

TAMPA BAY BBBBBBB☒



We are excited to present the 2022 Tampa Bay E-Insights Report that unveils new research tracking the economic competitiveness and growth of the Tampa Bay region.



About the USF Muma College of Business

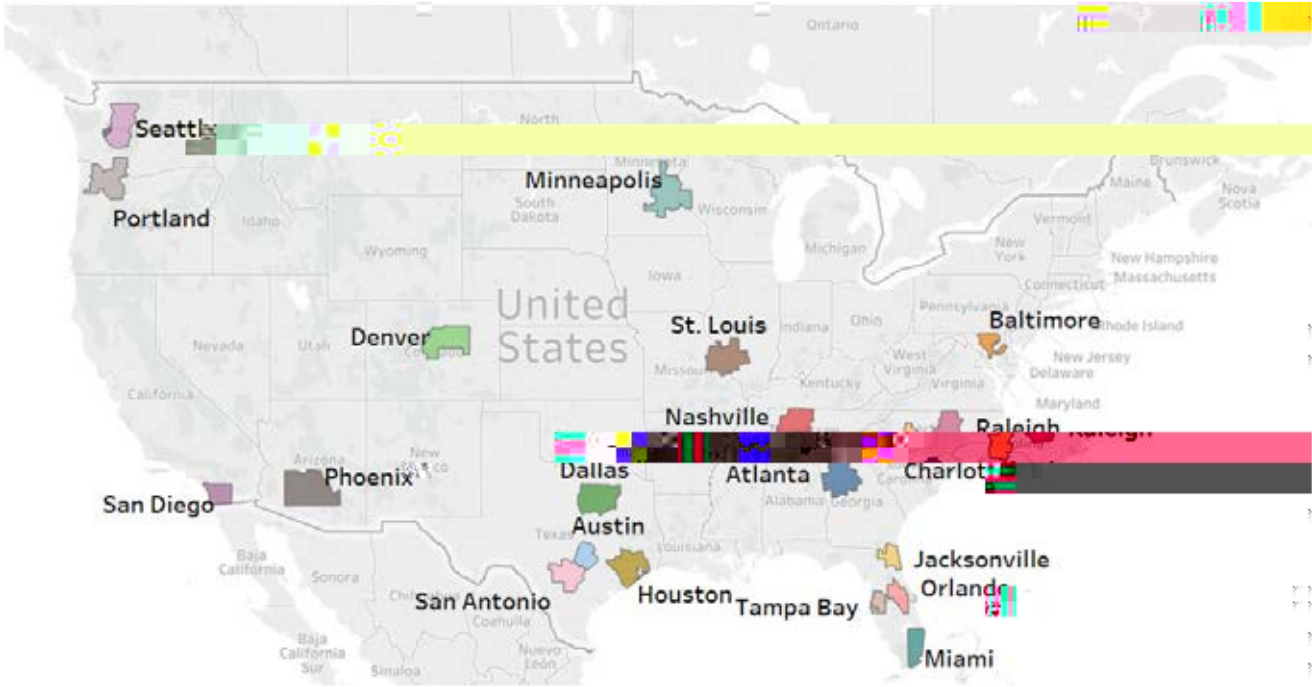
Our mission guides what we do and our vision guides where we want to go. Our strategic priorities and values help us focus our actions.

- **Mission:** The Muma College of Business leverages analytics and critical thinking as a means to advance student success, produce scholarship with impact, and generate innovation in partnership with our stakeholders.
- **Vision:** Our vision is to be a top business school recognized for the transformative solutions produced by its scholars and graduates who lead in business and society.
- **Strategic Priorities:**
 1. **Distinctive Identity.** We infuse our teaching, research, and outreach with analytics and critical thinking.
 2. **Research with Impact.** We embrace innovative and interdisciplinary approaches to conduct impactful research for academia and practice.
 3. **Student Success.** We equip our diverse students with the knowledge and skills necessary to achieve their professional goals.
 4. **Business Engagement.** We partner with businesses worldwide to co-create and provide ideas, solutions, and intellectual capital.
 5. **Diversity, Equity, and Inclusion.** We embody, develop, and transfer a culture of diversity, equity, and inclusion.
- **Values:**
 - **Respect.** We commit to respecting and appreciating everyone.
 - **Accountability.** We accept responsibility for our actions.
 - **Integrity.** We hold ourselves to the highest ethical standards.
 - **Intellectual Curiosity.** We possess a deep and persistent desire to know and exhibit a lifelong love of learning.
 - **Collaboration.** We work with those around us to produce and create innovative business solutions.
 - **Community Engagement.** We connect to the communities around us at the local, regional, and global level.

Tampa Bay E-Insights report examines the economic performance of the Tampa Bay region relative to 19 other comparable Metropolitan Statistical Areas (MSAs). These MSAs were selected based on factors such as demography, size of the economy and presence of regional assets such as ports and research universities. The selected MSAs reflect both peer and aspirational relationships with Tampa Bay.

In this report, Tampa Bay is defined as the region consisting of eight counties: Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, Polk and Sarasota. The eight-county area includes four MSAs: Tampa-St. Petersburg-Clearwater, Homosassa Springs, Lakeland-Winter Haven and North Port-Sarasota-Bradenton. The data presented in the report for Tampa Bay is aggregated for the four MSAs. The MSAs studied in the report are shown in the map to the right.

This report analyzes the performance of the Tampa Bay region in three crucial areas of economy: innovation and entrepreneurship, education and health care. The analysis consists of three dimensions: the Tampa Bay region's performance with respect to other MSAs, the impact of the COVID-19 pandemic and racial equity.





Introduction

The Tampa Bay E-Insights report is the result of a challenging research inquiry by faculty and graduate students from the University of South Florida Muma College of Business. The goal of this initiative was to benchmark Tampa Bay across multiple economic indicators relative to 19 other Metropolitan Statistical Areas and to provide policy recommendations to move the proverbial needle when it comes to Tampa Bay's positive ranking on different economic indicators. To this end, researchers adopted a data-driven approach because we strongly believe that data-driven insights are key to the accurate decision making and that the resulting analysis could help civic and business leaders to make informed decisions.

Since 2017, USF researchers have released four E-Insights reports. The first was a study of economic competitiveness of the Tampa Bay region. Later inquiries expanded the analysis to include inclusive economic growth, the impact of COVID-19 on the economy and racial equity. One salient feature of this analysis is that it uses real-time big data signals such as Google Trends, which tracks search queries and trends, to derive the most recent or current insights. Also, researchers employ rigorous econometric analyses to identify the primary drivers of economic growth, using the results to recommend policy initiatives.

As the nation and the world – inches toward a post-pandemic era, it is crucial to assess how the pandemic has impacted the economy. Researchers identified three domains that experienced change (or impact) due to the pandemic: innovation and entrepreneurship, education, and health care. Researchers evaluated the impact of the pandemic on each of these areas. Additionally, this year, the E-Insights report focuses on the performance of the Tampa Bay region in these three domains of as it relates to the regional economy. The report also presents insights about the impact of the COVID-19 pandemic on these domains. Finally, the report explores the racial equity in terms of access to health care and education by the minority population.

This report presents analyses across four domains: economic competitiveness, innovation and entrepreneurship, education, and health care. For each of the domains, the insights are provided along

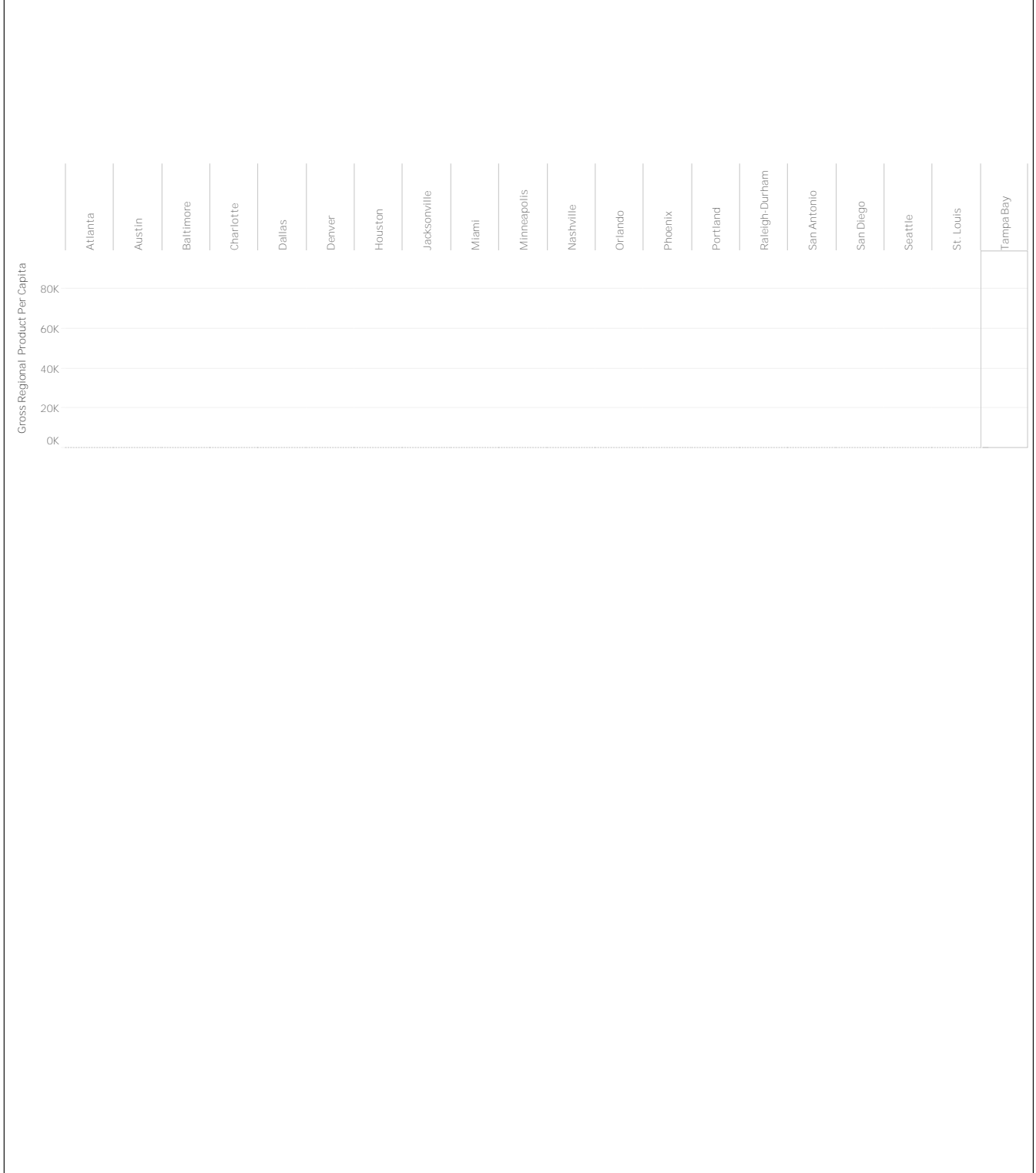
Bay region has not just been lagging on all the innovation indicators with respect to other MSAs -- it has been displaying a declining trend. Entrepreneurship activity in the Tampa Bay region is a bit more encouraging than the innovation activity. However, the entrepreneurship activity is on a declining trend as well.

