- Provide technical assistance to ensure new businesses survive long term

CONCLUSION

A particularly notable finding was the pivotal role that broadband infrastructure can have in promoting economic opportunities and unleashing entrepreneurial potential within local economies. Cities in the top 10 also ranked highly in broadband access.
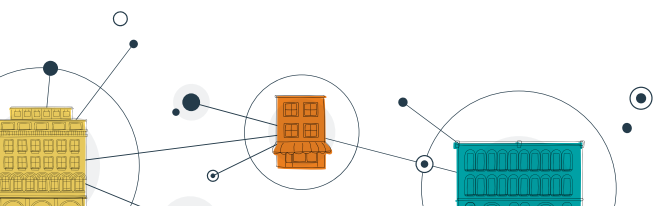
INTRODUCTION

This report combines the results of the *Milken Institute's Best-Performing Cities 2022* (BPC) index with data from GoDaddy's microbusiness surveys and Microbusiness Activity Index (MAI). The authors sought to deepen the understanding of what is occurring in economies across the US at a local level.

The report looks at what may be happening in the economies of a selection of cities in the two rankings. Essentially, we wanted to look at the impact microbusinesses may have on the economies we selected and how that activity may or may not be captured in BPC and try to better understand what is happening in these local economies.

There is very little debate about the importance of access to reliable, affordable high-speed internet in the post-COVID world. From online education to remote work, the pandemic has demonstrated that to live and work in today's digital society, internet access is no longer a luxury—it is a necessity and a right. This policy issue is also clear to the Biden administration, which has earmarked $65 billion from its $1.2 trillion Infrastructure Investment and Jobs Act for modernizing the nation's broadband infrastructure. Investing in broadband access is the first step to reducing the digital divide and creating economic opportunities for all communities, particularly those in low-income areas.

Both BPC and MAI aid policymakers, the business community, and the nonprofit sector in making evidence-based decisions that elevate the prosperity and well-being of their regions and communities. BPC takes key economic indicators and aggregates them to produce an index which evaluates a city's performance year-to-year in relation to its peers. MAI captures information on digitally enabled microbusinesses that make up the growing digital economy, whose activities (e.g., gig work) are often missed in traditional economic indicators. We hope that our findings can inform policymakers and local leaders in their understanding of economic trends and allow them to better design programs with the circumstances of their unique economies in mind.

This paper examines a selection of cities that fall into one of the following categories:

- **Low rank, rising:** cities that ranked in the bottom tier of BPC but made upward progress
- **Low rank, falling:** cities that ranked in the bottom tier of BPC and moved further downward
- **High rank, rising:** cities that ranked highly and made strong upward progress
- **High rank, falling:** cities that ranked highly but saw their rankings decline
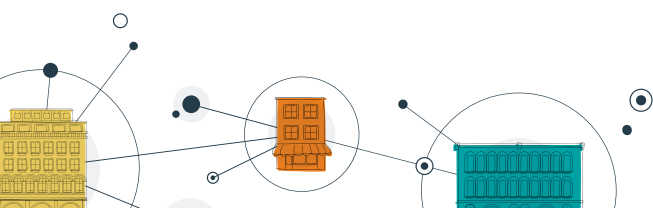
TABLE 1: CITIES AND QUADRANTS EXAMINED IN THIS REPORT

|	Low Rank	High Rank
Rising	• Akron, Ohio • Detroit–Dearborn–Livonia, Michigan • Columbus, Georgia–Alabama	• Lubbock, Texas • Lincoln, Nebraska • Spokane–Spokane Valley, Washington • Deltona–Daytona Beach–Ormond Beach, Florida
Falling	• Asheville, North Carolina • Tulsa, Oklahoma • Baton Rouge, Louisiana • Pittsburgh, Pennsylvania	• Atlanta–Sandy Springs–Roswell, Georgia • Nashville–Davidson–Murfreesboro–Franklin, Tennessee

Source: Milken Institute (2022)

EXAMINATION OF SURVEY RESULTS

Survey data from GoDaddy revealed several key characteristics of microbusinesses in low-ranked cities. They are less likely to support online transactions but indicate that they intend to in the future, they tend to be more service-focused rather than offering products, and owners put in longer hours. Some 35 percent of microbusiness owners indicated they spend more than 40 hours per week on their business, compared to 23 percent in high-ranked cities.

Considering this information, several steps could help microbusinesses in this setting: programming focused on assisting already-existing businesses to support online transactions, support for product-focused businesses as a potential avenue for new business growth, and help for owners to find efficiencies (or new employees) to support their operations in an effort to reduce their workload to a sustainable number of hours.

In high-ranked cities, microbusinesses are more likely to indicate they need help building a website or managing technology (24 percent vs. 12 percent). Business owners are also less likely to be employed full-time elsewhere than in the lower-ranked cities— suggesting that these businesses are providing financial stability to owners in a way they are not yet doing in other cities. However, entrepreneurs in these cities are more in need of help getting their businesses online effectively and more in need of website building/tech management expertise, while they struggle less to find skilled employees or affordable space than their counterparts in low-ranked cities. At the same time, they indicate a much greater need for access to capital in order to grow, with nearly half of all microbusinesses in these cities indicating that access to capital is one of the top ways the local government could help businesses like theirs. Assistance in marketing efforts is a close second.
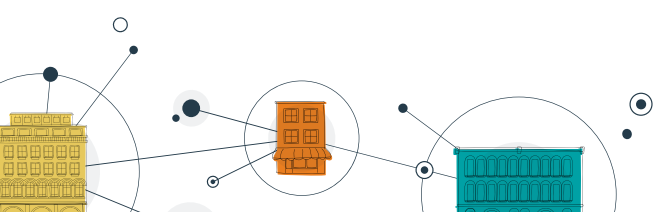
METHODOLOGY

This report cross-examines the Milken Institute's BPC 2022 index and GoDaddy's MAI. We focus on America's 200 largest cities.[1] Our method relies on year-over-year change in BPC rankings, dividing the rankings into four sections: high ranking and rising; high ranking and falling; low ranking and rising; low ranking and falling, and selecting several cities from each of these sections. We then cross-tabulate these cities by category with MAI to identify any key similarities and differences in groups.

The core components of the BPC index are job creation, wage growth, and output growth, especially in high-tech sectors. In 2022, we included broadband access and housing affordability to count as proxies for economic opportunity. Job (one- and five-year) and wage (one- and five-year) growth are more heavily weighted to capture the quality of jobs created and retained. Four high-tech measures (one- and five-year high-tech GDP growth, high-tech GDP location quotient, and count of high-tech GDP clusters) reflect the concentration and diversity of technology industries within metro areas.

The broadband measure is taken from the Federal Communications Commission (FCC) and records the proportion of households with three or more local broadband providers available. Since our focus is cities, we chose a variable that captures the highest available number of broadband providers in a geography to serve as proxy for market competition, affordability, and internet quality. The housing indicator uses the Housing Affordability Index developed by the National Association of Realtors, which measures the ability of a typical family to qualify for a mortgage on a typical home.

GoDaddy's MAI quantifies the impact of 20 million online microbusinesses on their local economies over time (almost real-time, monthly, and annual). The index contemporaneously measures local labor market conditions that can be made available in a timely manner to support evidence-based policymaking.

The index comprises three subindexes: infrastructure, participation, and engagement. Infrastructure measures the physical and intellectual infrastructure needed to access and use the internet. Participation measures the number of GoDaddy ventures created by residents of each locale. Engagement measures the frequency of customer access to the websites created. A score of 100 reflects the average community value as of April 2020.
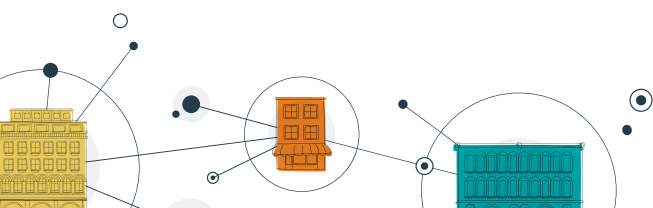
HIGH RANK AND RISING

Cities discussed in this segment were Lubbock, Texas; Spokane–Spokane Valley, Washington; Deltona–Daytona Beach–Ormond Beach, Florida; and Lincoln, Nebraska. Cities within this quartile shared high rankings in four key categories: one-year and five-year jobs growth, one-year wage growth, and broadband access. However, these cities shared relatively moderate rankings in high-tech concentration, LQ count (number of high-tech industries), and housing affordability. On the microbusiness activity index, cities in this quadrant scored higher than the national average in participation and infrastructure but lower in engagement.