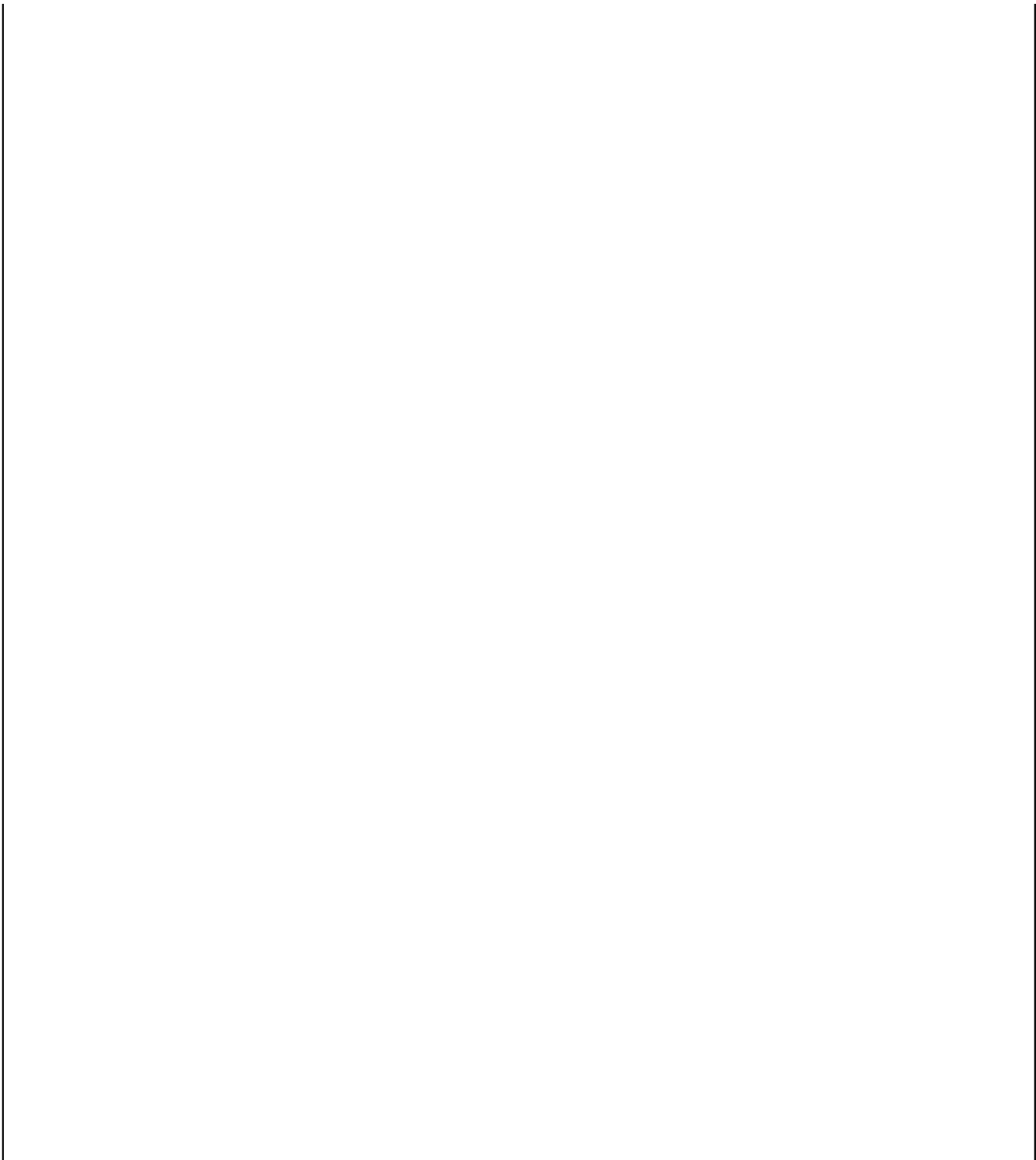
In this section, researchers analyzed the performance of the Tampa Bay regions' economy, looking





Insights







Economic Competitiveness Key Takeaways

The trend analysis of the economic competitiveness of the Tampa Bay region paints a not-so-rosy picture. Though the Tampa Bay region's ranking improved on the various indicators over the years, the improvement has not been on par with comparison MSAs evidenced by the declining competitive position of Tampa Bay.

In terms of unemployment rate and poverty rate, the Tampa Bay region is positioned in the bottom half of the comparison group. In terms of gross regional product per capita, the Tampa Bay MSA is positioned at rock bottom. The analysis makes it clear that the region needs a stronger push along these indicators to keep up with other top-performing MSAs.

In the previous section, we presented a separate analysis of



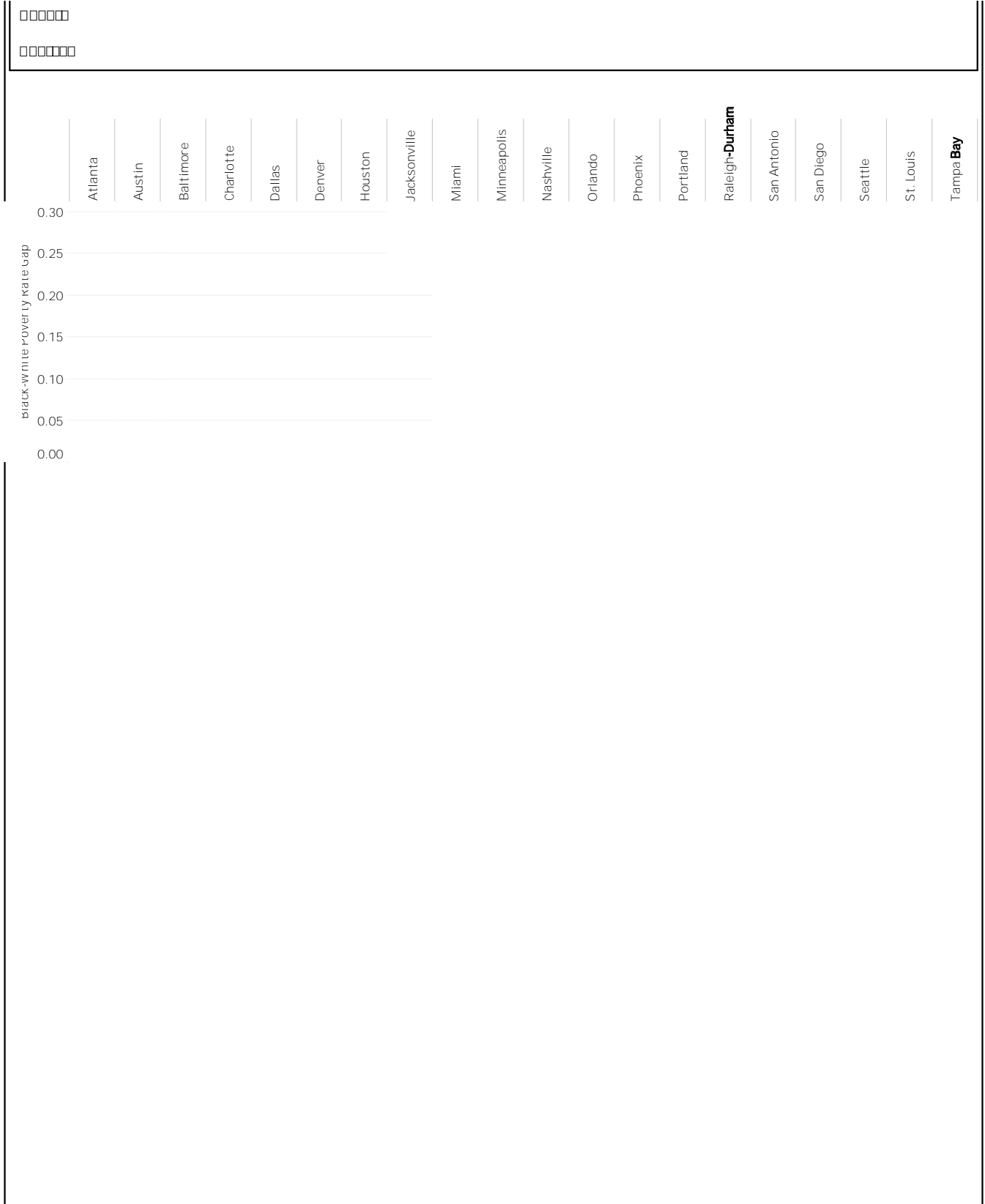




□□□□ The absolute mobility is the average rank of the children whose parents are at the 25 percentile in the income ranking (measured on a scale of 0-100). Relative mobility is the increment in the rank of the child with an increment in the rank of the parent in terms of income.

□□□□ Opportunity Insights

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Key Insights on Racial Equity and Inclusive Growth

The analysis paints a rosy picture of the Tampa Bay region's performance along the lines of inclusive growth. Income inequality in the Tampa Bay region has declined since 2017. The Tampa Bay region's competitive position in terms of income inequality has been improving significantly in recent years. The Tampa Bay region stands in the ninth position in terms of relative economic mobility.

The economic indicators reflect a declining racial gap in terms of the Black-White unemployment rate gap and the Black-White poverty rate gap over the years for all the MSAs, including the Tampa Bay MSA. In terms of the Black-White unemployment rate gap, the Tampa Bay MSA has been in the middle of the pack over the years. In terms of the Black-White poverty rate gap, the Tampa Bay MSA has consistently been in the lower half of the comparison MSA groups.

Drivers of Economic Growth

In the previous section, researchers looked at the performance of the Tampa Bay region in comparison to other MSAs on various indicators of inclusive economic growth. The trend graphs illustrate the direction in which the region is moving in terms of competitive position as well as actual values across the outcomes. At this juncture, a couple of questions arise:

1. What can be done so that the region performs better?
2. Are there any policy initiatives that might be taken to improve the competitive position of the Tampa Bay region in coming years?

To answer these questions, econometric models were built to identify the drivers of inclusive economic growth.

The independent variables used for the analysis are possible drivers of the economic growth. These variables fall into five different categories: economic vitality, talent, infrastructure, civic quality and

Drivers of Inclusive Economic Growth

The significant drivers for each of the indicators of inclusive economic growth are given in the tables below. (s indic)10.1 0 (o)9 ie tables

Analysis of Driver Results

The analysis shows that investments in transit infrastructure and higher education drive the economic growth. Policy initiatives focused on increasing investments in these key drivers hold the key to improve the competitive position of the Tampa Bay region.

USF researchers present the results of the analysis below. Keeping everything else constant, the impact of the driver on the outcome variable is shown.

Unemployment Rate:

- An increase in transit availability by 1 revenue mile per capita would result in a 0.6 percent decrease in the unemployment rate.
- An increase in STEM degree production per 1,000 individuals by 1 would result in a 1.3 percent decrease in the unemployment rate.
- A 1 percent increase in the business establishment start rate would result in a 0.6 percent decrease in the unemployment rate.

GRP Per Capita:

- An increase in transit availability by 1 revenue mile per capita would result in \$840 increase in GRP per capita.
- An increase in STEM degree production per 1,000 individuals by 1 would result in a \$1,089 increase in GRP per capita.
- A \$1,000 increase in median household income would result in a \$178 increase in GRP per capita.

Poverty Rate:

- An increase in transit availability by 1 revenue mile per capita would result in a 1.2 percent decrease in the poverty rate.
- An increase in the labor force participation rate by 1 percent would result in a 1.4 percent decrease in the poverty rate.

Income Inequality (Gini Index):

- An increase in educational attainment (bachelor's degree or higher) by 1 percent would result in a decrease in income inequality (Gini index) by 0.0001.
- A 1 percent increase in the labor force participation rate would result in a 0.004 decrease in income inequality (Gini index).

Economic Mobility:

- An increase in transit availability by 5 revenue miles per capita would result in the increase in absolute economic mobility by 1 percentile.

Section 2: Impact of COVID-19 on the Economy

The COVID-19 pandemic has disrupted lives, pushed health care systems to (or in some cases beyond) capacity and caused a global economic slowdown. As of Dec. 11, 2021, there were 49.7 million COVID-19 cases and more than 794,000 deaths in the United States alone. Prior to the pandemic, the American economy was thriving. However, the pandemic has greatly impacted consumer spending and adversely affected the regional commerce.

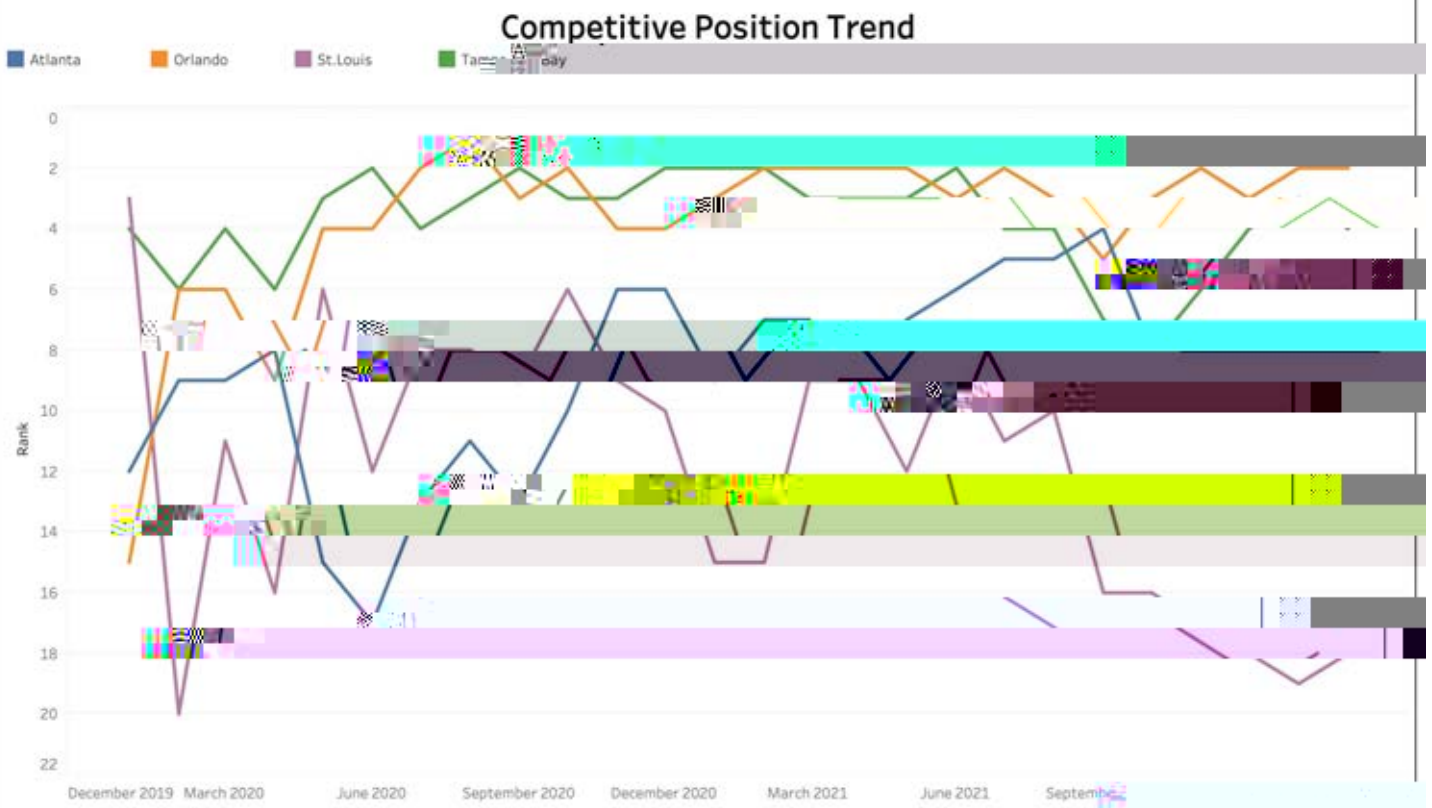
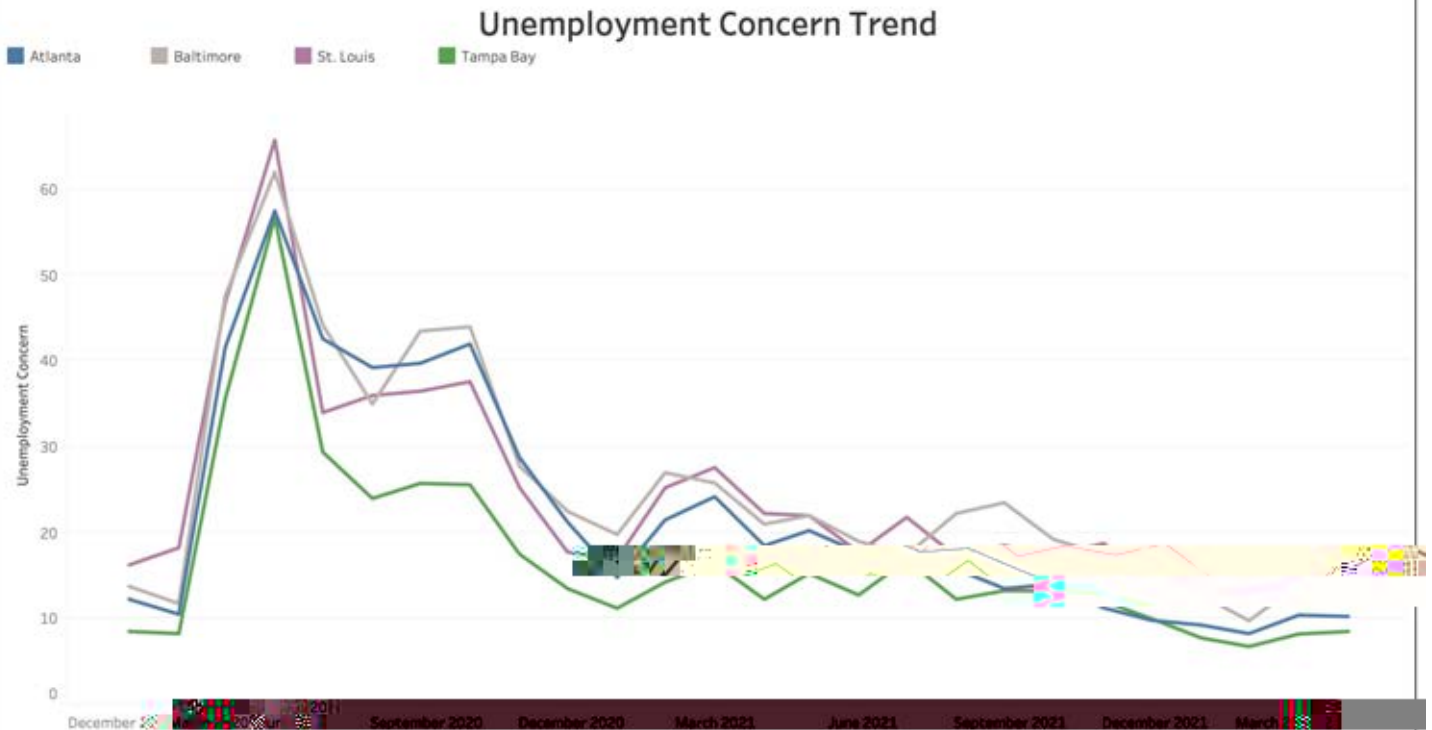
In this section, researchers analyzed the impact and recovery of COVID-19 on the Tampa Bay MSA using data such as consumer spending and online searches related to local commerce and unemployment concern. The data sources for this analysis are Ainity Solutions and Google Trends.

Consumer spending tracks the seven-day moving average credit/debit card spending by people living in their respective MSAs relative to January 2020. Researchers calculated the percentage change of daily expenditures over the days with respect to January. They tracked the percentage change over 21 months for 20 MSAs.

They gathered the data for this through the Opportunity Insights Economic Tracker. It combines anonymized data from leading private companies – from credit card processors to payroll firms – to provide a real-time picture of indicators such as employment rates, consumer spending, and job postings across counties. The data for consumer spending comes from Ainity Solutions, the world's leading data-led intelligence platform. It buys data of first-party credit and debit card transactions daily. Information is anonymized for analysis.

In addition to the consumer spending, researchers also analyzed signals from Google Trends. The researchers use Google Trends to analyze the consumer spending behavior to derive the understanding on the impact of COVID-19 on the commercial activity of Tampa Bay MSA. Google Trends also provides rich insights into the unemployment concern in the regions due to the layoffs that followed the spread of COVID-19. To track the local commerce activity, researchers chose the search terms, "events near me," "movies near me," "malls near me," "restaurants near me," and