Notably, cities within this quadrant shared relatively high rankings in four subindexes: one-year jobs growth, five-year jobs growth, one-year wage growth, and broadband access. Within these subindexes, all cities experienced a positive trajectory from their 2021 rankings. In addition to their notable performance in the selected measures above, all four

cities significantly increased their rankings to achieve such positioning. And despite this quadrant's shared, moderate performance in High-Tech Concentration, each city experienced significant growth from its previous year's ranking.

Among MAI subcomponent indicators, cities in this quadrant produced consistently high numbers in both Participation and Infrastructure subindexes. Contextually, US averages for Participation and Infrastructure indicators are 100.5 and 99.9, respectively.

Interestingly, while these cities showed higher-than-average infrastructure scores, which measure human capital and digital infrastructure access, they did not translate into a high BPC score in high-tech concentration or LQ count. These cities have the digital infrastructure to support high-tech industry but have not yet capitalized on that opportunity.

TABLE 2: HIGH RANK, RISING CITIES

	BPC Rank 2021	BPC Rank 2022	BPC Change	MAI 2021
Spokane–Spokane Valley, Washington	87	46	41	108.9
Lubbock, Texas	136	45	91	106.2
Deltona–Daytona Beach–Ormond Beach, Florida	69	39	30	104.8
Lincoln, Nebraska	80	26	54	117.7

Source: Milken Institute (2022)
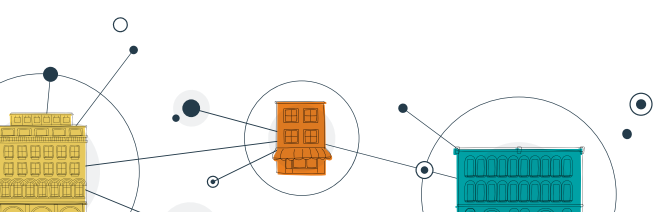
SPOKANE–SPOKANE VALLEY

WASHINGTON

Spokane scored well in one-year jobs growth, placing seventh among tier two cities in BPC's annual index, 34th in one-year high-tech GDP growth, 35th in five-year high-tech GDP growth, and 10th in broadband access.

Despite its composite score of 108.9 in the Microbusiness Activity Index, 7.1 points above the national average, Spokane's subindex engagement and participation scores were particularly low at 100.8 and 102.0, respectively, compared to its fellow quadrant cities. However, the city's subindex infrastructure score is 11.1 points above the national average, at 114.1. This demonstrates that the city has the physical and intellectual infrastructure needed to access and use the internet, implying that its already diversified economy can grow stronger with a push toward online microbusiness engagement.

Spokane is Washington's second-largest city and has seen 9.9 percent population growth over the past decade.[2] Between February 1, 2020, and January 7, 2022, Spokane trailed only Boise City, Idaho, for the metro with the fastest growth in job postings.[3] This growth may reflect the fact that Spokane's major

industries in aerospace, health care, food processing, and clean energy production are all rebounding from pandemic–related interruptions.

Job postings may also be growing to meet service-sector demand from remote workers from bigger metros. Attracted by its quality of life, proximity to nature, and small-town environment, remote workers have flocked to Spokane. This movement, however, creates high housing demand, compounded by a lack of affordable housing options in the area: Affordability is down more than 7 percent year-over-year,[4] and home-value growth has gone up by 12.9 percent year-over-year.[5]

Spokane has also seen an increase in tech startup activity. Rover, a Seattle-based pet-sitting company, recently set up a 70-person outpost in Spokane, and the University of Washington's CoMotion Labs launched an innovation hub in the area.[6] Tech job postings almost doubled from 2020 to 2021,[7] part of a burgeoning tech industry in Spokane. Despite this, technology only accounts for 1.4 percent of Greater Spokane's economy, leaving tremendous room for future tech growth and economic diversification.[8]

TABLE 3: SELECTED BPC MEASURES FOR SPOKANE–SPOKANE VALLEY, WASHINGTON

	2021	2022	Change
One-year employment growth	53	70	-17
Five-year employment growth	69	54	+15
One-year wage growth	142	168	-26
High-tech concentration	94	81	+13
Broadband provider access	64	10	+54
Housing affordability	107	151	-44

Source: Milken Institute (2022)

TABLE 4: MAI SUBINDEX RESULTS FOR SPOKANE–SPOKANE VALLEY, WASHINGTON

Engagement	100.8
Participation	102.0
Infrastructure	114.1

Source: GoDaddy (2022)
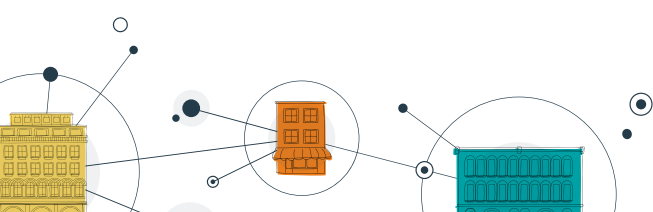
LUBBOCK

TEXAS

Lubbock scored well in one-year employment change (27th), one-year wage growth (39th), broadband access (3rd), and housing affordability (28th), but did not perform particularly well in 12-month short-term jobs growth (117th), five-year high-tech GDP growth (161st), high-tech concentration (94th), and LQ count (134th).

In the Microbusiness Activity Index, Lubbock scored 117.7 (well above the national average of 101.8) and did particularly well in the engagement subindex with 134.8, close to the national high of 140.8.

Known as the Hub City of western Texas,[9] due to its location and economic position as the center of the south plains, Lubbock has a diverse economy based in research and technology, transportation and logistics, diversified manufacturing, energy, aerospace, bio- and techno-agriculture, and food technology. Lubbock is Texas' 11th largest city and has a regional population of 639,921, an 11.4 percent growth rate since 2010.

In 2022, WalletHub ranked Lubbock as the 36th best city in the United States to start a new business, as measured by its business environment, access to resources, and low business costs.[10] In terms of accessible financing, Lubbock ranked second only to Lincoln, Nebraska.[11] This comes as no surprise, as the city offers a multitude of resources to its residents, from tax credits for entrepreneurship to workforce development training. Furthermore, Lubbock was ranked the 13th best city for women entrepreneurs: 35.7 percent of self–employed business owners were women, and they out-earned their male counterparts, on average, by over 13 percent.[12] In 2022, 38 local businesses participated in the city's downtown grant program, investing a collective $24 million to revitalize downtown Lubbock.[13]

Notably, the city is home to multiple higher education institutions, including Texas Tech University and Lubbock Christian University. Both institutions supply Lubbock businesses with skilled graduates.

Lubbock is slowly growing its technology sector. Texas Tech University opened its Innovation Hub in the fall of 2015. Since then, the Hub has grown to 150 startups,[14] and its programs have created $54.1 million of impact on the Lubbock region through revenue generated, capital attracted, and grants supporting commercialization activities. Lubbock's technology sector by 2019 accounted for only 2.2 percent of employment despite these investments, indicating significant room for improving an environment conducive to technology expansion.

TABLE 5: SELECTED BPC MEASURES FOR LUBBOCK, TEXAS

	2021	2022	Change
One-year employment growth	79	27	52
Five-year employment growth	97	66	31
One-year wage growth	122	39	83
High-tech concentration	126	94	32
Broadband provider access	163	3	160
Housing affordability	117	28	89

Source: Milken Institute (2022)

TABLE 6: MAI SUBINDEX RESULTS FOR LUBBOCK, TEXAS

Engagement	95.6
Participation	107.1
Infrastructure	118.2

Source: GoDaddy (2022)
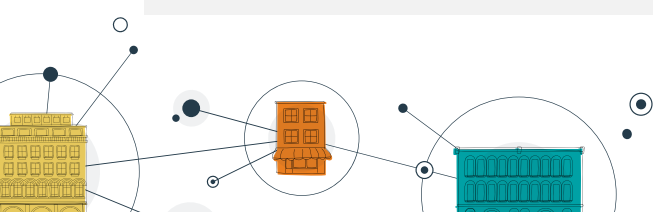
DELTONA–DAYTONA BEACH–ORMOND BEACH

FLORIDA

Deltona scored the lowest among its fellow quadrant cities in one-year high-tech GDP growth (166th), five-year high-tech GDP growth (117th), high-tech concentration (119th), and broadband access (60th). It scores very high on measures of one-year jobs growth (33rd), five-year jobs growth (36th), one-year wage growth (22nd), and five-year wage growth (37th).

Within the MAI subindexes, the lowest result for Volusia County was 94.1 for engagement, and the highest was 109.3 for infrastructure.

The metro is known for its motorsports (as home to the world-famous Daytona International Speedway) and beach racing. Its proximity to Southeast Florida, the unofficial mecca of aviation and aerospace,[15] has meant both industries play a major role in the metro's economic development. The area is home to the Kennedy Space Center, Cecil Spaceport, and Cape Canaveral Air Force Station. Additionally, the Greater Daytona Area is home to more than 450 manufacturing companies, with most concentrated in green technology.

Notably, this metro's median age increased from 45.3 years in 2010 to 47.8 years in 2019, with those 65 and older accounting for 25 percent of the population.[16]

As seen in BPC's metrics, Deltona's economy lags its fellow cities in terms of tech concentration but flourishes in the major industries already established in the metro.

Deltona's major industries—health care, business/finance, information technology, and architecture/engineering—face significant skills gaps as employers embrace automation and technology.[17] Future economic development and diversification depend on matching the right skills with the region's job opportunities.

TABLE 7: SELECTED BPC MEASURES FOR DELTONA–DAYTONA BEACH–ORMOND BEACH, FLORIDA

	2021	2022	Change
One-year employment growth	131	33	98
Five-year employment growth	49	36	13
One-year wage growth	74	22	52
High-tech concentration	110	119	-9
Broadband provider access	162	60	102
Housing affordability	139	130	9

Source: Milken Institute (2022)

TABLE 8: MAI SUBINDEX RESULTS FOR VOLUSIA COUNTY, FLORIDA

Engagement	94.1
Participation	103.3
Infrastructure	109.3

Note: Volusia County is used in place of Deltona–Daytona Beach–Ormond Beach, Florida

Source: GoDaddy (2022)
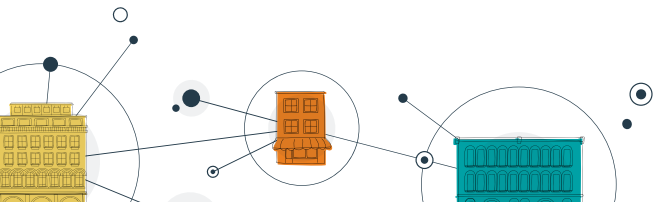
LINCOLN
NEBRASKA

Lincoln, nicknamed the Silicon Prairie, is slowly growing into a hub for tech innovation. Indeed, Lincoln placed 35th in one-year high-tech GDP growth, 30th in five-year high-tech GDP growth, and 4th in broadband access in BPC's 2022 metrics. Along with its growing tech scene, Lincoln boasts good rankings in one-year jobs growth (43rd), one-year wage growth (45th), and housing affordability (52nd).

Engagement is strong among websites created in Lincoln. However, participation—the density and growth rate of online microbusinesses and online microbusiness owners—is moderate at 101.1 (compared to the national average of 100.5).

The capital city of Nebraska, Lincoln is a growing city with major industries in business, manufacturing, health care, insurance, agriculture, and transportation. In 2022, the city was ranked as the 25th best place to start a business and first in most accessible financing.[18] Startups can draw talent from the flagship University of Nebraska–Lincoln (UNL) or receive support from UNL's Nebraska Innovation Campus. However, the university's impact is diluted because Lincoln suffers from brain drain as it hemorrhages homegrown talent while failing to attract highly educated out-of-staters.[19]

TABLE 9: SELECTED BPC MEASURES FOR LINCOLN, NEBRASKA

	2021	2022	Change
One-year employment growth	150	43	107
Five-year employment growth	144	99	45
One-year wage growth	125	45	80
High-tech concentration	85	80	5
Broadband provider access	41	4	37
Housing affordability	56	52	4

Source: Milken Institute (2022)

TABLE 10: MAI SUBINDEX RESULTS FOR LINCOLN, NEBRASKA

Engagement	134.8
Participation	101.1
Infrastructure	107.6

Source: GoDaddy (2022)
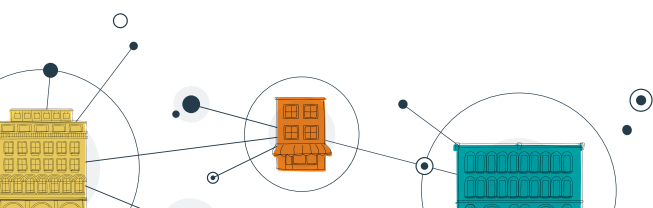
CONCLUSION

Cities in this category are doing reasonably well in terms of BPC rankings and are well-poised for continued growth into the future. They were characterized by consistently high scores in broadband access and low scores in housing affordability. Broadband access is essential in ensuring these cities are equipped to handle new high-tech growth and a healthy microbusiness community. Additionally, low housing affordability will be a barrier to attracting new residents.

However, interesting findings in the survey results may be valuable to decision-makers and leaders in these cities. Microbusiness owners here are much more educated and are less diverse in terms of race/ethnicity than in cities in other segments. A focus on closing racial/ethnic gaps in microbusiness ownership could go a long way towards boosting the economic conditions of these cities even further. At the same time, microbusiness owners here tend to be older and are likely to have been in business longer, meaning a larger contingent of established and financially stable microbusinesses and fewer new surges of innovators and entrepreneurs compared to other areas.

RECOMMENDATIONS

Ensure Housing Affordability

Cities across the country that are achieving a high level of economic success also often have rapidly increasing housing costs, which is the most significant living cost faced by most households. Spokane and Deltona scored particularly poorly on this measure.

Ensuring continued access to affordable housing is essential to maintaining economic success, especially if these cities are looking to attract new businesses and workers.

Promote High-Tech Industry Investment

Cities in this sector have laid the groundwork for high-tech industry investment, with good broadband access and highly educated populations. Promoting further high-tech industry investment would improve these cities' economic diversity and resilience.
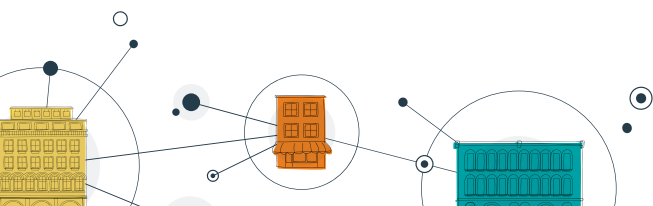
HIGH RANK AND FALLING

This segment discusses cities that are currently in the top tier of cities in BPC but that had significant drops in the rankings. The two cities analyzed here are Atlanta–Sandy Springs–Roswell, Georgia, and Nashville–Davidson–Murfreesboro–Franklin, Tennessee.

Both cities in this segment scored poorly in one-year high-tech GDP growth (Atlanta in 144th and Nashville in 97th) and broadband access (133rd and 144th, respectively). Both cities also saw meaningful drops in their one-year wage- and jobs-growth rankings.

Microbusinesses in this segment's cities reported a higher need for help in effectively getting their business online than businesses from other city segments. They are also more likely to report needing help accessing capital: Half of the microbusinesses indicated this to be one of the most important actions local governments can take to help them.

At the same time, these microbusiness owners are more likely to respond that their city/town has policies that support businesses like theirs, roughly three times as often as microbusinesses in the following category (high rank, rising), and the lowest rate of responding that their city/town does not support businesses like theirs. They are the most optimistic among respondents falling into the four different city types. Surprisingly, they are also more optimistic about their local city/town's economy over the next three months, despite their cities seeing the greatest drop in BPC rankings.

While this optimism may be surprising due to where they're located, it is not surprising based on what we know about Black entrepreneurs: Black microbusiness owners report being more optimistic overall, and this city-type has the greatest concentration of Black-owned businesses (40 percent) of all city-types.