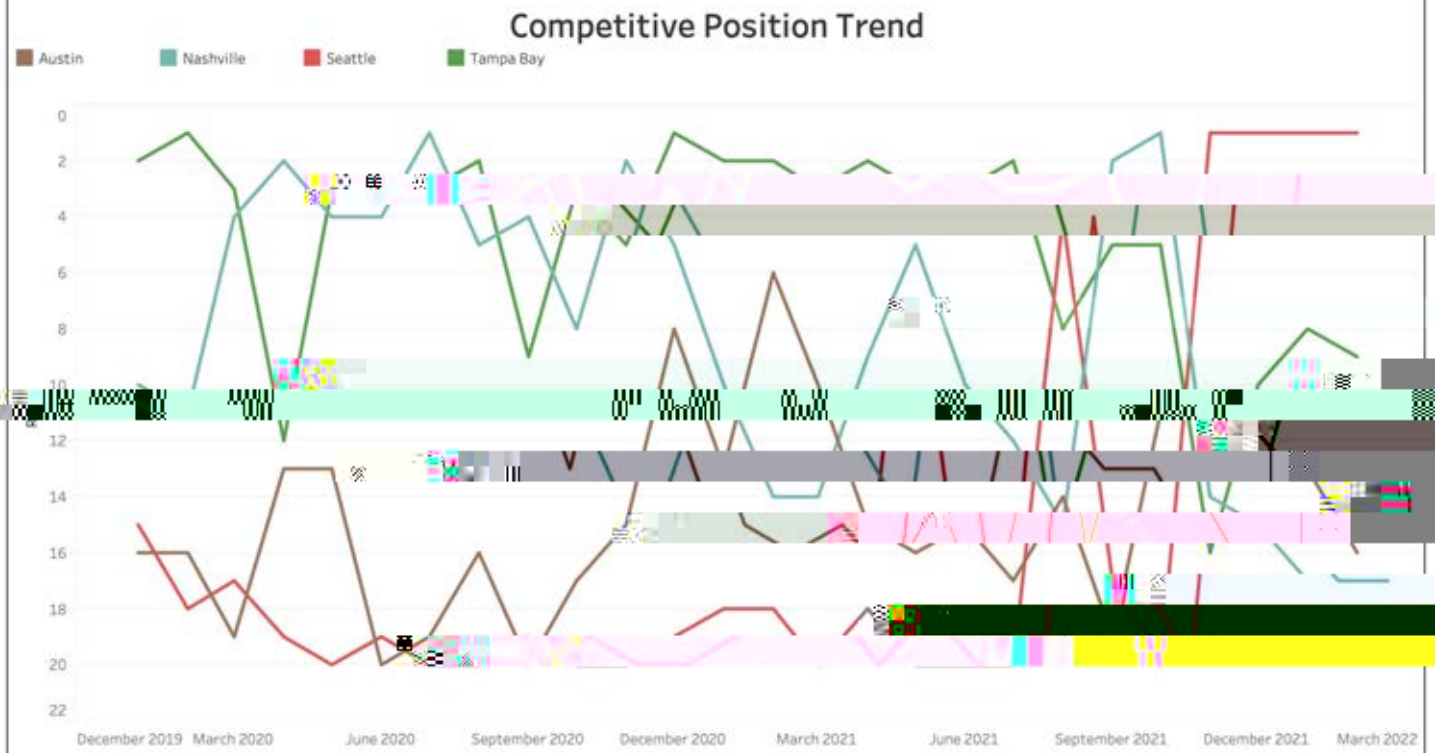
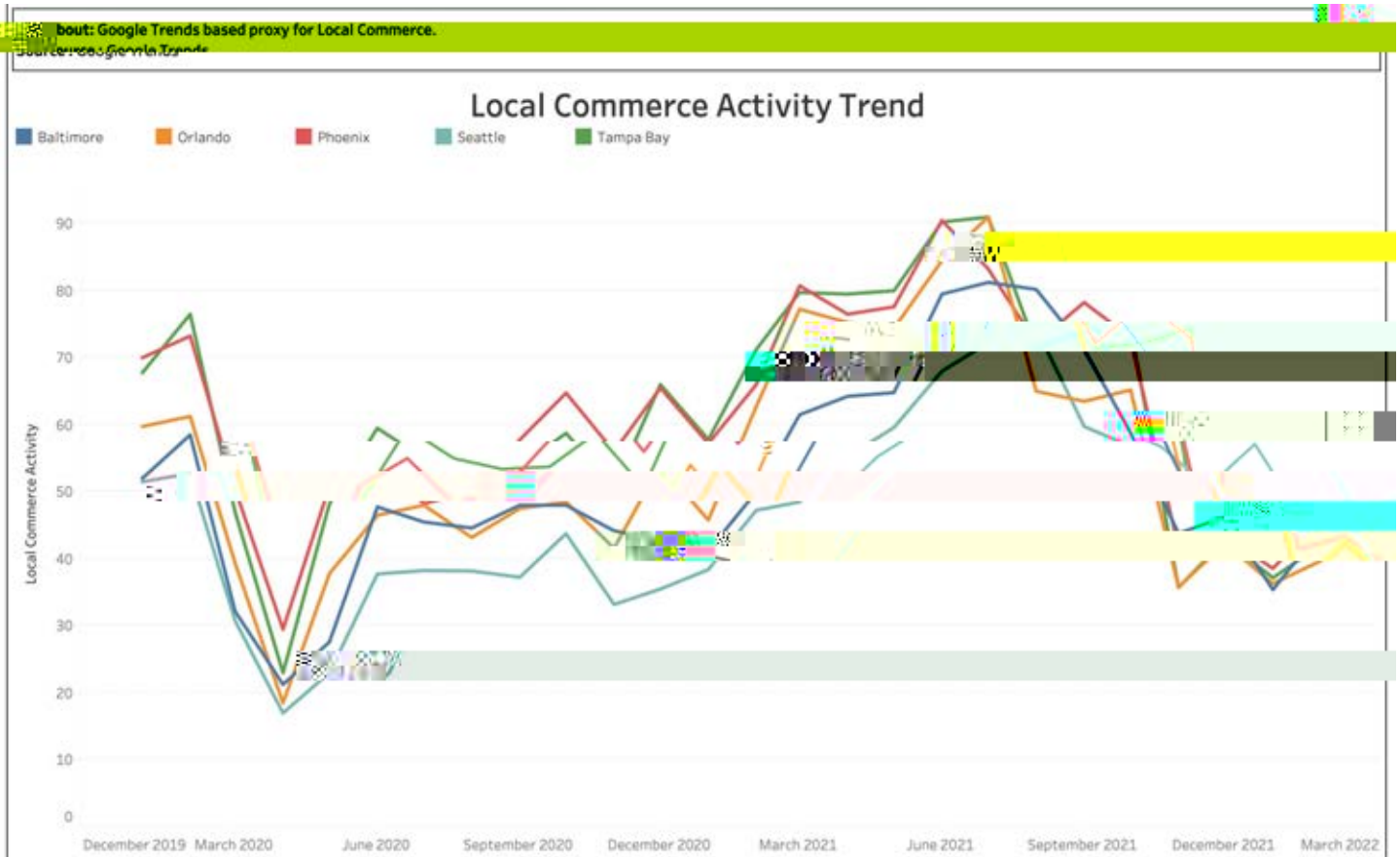
About: Google Trends based proxy for unemployment concern.
Source: Google Trends.



Local Commerce Activity

Insights

Local Commerce Activity Trend



Key Insights on the Impact of COVID-19 on the Economy

Consumer spending in the Tampa Bay MSA improved significantly after a drop in April 2020. Consumer spending in the Tampa Bay region in October 2021 is 126 percent of what it was in January 2020.



Key Takeaways on Economic Competitiveness

The trend analysis of the economic competitiveness of the Tampa Bay region paints a not-so-rosy picture. Though the Tampa Bay region's ranking improved on the various indicators over the years, the improvement has not been on par with comparison MSAs, evidenced by the declining competitive position of the Tampa Bay region.

In terms of unemployment rate and poverty rate, the Tampa Bay region is positioned in the bottom half of the comparison group. In terms of gross regional product per capita, the Tampa Bay MSA is positioned at rock bottom. The analysis makes it clear that the region needs a stronger push along these indicators to keep up with other top performing MSAs.

On a positive note, the racial gap in terms of economic prosperity has been declining for most of the MSAs, including the Tampa Bay region. The Tampa Bay MSA has been improving in terms of competitive position along the lines of the Black-White poverty rate gap and income inequality.

Innovation and Entrepreneurship

Research has highlighted the importance of innovation and entrepreneurship for the economic growth of a region. Multiple research studies have identified the positive association between innovation and regional economic growth. Innovation improves productivity which fuels economic growth. Increased economic growth in turn boosts investments into the economy. Entrepreneurship also plays a major role in the economic prosperity of a region. High-tech startups attract investments and create high paying jobs contributing to the overall gross domestic product of a region. Local businesses create employment opportunities and thus play a crucial role in keeping unemployment rates low.

Considering the significant role played by innovation and entrepreneurship in the economic growth of a region, in this section, researchers benchmarked the Tampa Bay region with respect to 19 other MSAs along the lines of innovation and entrepreneurship. To measure innovation, they choose the indicators such as patents per capita, university R&D expenditures, Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) awards per capita, etc. To measure the entrepreneurship activity in a region, they chose the indicator, "Business Establishment Entry Rate."

Researchers used real-time signals from Google Trends to track the innovation and entrepreneurship activity in the region. They track Google search volume for Tampa-St. Petersburg-Clearwater MSA, with respect to 19 comparison MSAs for the search terms related to innovation and small business activity. In the charts, Tampa denotes Tampa-St. Petersburg-Clearwater MSA only -- not the entire Tampa Bay region as considered for most of the other indicators in the report.

For innovation activity, researchers chose the search terms "research jobs," "USPTO," "marketing ideas," "new product development," and process improvement." To track the entrepreneurship activity, they chose the terms "how to start business," "business loans," "office space for rent," "ideas for business," and "business registration."

They not only benchmarked the Tampa Bay with respect to other MSAs on these indicators over the years, but also analyzed the impact of the COVID-19 pandemic on innovation and entrepreneurship in the Tampa Bay region. We end this section highlighting the key takeaways from the analysis.