TABLE 11: HIGH RANK, FALLING CITIES

	BPC Rank 2021	BPC Rank 2022	BPC Change	MAI
Atlanta–Sandy Springs–Roswell, Georgia	21	47	-26	108.33
Nashville–Davidson–Murfreesboro–Franklin, Tennessee	8	25	-17	106.12

Source: Milken Institute (2022)
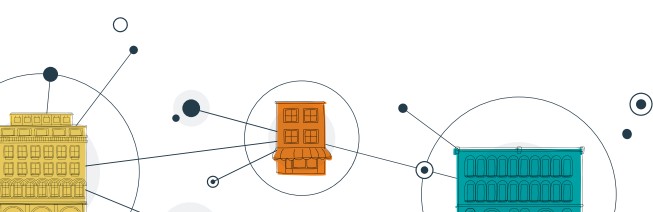
ATLANTA–SANDY SPRINGS–ROSWELL

GEORGIA

Atlanta dropped from 21st to 47th. The most notable declines were in one-year high-tech GDP growth and one-year employment growth. Atlanta also performed poorly in broadband access (133rd), one-year wage growth (99th), and housing affordability (91st).

Atlanta's MAI score was 108.23, which is above the national average. The city's highest subindex score was 113.6 for infrastructure, significantly above the average for this measure. The lowest result was in engagement, at 94.61.

Atlanta hosts the headquarters for many major US and international companies, including Delta, AT&T, UPS, and Coca-Cola. It is also home to Hartsfield-Jackson Atlanta International Airport, the world's busiest airport by passengers, and a hub for Delta and Southwest Airlines. Atlanta ranks highly in the number of high-tech jobs, but its biggest employment sector by far is transportation and utilities.

Atlanta is home to the Centers for Disease Control and Prevention (CDC), which employs over 15,000 people, the vast majority of whom are highly qualified workers, such as epidemiologists, public health specialists, and statisticians.[20]

The largest individual employers in the city are Delta Airlines (34,500), Emory University/Emory Healthcare (32,000), The Home Depot (16,500), and Northside Hospital (16,000).[21] Like the nation as a whole, Atlanta has fewer jobs in leisure and hospitality and air transport, and more jobs in professional and business services and health care compared to two years ago.[22] While the significance of Atlanta to the US's air travel industry is unlikely to change, the pandemic showed that less dependence on this industry would make the city's economy more resilient to future downturns.

### TABLE 12: SELECTED BPC MEASURES FOR ATLANTA–SANDY SPRINGS–ROSWELL, GEORGIA

	2021	2022	Change
One-year employment growth	36	88	-52
One-year wage growth	85	99	-14
Five-year wage growth	53	59	-6
One-year high-tech GDP growth	87	144	-57
Five-year high-tech GDP growth	32	45	-13
Broadband access	54	133	-79

Source: Milken Institute (2022)

TABLE 13: MAI SUBINDEX RESULTS FOR ATLANTA–SANDY SPRINGS–ROSWELL, GEORGIA

Engagement	94.61
Participation	105.12
Infrastructure	113.6

Source: GoDaddy (2022)
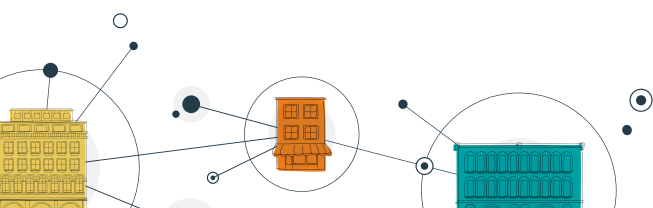
NASHVILLE–DAVIDSON–MURFREESBORO–FRANKLIN

TENNESSEE

Nashville dropped from 8th to 25th. The most significant changes were a decrease from 9th to 97th in one-year high-tech GDP growth and a decrease from 7th to 59th in one-year employment growth. The city's best results were 14th in five-year jobs growth and 29th in five-year wage growth. The worst result was 144th in broadband access.

Nashville's overall MAI score of 106.12 is above the national average, as is its infrastructure score of 110.6. The city's lowest subindex result was 94.4 for engagement.

Nashville's economy contributes more than a third of Tennessee's GDP.[23] However, the city's GDP is only around a third of Atlanta's. The largest employers in the region are concentrated in health care, education,

and automotives—key employers are Vanderbilt University Medical Center, Nissan, HCA Healthcare, Vanderbilt University, and General Motors. There is also significant employment in tourism and hospitality occupations, particularly in relation to the city's nationally popular music scene.

In fact, the arts industry is one of the few industries where the Nashville average wages are significantly higher than the national average—$67,900 compared to $40,800.[24] In almost all other industries, salaries in Nashville are close to or well below the national average. Given that tourism has faced such significant challenges over the past two years, it is unsurprising that Nashville's economy would have taken a hit.

TABLE 14: SELECTED BPC MEASURES FOR NASHVILLE–DAVIDSON–MURFREESBORO–FRANKLIN, TENNESSEE

	2021	2022	Change
One-year employment growth	7	59	-52
Five-year employment growth	9	14	-5
One-year wage growth	29	60	-31
Five-year wage growth	14	29	-15
One-year high-tech GDP growth	9	97	-88
Five-year high-tech GDP growth	11	34	-23
Broadband provider access	56	144	-88

Source: Milken Institute (2022)

TABLE 15: MAI SUBINDEX RESULTS FOR NASHVILLE–DAVIDSON–MURFREESBORO–FRANKLIN, TENNESSEE

Engagement	94.4
Participation	104.3
Infrastructure	110.6

Source: GoDaddy (2022)
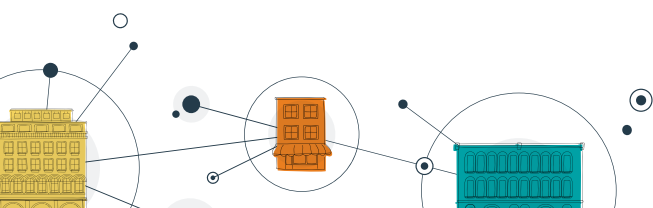
CONCLUSION

Both MSAs described above have diverse and previously thriving economies—but both with dominant industries that suffered tremendously during the pandemic. In the case of Nashville, live music was particularly impacted, as well as tourism in general. For Atlanta, air transport was drastically reduced both nationally and internationally, even leading to Hartsfield-Jackson losing its status as the world's busiest for a short period of time (it regained the lead in 2021). It seems likely that the return of the tourism industry will lift both of these cities significantly. However, more industry diversity would reduce the risk of such a shock in the future.

Microbusinesses in this segment reported needing assistance getting their small businesses online. They were also more likely to say that their cities already had policies to support them.

RECOMMENDATIONS

Reduce Dependence on Tourism

In both cases, strengthening vulnerabilities will ensure the city does not suffer in the case of a unique downturn. Improving the diversity and strength of high-tech industries would reduce the risk of this type of downturn—high-tech industries were much more resilient to the impact of the pandemic.

Continue and Expand Business Support

Cities in this segment are already doing something right in terms of small business support—with many more business owners reporting that their city has policies to support them. It is important to maintain this support and expand it to assist in getting businesses online.
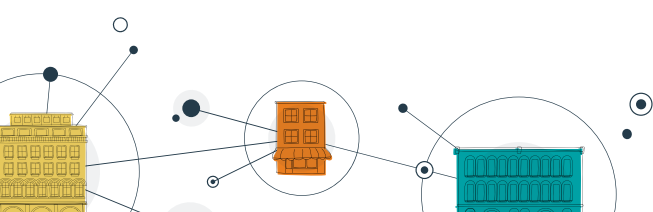
LOW RANK AND RISING

This section identifies cities that ranked low in BPC but made significant upward strides between 2021 and 2022.