Atlanta

Austin

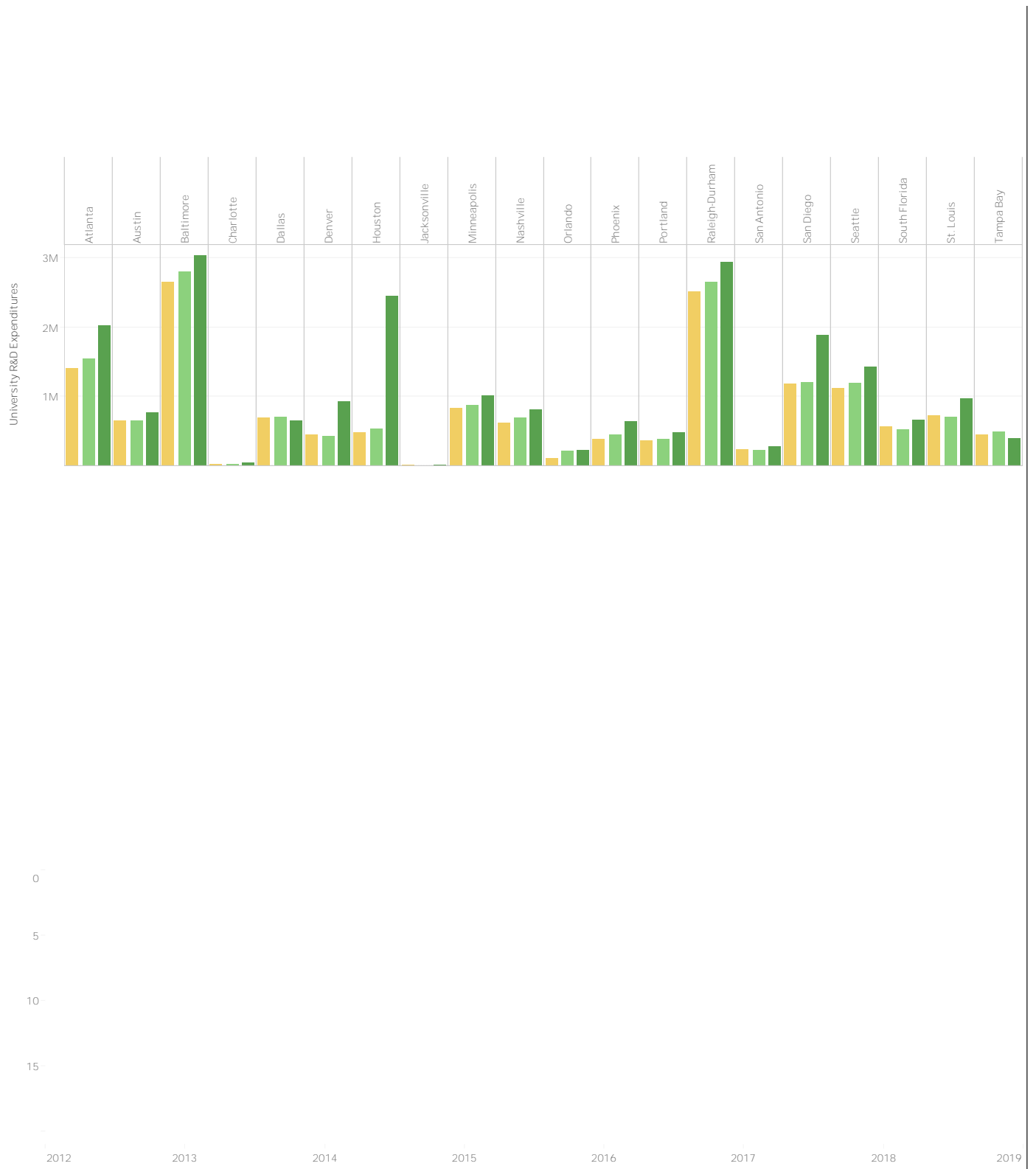
Baltimore

Charlotte

Dallas-Ft. Worth

Denver

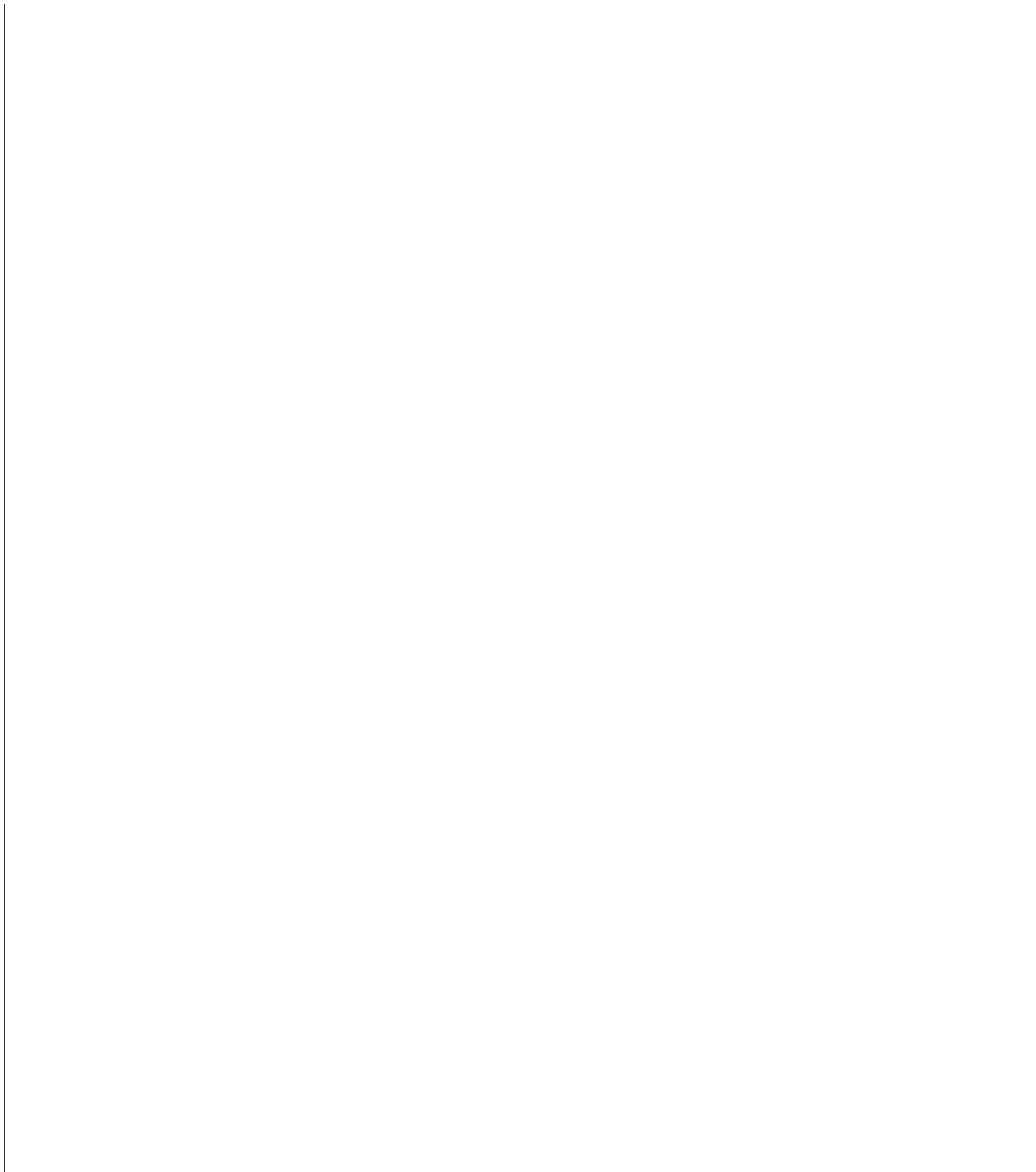
Houston

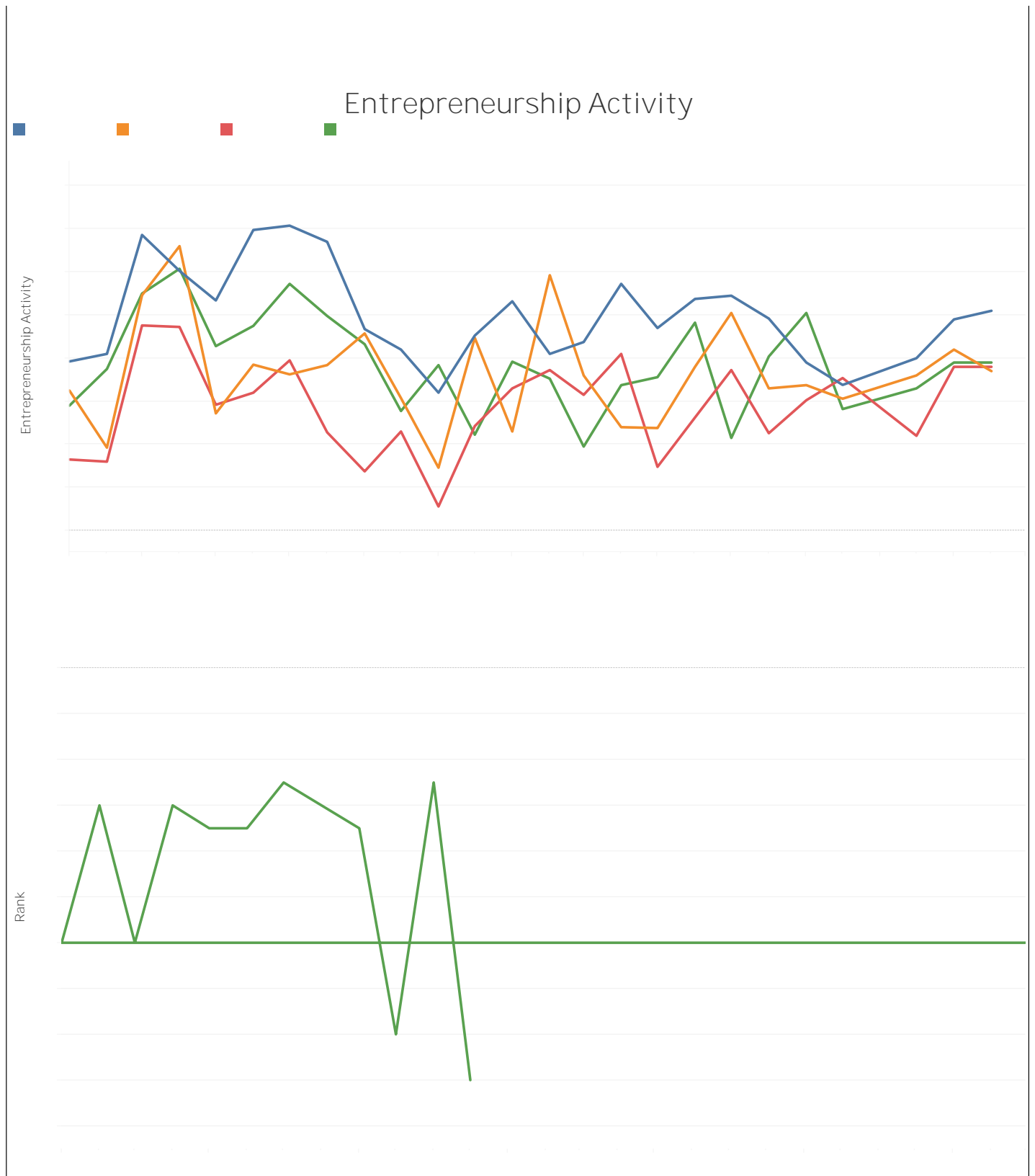




Key Insights on Innovation

The Tampa Bay region's performance is relatively low compared to the comparison MSAs in terms of innovation. The innovation activity in the Tampa Bay region has been declining. The Tampa Bay MSA has been on the downward trend along the indicators such as patents per capita, University R&D expenditures, Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) awards per capita. The declining innovation activity is also reflected in the declining competitive position of the Tampa Bay MSA along the indicators of university R&D expenditures and SBIR/STTR awards per capita.





Key Insights on Innovation and Entrepreneurship

The Tampa Bay MSA performed relatively well in terms of entrepreneurship as compared to innovation. The Tampa Bay region has consistently been in the top half of the comparison group. However, entrepreneurship activity in the region is declining, evidenced not only from the



Key Takeaways on Innovation and Entrepreneurship

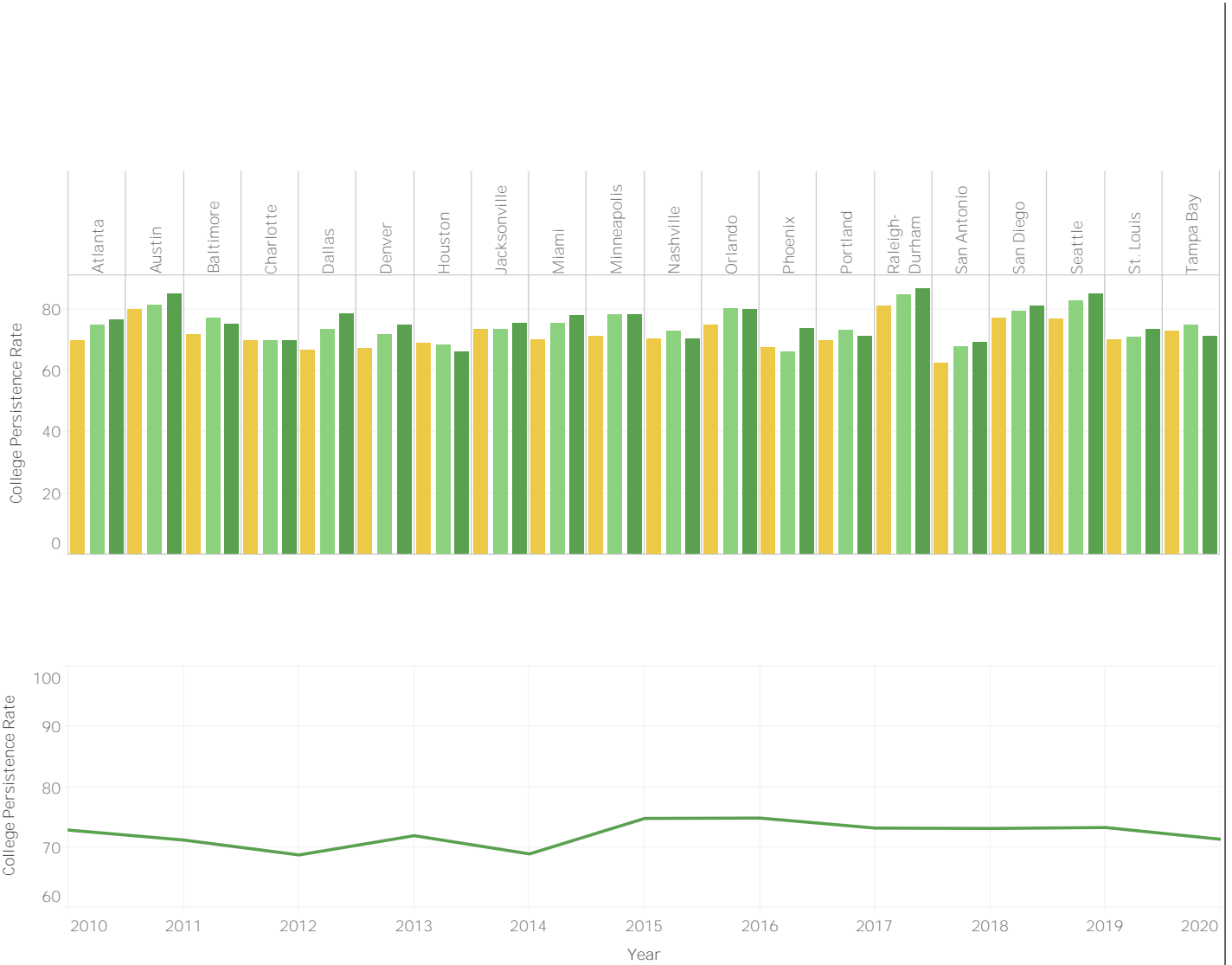
The innovation and entrepreneurship picture in the Tampa Bay region is somewhat discouraging. The Tampa Bay MSA has not only been lagging on all the innovation indicators with respect to other MSAs, but it also has been on a declining trend. Entrepreneurship activity in the Tampa Bay region is a bit more encouraging than the innovation activity yet the entrepreneurship activity is on a declining trend as well.