TABLE 16: LOW RANK, RISING CITIES

	BPC Rank 2021	BPC Rank 2022	BPC Change	MAI
Detroit–Dearborn–Livonia, Michigan	188	160	28	103.91
Akron, Ohio	180	154	26	103.56
Columbus, Georgia–Alabama	191	152	39	99.23

Source: Milken Institute (2022)
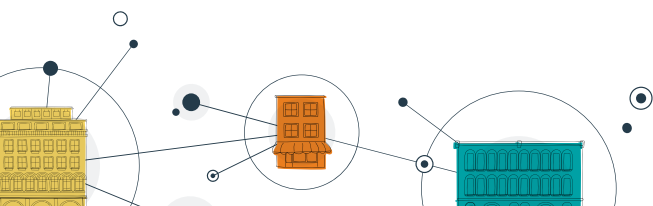
DETROIT–DEARBORN–LIVONIA
MICHIGAN

Detroit climbed in the rankings due to improved results in short-term jobs growth (from 189th to 36th) and broadband access (182nd to 77th). It was held back by one-year and five-year employment growth (dropping 76 and 45 places, respectively).

When we look just at the high-tech sector, Detroit appears to be doing better: Its high-tech GDP location quotient rose by 17 spots, and both its one-year and five-year high-tech GDP growth improved in the ranks.

Detroit's aggregate MAI score is 103.91, and all three sub-index scores were between 98 and 105. MAI scores are benchmarked to the national average of 100, meaning Detroit as a city lines up well with this benchmark.

Detroit is resilient in the face of an unprecedented economic downturn and made major progress in its economic recovery from the pandemic. The Detroit Economic Outlook for 2021-26, released in February 2022, notes the city is expected to recover its pandemic job losses by 2023 and continue to experience employment and wage growth through 2026.[25] The study also finds the city's unemployment rate at 10 percent is a significant drop from 22 percent in 2020. The major catalyst for job gains was the recovery of industrial jobs such as in construction and manufacturing, while the service industry is expected to return to its pre-pandemic levels by the end of the year. These numbers suggest that Detroit is bouncing back faster than its peers from the COVID-19 pandemic.

Detroit's long-term performance indicators in employment and wages appear to have stagnated. Its five-year employment change ranks are 45 spots lower, and wages are 12 spots lower. But the high-tech sector is performing moderately well. The location quotient rank is 17 spots higher, while its high-tech GDP rank is 12 spots further up the ladder.

Detroit was one of the hardest hit cities of the Great Recession, and the aftershocks of the auto sector's collapse have left an indelible mark on its economy. The decennial census shows that the city's 70-year population decline continues.[26] It also remains among the nation's poorest and most violent big cities.[27]

But the city is slowly recovering and reinventing itself. In 2021, Detroit reported surprisingly robust job growth, which experts say will continue. This growth follows years of general economic stagnation. However, the Detroit area's employment growth remains limited to the service-providing sectors such as Professional & Business Services and Leisure & Hospitality.[28]

As policymakers consider how to spend the nearly $850 million in federal funds that Detroit gets as part of the American Rescue Plan Act, Detroiters say improving access to the internet is a top priority. In Detroit, around four in ten residents do not have internet access at home, prompting residents to take matters into their own hands through projects like the Equitable Internet Initiative.[29] Broadband access in today's knowledge economy is a critical infrastructure for workers and businesses alike. For a city that has consistently experienced unemployment rates higher than the national average, improved broadband access is a necessary precondition for workers to enhance their skills and expand into new areas of expertise. Broadband access can also create opportunities for the city's unemployed population by enabling them to participate in the gig economy.
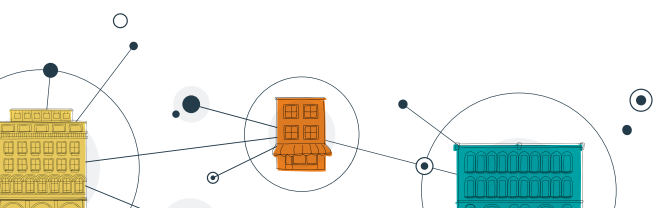
TABLE 17: SELECTED BPC MEASURES FOR DETROIT– DEARBORN–LIVONIA, MICHIGAN

	2021	2022	Change
One-year employment growth	115	191	-76
Five-year employment growth	120	165	-45
Short-term jobs growth	189	36	+153
One-year high-tech GDP growth	183	148	+35
Five-year high-tech GDP growth	174	162	+12
High-tech GDP location quotient	121	104	+17
Broadband access	182	77	+105

Source: Milken Institute (2022)

TABLE 18: MAI SUBINDEX RESULTS FOR DETROIT– DEARBORN–LIVONIA, MICHIGAN

Engagement	98.89
Participation	101.79
Infrastructure	105.53

Source: GoDaddy (2022)

AKRON
OHIO

Akron, Ohio, finds itself in the category of cities that rank low in BPC but are making major progress. Like many of its peer cities, health care, education, and social assistance organizations are at the core of its industry, employing a quarter of the workforce. The city should continue to diversify its sectoral composition across professional service sectors like management, scientific and technical consulting services, and computer science to increase employment. The city has made gains in one-year and five-year employment and wages, as seen in the table below.

Akron, Ohio, lags the nation in all three subindexes of GoDaddy's microbusiness activity index score.

By 1950, Akron, Ohio, was known as the Rubber Capital of the World and a national leader in the rubber industry.[30] Primarily linked with the automotive industry, the growth of the rubber industry elevated Akron's position in the national and global economy. But in the 1970s, its tire production plants lost

global competitiveness, resulting in severe job losses in the manufacturing sector. Moreover, between 2000 and 2013 (in part due to the Great Recession), the city experienced another 25 percent decline in manufacturing jobs, while the unemployment rate neared 10 percent.[31]

In recent years, Akron has been recognized for its livability and emerged as a high-tech haven.[32] These improvements are reflected in BPC: climbing 40 spots in five-year high-tech GDP growth (from 98th to 58th), 67 spots in one-year employment growth (from 182nd to 115th), and 34 places in LQ count (168th to 134th).

The city houses the headquarters of Fortune 500 companies like Goodyear Rubber Company and FirstEnergy. Anchored by Goodyear and the University of Akron, Northeast Ohio became known as the Polymer Valley in the 1980s and 1990s. By 2001, more than 400 companies were working on manufactured polymer-based materials.[33]
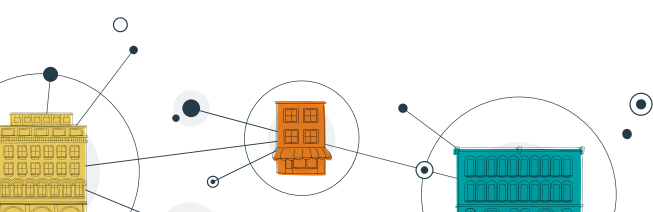
Akron offers near-complete broadband coverage to its residents.[34] According to BroadbandNow, Akron's broadband coverage is 100 percent from 26 providers.[35] However, service is far from uniform within the greater Akron metropolitan area. Take two Akron suburbs, Fairlawn and Barberton, Ohio. Fairlawn, a relatively affluent suburb of about 7,500 residents, built its own fiber-based internet service several years before the COVID-19 pandemic. Like other municipal broadband networks around the country, Fairlawn's FairlawnGig offers residents and businesses faster speeds at lower prices than other area providers. By contrast, Barberton, a suburb of about 26,000 just eight miles south of Fairlawn, relies on the local internet service providers, whose services do not meet the growing demands of the community, especially during the pandemic. As Barberton Mayor William Judge summarized, "I think it's fair to say that we pay more for less service than Fairlawn."[36]

If the city is to restore its competitive edge, it will first need to address a skills gap owed to the decline of manufacturing jobs and increase in demand for professional services workers.[37] Access to broadband could help address the skills gap by providing access to online educational resources.

Northeast Ohio, which includes Akron and Cleveland, outlines ways to strengthen the nation's supply chain resilience through the growth of smart manufacturing and advanced materials, particularly polymers. The region could receive up to $75 million in federal Build Back Better Regional Challenge grants to support its proposed initiatives.[38]

Akron avoided the worst effects of the pandemic recession due to its strong manufacturing and health-care sectors, along with its lack of reliance on tourism. Among 98 US cities studied for job growth from 2019 to 2020, Akron ranked sixth in the nation in the growth of jobs that pay a living wage.[39]

### TABLE 19: SELECTED BPC MEASURES FOR AKRON, OHIO

	2021	2022	Change
One-year employment growth	182	115	+67
Five-year employment growth	178	168	+10
Short-term jobs growth	162	134	+28
One-year wage growth	166	136	+30
Five-year high-tech GDP growth	98	58	+40
High-tech GDP location quotient	134	115	+19
LQ count	168	134	+34

Source: Milken Institute (2022)

TABLE 20: MAI SUBINDEX RESULTS FOR AKRON, OHIO

Engagement	97.39
Participation	99.49
Infrastructure	97.69

Source: GoDaddy (2022)
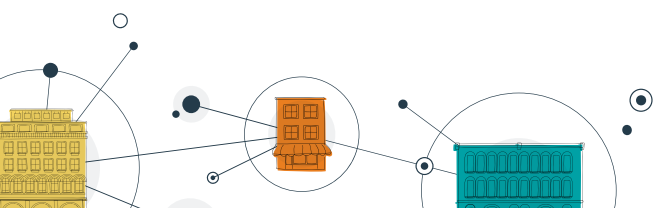
COLUMBUS

GEORGIA–ALABAMA

Columbus' climb in the rankings is a result of major improvements in one-year and five-year employment growth (improving 145 places and 50 places, respectively), one-year and five-year wage growth (up 43 and 13 places, respectively), and broadband access (increasing 62 places). It was held back by a decline in short-term jobs growth (falling 69 places), one-year and five-year high-tech GDP growth (falling 31 and 9 places, respectively), and high-tech GDP location quotient (falling 15 places).

Columbus scored below average in all three MAI subindexes, with the lowest score being engagement (97.55) and the highest being infrastructure (100.33).

Columbus, Georgia's second-largest city, sits on the Chattahoochee River, across from Phenix City, Alabama. Two distinct industries drive the city's employment: financial services and technology (Aflac, TSYS, and Synovus are all major employers) and the military (Columbus is home to Fort Benning, a US Army post supporting a population of over 100,000 people, including active-duty military, dependents, and civilian employees).[40] Fort Benning contributes significantly to the local economy, being by far the largest employer in the area.

## TABLE 21: SELECTED BPC MEASURES FOR COLUMBUS, GEORGIA–ALABAMA

	2021	2022	Change
One-year employment growth	187	42	+145
Five-year employment growth	188	138	+50
Short-term jobs growth	80	149	-69
One-year wage growth	154	111	+43
Five-year wage growth	187	174	+13
One-year high-tech GDP growth	158	189	-31
Five-year high-tech GDP growth	123	132	-9
High-tech GDP location quotient	108	123	-15
Broadband access	188	126	+62

Source: Milken Institute (2022)

TABLE 22: MAI SUBINDEX RESULTS FOR COLUMBUS, GEORGIA–ALABAMA

Engagement	97.55
Participation	99.99
Infrastructure	100.33

Source: GoDaddy (2022)
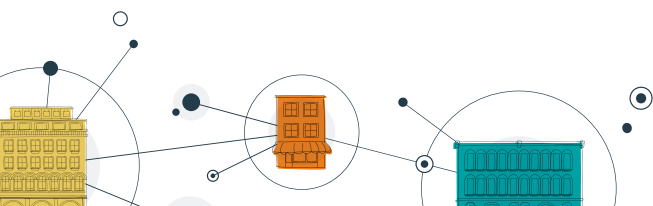
CONCLUSION

Policies that help cities modernize their economy, with both physical infrastructure and workforce development, are key to driving a region's success. Over the years, many US cities have suffered high unemployment, job losses, and industry declines due to the loss of global competitiveness. Cities that have weathered these changes best are those able to adapt to the changing business and labor demands of the modern economy. A good illustration of this is Akron, Ohio, which has doubled down on advanced manufacturing and polymer industries. It has tapped global businesses (such as Goodyear) and a research institution (the University of Akron) and clawed itself back to prominence, helping Ohio become first in the nation in glass, plastics, and rubber manufacturing.[41]

RECOMMENDATIONS

Improve Broadband Infrastructure

Investing in broadband infrastructure to ensure access to affordable and reliable internet is key to these cities' ability to modernize their economy, continue to advance into new industries, and develop their workforce.

Develop Local Industry Partnerships

Local industry partnerships, such as the partnership between the University of Akron and The Goodyear Foundation, can accelerate industry development and create a strong competitive advantage for the local economy.
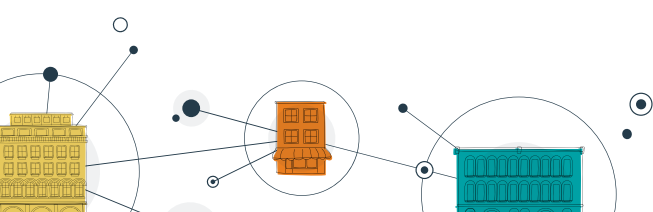
LOW RANK AND FALLING

The cities described in this section were in the bottom quadrant for BPC ranking and had a large negative change between 2021 and 2022. The cities analyzed are Pittsburgh, Pennsylvania; Tulsa, Oklahoma; Baton Rouge, Louisiana; and Asheville, North Carolina.

Cities in this category generally struggle in overall BPC rankings and MAI. They are experiencing significant drops in several of the key jobs-growth and wage-growth rankings. They score particularly poorly in 12-month jobs growth, ranging from 137th (Pittsburgh) to 171st (Asheville). In access to broadband providers, three of the four metros studied here scored poorly in broadband, with only Tulsa scoring well at 55th, compared to 147th for Baton Rouge, 173rd for Pittsburgh, and 177th for Asheville.

Microbusinesses in these cities are much more likely to be sole proprietors than in any other city-type and are far less likely to be registered as an LLC. Fewer of them have customers across the country; they are instead more likely to limit their customer base to their home state. Microbusinesses in these areas are

also generally newer—more than a third having begun in 2020 or later compared to roughly a quarter of microbusinesses in other cities—suggesting that these businesses are still building out and establishing their foothold in the market.

Also, microbusinesses from cities in this category are twice as likely to identify licensing/permit processes as the biggest challenge when starting operations: one in five falls into this category compared to roughly 10 percent everywhere else. This suggests an important role local and state governments can have in cutting red tape and making it easier for microbusinesses to get going.

Microbusinesses here are also three times less likely to view an online presence as necessary to remain competitive, suggesting either they don't see much other competition or don't view the internet as a way to compete effectively, meaning an education gap could also exist. This seems to tie in with the generally low lack of available broadband in the same cities.

TABLE 23: LOW RANK, FALLING CITIES

	BPC Rank 2021	BPC Rank 2022	BPC Change	MAI
Pittsburgh, Pennsylvania	127	153	-26	104.93
Tulsa, Oklahoma	108	169	-61	104.25
Baton Rouge, Louisiana	157	193	-36	100.87
Asheville, North Carolina	73	165	-92	103.57

Source: Milken Institute (2022)
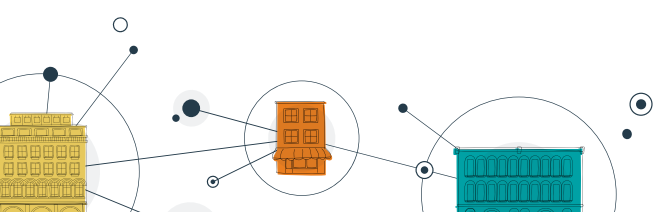
PITTSBURGH
PENNSYLVANIA

Pittsburgh's notable results were low rankings in one- and five-year employment growth (164th and 171st) and higher rankings in one- and five-year high-tech GDP growth (70th and 99th). Pittsburgh also scored poorly in access to broadband providers, at 173rd.

The values that most negatively impacted the city's ranking were decreases in one-year high-tech GDP, five-year high-tech GDP, and one-year employment. Broadband also significantly impacted the ranking (47 places down). However, these measures used different data sources due to limitations on data availability.

In the Microbusiness Activity Index, Pittsburgh scored 104.93 overall, the highest score of this segment (only just ahead of Tulsa, with 104.25). The city's best subindex score was infrastructure with 105.35, particularly on the strength of Pittsburgh's access to higher education institutions.