Education



Atlanta

Austin



Atlanta



Key Insights on Education

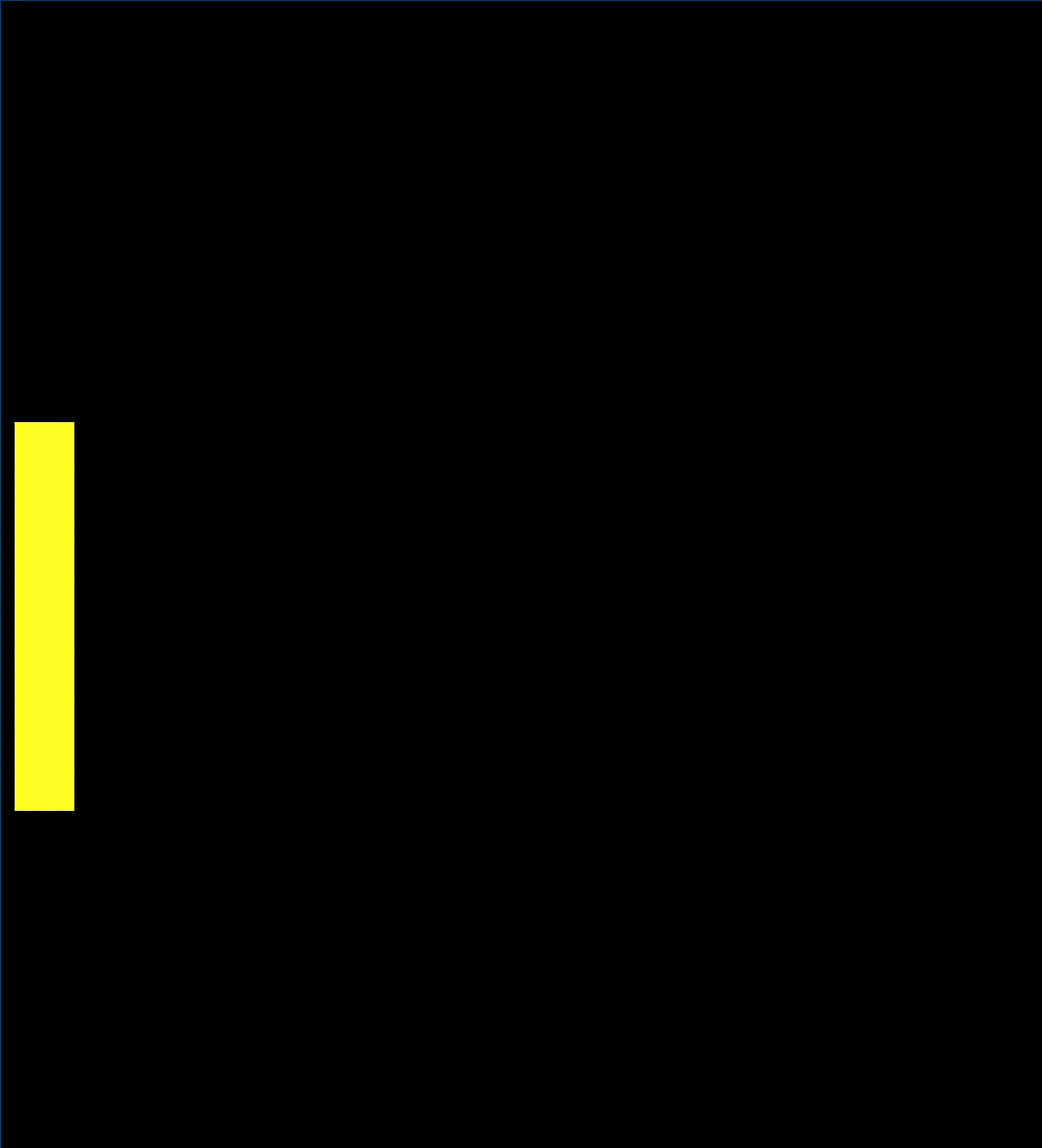
The Tampa Bay MSA's performance was encouraging for some indicators and not-so-encouraging on others. For example, the Tampa Bay MSA has been registering a gradual but steady increasing trend in terms of educational attainment and STEM degree production per capita. However, the Tampa Bay MSA's college persistence rate and the first-time-student enrollment rate have been on a slight decline in the recent years.

The search for online certifications rose sharply during the days following the start of the COVID-19 pandemic and declined gradually in the following months.

Racial Equity in Education

In this subsection, researchers analyzed the performance of the Tampa Bay MSA along the lines of racial equity in education. They considered the Black-White Educational attainment rate (bachelor's degree and above) and the Black-White digital access gap. They studied the digital access gap because digital infrastructure, such as access to a desktop computer and a broadband internet connection, became crucial for continued learning during the pandemic because students had to stay away from schools for an entire academic year. The source for the data is the U.S. Census Bureau. The data is through 2019 only because 2019 is the latest year in which the data is available.





Raleigh-Durham

San Antonio

San Diego

Seattle

St. Louis

Tampa

Atlanta

Austin

Baltimore

Charlotte

Dallas

Denver

Houston

Jacksonville

Miami

Minneapolis

Nashville

Orlando

Phoenix

Portland

Raleigh-Durham

San Antonio

San Diego

Seattle

St. Louis

Tampa

Key Insights on Racial Equity in Education

Racial equity in education has been improving in the Tampa Bay region over the years with



Key Takeaways from Education

The Tampa Bay MSA has been performing relatively low in terms of degree and STEM degree production per 10,000 residents. However, the Tampa Bay MSA's competitive position in terms of STEM degree production per 10,000 residents has been steadily improving.

The Tampa Bay MSA has been among the top performing MSAs over the years in terms of first-time student enrollment rate.

The college persistence rate for the Tampa Bay MSA has not changed much over the years. However, the competitive position of the Tampa Bay MSA in terms of college persistence rate has witnessed a slight decline.

The Tampa Bay MSA has been performing well in terms of the Black-White educational attainment rate gap.



Health Care

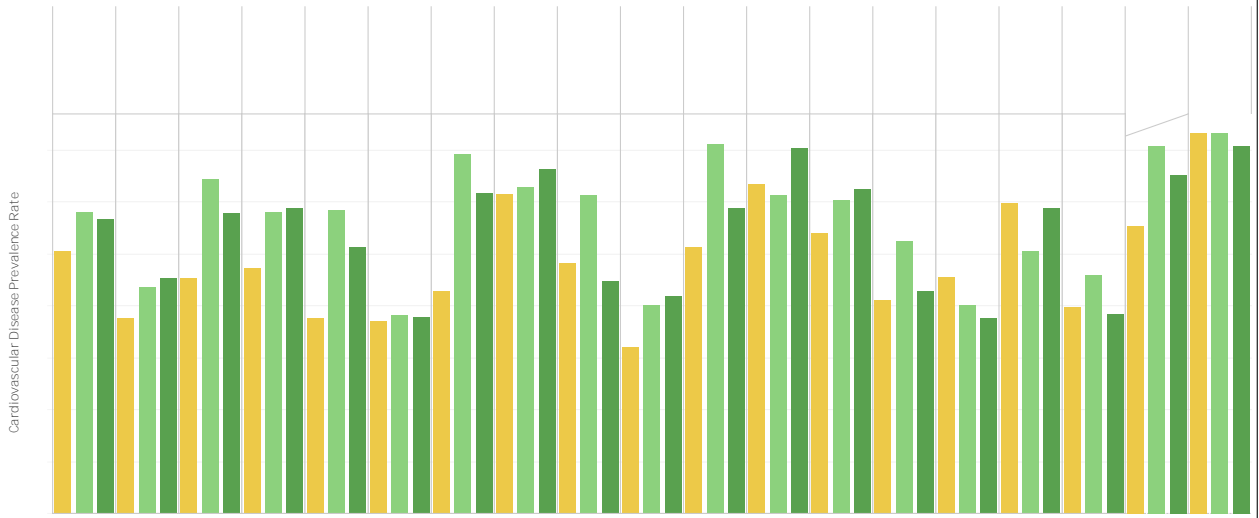
One lesson that the pandemic taught people worldwide is the importance of health care. The resilience of any economy to the pandemic disruption is hinged upon the availability, accessibility, and affordability of the health care. This section presents an analysis related to multiple aspects of health care.

To comprehensively analyze the impact of the pandemic on the health care industry, we will examine the following factors: the availability of health care services, the accessibility of health care services, and the affordability of health care services. The pandemic has highlighted the need for a more resilient health care system that can withstand future disruptions. This section will explore the challenges and opportunities for the health care industry in the post-pandemic era.



Public Health Status

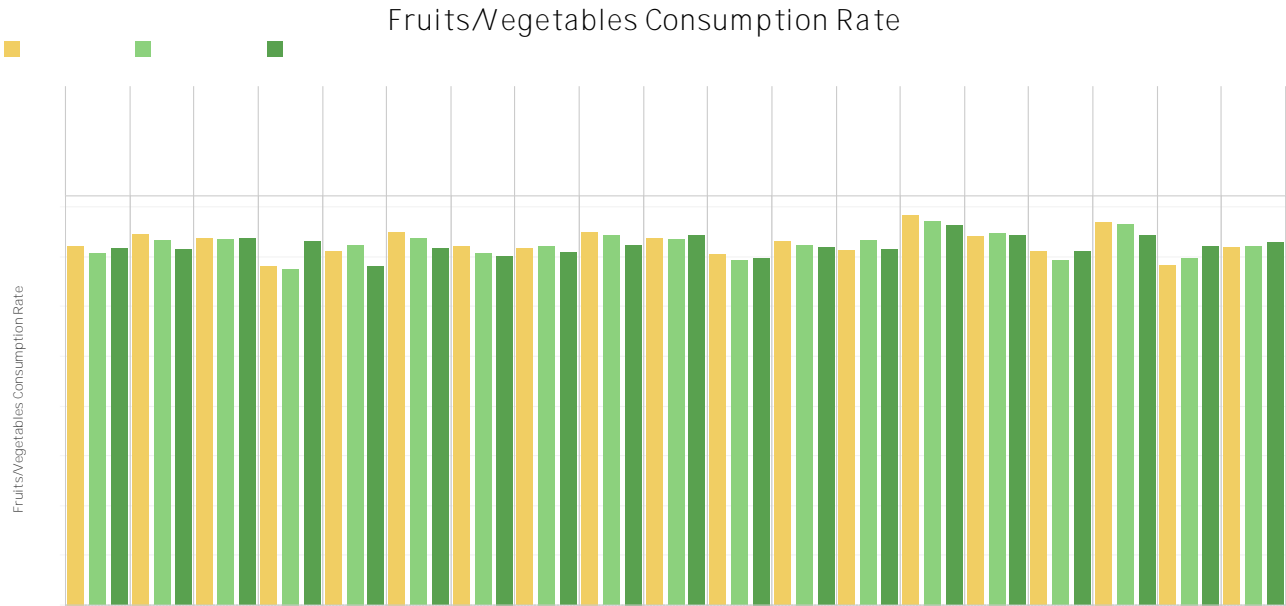
In this subsection, researchers analyzed the public health status of the comparison communities on various health-related indicators, such as the cardiovascular disease prevalence rate and the depression prevalence rate. They also studied various health-related behaviors such as dietary behavior, alcohol consumption, physical activity, etc. Researchers tracked the mental health and addiction related concerns in the communities with the help of the volume of 211 service requests for mental health and addiction-related issues.



: Percentage of surveyed respondents who responded 'Yes' to the question 'Ever told you that you have a form of depression?'
 : Behavioral Risk Factor Surveillance System (BRFSS).
 *Data not available for the San Diego MSA.

Atlanta
Austin
Baltimore
Charlotte
Dallas
Denver
Houston
Jacksonville
Miami
Minneapolis
Nashville
Orlando
Phoenix
Portland
Raleigh-Durham
San Antonio
Seattle
St. Louis
Tampa Bay

: Percentage of surveyed respondents who responded 'One or more times per day' to the question 'Consumed fruits/vegetables less than one time per day?'
 : Behavioral Risk Factor Surveillance System (BRFSS).
 *Data not available for the San Diego MSA.