Pittsburgh is known as the center of the nation's steel industry and is dominated by manufacturing and industrial employment.[42] Thus, it is unsurprising that Pittsburgh would not score particularly well on BPC despite a strong overall economy, given the presence of only three high-tech industries with a location quotient greater than one. Rather than being a high-tech hub, it has typically been a locus of high-quality blue-collar employment. In the 1970s, almost a third of Pittsburgh jobs were in manufacturing.

However, the high-tech industry also has a presence in the city, with a growing number of firms in industries such as biotechnology, robotics, and cyber security.[43] Pittsburgh's higher education and research institutions, such as the University of Pittsburgh and Carnegie Mellon, have long catalyzed Pittsburgh's economic development, helping it embrace research and development and depend less on traditional manufacturing.[44] Pittsburgh also has significant employment in the health care and education industries. The city has plans to develop more high-tech industry, and several major tech companies have headquarters in the city, but they have yet to take significant hold compared to other cities in BPC.

According to BroadbandNow, an independent research organization on broadband in America, 95.09 percent of Pittsburgh's residents have access to fiber-optic internet. Yet, Pittsburgh ranks poorly in BPC's broadband indicator, which relies on FCC data. Although Allegheny County (where Pittsburgh is situated) had among the fastest internet speeds, in some pockets of the county, internet access lagged and was too slow to count as broadband.[45]

Meta Mesh Wireless Communities, a nonprofit internet service provider, has found through recent mapping efforts that the presence of fiber does not mean that a household has access to it.[46] It discovered that some residents were not provided service any faster than DSL, even though an aerial fiber was visible through their windows. This is especially common in the lower-income areas of the city.
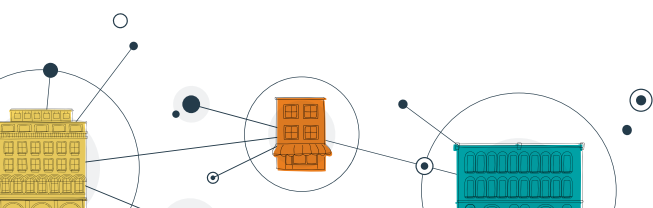
TABLE 24: SELECTED BPC MEASURES FOR PITTSBURGH, PENNSYLVANIA

	2021	2022	Change
One-year employment growth	132	164	-32
Five-year employment growth	168	171	-3
One-year high-tech GDP growth	28	70	-42
Five-year high-tech GDP growth	78	99	-21
Broadband access	126	173	-47

Source: Milken Institute (2022)

TABLE 25: MAI SUBINDEX RESULTS FOR PITTSBURGH, PENNSYLVANIA

Engagement	99.92
Participation	103.39
Infrastructure	105.35

Source: GoDaddy (2022)

TULSA
OKLAHOMA

Tulsa dropped from 108th to 169th, a substantial fall driven by declines in 12-month employment growth (95th to 160th), one-year high-tech GDP growth (101st to 188th), and five-year high-tech GDP growth (26th to 116th).

Tulsa's MAI result of 104.25 is the second highest in this group.

Tulsa's economy is supported by the energy industry, playing a central role in the nation's oil industry. Williams Oil and Gas, Oneok, and Alliance Holdings are all major employers in the city.[47]

Tulsa also houses a notable aviation industry as the home to the American Airlines Maintenance Base and Nordam Group, a manufacturer of aircraft parts and equipment.[48]

**TABLE 26: SELECTED BPC MEASURES FOR TULSA, OKLAHOMA**

	2021	2022	Change
One-year employment growth	95	160	-65
One-year high-tech GDP growth	101	188	-87
Five-year high-tech GDP growth	26	116	-90
Broadband access	117	55	62

Source: Milken Institute (2022)

TABLE 27: MAI SUBINDEX RESULTS FOR TULSA, OKLAHOMA

Engagement	97.23
Participation	103.64
Infrastructure	105.68

Source: GoDaddy (2022)
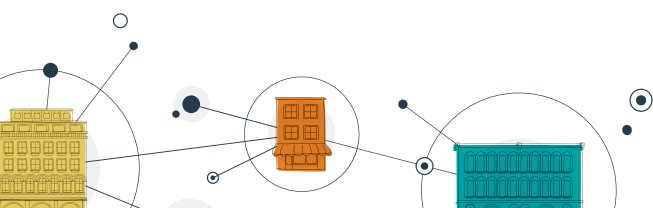
BATON ROUGE

LOUISIANA

Falling from 157th to 193rd, Baton Rouge is in the bottom 10 among all large cities in BPC. Baton Rouge improved in one-year employment growth, from 183rd to 136th, but saw significant drops in 12-month short-term jobs growth (from 52nd to 154th) and one and five-year wage growth (139th to 190th, and 147th to 184th). Baton Rouge also placed 147th in broadband provider access, not substantially different from last year's broadband access rank of 139th.

Baton Rouge's overall MAI result of 100.87 was the lowest of this group. The lowest subindex score was for engagement, with 95.75.

The largest employing industries in Baton Rouge are government, trade, transportation and utilities, and education and health services.[49] It is the state capital, home to around 40,000 state government employees.[50] Baton Rouge is also home to Louisiana State University (LSU), a public land-grant research university noted for extensive research activities.[51]

Baton Rouge's economy has traditionally depended on its prime shipping location on the Mississippi river. The city's largest industry is petrochemicals, with ExxonMobil and Dow Chemical Company having major operations in the city.[52]

While high-tech industries do not play a starring role in Baton Rouge's economy yet, it seems there is a strong opportunity there, given LSU's robust research program and the presence of large companies with the potential to undertake R&D projects, such as Exxon.

### TABLE 28: SELECTED BPC MEASURES FOR BATON ROUGE, LOUISIANA

	2021	2022	Change
One-year employment growth	183	136	47
Five-year employment growth	157	166	-9
One-year wage growth	139	190	-51
Five-year wage growth	147	184	-37
12-month employment growth	52	154	-102
Broadband access	139	147	-8

Source: Milken Institute (2022)

TABLE 29: MAI SUBINDEX RESULTS FOR BATON ROUGE, LOUISIANA

Engagement	95.75
Participation	100.67
Infrastructure	104.05

Source: GoDaddy (2022)
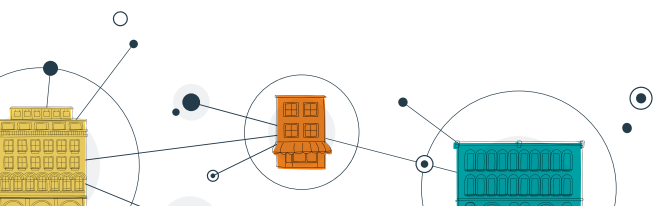
ASHEVILLE

NORTH CAROLINA

Asheville, North Carolina, dropped from 73rd to 165th, a precipitous fall driven by drops in one-year employment growth (62nd to 157th) and one-year wage growth (67th to 175th). Asheville also dropped in rankings in five-year employment- and wage-growth indicators.

Within the MAI, Asheville scored 96.59 for engagement, 103.9 for participation, and 104.44 for infrastructure.

Service industries drive Asheville's economy: Over 20 percent of the region's employment is in education and health services, 14 percent is in leisure and hospitality, and 14 percent is in retail trade.

The Asheville economy suffered in the early stages of the pandemic, with the April 2020 unemployment rate reaching 18.0 percent, compared to 14.7 percent

for the nation.[53] However, Asheville's unemployment rate dropped below the national average by early 2021 and sat at just 3 percent as of May 2022. Almost half of Asheville's 2020 job losses came in the leisure and hospitality industry as tourism cratered during the pandemic.[54] Conversely, the region's economic recovery had been buoyed by lodging revenue that shot past pre-pandemic levels.[55]

Though Asheville posted unspectacular scores on the BPC's measures of high-tech GDP and concentration, its technology industry still shows some promise. LinkedIn's Economic Graph team recently anointed Asheville as the seventh fastest-growing labor market for tech talent over the last three years.[56]

### TABLE 30: SELECTED BPC MEASURES FOR ASHEVILLE, NORTH CAROLINA

	2021	2022	Change
One-year employment growth	62	157	-95
Five-year employment growth	52	79	-27
One-year wage growth	67	175	-108
Five-year wage growth	44	80	-36
Broadband access	171	177	-6

Source: Milken Institute (2022)

TABLE 31: MAI SUBINDEX RESULTS FOR ASHEVILLE, NC

Engagement	96.59
Participation	103.90
Infrastructure	104.44

Source: GoDaddy (2022)
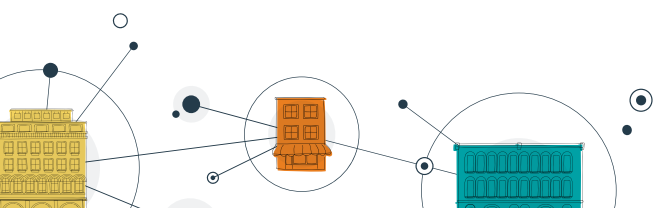
CONCLUSION

Cities in this quadrant are dominated by blue-collar employment, including jobs in the manufacturing and energy industries. They lack the high-tech diversity to be resilient in the face of an economic downturn. They also scored consistently poorly in broadband access, meaning they lack a key prerequisite for high-tech industry growth.