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Mental Health and Addiction 211 Calls

(Per 1,000 Individuals)

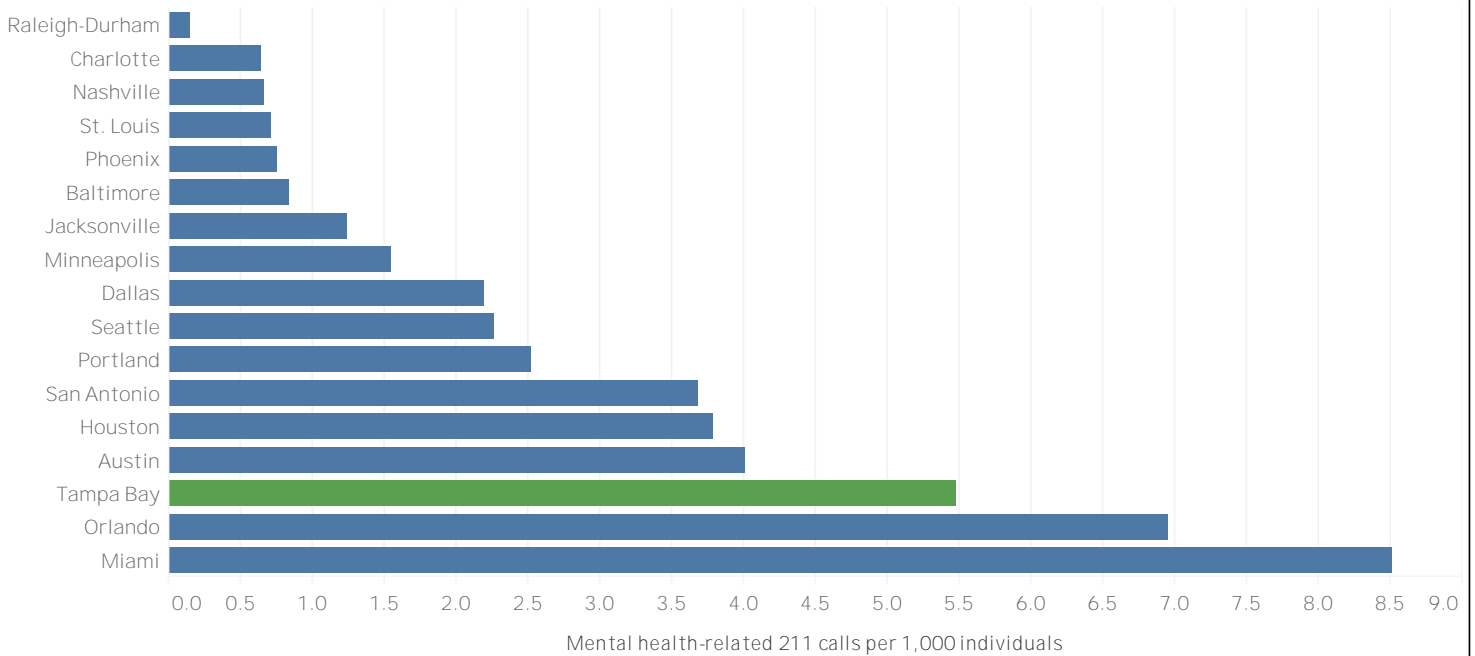
Insights



About: Mental health and addiction-related 211 calls per thousand individuals. Data collection ranged from October 2020 to October 2021.
Source: 211counts.org.

*Data not available for the Atlanta, Denver, and San Diego MSAs.

Mental Health and addiction 211 calls per capita



Key Insights on Public Health Status

The Tampa Bay MSA's performance in terms of the cardiovascular disease prevalence rate and the depression prevalence rate has been poor compared to the other MSAs. The alcohol consumption in Tampa Bay region has increased over the years while physical activity in the Tampa Bay region has increased significantly over the years. The Tampa Bay MSA is in the No. 1 position among the comparison MSAs as of 2019 in terms of physical activity.

COVID-19 Related Measures

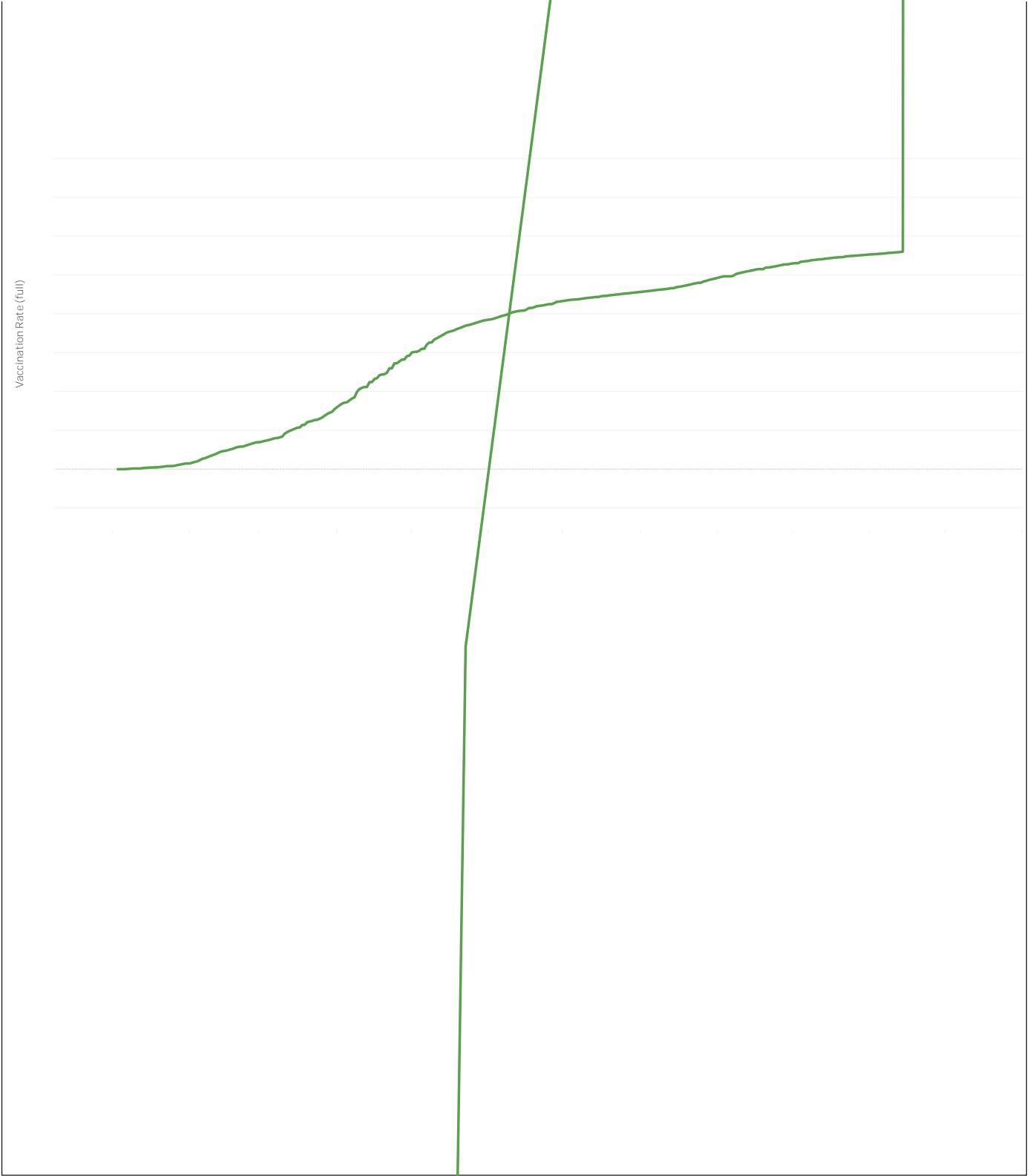
In this subsection, researchers analyzed COVID-19 related measures such as the COVID-19 ICU bed utilization rate and the vaccination rates. They also analyzed Google search volume on the COVID-19 disease concern and the searches for vaccinations.

To understand the COVID-19 concern, they analyzed Google search volume for the search terms such as "Do I have COVID," "COVID symptoms," "COVID cases," "delta variant," and "coronavirus." To understand the public interest in vaccinations, researchers analyzed Google search volume for the search terms such as "vaccine finder," "COVID vaccine near me," "COVID vaccine comparison," "COVID booster shot," and "COVID vaccine availability."

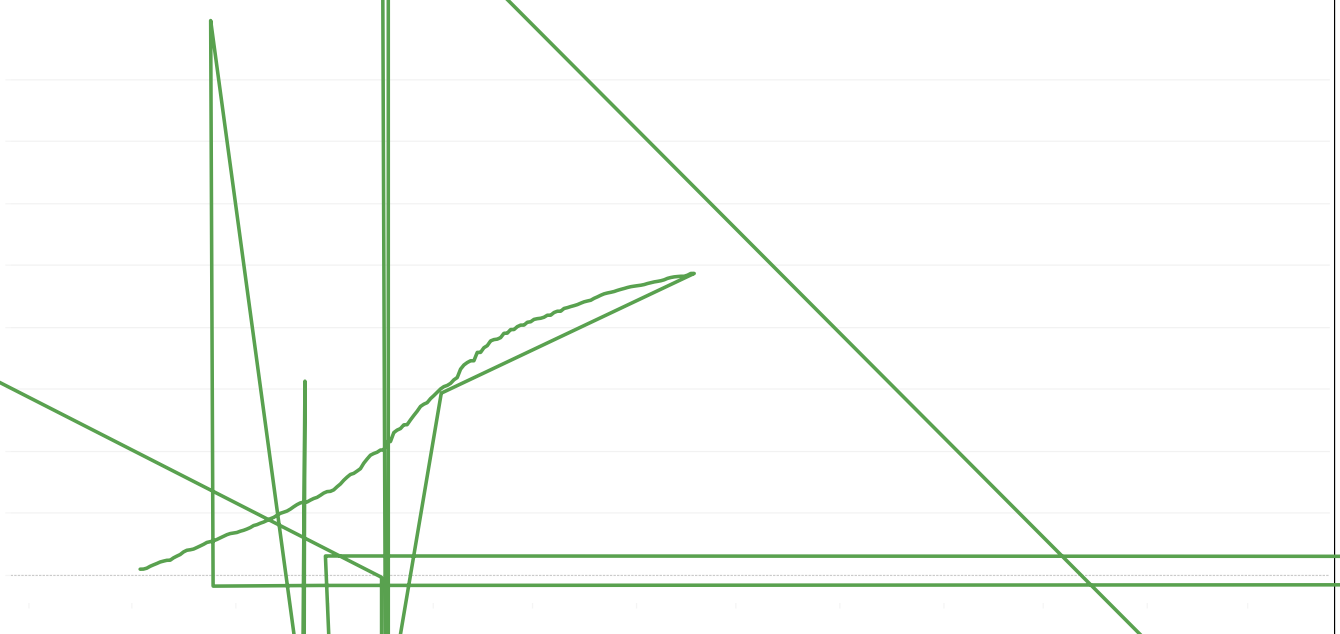
The researchers track the vaccination rates in the comparison communities. To this end, they tracked full vaccination rate and vaccinated rate: at least one dose. The researchers consider an individual to be fully vaccinated if the individual has received the second dose in a 2-dose series such as the Pfizer or Moderna vaccines, or a single-dose of Johnson & Johnson's Janssen vaccine. To track the vaccination rate: at least one dose, the researchers consider the number of individuals who have received at least one dose of COVID-19 vaccine, including those who have received one dose of the single-shot Johnson & Johnson's Janssen vaccine.



Insights



Vaccination Rate (at least one dose)



About
Source

100

80

60

40

20

0

April 2020

July 2020

October 2020

January 2021

April 2021

July 2021

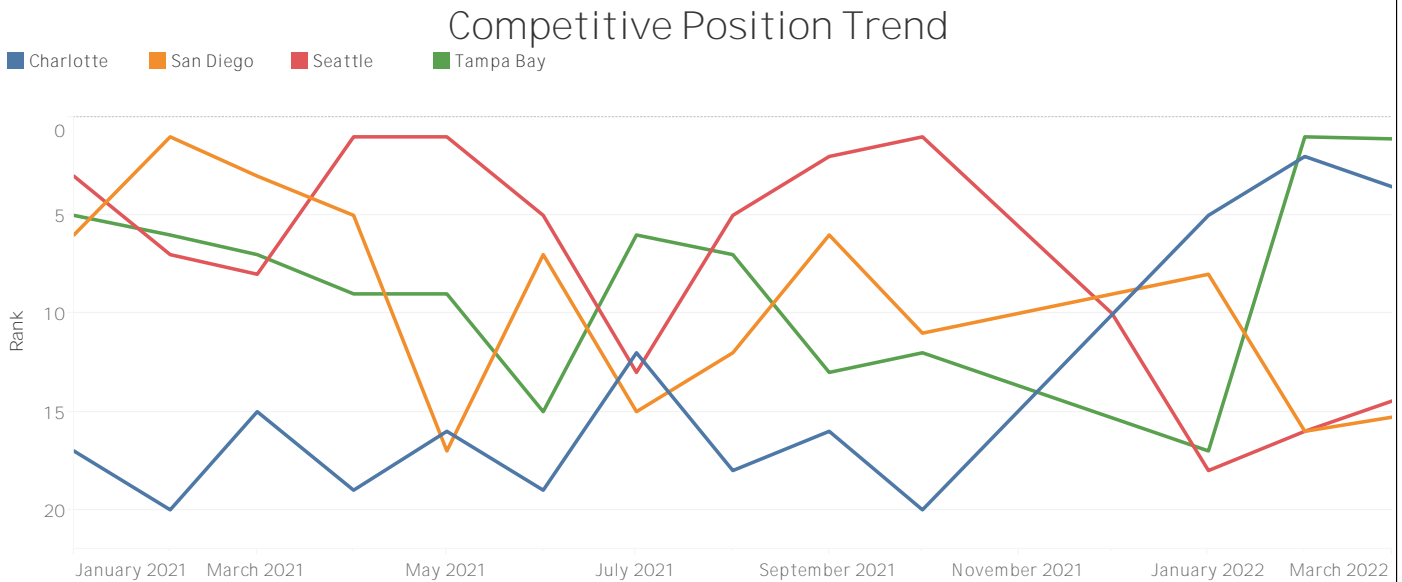
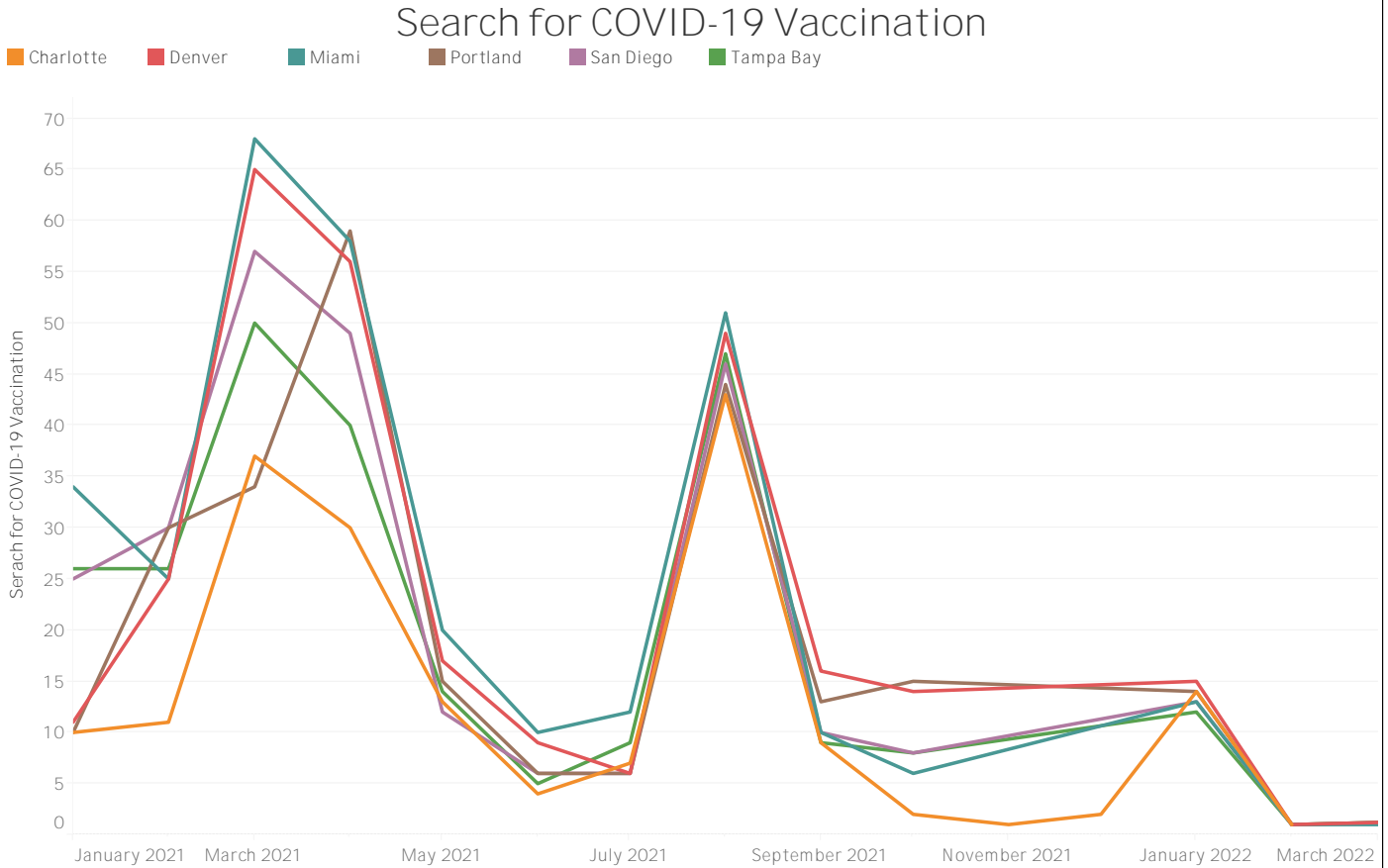
October 2021

January 2022

Search for COVID-19 Vaccination

Insights

About: Google Trends based proxy for COVID-19 vaccination.
Source: Google Trends.



Key Insights on COVID-19 Related Measures

The Tampa Bay MSA, along with other Florida MSAs, experienced a huge increase in the COVID-19

Access to Health Care

Access to health care is crucial for the physical and mental well-being of any community. In this aspect, affordability of health care is as crucial as availability of health care services. Researchers analyzed the availability of health care through indicators such as the population-to-primary care providers ratio and the population-to-mental health providers ratio. Researchers analyzed the affordability of health care using the access to affordable health care rate indicator.



Raleigh-Durham

Atlanta

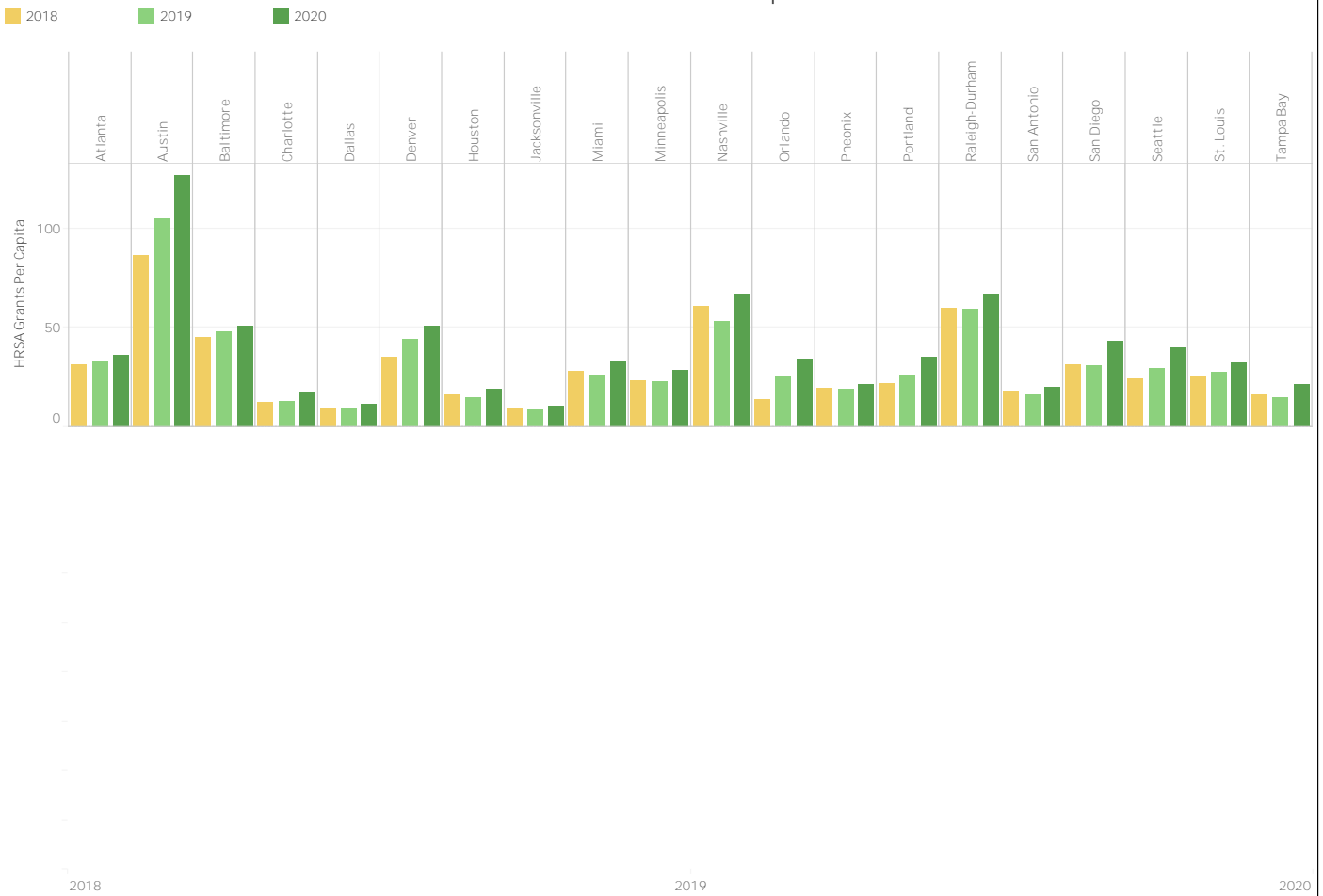
Key Insights on Access to Health Care



Government Spending on Health Care

In this subsection, researchers analyzed health care spending by the governments in each MSA. They analyzed the indicators such as Health Resources and Services Administration grants per capita and Medicare spending per capita.

HRSA Grants Per Capita



Key Takeaways on Health Care

Public Health Status

The Tampa Bay MSA was generally a low-performing MSA in terms of public health status with a high cardiovascular disease prevalence rate and a high depression prevalence rate. In terms of health-related behavioral factors, the Tampa Bay MSA performed well in terms of physical activity but low in terms of alcohol consumption.

COVID-19 related Measures:

The Tampa Bay MSA posted the highest COVID-19 incidence rate among the comparison MSAs in

Health Care:

- The performance of the Tampa Bay MSA in terms of public health status is generally low with a high cardiovascular disease prevalence rate, and a high depression prevalence rate.
- The Tampa Bay MSA suffered highest COVID-19 incidence rate among the comparison MSAs in August 2021.
- The Tampa Bay MSA stands third in terms of Vaccination among Florida MSAs.
- The Tampa Bay MSA is performing poorly in terms of both availability and affordability of Health care. The Tampa Bay MSA has high population-to-primary care provider and population-to-mental health provider ratios among the comparison MSAs.
- The Tampa Bay MSA is among the top MSAs in terms of Medicare spending per capita.



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