RECOMMENDATIONS

Improve Broadband Access

Three of the four cities in this quadrant show a lack of available broadband providers. Additionally, microbusiness owners in this segment did not indicate that an online presence was essential to them. This could indicate a lack of understanding of e-business among owners or a local understanding that, given low broadband access across their local area, online presence is simply less important.

Either way, improving access to broadband for both businesses and customers could unlock potential for the local economy.

Technical Business Assistance

Microbusinesses in this segment are more likely to be new, with over a third being less than two years old. Small businesses are more likely to fail in the first few years of operation (in all regions, not just this quadrant); ensuring owners have the knowledge and expertise to navigate this period successfully is essential.

Additionally, more owners in cities in this quadrant reported licensing and permitting as their most significant challenge. Streamlining the permitting/licensing process and guiding owners through it will help them overcome what is currently their biggest hurdle.

Assisting businesses in overcoming these two challenges will be important for cities in this quadrant.
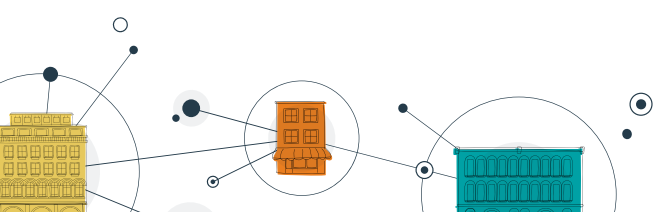
APPENDIX: BPC MEASURES AND SOURCES

| Name	Description	Data Source
One-year employment growth	US indexed employment one-year change, 2020 (i=2019)	Bureau of Labor Statistics
Five-year employment growth	US indexed employment five-year change, 2020 (i=2015)	Bureau of Labor Statistics
Short-term jobs growth	Short-term job growth (Nov. 2020 to Nov. 2021)	Bureau of Labor Statistics
One-year wage growth	Wage and salary growth (i=2019)	Bureau of Labor Statistics
Five-year wage growth	Wage and salary growth (i=2015)	Bureau of Labor Statistics
One-year high-tech GDP growth	High-tech GDP growth (i=2019)	US Bureau of Economic Analysis
Five-year high-tech GDP growth	High-tech GDP growth il=2015)	US Bureau of Economic Analysis
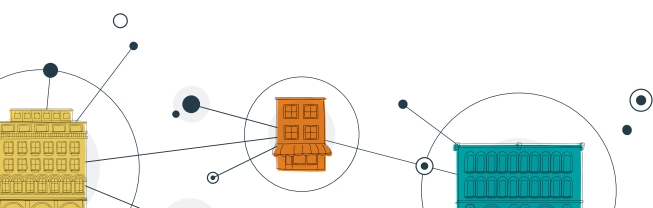
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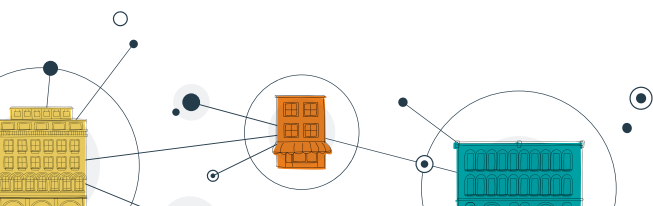
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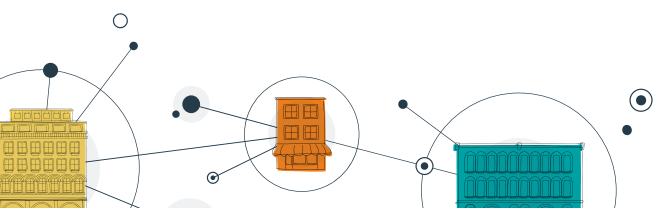
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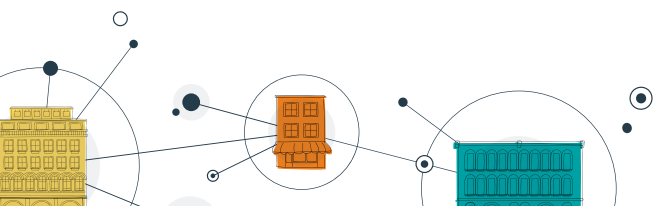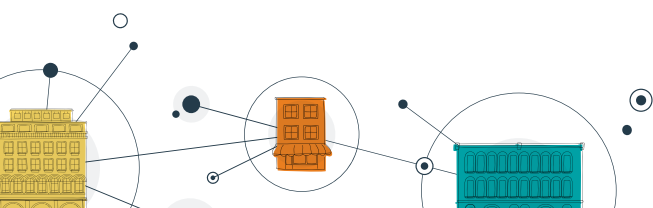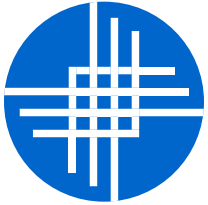
ABOUT THE AUTHORS

Charlotte Kesteven is a senior policy analyst at the Center for Regional Economics at the Milken Institute. Her research centers on regional economic development, infrastructure, and workforce. Prior to joining the Milken Institute, Kesteven worked as an economist at the Victorian Government Department of Treasury and Finance in Melbourne, Australia, where she advised the treasurer and other officials on education policy and workforce development issues. Kesteven has also worked as a consultant, conducting research in economic development, infrastructure, urban planning, and demographic forecasting for local, state, and federal government clients in Australia and New Zealand. Kesteven received her master of economics from the University of New England (Australia) in 2015, where her research focused on the economic impacts of deregulation, particularly in relation to transportation industries. She also holds a bachelor of international business from the Australian National University, majoring in international business and Spanish.

Abraham Song is a senior associate of the Center for Regional Economics at the Milken Institute. An expert on economic development incentives, Song translates research insights into actionable policies to support state and local governments, including cities and metropolitan areas. Song draws on large-scale data to conduct rigorous research that informs strategies for economic growth and opportunity. Prior to joining the Milken Institute, Song worked at the DC Policy Center in Washington, DC, and at the Center for Regional Analysis at George Mason University. Song was also a postdoctoral researcher at the Kelley School of Business at Indiana University and a visiting scholar at the Robert H. Smith School of Business at the University of Maryland. Song has published two peer-reviewed articles in the *Small Business Economics* journal on digital entrepreneurship and two white papers on the District's tax incentives. Song has also contributed to policy analysis and research at the Kauffman Foundation, the Small Business Administration, and the Korea Trade-Investment and Promotion Agency. He holds a BS in business administration from the University of Illinois at Urbana-Champaign, an MA in political science from the Middle East Technical University, and a PhD in public policy from the Schar School of Policy and Government at George Mason University. He is fluent in both Korean and Russian.

Caroline E. Choi is an associate at the Milken Institute's Center for Regional Economics. Her research focuses on a wide range of international and domestic trade policy issues, including those related to supply chain and logistics. Before joining the Milken Institute, Choi was a consultant at Blue Water Thinking, LLC and a subcontractor to Booz Allen Hamilton on the VA Logistics Redesign Program Support Services task. Her work addressed the supply chain challenges within VA health care as it migrated its legacy supply chain system into a single, web-based application. Prior to that, Choi served as an associate at Flexport, an international logistics technology startup where she was responsible for analyzing a company's end-to-end shipment lifecycle. Choi holds a bachelor's degree from Smith College, where she majored in government and minored in public policy.